

AN ANALYSIS OF THE RATE OF RETURN HOME AS AN INDICATOR OF SUCCESS FROM A GOVERNMENT-FUNDED OVERSEAS SCHOLARSHIPS PROGRAMME: THE CASE OF RIVERS STATE (2008 – 2015).

Godwin Poi (Ph.D, FCA)

Department of Business Administration, Faculty of Social & Management Sciences
University of Africa, Toru-Orua, Bayelsa State, Nigeria
godwinpoi@yahoo.co.uk

Abstract

This study analyses the Rate of Return Home as an indicator of success of a government-funded Overseas Scholarship Programme using the Rivers State of Nigeria overseas scholarships as a model. Two research questions and seven hypotheses guided the study. Quantitative correlational research design was adopted in the study using the total population purposive sampling technique on the 1298 qualifying population. The secondary data was sourced from the database of the programme administrators as well as information obtained from reputable sources such as the United Nations. Descriptive statistics and binomial logit regression analytical techniques were employed to describe the behaviour of the data and to test the hypotheses of the likelihood of return home from study abroad. The findings revealed that Return Home was a key indicator of success of an overseas scholarships programme and 37% of the study population returned home from study abroad. This was below the implied 100% return home expectation. Age, Successful Graduation, Immigration Policy of study destination country and Level of Award were statistically significant estimators of likelihood to return home while level of development of the study destination country, Selection Criteria and Gender were not statistically significant indicators. Based on the findings, the researcher recommended that the Rivers State Government should create incentives such as improved job opportunities and attractive remuneration packages to entice successfully graduated students to return home from study abroad.

Keywords: Return Home, Government-funded Scholarships, Human Capital Development, Overseas Scholarships

Introduction

Many countries, consider human resources, to be their most important capital asset and use formal education, especially higher education, to develop this human capital. They invest significantly in education, to develop their human capital, to gain competitive advantage (Malaysia Master Plan, 2010). Many developing countries, however, lack the domestic expertise and infrastructure and so send their students abroad, in the expectation that they will graduate and return home to add to their manpower pool. This paper analyses the relative success of one such government-funded overseas scholarships programme in achieving this goal of returning home after their studies abroad. The programme targeted 300 overseas scholarships awards each year at both undergraduate (UG) and postgraduate

(PG) levels. They were sent to the UK, USA, Switzerland, Canada, India, Ireland, Thailand and Singapore. Between July 2008 and October 2015 (the period covered in this study), over 2,000 overseas scholarships had been awarded. Nearly 1,300 of the recipients had travelled abroad to study. Most of those who travelled had successfully graduated. A few of those who had graduated returned home but most of them had not returned home.

The overarching goal of the scholarship programme is to build a qualitative highly-skilled human capital base, that will give Rivers State youths, the national and global edge and head-start in specialized areas of employment, for the overall development of the State. It is also aimed at providing opportunities to channel the high potentials of Rivers State youths to productive endeavours and contain or reduce youth restiveness (RSSDA 2012).

Whether expressed or implied, the policy goal of any government-funded overseas scholarships programme (at least for a developing country) is the return home of successfully graduated recipients to fill the skills gaps at home. In human capital theory terminology, when a recipient has successfully graduated, they would have acquired skills, through a formal education system and are ready for the work place (Becker, 1994; Mincer, 1975). This is a stock of developed human capital. The successful graduation is a desirable and necessary requirement and condition for developing human capital. However, for it to meet the sufficient condition or requirement of the primary purpose of the overseas scholarship programme, the successfully graduated recipients must return to the sponsoring country to add to the manpower pool.

Several factors contribute to low rates of return home from study abroad. These include the immigration policy of a study destination country, which can determine whether a student stays back or returns home after graduation. Tremblay (2004) points out that many OECD countries' liberal immigration policies allow many students to qualify to stay back after their studies. The opposite would be to tighten the immigration policy thereby forcing foreign students to leave after their studies. Baruch, Pawan & Naresh (2007) list economic, social and legal influences that can push people towards a move away or pull people back when deciding whether to remain abroad or not.

Finn (2010) found out that in 2002, 65% of those who received doctorates in the USA, did not return to their home countries after 5 years (i.e. only 35% returned home). The same study shows that 92% of Chinese and 81% of Indian doctoral graduates, did not return home after 5 years. Thus, only 8% and 9%, respectively returned home. Also, between 1978 and 2006, 70% of Chinese studying in USA, did not return home while only 30% returned home. Mishra (2013) reports that, only 5% of Indians, who earned a doctoral degree returned home. Furthermore, Altbach and Ma (2011) found that, for over 20 years, the large majority of Chinese and Indian students, who travelled abroad for study did not return home.

