

Pakistan's Brain Drain Dilemma: A Content Analysis

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ABSTRACT

The fundamental objective of this paper is to explore the causes and consequences of brain drain in Pakistan, and also test their validity in a scientific manner. Pakistan has been losing its precious human capital since 1960s. However, the trend has increased rapidly in the recent time. Reportedly 859,846 Pakistanis have left the country in 2023, among those 100,000 were professionals and skilled workers. The paper has interpreted the data in a qualitative manner and has used content analysis as a design to find the end results. It claims that economic meltdown, unemployment, political instability, and poor living and working conditions are the major causes, while loss of human talent, low growth, social unrest, and poor health and education services are the major consequence of brain drains in Pakistan. Hence, putting the economy on track, improving employment, achieving political stability and maintaining better living and working standards for the citizens, may help the government to retain the talent within.

Keywords:Brain Drains, Loss of Human Capital, Pakistan, Political Instability, UnemploymentIntroduction

The term brain drain was first coined by the British Royal Society in the 1960s to deal with the exodus of scientists, technologists, academics and various other high-profile professionals (Balmer et al., 2009). It means the emigration of human capital from one country to the other. Since the advent of globalization, the brain drain trend has increased worldwide. It is maintained that the OECD countries have received 59 million migrants from the developing world from 1970 to date (Meo & Sultan, 2023). Likewise, Pakistan has sent around 12.7 million people over 50 countries from 1970s to 2000s (Ahmed, 2023). Many of its doctors, engineers, academics, and high skilled workers are living and working in the US, Canada, Europe, and the Middle East.

Notwithstanding, the trend of brain drains in Pakistan has increased unprecedentedly during the last two three four years. For instance, around 765,000 people left the country in 2022. Out of this migration 92000 were highly qualified professionals (Moti, 2023). In addition, according to Bureau of Emigration & Overseas Employment 859,846 Pakistanis have migrated in 2023, including 100,000 professionals and skilled workers (BEOE, 2023). The fundamental objective of this paper is to explore the major causes of brain drains in Pakistan and test their validity in a scientific manner. Second, the study attempts to identify the various effects which the recent wave of capital flight has marked on the state and society of Pakistan, and also evaluates the reliability of such effects.

The major questions this paper has addressed are: (1) why have highly qualified people and skilled workers left the country rapidly in recent times; (2) how has the current outflow of human capital affected Pakistan in socio-economic terms? We have answered these questions in a qualitative manner. In addition, we have employed 'causal inference' and 'content analysis' as a design or toll (s) to find the desired results. Our thesis is that

economic meltdown, unemployment, political instability, low wages, and poor living and working conditions are the main factors of brain drain in Pakistan. Consequently, these factors have cost the nation loss its human capital, suffering from low growth, underdevelopment, social unrest and poor performance of the health and education sectors. In last, we suggest that few effective initiatives such as devising and implementing a concrete national economic plan, improving employment conditions and restoring political stability through electoral reforms and institutional cooperation will enable Pakistan to retail the talent within.

Literature Review

The literature we have reviewed is divided into three genres: (1) the number of Pakistani individuals (e.g. highly qualified, skilled, semi-skilled, and unskilled) living and working abroad to date; (2) the major causes of brain drain in Pakistan from 2022 to date; and (3) the impacts (e.g. economic, social, educational, and health) of the recent trend of migration on the state and society of Pakistan.

It looks difficult to learn the exact number of Pakistani migrants living and working in the US, Europe, and Middle East till today. For instance, it is suggested that 5.837 million people have migrated from Pakistan during the last two decades (Naz, 2024). The same source refers to the Ministry of Overseas Pakistanis and confirms that almost 10 million people have left the country during the last decade (Naz, 2024). Ironically, it is double the figure, and half the period reported formerly. The second source reveals that the trend of brain drain in Pakistan is not new. It is old and has been active since the 1960s and 1970s. It claims that Pakistan so far has sent 12.7 million people over 50 countries across the world since 1970s (Ahmed, 2023).

