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WHY DO MANY EDUCATED INDIVIDUALS LEAVE ZIMBABWE? ECONOMIC REALITIES AND THE DRAW OF DEVELOPED COUNTRIES

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Abstract. Zimbabwe grapples with a significant brain drain as many educated individuals seek better opportunities abroad. Given the decreasing number of highly educated individuals who remain in the country, their prospects of career advancement and wealth generation are expected to increase. This research aimed to investigate the impact of education on the employment status and income of individuals who stay in Zimbabwe. Cross-sectional data from the World Values Survey was used to characterize Zimbabwean respondents in relation to their employment status and income. To provide a comparative context, the results were juxtaposed with data from Australia and the United Kingdom (UK), popular destinations for Zimbabwean immigrants. Educated individuals in Zimbabwe face higher unemployment rates (22%) than those in Australia (2%) and the UK (3%). Additionally, educated Zimbabweans are more frequently self-employed (25%) than educated individuals in Australia (7%) and the UK (8%). Moreover, educated Zimbabweans are less likely to categorize themselves as high earners (10%) than Australians (38%) and UK residents (19%) with similar educational backgrounds. The significant disparities in employment rates, self-employment prevalence and perceived high-earning status between educated individuals in Zimbabwe and those in Australia and the UK underscore the challenges faced by educated individuals within Zimbabwean society. This research underscores the need for more job opportunities and the limited wealth creation prospects of highly educated individuals in Zimbabwe. If economic inclusivity is not fostered for the educated workforce, the brain drain will persist since opportunities will remain scarce, even for those who stay in the country. Targeted interventions to address structural issues and to promote a more inclusive economic environment in Zimbabwe are deemed necessary.

Keywords: Education; employment status; income; brain drain; Zimbabwe; Australia; United Kingdom; comparative analysis

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1. Introduction

The brain drain in Zimbabwe, marked by a significant outflow of well-educated individuals seeking better opportunities abroad, has been a persistent issue. Academic articles such as "Brain Drain: An ever-present significant challenge to the Zimbabwean Public Health Sector" (Dzinamarira and Musuka, 2021) and "The causes and impact of the brain drain in institutions of higher learning in Zimbabwe" (Shumba and Mawere, 2012) highlight the factors that contribute to this phenomenon, including economic challenges, political instability and limited career prospects. Scholars have raised concerns about the potential long-term impact of this ongoing trend

on the nation's workforce and economic development, as reflected in studies by Gwaradzimba and Shumba (2010) and Nyanga et al. (2012).

The migration of educated individuals is a global trend observed in various countries facing economic, political or social challenges. Several studies, such as “The effect of brain drain on the economic development of developing countries: Evidence from selected African countries” (Adeyemi et al., 2018), “‘I left because...’: Caribbean high-skilled emigrants’ reasons to migrate to the US” (Brissett, 2023) and “Brain drain, brain circulation, and the African diaspora in the United States” (Chand, 2019), delve into the multifaceted reasons behind brain drain, encompassing economic disparities, job market dynamics and opportunities for personal and professional growth abroad. Understanding these factors is essential for comprehending the broader implications of brain drain for Zimbabwe's educational and economic landscape.

This study seeks to contribute to the existing body of knowledge by investigating the economic realities faced by educated individuals who choose to remain in Zimbabwe. By exploring the relationship between educational attainment and economic outcomes, the research aims to provide insight into the challenges and opportunities within the country.

2. Literature Review

Theoretical perspectives on brain drain

To comprehend the phenomenon of brain drain, examining the factors that influence migration decisions is imperative. Several theoretical perspectives provide insight into this issue.

The human capital approach underscores the role of skills and education in migration decisions, positing that individuals with higher skills tend to migrate to countries offering better opportunities for their application (Scott, 1970; Faggian et al., 2015). Consequently, this theory suggests that migration results in a depletion of human capital in the country of origin (Bildirici et al., 2005; Schaeffer, 2005), emphasizing the economic rationality of migration decisions and the pivotal role of education and skills in enhancing socio-economic well-being (Faggian et al., 2015).

The push-pull theory (Lee, 1966) offers a nuanced understanding of migration by categorizing factors that either push individuals out of their home country or pull them towards a destination. This theory highlights the interplay of economic and social conditions in both sending countries and receiving countries, suggesting that brain drain occurs when a combination of push and pull factors becomes compelling for highly skilled individuals (Parkins, 2010; Prieto Rosas and López Gay, 2015; Urbański, 2022).

Network theories emphasize the influence of social networks on migration decisions, suggesting that individuals are more inclined to migrate to countries where they have established connections or family ties (Blumenstock et al., 2023). Networks in destination countries may attract individuals with promises of professional connections, job opportunities and cultural integration (pull factors). In contrast, networks in home countries may contribute to brain drain through information exchange and migration facilitation (push factors) (Danzer and Ulku, 2011). Network theories underscore the interconnectedness of individuals within social structures, which influences their migration decisions.