All these studies show a very poor track record over the years of students returning home after graduating from studying abroad. In fact, the average rate of Chinese students returning home between 1978 and 2007 was 26% despite the impressive economic growth boosts in GDP per capita and academic growth in China (Ali & Hsieh, 2009). Felbermayr and Reczkowski (2012) found that, on average, only 30% of foreign students return home. By way of comparison with this study, the Pakistan Overseas Scholarship Programme had 620 qualifying recipients and reported a successful graduation rate of 97% (602) and a

return home rate of 95% at 590 (British Council and DAAD, 2014). This reported high return rate is however unusual.

Many researchers have postulate various reasons for these very low rates of return home to home countries from studying abroad. In general, the factors have been categorised as ‘Push’ and ‘Pull’ factors. These factors primarily depict forces such as lower quality of life ‘pushing’ students from their home countries (for example, poor quality of education standards, unemployment, etc) to “pulling” them to host countries (Baruch *et al.*, 2007). The importance of returning home explains perhaps why the Kazakhstan Bolashak Overseas Scholarships requires collateral as a qualifying condition for the award of overseas scholarships (Perna, Orosz and Jumakulov, 2015).

The implication of a relatively low rate of return home of successfully graduated students is that, the vast majority of students who travel to study abroad from mostly developing countries, have shown no inclinations or intentions to return to their home countries after graduation. This means that, scarce resources have been invested in these students, who would not return home to contribute to the development of their home countries. The home countries have not therefore, earned their returns on these investments in education abroad through overseas scholarships. Little wonder, some researchers recommend that efforts should be made to entice those who have successfully completed their studies abroad to return home. Examples of incentives that could be used, can be found in the Chinese brain drain study, where a Business Industrial Park was built for returning graduates from abroad as well as higher salaries than local staff to lure them from abroad (Altbach and Ma, 2011).

Statement of the Problem

In spite of the long history of government-funded overseas scholarships, there appears to be very little verifiable and quantitative data as well as reliable information on the achievement of their policy goals. A review of extant literature indicates that there are very few studies on the relative success (or indeed failures) of government-funded overseas scholarships programmes in achieving their policy goals of returning home after study abroad. The absence of such data and information raises some very pertinent questions about the performances and achievements of the policy goals of these programmes particularly for developing countries trying to build their capacities for economic growth and development. Very often, governments do not know how many of the students that they sent abroad that returned home after study abroad and why others do not return and therefore implement policies to combat such brain drain as a result of not returning home from study abroad.

Aim and Objectives

The aim of this study was to analyse the rate of return home from government-funded overseas Scholarship Programme using the Rivers State scholarship as a model. The specific objectives are to:

1. ascertain the rate of return home from study abroad on the Rivers State Government-funded overseas scholarships programme; and

2. account for the factors that influence the likelihood of returning home from study abroad on the Rivers State Government-funded overseas scholarships programme.

Research Questions

The following research questions guided the study.

1. What is the rate of return to the home country after graduation on the Rivers State Government-funded overseas scholarships programme?
2. What factors influence the recipients of the Rivers State Government-funded overseas scholarships to return home

Research Hypotheses

The following seven (7) null hypotheses guided the study at 0.05 level of significance.

H₀₁: The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with Gender (GD – Male or Female) of the awardees.

H₀₂: The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with Age (AG – Young or Old) of the awardees.

H₀₃: The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with Selection Criteria (SC – Merit or Protocol) of the awardees.

H₀₄: The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with Successful Graduation status (SG – Graduated or Not Graduated) of the awardees.

H₀₅: The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with the Immigration Policy of the study Destination Country (IPDC — Strict or Liberal) of the awardees (IPDC is proxied by Immigrants' Tolerance Level Index of the study destination country – ITLI).

H₀₆: The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with the Level of Development of the study Destination Country (LDDC — Developed or Developing) of the awardees (LDDC is proxied by Human Development Index of the study destination country – HDI).

H₀₇: The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with the Level of the Awards (LA – Undergraduate (UG) or Postgraduate (PG)) of the awardees.

Methodology

This study adopted quantitative correlational research design because it involved an input-output approach in terms of policy goals (input) and outcomes (output). The population comprised all the 1,298 awardees of the Rivers State Overseas Scholarship who had travelled abroad and should have graduated and returned home by October 2015. The study adopted purposive sampling technique representing 100% of the entire population. The study used secondary data sourced from the database of the programme administrator and other sources, such as, the Social Progress Index (SPI, 2015) and the Human Development Indices (HDI) published by the United Nations (HDR, 2015)

This study also used both descriptive statistics and binomial logit regression analytical techniques. Descriptive statistical technique was used to describe the behaviour of the dataset used in the study using simple percentage and frequency distribution statistical tools. The binomial logit regression technique was used for the test of hypotheses of the likelihood of return home after study abroad.

Results

Return Home from Study Abroad

Table 1: Rates of Graduation and of Return Home from study abroad.