Notwithstanding, the recent trend of migration fluctuates in the same fashion. For instance, it is estimated that 736000 individuals left the country in 2022 (Zafar, 2023). The other author claims that around 800,000 individuals have headed abroad for employment in the first half of 2023. Of this huge exodus around 100,000 were highly qualified and skilled workers (Naz, 2024). Further, the same author quotes that almost 200,000 Pakistanis have left for better opportunities during the first three months of 2024 (Naz, 2024). Similarly, Sultan Ayoub Meo (2023) confirms that around 832,339 individuals (skilled and semi-skilled) headed abroad in the year 2022.

Hence, it looks difficult to rely on one number as different authors have confirmed different figures. We are not interested in dealing with the number of people who have left the country so far. In fact, we are interested to explore the key factors behind the outflow of these (skilled & unskilled) in recent times. Therefore, in the second genre of the text, we observed that several authors have attempted to identify the causes of the issue. Most of them have highlighted political instability, economic turmoil, unemployment, low wages, and social distress being the main reasons behind the recent trends of migration.

For instance, Altaf Moti (2023) believes that people leave because of political instability. Pakistan has faced serious political conflicts, differences, civil-military rifts, violence, terrorism, and criminality. All this forces the people to leave for better options elsewhere,

Further to the economy, as per the World Bank (WB, 2024) the sector has been in a shambles during the last two three four years. The county experienced heavy monsoon in 2022 leading to catastrophic floods with enormous human and material losses. Second, the overthrow of the PTI government further deteriorated the economic conditions. The country's real GDP growth rate reflected at .02% in the fiscal year 2022.

Besides this, the US based think than Brookings (Brookings, 2023) maintains that Pakistan's economic condition has been bad since 2022. the country's foreign reserves sank below \$3.7 billion, its currency devalued to PKR 270 against \$1 dollar, the inflation rate rose up to 26% and there was a 16% hike in the energy prices which further worsened the situation on the ground. All these factors led to socio-economic difficulties while pushing the people to leave.

In more, many authors have found unemployment as the most appealing cause of brain drain in Pakistan. for instance, Khurshid Ahmed (2023) believes that the country has faced surplus manpower but could not produce enough jobs in the market. People are fed up with unemployment, and anxious to get a job at home or elsewhere abroad. It is argued that rising unemployment, higher inflation and worsening political condition has led to higher rates of talent migration in recent years (Samo, 2023).

In addition, few authors have pointed out the wage-and-benefits as a factor. They believe that professionals in Pakistan are seriously concerned about their pay scales and salaries. The nature of their job role is highly accountable while their salaries are for lesser to meet up their financial needs (Meo & Sultan, 2023). Sameen Zafar (2023) believes that the young doctors migrate from Pakistan because they are overworked and underpaid.

Social distress is the other key factor identified in the text. Moni Mohsin (2023) suggests that financial stress has badly damaged the social fabrics of the county. Social unrest causes instability among the low-to-middle income nations which eventually leads to migration of academicians, healthcare professionals and skilled workers (Meo & Sultan, 2023). Beside this, security is also considered a cause of talent migration. The human security lapses, poor law and order, and social violence in Pakistan push the individuals to migrate to countries which are politically stable and socially more secure (Afzal et al., 2012). Likewise, lack of quality education, inadequate research and learning opportunities are considered the key drivers of talent migration (Ellahi, 2023).

The third genre of literature deals with economic, social, and educational implications of brain drain for the state and society in Pakistan. while going through the text, we have observed most of the authors have mentioned loss of human capital, low growth, social divide, remittances, diaspora, and poor health and education services as major outcomes of the phenomenon under debate. It is suggested that when professionals leave, they take everything with them, human capital, talent, skills, and expertise (Shah, 2018). This in result lead the origin country suffer through scarcity of precious human resources and talent which is crucial for its economic growth and development (Chaudhry, 2023). Similarly, as talent migration causes lack of skilled professionals, this eventually effects the major sectors of economy e.g. agriculture, engineering, business, health, and education ((Malokani et al., 2022)

In regard to impacts, it is generally argued that brain drain has caused social divide in Pakistan. It has led to social distress among the people. The continues migration of qualified and skilled people of Pakistan leave those left behind in despair and hopelessness. It seems as if they have lost confidence in the state (Mehar, 2023). Beside this, few of the authors have considered remittances as a positive outcome of brain drain for Pakistan. They argue remittances support foreign reserves and provide households with economic freedom and enhance the purchasing power at large (Malokani et al., 2022). While some other counter this argument and maintain that though remittances contribute a lot to foreign reserves and household economy, they cannot replace the contribution which professionals and skilled workers can make to the economy of Pakistan by staying in (Ahmed, 2023).

