

Strategic Implication Of Globalization On 'Brain Drain' In Emerging Economies: South Africa

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ABSTRACT

The large increase in skilled professional migration between countries in recent years poses new challenges for policymakers. It is important to observe how this phenomenon impacts South Africa due to its unique socio-economic context. One may also reason that as much as globalization has resulted in the easy movement of labor, in the case of South Africa, most of the push factors driving brain drain are a combination of structural and socio-economic dynamics. The aim of the paper is to explore the factors that contribute to the migration of skilled professionals and, furthermore, the long-term implication of brain drain on the sustainable development of the South African economy by collecting pre-existing textual data. Evidence from reviews suggests that globalization has contributed to brain drain in emerging economies. Many emerging markets are experiencing significant human skill losses, which in turn has a negative impact on their development. Furthermore, the reviews have emphasized the contributing factors to the migration of highly skilled professionals to other countries. In addition, findings reveal that the migration of skilled professionals poses a threat to South Africa's development objectives. To overcome this challenge, it is important to deter skilled professionals from leaving and encourage them to return by addressing concerns like safety and security.

KEYWORDS: Brain Drain; Emerging Economies; Globalization; Migration; Push-And-Pull Factors; South Africa.

ABBREVIATIONS: GCC: Gulf Cooperation Council; OECD: Organisation for Economic Co-operation and Development; HRM: Human Resource Management; SADC: Southern African Development Community; HCPs: Health Care Professionals.

1. INTRODUCTION

For the past five decades, international migration has significantly amplified, where the number of migrants has increased from 75 million in 1960 to approximately 215.8 million in 2010 [1]. This increasing trend is expected to continue in the future due to the growing gap in salaries, living standards and demographic features between developed and developing countries and the prevalence of poverty, unemployment and political instability in many fragile and least developing countries [2,3]. Globalization, as explained by Zhatkanbaeva *et al.* [4], has primarily manifested itself in the mobility of skilled professionals. The growth of international mobility of not only goods but also human capital is an integral feature of the globalization phenomenon, and in this context, the problem of 'brain drain' in emerging economies such as the South African economy is particularly concerning.

The free movement of people is happening more regularly and to a greater degree in the contemporary world, as individuals are in a constant search for a better quality of life and more opportunities [5]. The phenomenon known as "brain drain" has, in recent decades, gained worldwide attention among scholars and policymakers alike [5]. Described from a broad perspective, brain drain is an occurrence where talented or skilled individuals leave a region due to limited educational opportunities, lack of job prospects, economic instability and other factors [6,7]. In an interconnected world, national science systems cannot be studied in a vacuum while disregarding the impact of these systems on human mobility and migration. Today's modern societies are knowledge societies [8,9]. Skilled professionals, such as engineers, researchers, educational teachers, medical practitioners, and many others, contribute to the consolidation of existing information and the dissemination of knowledge in various fields [10]. As businesses in different parts of the world compete for talented people, international migration can both strengthen and weaken individual countries in terms of their total human capital, which can, in turn, affect the socioeconomic and innovative development of these countries, especially the developing countries, as stated by Subbotin and Aref [10]. The large increase in skilled professional migration between countries in recent years poses new challenges for policymakers. It is important to observe how this phenomenon impacts South Africa due to its unique socio-economic context. The aim of the paper is to explore the factors that contribute to the migration of skilled professionals and, furthermore, the long-term implication of brain drain on the sustainable development of the South African economy by collecting pre-existing textual data.

2. LITERATURE REVIEW

2.1. THEORETICAL FRAMEWORK

People migrate for various reasons, and these different motivations significantly impact the overall migration process [11]. Although some applicable theories summarize the true reason for migration and explain it holistically, sociologists, geographers, governments, and industry must study the phenomenon of migration and discover why people migrate. The underlying theory for this research paper is Lee's push/pull migration theory. A new and innovative migration framework was proposed by Lee [12], which is different from neo-classical theories. Lee stressed that migration is not a simple process; it is underpinned by many factors that the potential migrant may not be able to control. Lee [12] states that the migration of people is caused by push and pull factors. Push factors, he explains, are those factors that make the individual want to leave his place of origin; these may range from poor law enforcement, inadequate educational facilities, lack of good job opportunities, crime, political corruption, and political instability, among others [13]. Pull factors are those factors that attract a person to a particular region; these include better salaries, better educational facilities, better working conditions, and a stable political climate. Although the prospect of migrating to a more developed environment might be enticing for a person, Lee [12] states that there are intervening factors that may influence the decision to migrate; these include distance, costs associated with migration, and family challenges.