			Numbers	% of population	Graduated % (SG)	Return Home % (RH)	Not Return %
	Overall			100%	89%	37%	63%
1	Gender (GD)	Male	903	70%	88%	39%	61%
		Female	395	30%	90%	33%	67%
2	Age (AG)	Younger	805	62%	85%	20%	80%
		Older	493	38%	96%	66%	34%
3	Selection Criteria (SC)	Merit	932	72%	90%	39%	61%
		Protocol	366	28%	87%	42%	58%
4	Successful Graduation(SG)	SG	1152	N/A	89%	37%	63%
		NSG	146	N/A	11%	7%	93%
5	Immigration Policy (IPDC)	Liberal	991	76%	87%	18%	82%
		Strict	307	24%	99%	100%	0%
6	Development level of Host (LDDC)	Developed	1115	86%	87%	16%	84%
		Developing	183	14%	100%	100%	0%
7	Level of Award (LA)	UG	1046	81%	88%	35%	65%
		PG	252	19%	94%	48%	52%

Source: Author's compilation from Descriptive Statistics Results, 2018

Data on table 1 present the rates of Successful Graduation (SG) and Return Home (RH) from studying abroad and contribution to the manpower pool of the home country ($SG + RH = SGRH$). It shows that 37% (485) was the contribution to the manpower pool at home from the 1,298 students sent abroad.

On the basis of gender, out of the 485 students who had successfully graduated and returned home 356 (73%) were males while 129 (27%) were females. Only 356 (45%) of the 795 successfully graduated males students representing only 39% of the total males that travelled (903) returned home. The comparable figures for females were 129 (36%) from 357 students and only 33% of all the females that travelled (395) returned home. Male students therefore had a higher percentage of return home of successful graduates than female students. On the basis of age, 162 (33%) of the 485 students who had successfully graduated and returned home were younger while 323 (67%) were older. As a

percentage of their respective categories, only 24% of the younger students successfully graduated and returned home while 69% of the older students returned home. Thus the older students had 45% more percentage of successful graduates returning home than the younger students at 24%.

In respect of selection criteria, 330 (68%) merit students successfully graduated and returned home compared with 155 (32%) for their protocol counterparts. As a percentage of their individual categories however, merit students had 36% rate of successful graduation and return home of their numbers (835) while protocol students had 49% of theirs. This result means that 505 of 835 (60)% of all successfully graduated merit students failed to return home after their studies abroad compared with 162 of 317 (51%) for the protocol students. As such, the protocol students had more percentage of return home of their successful graduates than the merit students.

Three hundred and sixty three (363) undergraduate students, successfully graduated and returned home. This was 75% of all successful graduates that had returned home (485) and formed 40% of all successfully graduated undergraduates (916). A very substantial number of undergraduates (553 at 60%) therefore successfully graduated but did not return home. At the postgraduate level, 122 (52%) successfully graduated and returned home leaving 114 (48%) of their total of 236 successfully graduated postgraduate students behind. Thus, the successfully graduated postgraduate students had a higher percentage of return home than the successfully graduated undergraduate students. In summary, the male, older, protocol and postgraduate students had higher rates of successfully graduated and returned home than their female, younger, merit and undergraduate counterparts.

Results of the Tests of Hypotheses

There were seven (7) null hypotheses postulated for this study. The results of the test using a binomial logistic regression model are now reported below:

Table 2: Test of Hypotheses - Variables in the Equation

Indicators	Coeff- B	S.E.	Wald	Df	Sig.	Odds Ratio Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step 1 ^a GD(Males)	.298	.181	2.704	1	.100	1.347	.945	1.920
AG(Younger)	-.766	.179	18.345	1	.000	.465	.327	.660
SC(Merit)	.138	.187	.546	1	.460	1.148	.796	1.655
SG(SG)	1.292	.386	11.199	1	.001	3.639	1.708	7.754
IPDC	16.833	1.497	126.488	1	.000	20437469.423	1087523.295	384074675.257
LDDC	-2.791	3.904	.511	1	.475	.061	.000	129.295
LA(UG)	-1.225	.179	46.956	1	.000	.294	.207	.417
Constant	-8.857	3.128	8.019	1	.005	.000		

a. Variable(s) entered on step 1: GD (gender), AG (age), SC (selection criteria), SG (successful graduation), IPDC (immigration policy of destination country), LDDC (Level of dev of destination country), LA (level of award). Categories in brackets coded 1 and are the reference groups

Source: Author's Computation; an extract from the SPSS output, 2018..

Hypothesis One (H_{01} .) The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with gender (GD – male or female) of the awardees.

Gender is a dichotomous variable and this hypothesis tests the likelihood of gender as an independent variable to influence return home of students from the overseas scholarship programme. The result of the test of this hypothesis on Table 2 shows that the statistical value of coefficient estimate (B) is 0.298 with a statistical significance level of $p = 0.100$ and an ‘*exponentiated*’ value of 1.347. This positive coefficient estimate of 0.298 is suggestive of a positive association between gender and return home but at a statistical significance of 0.100 ($P > 0.05$) the likelihood of gender (GD) to predict or influence return home is not statistically significant. This leads to an acceptance of the null hypothesis meaning that the likelihood of students to return home (RH) from the scholarship programme is not statistically associated with the gender of the awardees (male and female). The data on the table also show an ‘*exponentiated value (Exp(B))*’ of 1.347 which is the odds ratio of return home. The male students formed the reference or base group. Thus, the male students are 1.347 times more likely to return home from their studies abroad than female students even though gender is not statistically significant in this study.