The literature reveals that Pakistan has a diaspora of almost 9 million people across the world mostly living in the Middle East. This decent number can contribute a lot towards the socioeconomic growth of the county (Khan, 2023). In further, some authors have claimed devasting impacts of brain drain on the health and educations sectors of Pakistan. Waqar Ahmed (2023) argues "When doctors, health care professionals, and medical researchers depart, the health care system faces severe challenges". (Ahmed, 2023)

Similarly, Sultan Ayub (2023) maintains that lack of resources and fewer job opportunities has caused the top academicians, educators, and researchers to flee the country. In result this has badly affected the quality and progress of the education and research institutes in Pakistan.

Material and Methods

This is exploratory and explanatory research where data is drawn mostly from secondary sources. We have attempted to answer the research questions and test the proposed hypothesis in a qualitative manner. We have employed "causal inference" and "content analysis" as a design/tool to analyze the data. The results are drawn by extracting key contents from the data (causal), such as economic turmoil, political instability, unemployment, low wages, higher inflation, green pastures, social unrest, security, education, and research. Likewise, we have extracted the key contents from the text (inference/effects) such as loss of human capital, low growth, social distress, remittances, diaspora, education, and health.

The validity of the causal contents as being the true causes, and the reliability of the inference contents as being the true effect of brain drains in Pakistan, is tested through content analysis while using the frequency of themes, and sub themes, and mapping the sentiments of the key statements of the authors. Due to lack of time, we could not access the primary sources. However, in secondary sources, the study has consulted a number of journal articles, news reports and opinion articles which are produced on the recent trend/issue of brain drains in Pakistan and published in national, and foreign English dailies since 2022 till date.

Table 1

Results and Discussion

Content Analysis - Causal

validity test of the causes of brain drains					
Sr. No.	Content (s)	Frequency	Key Statement (s)	Factor	
1	Economic turmoil; meltdown, inflation	182	"The country has been dealing with backbreaking inflation, a depreciating currency, and precariously low foreign reserves." (Brookings, 2023) "Worsening economic times has contributed largely to the recent brain drain as even highly skilled workers and younger citizens face bleak prospects." (Zafar, 2023) "High inflation reduces the country's purchasing power while also increasing market uncertaintyamid this situation the qualified personals prefer to live abroad." (Mukhtarov et al, 2022)	Push	
2	Political Instability. polarisation, violence	102	"Political instability, negativity, and violence in Pakistan is one of the main causes of brain drain problem." (Mukhtarov et al., 2022) "The recent wave of political instability in Pakistan in the year 2022 caused the migration of about 832,339 highly qualified and skilled people including healthcare professionals to head abroad." (Meo & Sultan, 2023) "Political turmoil, problems with the government, and worries about safety all add to the choice to leave." (Shah et al., 2023)	Push	