According to his paper, the decision to migrate is influenced by economic, environmental, cultural, and socio-political factors. Therefore, migrations occur not only due to opportunities at the destination but also because knowledge of the destination facilitates the movement [14]. This analytical framework, known as the "push-pull" migration model, is frequently used in empirical models to explain migration, especially skilled migration. By implication, workers in South Africa are likely to respond to labor market forces characterized by not only high wages but other push-pull factors. This paper intends to identify the major push-and-pull factors driving the migration of skilled professionals, furthermore the strategic implication of brain drain on the sustainable development of the economy in South Africa, and suggest ways to reduce the outflow of skilled professionals in South Africa while trying to answer the following questions: what are the driving forces behind the migration of skilled professionals in South Africa? What are the strategic implications for the South African economy, and what can be done to reduce the outflow of skilled professionals from South Africa? The migration of skilled professionals from South Africa is no doubt motivated by a combination of socioeconomic forces of globalization. Aspiration to pursue entrepreneurship and start a business.

2.2. EFFECTS OF GLOBALISATION ON BRAIN DRAIN IN EMERGING ECONOMIES

Mlambo and Adetiba [11] assert that as a result of globalization, the borders and immigration control centers of developed countries have been relaxed to attract highly skilled professionals such as nurses, doctors, engineers, farmers, teachers, and many more. Hence the increase in the migration of health workers. It is on record that Canada has the most liberal immigration system in the world, thus enabling the inflow of skilled professionals to the country. According to the UN Economic Organization for Migration, an estimated 27,000 skilled Africans left the continent for industrialized countries between 1960 and 1975 [1]. During the period of 1975-1984, the figure rose to 40,000. Subsequently, Africa lost 60,000 professionals, including doctors, university lecturers and engineers, between 1985 and 1990. Since then, at least 20,000 qualified people are estimated to have left the continent every year [15-17]. Some African countries lose up to 70% of their health workforce to migration, and an estimated one-fifth of African-born physicians work in high-income countries [18,17]. The loss of trained health personnel from areas where health systems are already stressed to their limits leaves the remaining professionals overwhelmed and demoralized and can result in a critical lack of services [17]. Sub-Saharan Africa, predominantly West Africa, serves as a major source region of physicians emigrating to high-income countries. Of the international medical graduates practicing in the US from sub-Saharan African countries, 44.5% are from Nigeria, with the World Health Organization-sponsored Global Health Work Alliance estimating that 1 in 4 physicians will leave Africa to pursue jobs abroad [18,19]. Between 2005 and 2015, there was over a 70% increase in the number of Africa-trained physicians who subsequently entered the US workforce [19].

Zimbabwe runs the risk of becoming a society without experts because of an unprecedented exodus of professionals; it faces its worst political and economic crisis ever, as it has lost more than 100,000 of its brilliant young brains, according to Domingos [20]. In 2023, Zimbabwe witnessed a mass migration of its young people to the UK to take up jobs in the healthcare sector. Further, over four million Zimbabweans are believed to be working and living outside the country, especially in countries like South Africa, Botswana, and the UK [21]. In Zimbabwe, many households were left headed by children as parents migrated into the Diaspora to look for employment and contract jobs, while others embarked on cross-border trading and spent two weeks or more at a time out of the country without their children [22]. Besides African countries, human capital flight is also affecting Latin America and the Caribbean, where almost 80 percent of college graduates from Haiti, Belize, Grenada and Guyana are currently living in the USA [23]. Moreover, approximately 30 percent of the labor force from El Salvador, Guatemala, Honduras, Nicaragua and Panama works in the USA [24,1]. For the last 30 years, Asia has also been facing a huge brain drain of skilled professionals, as explained by Ngoma and Ismail [1]. India has been the source of the largest annual outflows to the GCC countries. The increasing significance of GCC countries as a destination for migrant workers is illustrated by the change in the total migrant stock in those countries, which grew from 8.9 million in 1990 to 22.3 million in 2013, as analyzed by Bortolazzi and Khan [25]. The Indian Diaspora is represented by a diverse and