Hypothesis Two (H_{02} .) The likelihood of students to return home (RH) from the government-funded overseas scholarships programme is not associated with age (AG – Younger or Older) of the awardees.

Age is a dichotomous variable and this hypothesis tests the likelihood of age as an independent variable to influence the return home of students from the overseas scholarship programme. The age variable is based on the average age of the students in the population (computed at 27 years). Younger students are those whose ages are up to 27 years while older students are those over 27 years. In this analysis, younger students form the base group for the category. The results of the test of hypothesis show that, the younger students have a coefficient estimate (B) of -0.766 and a statistical significance of $p = 0.000$ and the ‘*exponentiated*’ value is 0.465. Thus, by a factor of - 0.766, age has a negative influence on the likelihood of return home of the students from their studies abroad. Specifically, since the base group is the younger students, they have a negative influence on the overall return home from study abroad.

The statistical significance of $p = 0.000$ is less than .05 and as such the likelihood of age (AG) to estimate the likelihood of return home is statistically significance. This therefore suggests the rejection of the null hypothesis, meaning that, the likelihood of students to return home (RH) from the scholarship programme is associated with age of the awardees. The data on the table report the ‘*exponentiate value Exp(B)*’ of 0.465 which represents the odds of returning home. Since the younger students are the base group, it therefore means that, younger students are 0.465 times less likely to return home as opposed to older students.

Hypothesis Three (H₀₃.) The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with selection criteria (SC- merit or protocol) of the awardees.

Selection criteria (SC) is a dichotomous variable and this hypothesis tests the likelihood of selection criteria as an independent variable to influence return home of students from the overseas scholarship programme. Data on table 2 reveal that selection criteria (SC) as an independent variable has positive coefficient estimate (B) of 0.138, a significance value of $p=0.460$ and '*exponentiated*' value of the coefficient estimate of 1.148. The positive B coefficient suggests a positive association between selection criteria to returning home from their studies abroad by the base group (merit students). However, the $p = .460$ statistical significance of the test implies that the likelihood of selection criteria (SC) to predict return home is not statistically significant as it is greater than the 0.05 (5%). This therefore suggests the acceptance of the null hypothesis, meaning that the likelihood of students to return home (RH) from the scholarship programme is not associated with selection criteria of awardees. The *exponentiate value* $Exp(B)$ represents the odds of returning home and as such while selection criteria is not a significant variable, it shows nevertheless that merit selected students are 1.148 times more likely to return home than protocol selected students.

Hypothesis Four (H₀₄.) The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with successful graduation (SG -graduated or not graduated) of the awardees.

Successful Graduation (SG) is a dichotomous variable and this hypothesis tests the likelihood of successful graduation as an independent variable to influence return home of students from the overseas scholarship programme. Data on table 2 show that SG has a positive coefficient estimate (B) of 1.292, statistical significance of $p = 0.001$ and the *exponentiated value* $Exp(B)$ of 3.639. Thus, SG has a positive effect on the likelihood of returning home from study abroad by a rate of change factor of 1.292. Furthermore, its statistical significance value of $p = 0.001$ is less than 0.05 and as such the likelihood of successful graduation (SG) to predict return home is statistically significant. This therefore suggests the rejection of the null hypothesis and acceptance of the alternative hypothesis, meaning that the likelihood of students to return home (RH) from the scholarship programme is associated with successful graduation (SG) of awardees. Its *exponentiated value* $Exp(B)$ is 3.639, the odds ratio between the successful graduated and the not successfully graduated students. Successful graduation (SG) is the base group. Thus, the students who had successfully graduated are 3.639 times more likely to return home as opposed to students who have not successfully graduated.

Hypothesis Five (H₀₅.) The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with the immigration policy of the study destination country (IPDC- strict or liberal) The IPDC is proxied by immigrants' tolerance level index of the country - ITLI.

This is a continuous variable and this hypothesis aimed at ascertaining whether or not immigration policies of the study destination countries have the likelihood of influencing students returning home. The test result for immigration policies of the study

destination countries as proxied by the tolerance level for immigrants' index, for each country, shows a positive coefficient estimate (B) value of 16.833 with a level of significance value of $p = 0.000$ and 'exponentiated' value of coefficient ($Exp(B)$) of 20,437,469.423. A unit change in the immigration policy of the destination country of study (immigrants' tolerance level index) impacts the likelihood of a student returning home from study abroad by a rate of change factor of 16.833. At a level of significance of $p=0.000$ ($p < 0.05$), it is statistically significant as a factor associated with the likelihood of students returning home from study abroad. The indication is that, increasing the IPDC level decreases the likelihood of return home from study abroad and as such the more liberal the IPDC level the lower the likelihood of return home from study abroad. The null hypothesis of no association between them is rejected confirming a strong association between them. Therefore, the likelihood of students to return home (RH) from the scholarship programme is associated with immigration policy of study destination country (IPDC).