3	Unemployment	165	"Many talented and ambitious people in Pakistan experience unemployment, underemployment, or low earnings and seek better opportunities elsewhere" (Khan, 2023). "Most skilled professionals express that they face a lack of sufficient opportunities to sustain themselves within the country due to an unstable labour market." (Zafar, 2023). "The IMF forecast slow growth and high inflation for Pakistan this year (2023), meanwhile unemployment is expected to rise". (Nazir, 2023) "67% youngsters want to leave Pakistan; 31% educated youth unemployed". (Sharma, 2023) "since there is surplus manpower in Pakistan and prevailing unemployment, people are anxious to get jobs in the country or abroad." (Khurshid Ahmed/Arab News)	Push
4	Wages; low salaries, underpaid, overworked,	66	"Why the brain drain takes place are fewer career options, low salary packages, lack of benefits, low quality of life, political instability, and crime conditions." (Meo & Sultan, 2023) "The salaries and incentives are low and do not match the skills and qualifications of the workers." (Altaf Moti) "The physicians in Pakistan are underpaid, overworked, and undervalued in comparison to their counterparts in the West." (Shah et al., 2023)	Push
5	Green pastures; higher wages, benefits	97	"Across the provinces and regions, we see quite different reasons spurring the desire to leave the country. The monetary factor (better income) is the major factor for all," (Nayab, 2023) "workers migrating to developed countries have access to stable working environments, higher salaries, opportunities for continued education, better housing, and the ability to send remittances back to their home country" (Zafar, 2023). "Most people of Pakistan express their wish, especially the youth to exit from Pakistan to migrate to other countries to live a better life and remain safer and secure." (Naz, 2024)	Pull
6	Social Unrest; inequality, family pressure	52	"The sociopolitical unrest significantly contributes to the instability in low and middle- income countries and causes a brain drain of skilled professionals, academicians, researchers, and healthcare professionals." (Meo & Sultan, 2023) "Many highly skilled professionals leave Pakistan for better job chances abroad because of pressure from their families and communities to improve their socio-economic situation and quality of life." (Shah et al., 2023)	Push
7	Security; terrorism, violence	48	"Insecurity and the dwindling law and order conditions in the country encourage individuals to move overseas for a more stable life." (Afzal et al., 2012). "The professionals face security challenges in their workspace and throughout their careers with journalists being killed and professionals from other fields being threatened." (Naz, 2024) "Security concerns stemming from political instability, such as terrorism and criminality, might also discourage experts from remaining in the nation." (Shah et al., 2023)	Push

8	Education	91	"Pakistan's education system, with its limited access to quality education and study possibilities, is a vital part of the story about the brain drain." (Shah et al., 2023) "Recently there has been a significant increase in the number of Pakistani emigrants choosing to go to China, primarily due to China's allocation of over 20,000 scholarships to Pakistani students" (Zafar, 2023). "the quality of education remains poor. Many young people feel that they are not receiving a world-class education that will prepare them for the global job market." (Ellahi, 2023)	Push & Pull
9	Research; lack of research institutes, laboratories,	72	"The country's limited financial allocation for research and development initiatives hinders scientific and technical progress, leading highly educated workers to seek more well-equipped surroundings outside." (World Bank, 2023) "the lack of modern research facilities, advanced technology, and sufficient resources for creative work is a significant challenge for researchers to carry out relevant studies in Pakistan." (Shah et al., 2023) "Many developed countries offer higher wages, better working conditions, improved technology, more chances for research and innovation" (Khan, 2023).	Push & Pull

Table 1 evaluates the validity of the various causes of brain drain in Pakistan. As shown, the content 'economic turmoil' appears 182 times in the text. Sub themes such as economic turmoil, downturns, insecurity, worsening times, economic migration, rising inflation and are found frequently used in text. Sentiment of the key statements proves the validity of the cause.

The content 'political instability' appears 102 times in the text. Sub themes like political unrest, conflict, instability, violence, political ideologies, and political suicide are found frequently used by the authors. The key statements prove the validity of the cause.

The content 'unemployment' appears 165 times in the text – sub themes like underemployment, joblessness, lack of opportunities, underpaid, fall in labor market are frequently used in text which validate the impact of the content. Likewise, the key statements prove the validity of the cause.

The content 'wages' appears 66 times in the text – sub themes like inadequate wages, pitiful wages, low salaries, lack of benefits and poor working conditions are frequently used in text which support the impact of the content. Sentiments of the key statements make the cause valid.

The content 'green pastures' is found 97 times in the text – sub themes like green grass, higher salaries, better opportunities, quality of life, and better working conditions, are frequently used by the authors. The frequency rate of the content supports its impact.

The content 'social unrest appears 52 times in the text – sub themes such as poor social services, lack of social security, family standards, community pressures, and norms are frequently used by the authors. Sentiments of the key statements support the validity of the cause.