Finally, Gurr (1970) proposed the relative deprivation theory, which states that people are more likely to migrate when they perceive a significant difference between their current situation and potential opportunities elsewhere. The sense of relative deprivation results from comparing one's circumstances with those of a reference group, typically made up of people with similar qualifications or those who live in developed countries (Stark and Taylor, 2019). The perceived gap can lead to dissatisfaction, frustration, and a desire for change (Kafle et al., 2020).

Considering these diverse theoretical perspectives, a more comprehensive understanding of the intricate dynamics driving brain drain and the migration of skilled individuals across borders is achieved. All the mentioned theories are relevant to this study's context for several reasons. First, human capital in Zimbabwe needs to be more valued, resulting in underutilization of its potential (Dzinamarira and Musuka, 2021). Second, the country's harsh economic realities act as a significant motivator, driving people to seek opportunities elsewhere (Shumba and Mawere, 2012). Furthermore, large and well-connected Zimbabwean populations in Australia and the United Kingdom foster close ties between those who have emigrated and those who remain in their home country (Crisford, 2022; Muzondidya, 2011). Finally, the stark economic disparity between Zimbabwe, a third-world country with few opportunities, and the economically advanced countries of Australia and the United Kingdom fosters a sense of relative deprivation, which can fuel migration motivations (Delgado Wise, 2018).

Brain drain trends

Global brain drain patterns are intricate, reflecting the interplay of economic, social and political factors across different regions and professions. Traditionally, skilled individuals migrate from developing countries (South and East) to developed countries (North and West) due to factors such as better wages, career opportunities, advanced technology and higher living standards (World Bank, 2002; Shumba and Mawere, 2012). Professions like healthcare, engineering, information technology (IT) and scientific fields are particularly affected, given the global demand for the skills associated with these professions and limited opportunities in skilled individuals' home countries (Okafor and Chimereze, 2020; Dzinamarira and Musuka, 2021).

Regional brain drain hotspots include Africa, the Caribbean, the Pacific Islands and South Asia (Ait Benhamou and Cassin, 2018; Ewers et al., 2022). The African continent faces a severe brain drain driven by political instability, economic hardship and inadequate healthcare systems (Blacklock et al., 2014; Kuhnt, 2019). The Caribbean and the Pacific Islands lose significant portions of their high-skilled populations due to limited economic opportunities (Brissett, 2023). Countries like India and the Philippines experience high emigration among IT professionals and nurses, who seek better working conditions and higher salaries abroad (Nai and Webster, 2013; Thompson and Walton-Roberts, 2019). Migration from developing countries (such as Zimbabwe) is increasing, and growing economies like China, India and South Africa are attracting skilled professionals from their poorer neighbours (Facchini et al., 2013; Nawyn, 2016).

Circular migration, characterized by skilled individuals temporarily relocating for educational or professional development before returning to their home countries with enhanced skills, is increasingly recognized for its importance (Won and Guo, 2023; Murphy and Pacher, 2023). While the negative impacts of migration have been well-documented, some researchers highlight the possibility of 'brain gain' through the remittances and the expertise that migrants bring back, which can advantage the countries they originated from (Bredtmann et al., 2019). Nonetheless, while some migrants return to their home countries, these numbers are relatively small, and brain drain poses a significant challenge to the developmental initiatives in these countries (Adeyemi et al., 2018).

Impact of brain drain on developing nations

While the causes of brain drain are extensively researched (Beine et al., 2008), the effects on developing countries are more complex. Previous studies reveal multifaceted effects, ranging from positive aspects such as remittances, return migration with additional skills and the creation of scientific and business networks (Bredtmann et al., 2019; Commander et al., 2004; Nyanga et al., 2012) to negative consequences like economic setbacks and a loss of skilled professionals (Adeyemi et al., 2018).

Investments in individuals' education and training are often lost when the educated migrate, resulting in a depletion of human capital (Gwaradzimba and Shumba, 2010; Shumba and Mawere, 2012). This can impede economic growth and innovation, perpetuating conditions of deprivation (Ha et al., 2016). Adeyemi et al. (2018)

found a negative relationship between brain drain, remittances and economic growth in Kenya, Ethiopia and Nigeria.

Brain drain exacerbates difficulties in providing critical social services, particularly in healthcare and education (Mlambo et al., 2019). The departure of skilled healthcare professionals and educators may result in personnel shortages, thereby lowering the quality and the accessibility of these services for the local population (Nyanga et al., 2012). Brain drain contributes to inequity and disparities in development within developing countries (Mlambo and Adetiba, 2019) in that it disproportionately affects marginalized communities (Stolz and Baten, 2012) and impedes overall national development.

Despite a growing body of literature on the effects of brain drain, a critical gap exists in empirical research on the impact of brain drain on individuals who remain in their home countries, particularly in developing countries like Zimbabwe (Nyanga et al., 2012; Dzinamarira and Musuka, 2021; Kanonge and Bussin, 2022). The absence of thorough research into the fate of highly educated individuals who (still) remain in Zimbabwe constrains our understanding and development of effective, sustainable strategies to retain and optimally utilise them.