heterogeneous group with an estimated stock of 30 million emigrants in 190 countries that share Indian origin and intrinsic value. As one of the largest diasporas and suppliers of human capital for advanced economies (along with China), the Indian diaspora is found significantly in the Gulf region [25]. Such brain drain has presented a major obstacle to development in many parts of these emerging markets where the source countries' labor needs of local expertise are not fulfilled. In agreement, Mlambo and Adetiba [11] have reported that many emerging markets are bedeviled with significant loss of human skills, and this, in turn, has affected their development. Several factors are believed to have caused this exodus of highly skilled professionals from their home countries. The push factors – severe socio-economic conditions at home and opportunities arising from world globalization have motivated, skilled professionals to accumulate where jobs are abundant [26,27]. Meanwhile, pull factors – favorable “quality selective” immigration policies and better economic prospects, such as in most OECD countries have motivated skilled professionals from less-developing countries to move abroad [28]. In general, the pull factors play a significant role in attracting skilled workers to migrate in search of improved career opportunities, a better quality of life, enhanced security, educational prospects, and enriching cultural experiences, as analyzed by Bernstein *et al.* [29]. These factors not only benefit the migrants individually but also contribute to the socio-economic development of the host country.

2.3. THE STRATEGIC IMPLICATION OF BRAIN DRAIN TO THE SOUTH AFRICAN ECONOMY

In South Africa, many professionals have left for better opportunities abroad which are further fuelled by globalization [30]. One may also reason that as much as globalization has resulted in the easy movement of labor, in the case of South Africa, most of the push factors driving brain drain are a combination of structural and socio-economic dynamics [31,32]. Apart from globalization, most of the push factors responsible for the brain drain of professionals from South Africa are located internally, as indicated by Mlambo and Adetiba [11]. These issues range from increasing crime levels, poor salaries, and socio-economic and political uncertainty in the policy [11]. Statistics indicate that most South Africans identify crime as the number one motivator, while those who decide to migrate identify “improved security” as the number one reason for leaving [33-36]. However, there are pull factors that make immigration more attractive than remaining in South Africa. Countries like Australia, New Zealand, and the UAE actively recruit professionals from South Africa, including teachers, doctors, and engineers [34]. These individuals are enticed by the attractive salary and living allowance packages. Furthermore, prospects of a safer living environment for their families and career progressions serve as pull factors to migrate to other countries, as explained by Crawford [34]. Globalisation resulted in the increased demand for professionals in most of South African economic sectors. There are numerous and vital sectors of South Africa's economy that have been negatively affected by the migration of skilled professionals. This paper looked at sectors that have been negatively affected and experienced brain drain to a great extent in comparison with other sectors, as presented in Table 1. The push and pull factors that contribute to brain drain in South Africa and its strategic implications to the South African economic development.

Table 1: The Effects Of Brain Drain On The Economy Of South Africa.

Economic Professions	Effects of brain drain on the economy
Academics	Mahoko's [37] research paper explored challenges influencing academics' retention in a South African university and found that salaries and, benefits, physical working conditions are institutional challenges towards retaining academics, while factors such as lack of stability and loss of interest at work are internal and external challenges such as globalization affects academics' retention in their workplace. Based on the findings, it can be concluded that institutional and globalization challenges contribute to academic retention in South African universities. The institutional challenges, such as salaries, benefits, and physical working conditions, are within the control of the university administration, and addressing them can assist retain more academics. Mohammed <i>et al.</i> [38] stated that workload, reward, and recognition are practices that play a vital role in HRM's responsibility to retain academics. Hence, ensuring a conducive environment for retaining productive academics will boost university productivity, allowing the university to continue being an asset to the country [37]. To exacerbate matters, the Higher Education, Science and Innovation Minister, Dr Blade Nzimande, has cast the spotlight on investing in young scholars, as a number of academics in public universities are nearing retirement [39]
Accountants and Auditing	The South African Institute of Professional Accountants, most recent estimates indicate that South Africa has a shortage of more than 20,000 skilled accounting professionals [40]. Accounting Firms Trend Report [41] revealed that over 90% of accountants and 95% of auditors found recruiting skilled talent challenging. The study was conducted among 4100 accountants and 2300 auditors. Compounding the issue is that many international audit firms poach local talent. Many of the qualified professionals seek greener pastures in favorable countries such as the United Kingdom and Australia. The South African accountants and auditors firmly believe international markets offer significantly higher salaries and better opportunities to achieve long-term goals [41]. Further, the number of