Hypothesis Six (H_{06} :-) The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with the level of development of the study destination country (LDDC- developed or developing). The LDDC is proxied by Human Development Index of the country – HDI as published by the United Nations.

This is a continuous variable and this hypothesis aimed at testing whether or not the level of development of the study destination countries has the likelihood of influencing students returning home. The hypothesis is a measure of the likelihood of level of development in the study destination country (LDDC) to influence students' return home from their studies abroad. This test result shows a negative coefficient estimate (B) for LDDC of -2.791 . The statistical significance of the test is $p = 0.475$ ($>5\%$) and the 'exponentiated' value of 0.061 for $Exp(B)$. The negative coefficient estimate (B) of -2.791 would suggest that an increase in level of development of destination country will reduce the rate at which the students will return home by a factor rate of 2.791. The statistical significance of the test of $p = 0.475$ is greater than 0.05. This indicates that the likelihood of level of development in the destination country is not statistically significant in influencing or affecting the likelihood of students return home. Thus the null hypothesis is accepted indicating no statistical association between RH and LDDC. The 'exponentiated value $Exp(B)$ ' is 0.061.

Hypothesis Seven (H_{07} :-) The likelihood of students to return home (RH) from the government-funded overseas scholarship programme is not associated with the level of the awards (LA-undergraduate or postgraduate) of the awardees.

The level of award is a dichotomous variable and this hypothesis tested the likelihood of the level of award as an independent variable to influence return home of students from the overseas scholarship programme. The purpose of this test is to look at the influence of level of award on the likelihood of return home or not of the students on the scholarship programme. The result of the test of the hypothesis is reported on Table 2.

The Level of Award (LA) has a negative coefficient estimate (B) of -1.225. The statistical significance is $p = 0.000$ and the 'exponentiated' value ($\text{Exp}(B)$) is 0.294. This means that the level of award has a negative contribution to the outcome variable (return home) by a factor rate of 1.225. With a test score of $P = 0.000$ which is less than 0.05, this result means that the likelihood of level of award (LA) to estimate the likelihood of return home is statistically significant. This suggests the rejection of the null hypothesis and acceptance of the alternative hypothesis that the likelihood of students to return home (RH) from the scholarship programme is associated with Level of Award (LA). With an 'exponentiated' value $\text{Exp}(B)$ of 0.294 in a categorical variable, the odds of returning home in relation to level of award suggest that undergraduate students (the base group for comparison) are 0.294 times less likely to return home than postgraduate students.

Discussion of Findings

The rate of return home from study abroad is a critical indicator of the successful development of human capital for the home country. Any human capital that is developed but does not return home, does not contribute to the pool of manpower resources available for deployment by the home country. The RSOSP recognised this importance to return home and inserted a conditional clause in the Letter of Award of the scholarship requiring the students to sign an undertaking to return to Nigeria on completion of their studies. The Kazakhstan Bolashak overseas scholarships also required collateral as a qualifying condition for the award of overseas scholarships (Perna *et al.*, 2015).

The total number of students that returned home (RH) on the RSOSP from studying abroad was 495. This constituted 38% of all the 1,298 students that travelled to study abroad and ought to have graduated and returned home in the period covered by this study (2008 – 2015). Ten (10) beneficiaries (0.7% of the study population or 2% of the total 495 students that returned home) did not successfully graduate but they also returned home. They do not represent developed human capital because they did not acquire the requisite skills to add to the home country manpower pool. Due to their small, negligible and statistically insignificant numbers, they are not included in the discussions below for the purposes of those who studied abroad, successfully graduated and returned home to contribute to the trained and highly-skilled manpower pool available to the home country. The emphasis of this discussion is therefore on the 485 students who successfully graduated (SG) and returned home (RH) i.e. $\text{SG} + \text{RH} = \text{SGRH}$.

The rate of return home of the successfully graduated students was 42% at 485 of all the 1,152 that successfully graduated. This was 37% of all the 1,298 students that travelled abroad to study and should have graduated and returned home by October 2015. In other words, 37% of all the qualifying students that travelled abroad successfully graduated and returned home (SGRH) to add to the manpower pool for the State, which was the published policy goal. RSOSP did not have a stated rate of return home target. This would have formed the target or yardstick (policy goal) against which to measure the actual 37% rate of return home. The absence of a quantified policy goal or target (which was in common with other reviewed overseas scholarship programmes) hindered a proper assessment of the success or otherwise of the programme. It was expected however that all the awardees would return home. This was an unrealistic expectation, given the proven track record of very low and poor return home from other government-funded overseas

scholarships (Baruch *et al.*, 2007; Altbach and Ma, 2011; Mishra, 2013; Paile and Fatoki, 2014; Perna *et al.*, 2015).