The link between educational attainment, employment status and income among those who stay

The exodus of skilled individuals presents a problem for source countries, given that it may have implications such as slower economic growth and decreased innovation (Mlambo and Adetiba, 2019). At the same time, it could create opportunities for those who choose to stay. However, empirical evidence on the impact of brain drain on the local labour market, particularly in developing countries, remains inconclusive (Commander et al., 2004). How does brain drain affect the employment opportunities and the income status of educated individuals who stay in the source countries?

Research suggests a complex interplay between education, employment and migration decisions. Studies consistently highlight a positive correlation between higher education and income levels (Psacharopoulos and Patrinos, 2004). Individuals with advanced degrees and specialized skills often command wage premiums (Beine et al., 2016; Rauch and Maurer, 2018). However, Zimbabweans returning home after studying abroad may be underemployed, a persistent issue where individuals work in positions below their skill level (Docquier and Tapoport, 2012). Such individuals may be lured back to the country where they studied. Also, the availability of advanced educational opportunities for those who stay is critical since limited access to higher education can hinder professional growth and fuel dissatisfaction, potentially fuelling migration (Adeyemi et al., 2018).

Perhaps the most pertinent aspect within the Zimbabwean context is that studies emphasize the importance of aligning educational qualifications with market demands. Individuals with specialised skills relevant to the local economy are more likely to secure relevant jobs, maximizing the utilization of their education (Beine and Sekkat 2013). In Zimbabwe, the mining industry could be a source of high-income opportunities for Zimbabweans if positions are filled by skilled people (Mpofu and Nemashakwe, 2023). Within the same context, mining, professional networks could be formalized, facilitating career advancement and providing access to local job opportunities (Rauch and Maurer, 2018).

Education should build character and provide skills (Montessori, 1912). Thus, individuals with a high level of educational attainment may be more likely to stay in their home countries than those with a lower level of educational attainment. They may be motivated by a strong sense of social responsibility or a belief in their ability to contribute to local development (Darkwa, 2018).

From the above, it is clear that the relationship between education, employment and income after a brain drain is multifaceted and dynamic. While higher education generally improves people's prospects, developing countries' challenges because of emigration are real and require urgent attention. This research aims to enrich academic

discourse and inform policy interventions aimed at maximizing the potential of highly educated individuals who choose to stay in their home countries.

3. Research Methodology

This section discusses the research design, sampling, the method of data collection, the procedures followed and ethical issues pertaining to the study.

Research design

This study is based on the analysis of cross-sectional data on education, employment status, and income with respect to Zimbabwe, Australia, and the United Kingdom, which were collected during the World Values Survey (WVS), Wave 7. The data were quantitative in nature. The purpose of the analysis was to compare the variables across countries.

Sampling

The WVS website offers a comprehensive explanation of the methodology that was used to sample people from different nations. Special attention was paid to ensuring that each country's sample was drawn using probability sampling. The research project used data from Zimbabwe (N=1 211), Australia (N=1 795) and the United Kingdom (N=2 469).

Measurement instrument

The WVS questionnaire (7th wave) was used. Only two demographic variables were considered, namely, sex – Q260 – which was coded by the interviewer by observation as Male or Female, and age – Q264 – which was expressed as number of years.

Five items were used to measure each of the variables of interest. The items were as follows:

- Educational level was measured with Q275, where nine levels of education, ranging from “Early childhood education (ISCED* 0)” to “Doctoral or equivalent (ISCED 8)” were recoded onto Q275R, with three levels of education, namely, Low, Middle and Higher. This three-level item was preferred since the intention was to use cross-tabulation, on the premise that this would ease interpretation. The question read as follows: “What is the highest educational level that you ... have attained?”
- Employment status was measured with Q279. The question read as follows: “Are you employed now or not? If yes, about how many hours a week?” If in paid employment, the response options were “Full time employee (30 hours a week or more)”, “Part time employee (less than 30 hours a week)” and “Self-employed”. If not in paid employment, the options were “Retired/pensioned”, “Housewife not otherwise employed”, “Student” and “Unemployed”.
- The sector of employment was measured with Q284, which read as follows: “Are you working for a government or public institution, for a private business or industry, or for a private non-profit organization? If you do not work currently, characterize your major work in the past.” There were three response possibilities, namely, “Government or public institution”, “Private business or industry” and “Private non-profit organization”.
- Family savings was used as a proxy for wealth and was measured with Q286, which read as follows: “During the past year, did your family (read out and code one answer): 1 Save money; 2 Just get by; 3 Spend some savings; 4 Spend savings and borrow money?” This variable clearly has some ordinal characteristics.