	<p>chartered accountant candidates in South Africa is decreasing, while others are choosing to pursue opportunities in developed markets, as a result contributing to the ongoing talent and skills shortage within the industry in the country [40]. In the latest edition of the critical skills list published by the Department of Home Affairs, Accountancy, specifically auditing and financial analysis, is in high demand in South Africa.</p>
Athletes	<p>Transformation guidelines, the weakening rand and a domestic structure that offers limited opportunities have forced players and coaches to look for greener pastures abroad. South African cricket is starting to experience an exodus of its top talent; employees in coaching, management and administration are heading abroad in search of better opportunities, as reported by Moonda [42]. Several younger franchise players are looking at the UK as a destination to further their careers, citing the several variables in South African cricket and the lack of opportunity as one of the reasons. The problem that South Africa is facing is not particular to cricket. It's a common one as the white population in the country is shrinking. Official statistics indicate that as many as half a million South Africans have migrated in the last three decades. Job opportunities, safety, education and South Africa's weak currency all have contributed to the mass exodus [43].</p>
Basic Education Teachers	<p>The migration of teachers has been the major problem affecting the development of the South African education system. From Radio702 [44], as long as politics is interfering with the running of schools, the country's education system will continue to deteriorate rapidly; the author notes that South African Democratic Teachers Union, the biggest teacher trade union in South Africa has negatively influenced and infiltrated the functioning of schools in numerous provinces in the form filling vacancies, tenders, and other school function necessities have been under South Africa Democratic Teachers Union's control, which compromises the quality of education offered at school. Jones [45] mentions that the major issue in South Africa currently is the migration of teachers (locally and internationally), which has had devastating repercussions on education, especially for learners in rural areas. According to Jones [45], some schools have gone for months without teachers for crucial subjects such as mathematics, science, and geography; this, in turn, affects the pass rate of learners in rural areas. The rapid economic development of countries such as China, Singapore, and Taiwan, according to Savides [46], has seen these countries prioritizing the introduction of English into their way of life. These countries have gone on a recruitment drive to recruit English teachers from all over the world, promising them lucrative salaries and living conditions; it is worth noting that recruitment drives have been mostly concentrated towards developing nations; hence, teacher migration to other countries outside South Africa remains a huge threat to South Africa's development [47].</p>
Engineers	<p>It is highly undeniable that engineering skills are one of the most highly exportable skills in the world, and South Africa is in no doubt in dire need of engineers. Engineers play an important role in infrastructural planning, development, and implementation. From Fin24 [48], the Science and Technology minister, Naledi Pandor, once opined that South Africa's yearly output of engineering graduates is quite alarming, considering the number of students who enrolled in various engineering disciplines. The minister noted that there are around 1,500 Bachelor of Science and Bachelor of Engineering students who graduate from South African universities yearly, but only half of them practice as engineers. One of the key factors responsible for this, according to the minister, is the poor rate of economic growth, which overtly has slowed down employment opportunities for graduates in South Africa as companies are keen to save costs. Therefore, with the possibility of earning a much higher income overseas, many graduates have opted to migrate. She further warned that South Africa is in a race against time to stop the migration of engineers from the country, and with more than 300 engineers leaving the country each year, it is clear that the pool of highly skilled and experienced engineers will be wiped out soon. IT-Online [49] opines that around a third of South Africa's engineering graduates have worked overseas in the last 40 years. The author expounds that because South Africa is a signatory to the Washington Accord, an international agreement between signatories that ensures the international recognition of engineering degrees between members of the accord [50], meaning that engineering degrees offered in South Africa have international recognition, hence, paving the way for South African engineering graduates to seek employment in other countries. While contributing, Prinsloo [51] mentioned that there seems to be a silver lining in the debacle, in the sense that overseas companies have reduced employing skilled expatriate professionals from overseas mainly because of the costs involved in the recruitment process, the author states that this has resulted in South African companies offering lucrative salaries in order to keep skilled engineers in the country. According to News24 [21], although the global financial meltdown of 2008 resulted in thousands of skilled South Africans returning home, the government has not done enough to fight the engineering brain drain from South Africa. Steyn [52] mentions that engineering skills have been</p>