The content 'security' is found appearing 48 times in the text. Sub themes such as poor law and order, security challenges, security concerns, poor social security, extremism, violence and criminality are frequently used in text. The key statements support the cause.

The content 'education' is identified 91 times in the text – sub themes such as poor education system, quality education, world class education, and better learning facilities are frequently used by the authors. The key statements quoted in the relevant column prove the validity of the cause.

The content 'Research and development' is found 72 times appearing in the text. Sub themes such as lack of scientific research, scientific prints, lack of research institutes, technical advancement, progress and innovation are frequently used by the authors. The key statements as quoted prove the validity of the cause.

Relative Impact - Causal

After testing the validity of the causal contents as shown in table 1, we are able to find the relative impact of the causes of brain drain in Pakistan. Economic turmoil with highest frequency182 is considered the strongest cause of brain drain in the country. Unemployment at 165 claims to be the second most, political instability at 102 is found the third most, green pastures at 97 is the fourth most, education with 91 is the fifth in order, research with 77 is the sixth in order, wages at 66 stand at seven, social unrest with 52 stands at eight and the second lowest too , whereas security with the lowest rate 48 is found to be the lowest cause of brain drain in Pakistan.

Table 2

Sr. No.	Content (s)	Frequency	test of the effects of brain drains Key Statement (s)	Nature
1	Loss of human capital, talent, resources	82	"the outgoing professionals take human capital with them, leaving a labour market gap and a scarcity of expertise in numerous areas" (Khan, J.A. 2023). "Knowledge and research productivity is a borderless enterprise, but some states such as Pakistan are worried that they are losing their top researchers." (Meo & Sultan, 2023) "According to the official statistics, over 765,000 Pakistanis left the country in 2022 including 92,000 highly educated professionals such as doctors, engineers, information technology experts and accountants." (Moti, 2023)	Negative
2	Low growth; productivity, development	61	"As Pakistan is losing its expert brains, the rate of economic development is decreasing per day. Due to the brain drain, Pakistan has reached a more vulnerable position." (Farah Naz, 2024) "Brain drain diminishes productivity, deterring economic growth and causing dependency on expatriate remittances which exposes the economy to global instability." (Samo, 2023) "This exodus of talent has profound implications for Pakistan's national productivity, economic growth, and crucial social sectors like education and health care." (Ahmed, 2023).	Negative
3	Social distress; divide, unrest	42	"If there are differences between people's lifestyles and the cultural structure of the country, people's dissatisfaction increases" (Sharma, 2023) "Departing skilled workers disrupt families, fracturing social unity and dynamics." (Samo, 2023) "The brain drain also has a psychological impact on the country. The exodus of skilled professionals can lead to a sense of hopelessness and despair among the people" (Mehar, 2023)	Negative

Content Analysis – Inference

4	Remittances; strong base of foreign reserves,	37	"Pakistan received \$31.3 billion in remittances in 2022 which accounted for 9.4% of its GDP." (WB, 2022) "Remittances help to reduce poverty, improve living standards, and stimulate consumption and investment in the country." (Moti, 2023) "this activity will have an impact on remittances and direct transactions, which ultimately boost economic growth within the country, and the burden on the government may be reduced to a great extent." (Malokani et al., 2022)	Positive
5	Diaspora	15	the diaspora can also help Pakistan develop by their talents, knowledge, investments, generosity, and advocacy." (Mehar, 2023) "The positive effect of brain drain is the transfer of knowledge and skills that the emigrants acquire and share with their counterparts in Pakistan through various channels such as return migration, diaspora networks, online platforms, and joint projects." (Moti, 2023)	Positive
6	Education	41	"In Pakistan lack of job opportunities and limited resources negatively affect the progress and prospects of universities and academic institutions and cause the university faculty to flee from their universities and homeland." (Meo, 2023) "When teachers leave, the education sector suffers from a shortage of qualified educators, leading to a diminished quality of education and hampering the future of Pakistan's youth." (Ahmed, 2023)	Positive/ negative
7	Health	39	"In countries where there are not enough hospitals or doctors, people cannot, receive effective health services" (Zafar, 2023) "When doctors, health care professionals, and medical researchers depart, the health care system faces severe challenges." (Ahmed, 2023) "It is painful to see some of our best doctors move to the US, but can we blame them? The conditions at public hospitals are often dire, and the health workers get paid so little," (Nazir, 2023)	Positive/ negative

Table 2 evaluates the reliability of the effects/impacts of brain drain on the state and society in Pakistan. Content 'loss of human capital' is found 82 times in the text – sub themes such as loss of talent, skills, human capital, highly qualified persons, leaders, and innovators are frequently used by the authors. Sentiments of the key statements ensure the reliability of the effect.