Income or wealth was measured with Q288, where the respondents were requested to indicate their household income on a scale, where 1 indicated the lowest income group and 10 the highest income group in their country,

* ISCED-2011 – International Standard Classification for Education used by the UN and UNESCO

counting all wages, salaries, pensions and other incomes. This is clearly a ratio scale. However, the statistical analysis (cross-tabulations) were conducted using item Q288R, where the above information is coded into Low, Medium and High. As can be seen from the above list, the questions with fewer categories were preferred since they were better suited to cross-tabulation.

Procedure

The study's primary aim was to gauge the prevalence of certain conditions among Zimbabwean citizens and then contextualise these conditions by comparing them with those of Australians and UK citizens. Firstly, demographic information (age and sex) was generated to describe each of the groups (Zimbabwean, Australian and UK citizens). After that, cross tables were drawn per country, displaying educational levels as column headings and the dependent variables as row labels. The counts in the cells were presented as percentages, which were easy to interpret. Percentage differences of 10% were interpreted as practically significant differences. Per-country chi-square tests were performed, and correlations were calculated. The results showed significant chi-square statistics in all cases and are thus not reported.

Spearman correlation coefficients, with ordinal-by-ordinal data, were calculated across countries only for the education by income variable (ordinal data by ordinal data) – see Table 7. Statistically significant correlations between .1 and .3 were interpreted as a small effect, statistically significant correlations between .3 and .5 were interpreted as a medium effect and statistically significant correlations above .5 were interpreted as a large effect (Cohen, 1988).

Ethical considerations

The study was based on secondary data sourced from the WVS database. Thus, no human participants were involved in the study. The WVS database is freely available for use by members of the public. However, researchers who use data from the WVS database must reference the database in the reference lists of their works (see Inglehart et al., 2014). At the institutional level, approval to conduct the research was obtained from the Graduate School of Business Leadership of the University of South Africa (Unisa).

The Research Ethics Review Committee (GSBL CRERC) of Unisa granted permission for the research to be conducted: 2022_SBL_AC_001_SD.

4. Results

Demographic variables

Only two demographic variables, namely, age and sex are reported on.

Table 1. Age per country

Country	N	Range	Min.	Max.	Mean	Std. dev.	Skew.	Skew. S.E.	Kurt.	Kurt. S.E.
Zimbabwe	1211	81	18	99	39.15	16.35	0.76	0.07	-0.18	0.14
Australia	1795	81	17	98	54.30	17.39	-0.12	0.06	-0.81	0.12
UK	2469	81	18	99	51.82	18.42	0.06	0.05	-0.99	0.10

Source: Created by authors

From Table 1 it is evident that the Zimbabwean population was significantly younger than the Australian (Auz) and UK populations: Zim-Auz mean difference = -15.15, Cohen d = -.898, large effect; Zim-UK mean difference = -12.67, Cohen d = -.728, large effect; Auz-UK mean difference = 2.48; Cohen d = .138, small effect. The values suggest that the difference between Zimbabwe and Australia is the largest, followed by the difference between Zimbabwe and the UK, while Australia and the UK are the most similar in terms of age mean scores.

Table 2. Sex per country

Sex	Zimbabwe		Australia		UK	
	Count	%	Count	%	Count	%
Male	600	49.38	1105	42.35	704	38.83
Female	615	50.61	1471	56.38	1095	60.39
Tot	1215	100	2576	98.73	1799	99.22
Other missing	-	-	16	0.61	3	0.16
No answer	-	-	17	0.65	11	0.60

Source: Created by authors

The number of males in the respective populations also differed substantially. While Zimbabwe had almost an equal number of males and females who answered the questions, the number of males was substantially lower for both Australia and the UK. However, the Chi-square tests proved the differences were not significant ($\chi^2 = 2.177$, $p = .337$, $df = 2$).

Descriptive statistics

The descriptive statistics per country are presented below. To allow comparisons across countries, the percentage in each category is presented along with the count numbers.

Table 3. Descriptive statistics: Count data presented as percentages

	Zimbabwe		Australia		UK	
	Count	%	Count	%	Count	%
Educational level						
Low	681	56.05	792	30.36	152	8.38
Middle	441	36.30	414	15.87	807	44.51
Higher	91	7.49	1233	47.26	784	43.24
Tot	1213	99.84	2439	93.48	1743	96.14
Other missing	-	-	135	5.17	-	-
No answer	-	-	30	1.15	70	3.86
Don't know	2	0.16	5	0.19	-	-
Employment status						
Full time (+30h/w)	124	10.21	1003	38.44	611	33.70
Part time (-30h/w)	64	5.27	310	11.88	247	13.62
Self employed	365	30.04	158	6.06	127	7.00
Retired/pensioned	59	4.86	736	28.21	568	31.33
Homemaker	86	7.08	121	4.64	86	4.74
Student	56	4.61	64	2.45	41	2.26
Unemployed	455	37.45	118	4.52	57	3.14
Other	4	0.33	64	2.45	23	1.27
Total	1213	99.84	2574	98.66	1760	97.08
Other missing	-	-	6	0.23	-	-
No answer	1	0.08	28	1.07	53	2.92
Don't know	1	0.08	1	0.04	-	-
Tot	2	0.16	35	1.34	53	2.92
Sector of employment						
Government or public institution	100	8.23	788	30.20	549	30.28
Private business or industry	489	40.25	1397	53.55	1027	56.65
Private non-profit organisation	76	6.26	122	4.68	149	8.22
Tot	665	54.73	2307	88.42	1725	95.15
Other missing	-	-	41	1.57	-	-
Not applicable; Never had a job	394	32.43	157	6.02	8	0.44
No answer	143	11.77	87	3.33	80	4.41
Don't know	13	1.07	17	0.65	-	-
Tot	550	45.27	302	11.58	88	4.85
Family savings						
Save money	176	14.49	1065	40.82	699	38.55
Just get by	752	61.89	813	31.16	497	27.41
Spend some savings	153	12.59	447	17.13	420	23.17