The implication of this relatively low rate of return home of successfully graduated students is that the vast majority of students who travel to study abroad from mostly developing countries have shown no inclination or intention to return to their home countries after graduation. This means that scarce resources have been invested in these students who would not return home to contribute to the development of their home countries.

An analysis of the rate of return home on the basis of gender (GD) showed that the male students returned at a higher rate (39%) than females (33%). This would suggest more awards to the male than female students since they returned at a higher rate. Policy makers should however consider a broader gender balance and equality in the overall workforce in making such a decision. There are also other considerations such as immigration policies of the study destination countries which, as shown in this study, strongly influence return home rates, irrespective of the gender of the student. So, an argument could be to make gender neutral awards but send them to stricter immigration policy countries because they will return home at a higher rate than more liberal immigration policy countries irrespective of gender.

With regard to the age factor (AG), the older students returned home at a higher rate (66%) than the younger ones (20%). This is consistent with the Bijwaard and Wang (2016) study which also found that older students (beyond 30 years) returned home at a higher rate than younger students. They attributed this to unemployment challenges at their age in the host country. This would imply a more favourable disposition for more overseas scholarship awards to the older students because they return home at a higher rate than younger students. This should however have consideration for the contribution to the overall workforce, since younger returnees should live longer than older returnees and so work longer.

In examining the rate of return home by the selection criteria (SC) of the programme, the successfully graduated protocol students returned home at a higher rate (42%) than their merit counterparts (39%). On the evidence of this rate of return home, based on the methods of selection of the students, then the protocol students should be granted more awards because they returned home at a higher rate.

Successful graduation (SG) as a factor in return home from study abroad was more of a conundrum because it counted in favour as well as against successfully graduated students returning home or not returning home upon completion of their studies. On successful graduation, the students had developed their human capital to the point where he or she is now valuable to both the host country of study and the home country. These findings show that 1,152 (at 89% of the study population) successfully graduated of which 58% at 667 (more than half) of all those who successfully graduated did not return to their home country. In the same vein, successfully graduated students made up 98% at 485 of all the 495 total students that returned home from the overseas scholarship programme. In other words, the majority of those who graduated did not return home and the vast majority of all those who returned home were successfully graduated students. Thus, their

successful graduation has given them added value for employment or other opportunities in both the host country of study as well as the home country. Those who successfully graduated abroad were likely to be absorbed in both host and home countries than those who did not graduate.

While there were no direct references to successfully graduated students, all the brain drain from study abroad would invariably relate to students who had graduated. The implication would therefore be to encourage those who have successfully graduated to return home on completion of their studies. There was a return home clause in the letter of awards to the recipients of the RSOSP which meant that, at least in theory, all the beneficiaries should have returned home at the end of their studies abroad. Evidently, however, with a 62% rate of non-return of all students, this clause was ineffective because there were no penalties for default. By contrast, some government-funded overseas scholarships, such as China, improved their return home rates by using incentives such as higher salaries and a dedicated Business Industrial Park (Altbach and Ma, 2011). Also, an enforceable collateral requirement was used in the Kazakhstan overseas scholarship scheme (Perna *et al.*, 2015).

The immigration policies of the study destination countries (IPDC) also played a key role in determining the rate of return home from study abroad. This study used the Immigrants' Tolerance Level Index (ITLI) from the Social Progress Index (2015) as a proxy. The five countries of Canada, Ireland, Switzerland, UK and USA had higher indices indicating more liberal and more tolerance for immigrants than India, Thailand and Singapore. All the 307 students in India, Thailand and Singapore were made to return home. All the 803 students (62% of the total study population of 1,298) that did not return home studied in the more immigrant tolerant countries of Canada, Ireland, Switzerland, UK and USA. As a consequence, all the 667 at 58% of the successfully graduated students (1,152) were retained in the more liberal immigration policy countries. In effect, 83% at 667 of 803 non-returned students had successfully graduated but were retained in these less strict immigration policy countries. While a causal effect could not be easily determined from the agency records and on the basis of insufficient information available in this dataset, it is more than a mere coincidence that all three hundred and seven (307) students in all the three (3) stricter immigration policy countries returned home while all 803 of non-returnees were in the (5) liberal immigration policy countries.

This position applied to all the categories of students irrespective of their gender, age, selection criteria, successful graduation and level of award. It would seem that the destination country of study was an overriding factor where return home was made compulsory at the completion of studies abroad as a result of immigration policies. This position is consistent with the findings by Rosenzweig (2008); Perna *et al.* (2015); and Levatino (2015), that immigration policy is a very strong factor that determines the stay of a non-citizen (including foreign students) in a foreign hand. The policy implication is that immigration is a very important factor for decision makers to consider in the allocation of students to study destination countries. The stricter the immigration policy of the study destination country the higher the rate of return home from their study abroad and as such more students should be sent to stricter immigration policies study destination countries. The reverse also holds therefore that the more liberal the immigration policies of the study destination country the lower the rate of return home from study abroad. This decision

should not however be taken in isolation as other factors such as quality of education and other socioeconomic packages in those countries should also be taken into account in the decision making process.