	<p>identified as the most difficult skills to fill in the last 9 years; therefore, with the scarcity of highly skilled engineers globally and with developed nations in constant search for such skills, developing nations will have trouble keeping hold of their skilled engineers for years to come. The author further alludes that another problem facing South Africa is the emigration of graduate engineers; the author mentions that with highly experienced engineers retiring and migrating, young graduates are meant to fill this vacuum, but with them also migrating to other countries, it presents numerous challenges for the government's infrastructural development plans going forward. In addition, the skills shortage in the metal and engineering industry in the country is looming following the signing of the three-year wage agreement by the Steel and Engineering Industries Federation of Southern Africa and the National Union of Metalworkers of South Africa, according to Matlabe [53]. The newly proposed Metal and Engineering Industries Bargaining Council agreement, stretching from 2024 to 2027, will result in a further loss of around R50,400 over the next three years for the same employee. The agreement will be the death knell for skills in the metal and engineering industry because these short-sighted actions will leave artisans with no choice but to take their skills to other industries and even to other countries where their skills are valued [53].</p>
Farmers	<p>Furthermore, the government's uncertain land policy going forward has also raised uncertainty for the South African farming sector, where farmers have been skeptical about investing more in the sector, considering the unpredictability of government land policy. The challenges facing the farming sector in South Africa have been very evident and not encouraging. Kwawenda [54] argues that South African farmers have gained millions of hectares of arable land in Mozambique for farming purposes; the Mozambican government has allocated large swathes of land for South African farmers to utilize. In The Democratic Republic of the Congo alone, more than 800 South African farmers have been given land to lease to cultivate different ranges of crops; all of this is done to the detriment of the South African farming sector [55]. Considering the role of the farming sector in South Africa, the possible exodus of numerous farmers from the country will undoubtedly have a negative effect on the functioning and sustainability of the sector in the long term. A mass exodus of farmers from the country will inadvertently impact the country's Gross Domestic Product, government taxable income, and unemployment. Unfortunately, the government, with all these events taking place, has thus far failed to make adequate investments aimed at developing and shoring up the farming sector in South Africa. The increasing rate of farmers being murdered by hoodlums, increasing costs of doing business, strikes, dangerous riots, and uncertainty of government land policies are all contributing factors threatening to exacerbate threat of brain drain of farmers in South Africa. It is, therefore, imperative that the government prioritizes the farming sector; failure to adequately address issues threatening the importance of or derailing the farming sector in the long term will surely have devastating effects on South Africa's development and growth [11].</p>
Healthcare professionals	<p>Health professionals from South Africa are internationally mobile, owing to their skills acquired through long years of good training, thus enabling them to market themselves beyond South African borders [56]. Speaking at the World Economic Forum in Durban, South Africa's health minister, Aaron Motsoaledi, opined that the country continues to lose many of its skilled professionals, particularly doctors, physicians, and nurses, owing to a harsh, unproductive political and unpromising economic environment [57]. The minister noted that just like medical professionals prefer working in developed areas within South Africa, it is the same with doctors and nurses who prefer working in developed nations where employment conditions. A report by the OECD stated that there were more than 23,400 health professionals from South Africa residing and working in the United Kingdom, New Zealand, the United States, and Australia, suggesting that South Africa experiences a high number of health worker migration [58]. The effectiveness of a country's health system depends on the availability of health professionals [59]; however, with South Africa's health sector losing medical professionals at an alarming rate, the credibility and the effective functioning of the health sector are undermined and ultimately crippling the economy and affecting the quality of health care provided. Gumede <i>et al.</i> [60] acknowledge the variations in socioeconomic development levels, climate, and political stability between the SADC countries, which are likely to have an impact in terms of HCPs migration. The critical skills shortage of HCPs within South Africa is a persistent and complicated issue and is once more brought to the fore with the COVID-19 pandemic. The root causes should be tackled nationally and internationally to improve health outcomes and quality of life and develop the ability to respond effectively to challenges in the healthcare sector.</p>

Source: Adapted from Mlambo and Adetiba [11]