Spend savings and borrow money	115	9.47	158	6.06	150	8.27
Tot	1196	98.44	2483	95.17	1766	97.41
Other missing	4	0.33	13	0.50	-	-
No answer	4	0.33	85	3.26	47	2.59
Don't know	11	0.91	28	1.07	-	-
Tot	19	1.56	126	4.83	47	2.59
Family income						
Low	618	50.86	371	14.22	407	22.45
Medium	545	44.86	1226	46.99	1141	62.93
High	50	4.12	564	21.62	200	11.03
Tot	1213	99.84	2161	82.83	1748	96.41
Other missing	-	-	27	1.03	-	-
No answer	-	-	315	12.07	65	3.59
Don't know	2	0.16	106	4.06	-	-
Tot	2	0.16	448	17.17	65	3.59

Source: Created by authors

Cross-tabulation of educational level and dependent variables, chi-square tests and Spearman correlation analyses

The cross-tabulation of educational level and dependent variables (employment status, economic sector, family savings in the past year and income) is presented in this section. Chi-square tests were performed per country and Spearman correlations were calculated (assuming ordinal by ordinal data), also per country. From the tables that follow it is evident that in-group differences occurred and, in all cases, the Chi-square statistics were significant, at a level of $p < .001$. These statistics are not reported separately because the differences are clear from inspection and the tests performed and because the statistics have no relevance to the study, which focuses on cross-country comparisons. As far as the Spearman correlations are concerned, they are reported only when the data are clearly ordinal.

This is only the case with educational level versus income level (Table 7). The cross-tabulation of educational level and employment status for each country is presented in Table 4. The columns containing data on individuals with higher educational levels have been filled to enhance table interpretation and the percentages bolded.

Table 4. Cross-tabulation – educational level and employment status per country

Employment status		Zimbabwe				Australia				UK			
		Educational level				Educational level				Educational level			
		Low	Mid	High	Tot	Low	Mid	High	Tot	Low	Mid	High	Tot
Full time (+30 h/w)	Count	45	55	24	124	207	148	604	959	16	250	332	598
% within Employment status		36	44	19	100	22	15	63	100	03	42	56	100
% within Educational level		07	12	26	10	26	36	49	40	11	32	42	35
Part time (-30 h/w)	Count	39	17	8	64	78	69	149	296	0	109	138	247
% within Employment status		61	27	13	100	26	23	50	100	0	44	56	100
% within Educational level		06	04	09	05	10	17	12	12	0	14	18	14
Self-employed	Count	197	144	23	364	44	19	81	144	4	62	60	126
% within Employment status		54	40	06	100	31	13	56	100	03	49	48	100
% within Educational level		29	33	25	30	06	05	07	06	03	08	08	07
Retired/pensioned	Count	35	15	9	59	308	97	275	680	113	262	168	543
% within Employment status		59	25	15	100	45	14	40	100	21	48	31	100
% within Educational level		05	03	10	05	39	24	22	28	79	33	21	32
Homemaker	Count	53	32	1	86	57	21	36	114	5	43	35	83
% within Employment status		62	37	01	100	50	18	32	100	06	52	42	100
% within Educational level		08	07	01	07	07	05	03	05	03	05	04	05
Student	Count	15	35	6	56	9	19	33	61	0	22	19	41
% within Employment status		27	63	11	100	15	31	54	100	0	54	46	100
% within Educational level		02	08	07	05	01	05	03	03	0	03	02	02
Unemployed	Count	292	142	20	454	55	31	25	111	4	30	21	55
% within Employment status		64	31	04	100	50	28	23	100	07	55	38	100
% within Educational level		43	32	22	37	07	08	02	05	03	04	03	03

Other	Count	3	1	0	4	28	7	24	59	1	12	9	22
% within Employment status		75	25	0	100	47	12	41	100	05	55	41	100
% within Educational level		0	0	0	0	04	02	02	02	01	02	01	01
Total	Count	679	441	91	1211	786	411	1227	2424	143	790	782	1715
% within Employment status		56	36	08	100	32	17	51	100	08	46	46	100
% within Educational level		100	100	100	100	100	100	100	100	100	100	100	100

Source: Created by authors

The most striking statistic in Table 4 is that 22% of the Zimbabwean respondents in the highly educated group were unemployed, compared to 2% of the respondents in Australia and 3% of the respondents in the UK. A smaller number of highly educated respondents in Zimbabwe were in full-time employment (26%), compared to their counterparts in Australia (49%) and the UK (42%). Another striking statistic in Table 4 is that a larger number of highly educated Zimbabwean respondents were self-employed (25%), compared to highly educated Australian (7%) and UK respondents (8%).