The rates of return home were also analysed by the level of development of the study destination countries (LDDC). The level of development of the study destination country was proxied using the Human Development Index (HDI) as published by the United Nations (HDR, 2015). Six (6) of the study destination countries (Canada, Ireland, Singapore, Switzerland, Ireland, UK and USA) were ranked higher as developed countries than India and Thailand. The theoretical expectation based on the findings in the study by Cheung and Xu (2015) would be that students studying in the developing countries are more likely to return to their home country compared to students studying in the developed economies. They posited that the economies of the developed study destination countries have better job opportunities and prospects (pull factors) than the developing countries (push factors) (Baruch, 2005; Dimmock and Leong, 2010).

The findings equally show that, 100% of all the 183 students that studied in the developing economies returned home (whether successfully graduated or not). All the 803 at 100% of all the non-returnees studied in the developed economies. Furthermore, all the 667 non-returned successful graduates (58% of all successfully graduated students) were retained by the developed economies. The retention of these graduated students (already developed human capital) has been called brain drain by many scholars because the trained personnel have been retained in the host country instead of returning home to develop their own home country (Baruch *et al.*, 2007; Oosterbeek and Webbink, 2011; Soon, 2008; Docquier and Rapoport, 2012). Thus the investment in education by the developing countries which ought to increase the stock of their human capital has unfortunately turned to be for the benefit of developed countries that are richer and better placed to train their own manpower.

There are some counter arguments that the graduated students, who stay back remit funds and other technical knowledge and transfer of some skills to their home country (Lowell *et al.*, 2004; Docquier and Rapoport, 2012; Bijwaard and Wang, 2016). Such remittances are very unlikely to be commensurate with the loss of the contribution of their trained skills in the development of their home countries if they had returned home. This brain drain phenomenon is acknowledged but it is not the focus of this research. As such, the pros and cons of this argument will not be discussed further. Since the rate of return home was higher the implication would be that more students should be sent to developing countries as they return at a higher rate than from the more advanced economies. However, with reports that education standards are higher and better in developed than developing countries (HDR, 2015; BBC, 2015) this would seem to suggest settling for lower education standards and as such needs to be considered with care.

In respect of the rate of return home by level of award (LA), 48% of the postgraduates (PG) returned home compared with 35% of the undergraduates (UG). By comparison, the 48% return home rate of PG students in this study was higher than a study showing 35% rate of return intentions of doctoral students (Mishra, 2013; Cheung and Xu, 2015). Also, Baruch *et al.* (2007) found that, only 40% of PG students intended to return

home compared with the 48% actual return home rate in this study. The reasons given by these researchers for this seemingly low rate of return home of PG students were mostly economic pull factors, such as employment opportunities and better standards of living, in the host countries. A simplistic implication of this higher rate of return home by PG students would be to increase their numbers as a proportion of the awards compared with UG since they graduate as well as return home at a higher rate than UG students. However, regard should be given to the industry and employers' needs in the home country. These needs would guide what level of award is most needed and inform the training and award of overseas scholarships. It is therefore suggested that, there needs to be a proper manpower needs gap analysis at home to determine what exactly is needed before making the awards to fill the gaps that were identified.

Conclusion

The study successfully combined descriptive statistics and binary logistic regression methods to create an understanding of the experience of using RSOSP database to analyse the rate of return home from study abroad of this human capital development initiative. The determinant factors identified in the study that may influence the likelihood of return home or not of the beneficiaries are gender (GD), age (AG), selection criteria (SC), successful graduation (SG), immigration policy of destination countries (IPDC), level of development of destination countries (LDDC) and level of award (LA).

Recommendations

Based on the findings, the following recommendations were made.

1. Rivers State Government should concentrate on age, successful graduation, postgraduates and the immigration policies of study destination countries because they are the statistically significant factors that influence the likelihood of return home from study abroad.
2. Rivers State Government should set quantifiable, specific, measurable, achievable, realistic and time-bound targets for successful graduation and return home as key success factors.
3. Rivers State analysts should deploy the binary choice regression model as a forecasting tool to set the outcome targets.
4. Rivers State Government should create incentives such as improved job opportunities and attractive remuneration packages to entice successfully graduated students to return home from study abroad. Also, consider legally binding agreements to return home with the students and study destination countries.

