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Forecasting Against Structural Reality: A Critical Assessment of Pakistan's Net Migration Trajectory and the UN DESA 2100 Projection

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ABSTRACT

According to the United Nations Department of Economic and Social Affairs (UN DESA), Pakistan's net migration rate will go from minus 5.6 per 1,000 population in 2024 to minus 0.9 per 1,000 population by 2100. This study questions the possibility of achieving this projection in the context of Pakistan's structural situation. The study relied on the data of BEOE (2019-2025), Gallup Pakistan migration analysis (2025), data from Migrant Resource Centre (MRC, (2025), State Bank of Pakistan bilateral remittance records, and literature on brain drain, governance and political economy. The results reveal that all the structural indicators are now in negative alignment with the projection. As of mid-September 2025, 2.9 million Pakistanis had departed from their country since 2023. In August 2025, a Gallup Pakistan survey indicated that 66 percent of Pakistanis have an opinion on emigrants being more intelligent – the first time this has been recorded in Pakistan's history of migration. Expert emigration keeps on increasing. There is no measurable improvement in the quality of governance. The paper demonstrates through counterfactual scenario analysis that, given current conditions, Pakistan's current net migration rate is expected to be more likely to deteriorate to a range of –6.0 to –8.0 by 2050 rather than improve towards achieving the UN DESA target. This study concludes that none of the five structural changes that Pakistan needs to make in order to take the turn towards the projected trajectory is currently underway.

Keywords: Net Migration Rate, UN DESA Projection, Pakistan; Brain Drain, Push–Pull Theory, Political Economy, BEOE; Governance, Structural Conditions, Skilled Emigration

1. Introduction

Pakistan is one of the top countries of emigration in the world. Since 1971, the Bureau of Emigration and Overseas Employment (BEOE) has been monitoring registered labour outflows. The number of Pakistanis who registered in foreign employment from 1971 to January 2025 totaled 14,114,918 (Gallup Pakistan, 2025). During 2024 alone, 727,381 people registered with the government of Pakistan for overseas jobs. It is estimated that by mid-September 2025, almost 2.9 million Pakistanis had left the country since 2023, with BEOE data showing 525,551 Pakistanis left the country just during 2025 (ICMPD, 2025). Such numbers are not falling. They are growing. The backdrop of this empirical evidence, the UN DESA (2024) projections suggest that the net migration rate in Pakistan will enhance from –5.6 per 1,000 population in 2024 to –0.9 per 1,000 population by 2100. The negative net migration rate of –5.6 indicates that, Pakistan is currently losing 5.6 people per 1,000 population annually due to net emigration. A –0.9 to 2100 represents a decrease to less than 1 person per 1,000 persons per year, 84 percent

improvement over 76 years. The forecast suggests a dramatically significant long-term decline in one of the world's most severe emigration issues.

The UN DESA projection is purely statistical, using the extrapolation of historical trends and modelling of demographic momentum. It does not measure the quality of governance, political turbulence, and deterioration of institutions, socio-cultural attitudes to emigration or the impact of brain drain on the capacity of institutions in Pakistan. All of these factors are evidence that are going in the wrong direction in terms of migration. In August 2025, a Gallup Pakistan survey revealed that 66 percent of the population thinks that migrant people abroad are more intelligent (ICMPD, 2025). These professional categories have skilled emigration. Doctors, engineers, managers, and nurses are the ones experiencing a high growth, with an increase of 151 percent, 172 percent, 990 percent, and 2,144 percent respectively over the period of 2011-2024 (Gallup Pakistan, 2025). There is no improvement in Pakistan's governance indicators on a sustained basis. The country's political system endured the most tumultuous ten years in its modern history.

These structural realities pose a key policy and research question: What should be done? Would it be a realistic prediction of Pakistan's migration trajectory that the UN DESA has provided? Is it a statistical forecast based on the assumption that economic and institutional convergence is a reality that current conditions don't warrant? This paper directly tackles this question from the multi-source empirical evidence and the counterfactual scenario analysis. There are three contributions in this paper. Firstly, it tests the UN DESA projection in a systematic manner against the current evidence of the structures from various primary and secondary data sources. Secondly, it uses the theories of Push–Pull Theory, Political Economy Theory and Human Capital Theory to explain why the structural conditions are moving against the projection. Third, through counterfactual scenario analysis it provides a more structurally-based range of migration rate projections for Pakistan by 2050 and recommends the specific policy changes necessary to bring Pakistan on track to achieve the UN DESA target.

1.1 Research Questions

This study is organized around three research questions.

1. Do Pakistan's current structural conditions, governance quality, political stability, wage differentials, skilled professional retention, and cultural attitudes toward emigration support the UN DESA projection trajectory of a net migration rate improving from -5.6 (2024) to -0.9 (2100)?
2. What specific structural changes must Pakistan make to put itself on the UN DESA projection trajectory, and what is the current policy status of each required change?
3. What is the most structurally plausible net migration rate trajectory for Pakistan through 2050 given current empirical evidence, and how does this compare to the UN DESA projection?

2. Literature Review

2.1 Brain Drain Theory and Pakistan

The term brain drain was first used in the early 1960s when British scientists and engineers began immigrating to the United States (Johnson, 1967; Naseem, 1979). Soon this was extended to the deliberate exodus of highly trained and qualified personnel from developing to developed nation. The first comprehensive economic analysis was offered by Bhagwati and Hamada (1974), who suggested that a brain drain lowers wages and raises unemployment rates for the person who stays behind, and that the negative effects are particularly large when the social value of a skilled person is greater than remuneration (as is true for doctors and teachers). Bhagwati (1976)

suggested a brain drain tax on the earnings of migrants in the destination countries to make up for the loss in the source countries. It was not actually put into effect.