The cross-tabulation of educational level and sector of employment for each country is presented in Table 5.

Table 5. Cross-tabulation – educational level and sector of employment per country

Economic sector		Zimbabwe				Australia				UK			
		Educational level				Educational level				Educational level			
		Low	Mid	High	Tot	Low	Mid	High	Tot	Low	Mid	High	Tot
Government or public institution	Count	38	38	24	100	149	112	486	747	34	201	295	530
% within Sector of employment		38	38	24	100	20	15	65	100	06	38	56	100
% within Highest educational level		11	15	35	15	23	30	42	34	26	26	38	32
Private business or industry	Count	257	195	36	488	480	237	608	1325	88	506	400	994
% within Sector of employment		53	40	07	100	36	18	46	100	09	51	40	100
% within Highest educational level		75	77	52	73	74	64	52	61	66	66	52	60
Private non-profit organization	Count	47	20	9	76	23	21	73	117	11	58	77	146
% within Sector of employment		62	26	12	100	20	18	62	100	08	40	53	100
% within Highest educational level		14	08	13	11	04	06	06	05	08	08	10	09
Total	Count	342	253	69	664	652	370	1167	2189	133	765	772	1670
% within Sector of employment		52	38	10	100	30	17	53	100	08	46	46	100
% within Highest educational level		100	100	100	100	100	100	100	100	100	100	100	100

Source: Created by authors

Employment within the private sector was equal across the countries, while marginally more respondents outside Zimbabwe reported that they were employed by government.

The cross-tabulation of educational level and family savings, a proxy for wealth, for each country is presented in Table 6.

Table 6. Cross-tabulation – educational level and family savings per country

Family savings in the past year		Zimbabwe				Australia				UK			
		Educational level				Educational level				Educational level			
		Low	Mid	High	Tot	Low	Mid	High	Tot	Low	Mid	High	Tot
Save money	Count	77	78	21	176	251	164	604	1019	39	268	372	679
% within Family savings		44	44	12	100	25	16	59	100	06	39	55	100
% within Highest educational level		11	18	23	15	33	41	51	43	28	34	48	40
Just get by	Count	445	257	48	750	327	151	280	758	57	239	183	479
% within Family savings		59	34	06	100	43	20	37	100	12	50	38	100
% within Highest educational level		66	59	53	63	43	38	24	32	41	30	24	28
Spend some savings	Count	71	69	13	153	125	62	235	422	34	214	160	408

% within Family savings	46	45	08	100	30	15	56	100	08	52	39	100
% within Highest educational level	11	16	14	13	17	15	20	18	24	27	21	24
Spend savings and borrow money Count	77	29	9	115	54	25	70	149	10	73	61	144
% within Family savings	67	25	08	100	36	17	47	100	07	51	42	100
% within Highest educational level	11	07	10	10	07	06	06	06	07	09	08	08
Total Count	670	433	91	1194	757	402	1189	2348	140	794	776	1710
% within Family savings	56	36	08	100	32	17	51	100	08	46	45	100
% within Highest educational level	100	100	100	100	100	100	100	100	100	100	100	100

Source: Created by authors

Using the saving of money as a gauge, highly educated respondents in Zimbabwe were less well off than their counterparts, with only 23% of them indicating that they had saved money during the past year, compared to 51% of the respondents in Australia and 48% in the UK. Mirroring these statistics, 53% of the Zimbabwean respondents reported that they “Just get by”, compared to 24% of the respondents in the other two countries. With respect to family savings, educated respondents living in Zimbabwe were significantly less well off than educated respondents residing in Australia and the UK. The cross-tabulation of education level and income for each country is presented in Table 7.

Table 7. Cross-tabulation – educational level and income per country

Income		Zimbabwe Educational level				Australia Educational level				UK Educational level			
		Low	Mid	High	Tot	Low	Mid	High	Tot	Low	Mid	High	Tot
Low	Count	405	192	20	617	194	70	74	338	85	218	79	382
% within Income level		66	31	03	100	57	21	22	100	22	57	21	100
% within Highest educational level		60	44	22	51	31	20	07	16	59	28	10	23
Medium	Count	251	231	62	544	370	211	590	1171	56	516	540	1112
% within Income level		46	42	11	100	32	18	50	100	05	46	49	100
% within Highest educational level		37	53	68	45	58	60	55	57	39	66	71	66
High	Count	24	17	9	50	72	68	408	548	4	50	144	198
% within Income level		48	34	18	100	13	12	74	100	02	25	73	100
% within Highest educational level		04	04	10	04	11	19	38	27	03	06	19	12
Total	Count	680	440	91	1211	636	349	1072	2057	145	784	763	1692
% within Income level		56	36	08	100	31	17	52	100	09	46	45	100
% within Highest educational level		100	100	100	100	100	100	100	100	100	100	100	100