The Table above has highlighted numerous push and pull factors driving the migration of skilled professionals, but it's not limited to this list; furthermore, highlighted are the strategic implications of brain drain on the sustainable development of the economy in South Africa. Unless South Africa invests in the retention of its skilled workers and strategic sectors, it will continue to feel the impact of the migration of skilled professionals who are important to the sustainable development of the economy. For South Africa, it is absolutely clear that this calls for direct intervention from both government and civil society to ensure that skilled professionals stay in the country. Otherwise, the South African economic sector is at risk of total collapse [61]. It seems that the South African Government has not adequately or urgently addressed these push factors, thus undermining the country's economic sector. With slow economic growth and uncertainty in the country's political system, the likelihood that more skilled professionals will consider emigrating is increased, which may cripple South African economic development [62]. Although the government has over the years developed policies aimed at addressing the development and training of more professionals in different fields; for example, the training of medical doctors in Cuba, training of engineers in Russia, training of educators in China and the construction of new medical colleges in South Africa, it has not yet dealt with the push factors [63,64] hence, the possibility of a continued migration of skilled professionals. South Africa is seen as the most appealing destination for many African migrants. However, South African youth increasingly want to migrate to other countries, specifically developed countries [65]. The African Youth Survey undertaken in 2022 reported that the majority of South African youth's principal push factors are the country's high crime rate, corruption, and the inability to find work [65].

3. METHOD(S)

The paper will rely on secondary data as a means of collecting relevant information. It employed strict textual analysis of the available literature relevant to the topic under consideration. The qualitative research method will be used in the course of this study. The purpose of this approach was to put into context the brain drain in South Africa and engage in the interpretation of the major structural and socio-economic push factors that drive the migration of skilled professionals in South Africa. Berkwits and Inui [66] assert that qualitative research uses methods such as participant observation or case studies, which result in a narrative descriptive account of a setting or practice. Various scholars have tried to understand the root causes of migration, therefore there are rich sources of information. The first step of the methodology will be the selection of the research database/s for the literature review. In order to carry out an exhaustive review of the research literature related to brain drain and its influence on the economic development of South Africa, the study chose to select multiple databases for comprehensive coverage. Accordingly, Scopus, Web of Science, EBSCO Host and Google Scholar were selected as the databases in which the search for research literature would be carried out. The study envisaged the examination of secondary data in order to understand the effects of globalization and brain drain on emerging economies, especially the South African economy, and the second step in the methodology process will include scanning the internet for relevant industry reports, government reports, business news, and other online articles relevant to the topic at hand. Though these sources may not speak directly to the causes and implications of brain drain within emerging economies and South Africa in particular, they nonetheless offer views on the subject matter which will be utilized to further enrich the study.

A thematic analysis will be applied to analyze the data; it is an appropriate method to be used as the study was seeking to understand a set of experiences across the dataset – globalization and brain drain their influence on emerging markets, especially the South African economy. Furthermore, a deductive approach to theme identification will be utilised with the use of pre-existing theory or other driven researcher-driven to identify themes of interest [67,68]. The study will be interested in aspects that deal with the practical importance of managing the effects of globalization and brain drain since there is an absence of a real national retention policy and the failure to retain the country's skilled professionals, and moreover, its implication to the sustainable economic development of the country. The researcher will focus on the most important aspect of each theme and which aspects of the dataset it covers, creating a coherent narrative of how and why the coded data within each theme provide unique insights, contribute to the overall understanding of larger questions, and interact with other themes, as explained by Kiger and Varpio [67]. A list of codes will be developed through the analysis and cluster data into broader themes that are of the most relevance to this paper. The list of themes and codes is set out in Table 2.

Table 2: Themes And Codes.

Themes	Codes
Effects of globalization on brain drain in emerging markets	<ul style="list-style-type: none"> • Loss of skilled professionals • Push-and-pull factors • Underdevelopment of emerging economies
Strategic implication of brain drain in the South African economy	<ul style="list-style-type: none"> • Effects of globalization on brain drain in South Africa. • Push factors primarily contribute to brain drain • Strategic implications for economic development • Retention policy

4. RESULTS AND DISCUSSION

The data were clustered into broader themes and analyzed in a manner that directly addresses the research questions.