The content 'low growth' appears 62 times in the text – sub themes like low productivity, low growth, lower socio-economic development was regular in text. Sentiments of the key statements confirm the reliability of the effect.

The content 'social distress' is found 42 times in the text – sub themes such as social disunity, divide, despair, hopelessness, frustration, loss of confidence in government are frequently used. Sentiments of the key statements make the effect reliable.

The content 'remittances' appears 37 times in the text – sub themes like dependence on remittances, inflow of remittances, influx of remittances, increased trade, reduce poverty, better growth rates, and a big source of foreign exchange, are discussed frequently by the authors. Similarly, the key statements make the effect reliable.

The content 'diaspora' is found 15 times in the text which is quite lower than the other contents. It is argued that Pakistani diaspora through its knowledge, skills, talent, socio-economic powers can help the country develop and prosperous. Sentiments of the key statements confirm the reliability of the effect.

The content 'education' is found 41 times in the text. It is maintained that lack of quality education and poor learning environment is the outcome of the exodus of highly qualified teachers. The key statements make the effect reliable.

The content 'health' appears 39 times in the text – the narrative, when doctors leave, the country loses knowledge, skills and expertise in health sector. It suffers through poor condition of hospitals and nursing care. Sentiments of the key statements in the health column ensure the reliability of the effect.

Relative Impact - Inference

Evaluation of reliability of the several effects of brain drains as identified in table 2, enables us to measure their relative impact. In frequency, content 1 stands at 82, the highest of all, and so is proved to have the strongest effect. Content 2 stands at 61 and is the second most effective, content 3 at 42 is found the third most effective, content 6 at 41 is found the fourth in effect, content 7 at 39 makes the fifth in effect, content 4 at 37 is found the sixth and second lowest in effect, and lastly content 5 stands at the lowest rate 15 and proved for having the lowest effect of brain drain.

In more, we are able to find that content 1,2, and 3 have negative impact, content 4 and 5 looks positive because of their socio-economic benefits for Pakistan, content 6 and 7 has dual effects; positive and negative. In the case of brain gain, transfer of knowledge and skills back to home country, they are positive, and in the case of brain drain only, they have negative impact.

Conclusion

In continuity of the key concepts and major arguments we have discussed in this paper, we can conclude that the trend of brain drains in Pakistan roots back to 1960s and 1970s. However, it has increased rapidly in recent times. The worsening economic condition, unemployment, political instability, lack of security, poor living and working conditions at home, and better life and work opportunities at abroad have appealed the Pakistani professionals and skilled workers to migrate to the West and the Middle East. This process of migration has badly affected the state and society in Pakistan, in terms of losing human capital, state revenue, facing low growth and development, and lack of enough services in the health and education sectors.

Recommendations

The government of Pakistan may retain the talent within, through effective policy measures and reforms in the key areas. For instance, there is a need to devise a comprehensive national economic plan unanimously supported by all political parties, public and private stakeholders to fight against the economic meltdown. The government needs to restore political stability through electoral reforms, freedom of speech, expression, and protection of basic rights of the people. In addition, strengthening municipalities and timely provision of goods and services to the communities will reduce the impact of social unrest. Similarly creating job opportunities for the youngsters, fresh graduates, and improving living and working conditions through handsome salaries and benefits for the professionals will reform the health and educations sectors.

Last but not least, the officials need to work on the brain gain factor. Pakistan has a huge diaspora living in the western world and in the Middle East. There is a dire need to engage with the Pakistani diaspora, since it can contribute a lot to the economic development of the country through knowledge and skills transformation, and sociocultural image management of the nation at the international level.

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