Source: Created by authors

Considering the income assessment of highly educated individuals in Zimbabwe, Australia and the UK, it seems that most of them belong to the middle class, that is, 68% in the case of Zimbabwe, 55% in the case of Australia and 71% in the case of the UK. However, 38% of highly educated individuals in Australia break the ceiling and make it into the higher levels of income, compared to 19% in the UK and only 10% in Zimbabwe. Here, the data also allowed for the calculation of correlation coefficients per country. Spearman correlation coefficients, with ordinal-by-ordinal data, were calculated across countries. Based on Cohen's (1988) guidelines (rho between .1 and .3 = small effect, between .3 and .5 = medium effect and higher than .5 = large effect), the relationship between education and income had a small effect in Zimbabwe (.21, $p < .001$) and a medium effect in Australia (.35, $p < .001$) and the UK (.34, $p < .001$).

Summary of Findings and Discussion

The literature addresses theoretical perspectives on brain drain, brain drain trends, the impact of brain drain on developing nations and the link between educational attainment, employment status and income among highly educated individuals who stay in their home countries. The most important finding emanating from the literature review is the identification of key drivers of brain drain, such as better employment opportunities abroad, local misfortune, family ties in the host country and inequalities across countries, leading to perceptions of relative deprivation.

This study adds to our understanding of migration by focusing on those individuals who did not immigrate and their circumstances. The aim of this research is to investigate the relationship between educational attainment, employment status and income among highly educated individuals who remain in a developing country, specifically Zimbabwe. By implication, the question is: How lucrative is it for educated Zimbabweans to stay loyal to their home country?

The sample size was relatively large, with Zimbabwe (N=1 211), Australia (N=1 795) and the United Kingdom (N=2 469) each contributing a large number of respondents. The collected data revealed that the Zimbabwean citizens were significantly younger than their counterparts from Australia and the UK. This is to be expected since the populations of developing countries are characterised by a large proportion of young people because of high fertility rates (World Population Review, 2024). The Zimbabwean male representation was larger than that of Australia and the UK, but in this case, the difference was not statistically significant.

The data used in this analysis were collected during the World Values Survey (WVS), Wave 7, which is a reputable source (Inglehart et al., 2014). The reliability and the validity of the data are assumed, given the repeated use of the questionnaire and the reputations of those involved in the design and the administration of data collection and capturing.

The results (in Table 4) reveal high levels of unemployment among Zimbabweans, given that 22% of the Zimbabwean respondents in the highly educated group were unemployed, compared to 2% of the respondents in Australia and 3% of the respondents in the UK. In addition, a smaller number of highly educated respondents in Zimbabwe were in full-time employment (26%), compared to their counterparts in Australia (49%) and the UK (42%).

Another striking feature of the statistics in Table 4 is that a larger number of highly educated Zimbabwean respondents were self-employed (25%), compared to highly educated Australian (7%) and UK respondents (8%). Table 5 expands on individuals who were employed (not by themselves) and, in this case, there were insignificant differences across the three countries. Educational level and sector of employment per country thus does not seem to differ across these countries.

The wealth generation of highly educated Zimbabweans living in Zimbabwe also differs markedly from the wealth generation of educated individuals in Australia and the UK. Only 23% of well-educated Zimbabwean respondents reported having saved money, compared to 51% of the respondents in Australia and 48% in the UK. On the other side of the spectrum, 53% of the Zimbabwean respondents reported that they “Just get by”, compared to 24% of the respondents in the other two countries. With respect to family savings, educated respondents living in Zimbabwe were significantly less wealthy than educated respondents residing in Australia and the UK.

Education and income seem less related in Zimbabwe (.21, $p < .001$ – small effect) than in Australia (.35, $p < .001$ – medium effect) and the UK (.34, $p < .001$ – medium effect). In addition, only 10% of highly educated

individuals in Zimbabwe form part of the group with higher levels of income, compared to 38% of highly educated individuals in Australia and 19% in the UK.

In sum, highly educated Zimbabweans are less often formally employed (see Table 4), more often unemployed or self-employed (see Table 4), create less wealth (see Table 6) and earn less income (see Table 7) compared to their counterparts in Australia and the UK.

The results of this study support Lee's (1966) perspective of push and pull factors, which emphasises the interplay of economic, political and social factors in influencing migration decisions. According to this viewpoint, the existence or absence of economic opportunities is critical in encouraging individuals, particularly those with high levels of education and skills, to seek better opportunities elsewhere (Prieto Rosas and López Gay, 2015; Urbański, 2022). The data derived in the current study reinforce this notion, as evidenced by the disproportionately high rates of unemployment among highly educated Zimbabweans compared to their counterparts in more developed countries such as Australia and the UK. The enticing prospect of employment opportunities abroad becomes a significant motivator for brain drain from developing countries such as Zimbabwe. The finding supports the propositions of the push–pull theory, given that there are lower levels of income and wealth generated in Zimbabwe which act as motivators for migration.