4.1. EFFECTS OF GLOBALISATION ON BRAIN DRAIN IN EMERGING MARKETS

The analysis revealed that several emerging markets struggle with a significant loss of skilled professionals, which has hindered their development. There are several factors believed to contribute to this exodus from their home countries. The underlying factors that contribute to the loss of skilled professionals are the push-and-pull factors, as explained by Lee's migration theory. The push factors, which encompass challenging socio-economic conditions at home and opportunities arising from globalization, have prompted skilled professionals to seek employment in places where job opportunities are plentiful. Conversely, the pull factors, such as favorable immigration policies that prioritize quality and improved economic prospects in most developed countries, have enticed skilled professionals from less-developed nations to move abroad. In Zimbabwe, there is a growing concern that the country may soon face a shortage of experts due to the mass exodus of professionals, as explained by Domingos [20] and Lebas and Young [69]. This unprecedented situation is occurring amidst the country's worst political and economic crisis to date, resulting in the loss of over 100,000 talented young individuals [20]. Likewise, developed countries are exacerbating the situation, particularly in African countries. They continue to entice these third-world nations by deliberately hindering their development through superior technological advancements, stronger economies, and strategic political and cultural systems, as provided by Nnoruga and Osigwe [70]. The consequences of these tactics are akin to reverse slavery, with continuous exportation of raw materials to developed nations and the perpetuation of underdevelopment in the African continent today.

4.2. STRATEGIC IMPLICATION OF BRAIN DRAIN IN THE SOUTH AFRICAN ECONOMY

The analysis revealed that many professionals in South Africa had left abroad to seek better opportunities, further exacerbated by this globalization phenomenon. According to Daft *et al.* [71], because of globalization, natural resources, trade and investments, information, skilled professionals, cultural ideas, and political cooperation flow between countries. One consequence is that countries, businesses, and skilled professionals become increasingly interdependent. Equally, if not more important, most of the factors that contribute to brain drain in South Africa are a combination of structural and socio-economic dynamics, such as increasing crime levels, unemployment, and political and economic uncertainty. Most South Africans identify crime as the number one motivator, while those who decide to migrate identify "improved security" as the number one reason for leaving. The migration of skilled professionals has had a negative impact on many important sectors of South Africa's economy. A report by the OECD stated that there were more than 23,400 health professionals from South Africa residing and working in the United Kingdom, New Zealand, the United States, and Australia, suggesting that South Africa experiences a high number of health worker migration. The effectiveness of a country's health system depends on the availability of health professionals, however, with South Africa's health sector losing medical professionals at an alarming rate, the credibility and the effective functioning of the health sector is undermined and ultimately crippling the economy and affecting the quality of health care provided. Similarly, in the farming sector, the increasing rate of crimes, increasing costs of doing business, strikes, dangerous riots, and uncertainty of government land policies are all contributing factors threatening to exacerbate threat of brain drain of farmers in South Africa. It is, therefore, imperative that the government prioritizes the farming sector; failure to adequately address issues threatening the importance of or derailing the farming sector in the long term will surely have devastating effects on South Africa's development and growth, as explained by Mlambo and Adetiba [11]. The farming profession plays a crucial role in South Africa's economy, as it directly contributes to food security, poverty reduction, and economic growth. Suppose South Africa does not invest in the retention of skilled professionals and preserve strategic sectors. In that case, it will continue to be affected by the migration of qualified professionals, who are essential to the sustainable development of the economy. For South Africa, it is clear that it requires direct intervention both by the government and civil society to address various factors, particularly the push factors, because it is essential to retaining qualified professionals within the country. Otherwise, the South African economic sector could collapse completely.

5. CONCLUSION

Evidence from reviews suggests that globalization has contributed to brain drain in emerging economies. Many emerging markets are experiencing significant human skill losses, which in turn has a negative impact on their development. Furthermore, the reviews have emphasized the contributing factors to the migration of highly skilled professionals to other countries. Further findings reveal that the migration of skilled professionals poses a threat to South Africa's development objectives. To overcome this challenge, it is important to deter skilled professionals from leaving and encourage them to return by addressing concerns like safety and security. According to Cowling [35], South Africa has the highest crime index in Africa and ranks as the fifth most dangerous country globally according to the same index. In 2024, South Africa had a crime index of 75.4, which is to be considered high. In a country where skilled professionals are leaving the country, it is important for policymakers, civil societies, private securities, and others to take corrective steps in addressing not only high crime levels but also structural socio-economic problems the country is experiencing. Therefore, it is difficult to ensure sustainability in the development of the economy in a country where the number of skilled professionals is decreasing. In

the South African context, it is necessary to reduce the brain drain problem to ensure sustainability in economic progress and development. According to Mukhtarov *et al.* [72], minimizing the problems that cause brain drain in the country contributes to retaining skilled professionals. In this way, it will be easier for the country to achieve its sustainability socio-economic goals.

CONFLICT OF INTEREST

None.

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