References

- Ali, E. & Hsieh, T (2009). *The impact of International Education to China's Economy*. Paper presented at the International Conference on Empowering Future: International Education as a Catalyst for Change.
- Altbach, P. G & Ma, W. (2011). Getting graduates to come home: Not so easy. *Aspects of Internationalization, International Higher Education*, 63, 8 – 9.
- Baruch, Y. (2005) Business globalization – the human resource management aspect. *Journal of Human System Management*. 31 (14). p.313 – 326

- Baruch, Y., Pawan, S. B. & Naresh, K. (2007). Brain drain: inclination to stay abroad after studies. *Journal of World business*, 42 (8), 99 – 112.
- Becker, G. S. (1994). Human Capital Revisited. In: Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education (3rd Ed). University of Chicago Press p. 15-28. Online <http://www.nber.org/chapters/c11229> [Accessed 4 April 2017]
- Bijwaard, G. E. & Wang, Q. (2016). Return migration of foreign students. *European Journal Population*, 32 (9), 31 – 54.
- British Council and DAAD (2014). The rationale for sponsoring students to undertake international study: An assessment of national student mobility scholarship programmes. [Online] Available from :https://www.britishcouncil.org/sites/default/files/e002_outward_mobility_study_final_v2_web.pdf. [Accessed 14th April 2015]
- Celik, S. (2009). In their own words: Government sponsored Turkish EFL teachers. Are we really investing, or wasting?[Online]Being a Doctoral Dissertation ProQuest Dissertations and Theses. (3390262). Available from <https://eric.ed.gov/?id=ED513837> [Accessed: 2nd January 2017]
- Cheung, A. C. K. & Xu, L. (2015). To return or not to return: examining the return intentions of mainland Chinese students studying at elite Universities in the United States, *Studies in Higher Education*, 40 (9), 1605-1624.
- Dimmock, C. & Leong, J. O. S. (2010). Studying overseas: Mainland Chinese Students in Singapore. *Compass*, 40 (1), 25 – 42.
- Docquier, F. & Rapoport, H. (2012). *Quantifying the impact of highly-skilled emigration on developing countries*. London: Oxford University Press.
- Felbermayr, G. J. & Reczkowski, I. (2012). *International student mobility and high-skilled migration: The evidence*. Ifo Working Paper No.132. [Online] Available at www.cesifo-group.de. [Accessed 2nd January 2017]
- Finn, M. G. (2010). *Stay rates of foreign doctorate recipients from US Universities*. Oak Ridge, TN: Oak Ridge Institute for Science and Education Press.
- Levatino, A. (2015). Transnational higher education and skilled migration: Evidence from Australia. *International Journal of Educational Development*, 40 (4), 106-116.
- Lowell, B. L., Findlay, A. & Stewart, E. (2004). *Optimizing highly-skilled migration from developing countries*. Working paper 3, London.
- Malaysia The Economic Planning Unit (2010). Malaysia Master Plan, 2010
- Mincer, J. (1975). Education, Experience, and the Distribution of Earnings and Employment: An Overview. In: Education, Income and Human Behavior (ed) Juster, F. T. National Bureau of Economic Research p. 71-94. Online <http://www.nber.org/chapters/c3693> [Accessed 3 April 2017]
- Mishra, A. (2013). India takes steps to prevent brain drain: Chronicle of higher education. *International Journal of Management and Social Sciences*.18 (9).p.154-168.
- Oosterbeekw, H. & Webbinkz, D. (2011). Does studying abroad Induce a brain drain? *Journal of Economics and Political Science*, 78 (310), 347-366.

- Paile, P. & Fatoki, C. (2014). *The determinants of return and non-return intentions of International Students in South Africa*. United States: Palgrave Macmillian,
- Perna, L. W., Orosz, K., Gopaul, B., Jumakulov, Z., Ashirbekov, A. & Kishkentayeva, M. (2014) Promoting human capital development: A typology of international scholarship programs in higher education. *American Journal of Educational Research*. 43 (2). p.63 – 73
- Perna, L.W., Orosz, K. & Jumakulov, Z. (2015). Understanding the human capital benefits of a government-funded international scholarship program: An exploration of Kazakhstan's Bolashak program. *International Journal of Educational Development*, 40, 85-97.
- Rapoport, H. (2017). Who is Afraid of the Brain Drain? A Development Economist's View. CEPII Policy Brief. Forthcoming paper in Law, Ethics and Philosophy (LEAP). Available online http://observatoriomigraciones.org/wp-content/uploads/MIGCAL-Brain-drain_developm.pdf
- RSSDA (2012). Report on Rivers State Overseas Scholarship Programmes.
- Rosenzweig, M. (2008). *Higher education and international migration in Asia: Brain circulation*. Annual World Bank Conference on Development Economics Regional. Washington, DC: World Bank Publications.
- Social Progress Imperative (2015) Social Progress Index Report (SPI - 2015)
- Soon, D. (2008). *The determinants of international students' return intention*. University of Otago Economics Discussion Papers.
- Tremblay, K. (2005). Academic mobility and immigration. *Journal of Studies in International Education*, 9 (6), 196 – 225.
- United Nations Development Programmes (2015) Human Development Report – Human Development Index (HDI 2014)