Furthermore, the analysis found substantial disparities in wealth generation between educated Zimbabweans and educated individuals in developed countries. This finding lends support to the relative deprivation theory, which holds that people are more likely to migrate when they see a significant gap between their current situation and potential opportunities elsewhere (Stark and Taylor, 2019; Kafle et al., 2020). The relative deprivation theory could also be explanatory since incomes are lower and employment opportunities scarcer for educated individuals in Zimbabwe.

The disparities between the fate of highly educated individuals in Zimbabwe and that of highly educated individuals in Australia and the UK are clear from this research and particularly problematic since existing networks in host countries facilitate migration. Zimbabwe, Australia and the UK are members of the Commonwealth, a historical political association, and many Zimbabweans are already living in these countries. This fits the network theory of migration well.

Ultimately, the study supports the notion that limited employment opportunities, lower wages and disadvantages regarding wealth generation serve as significant motivators for migration among highly educated individuals in developing countries. This emphasises the importance of policies that specifically address these challenges and create a more conducive environment for skilled individuals to thrive in their home countries.

Practical Implications

Based on the study's findings, policies focused on retaining highly skilled individuals, improving employment opportunities and investing in education and training programmes are critical for mitigating the effects of brain drain and fostering long-term development. Zimbabwe should, for example, consider investing in education and skills development that is tailored to the needs of its local economy. Tailoring education and skills to local needs increases graduates' chances of finding relevant jobs in the country (Brock, 2016). This might reduce the push factor of unemployment and a lack of suitable opportunities, which drive migration (Hasselbalch, 2019). If graduates' skills match local demand, they are in a better position to command higher wages (Böhm et al., 2024), making staying at home financially more appealing than pursuing the perceived benefits of moving. This can potentially encourage those who have already emigrated to return and to contribute their expertise.

Another potential solution is to implement policies that encourage job creation and improve labour market conditions for skilled workers (Bosworth, 2006). The availability of more jobs, particularly in fields relevant to

skilled individuals, reduces the likelihood of unemployment and underemployment, two major driving forces behind migration. Furthermore, competitive wages and benefits, as well as positive work environments, make staying in the home country more financially appealing and rewarding than seeking opportunities abroad (Goh and Lopez, 2016; Syed et al., 2008).

Finally, addressing income and wealth disparities by providing fair wages and opportunities for all citizens can help mitigate Zimbabwe's brain drain. People who believe they have equal access to income and opportunities are more satisfied with their lives and less likely to seek better opportunities elsewhere (Faist, 2016). This reduces the pull factor of perceived economic disparity driving migration. Furthermore, when opportunities are available and income is distributed more equitably, individuals have a better chance of achieving upward mobility within their home country, making emigration less desirable (Docquier and Machado, 2017).

Limitations

The focus of the research was on Zimbabwe and two developed countries, which limits the generalisations that can be made from this study. Including more countries and examining exact migration patterns would increase the validity of the study. For example, adding the United States of America and Germany to a similar study and considering the separate immigration numbers could yield more nuanced outcomes.

A significant limitation of this research is its narrow focus on economic factors (employment, income and wealth), while neglecting social aspects and excluding political reasons for migration. Social networks, mentioned in the literature review as a crucial driver of migration, along with political issues, were not addressed in the empirical part of the study. A study with greater complexity in respect of contributing factors would provide more comprehensive answers.

The article focused on migration, but educated individuals who emigrated were not included in the study. It was found that educated individuals who remained in their home country faced challenges in respect of finding employment, earned less and accumulated less wealth than their counterparts in developed countries, yet they did not leave their homeland. The research only suggests that, from an economic standpoint, these individuals are potential candidates for emigration. Future researchers are urged to explore why they stayed or, conversely, why others left.

Conclusion

From this study, we can infer that highly educated individuals residing in Zimbabwe experience considerable socio-economic disadvantages compared to their counterparts in developed countries. This disparity, characterized by higher unemployment rates, reduced income and diminished wealth generation, may fuel Zimbabwe's brain drain by prompting skilled individuals to pursue better opportunities overseas. Addressing economic challenges is crucial to curbing the brain drain since the current circumstances render emigration an attractive alternative.

On a policy and practice level, high-potential students should be directed to studies in industries that are unique to Zimbabwe in an effort to secure their loyalty to their country. Furthermore, reserving jobs in highly skilled professions for citizens, coupled with the provision of competitive salaries, may help retain talent. Additionally, since a strong sense of social responsibility and a belief in one's ability to contribute to local development could dampen the desire to emigrate, educators should be encouraged to instil such values in students from a young age.

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