Gradually more structural and institutional analysis was included in the literature. The first comprehensive global database on brain drain was created by Docquier et al. (2007) and these were the countries that were most affected by brain drain. However, as Docquier et al. (2012) have found in their survey of 40 years of economics literature, emigration of highly qualified individuals does not necessarily lead to the loss of human capital as long as there are positive externalities in the form of a diaspora network. But these positive benefits need robust state capacity and policies to be realized, they added. These, in the absence of which, further exacerbate institutional decline, which is further compounded by brain drain.

Since 2010, empirical brain drain literature in Pakistan has increased significantly. Altaf (2016) employed time-series data for the period 1980-2013, and concluded that remittances and unemployment were positively related in the long run, as were remittances and brain drain, while political instability and brain drain were also positively related in the long run. Farooq and Ahmad (2017) applied an augmented gravity model to the situation of skilled emigration outflows to 27 destination countries and 36 years of data and concluded that both push and pull factors are significant for explaining skilled emigration outflows. They suggested to make unplanned brain drain as a planned brain export. In Pakistan, Kousar, Ahmed and Bukhari (2020) were able to conclude that brain drain is negatively affected by the quality of governance, financial stability, standard of living and infrastructure in the long run. Good governance means less emigration. This has been supported by ARDL methodology performed by Azizullah and Mughal (2024) for the period 1976-2020.

Acute brain drain pressures are identified across sectors through studies. Imran et al. (2011) conducted a survey among 275 graduating medical students in Lahore and revealed that 60.4% planned to practice in the foreign countries. According to Meo and Sultan (2023), 50,110 health care workers, comprising 31,418 doctors and 12,853 nurses had emigrated from Pakistan from 1971 to 2022. Meo et al. (2024) reported that there is a decline in research output in Pakistan in 2022, which is mainly due to brain drain of scholars and researchers, in the country's research output that has been in an upward trajectory for 22 consecutive years. Using disaggregated BEOE data, Ashraf (2022a) and Ashraf, (2022c) showed that the increase in the number of emigrants in 2022 was not due to a brain drain but rather a rebound in labor-intensive migration, consistent with the pre-COVID migration trends. The proportion of highly skilled and qualified workers in all outflows stayed at 4-5% throughout 2019-2022. Only one structural acceleration was confirmed, the growth of nursing where it increased five-fold from 337 (2019) to 1,768 (2022).

2.2 Net Migration Rate Projections: Methodology and Limitations

UN DESA demographic projections are made in the long run using the cohort-component method, which is based on the idea that population growth is due to births, deaths and net migration. Historical migration rates, trends in income differentials between origin and destination countries and global parameters of the migration system are normally employed in the modelling of net migration. The projections are based on the assumption of the convergence of demography and economics: the higher the level of economic development of a developing country, the lower the push and pull factors for migration compared to developed countries. This convergence effect creates a positive change in the net migration rates of countries with high emigration rates such as Pakistan in the long run.

This approach has been particularly restrictive in failing to take into account the impact of governance quality, institutional capacity, political stability and cultural attitudes toward emigration on migration. Massey et al. (1993) explained that migration systems come into being

with their own momentum and momentum building power through network effects, diasporas, and cultural normalization of exit. When migration is normalized, it may continue even in the face of moderately improved economic conditions. If migration is culturally normalized, it may continue even if there are moderately better economic conditions. Theoretically, brain drain can be shown to lead to development traps in which low human capital translates into low wages, which in turn translates into brain drain, which leads to further reduction in human capital, which leads to more brain drain (Bénassy and Brezis, 2013). Demographic projection models do not reflect this vicious circle. Recent research by Marchiori, Shen, and Docquier (2013) has demonstrated that the immediate effect of brain drain on the human capital of the sending economy on its ability to innovate and expand depends on the resident human capital.

2.3 Political Economy and Migration

Political Economy Theory establishes links between governance quality, institutional capacity and migration outcomes. Acemoglu and Robinson (2012) demonstrate that extractive institutions (those that focus on acquiring power and rewarding political connections rather than merit) systematically result in underdevelopment and in the displacement of skilled workers. In countries where social forces are more powerful than state powers, the state has moderate potential to provide merit-based appointments, acceptable wages, and security assurances that will keep talented professionals from leaving, as Migdal (1988) claims. Weak state capacity actively works to expel skilled people, as professionals are unable to perform effectively in an environment lacking in rule of law and institutional predictability, as Fukuyama (2004) demonstrates.

The empirical testing of the political economy argument was conducted by Amani, Javaheri and Ghorbani (2023) using a panel data of 106 countries over the period 2007-2020. They discovered that the country risk (political, economic and financial risk) is positively and significantly related to brain drain across all risk groups. The higher the political risk, the more skilled personnel that a country will lose. There is a strong negative impact from the human development index, which indicates that the more a country invests in human development, the more skilled labour it has to offer. Pakistan is in the high political risk category for all of the period 2008-2025. Using the process-tracing methodology, Shah and Mehmood (2023) reviewed the human security situation in Pakistan between 2000 and 2022 and found that there was a worsening of personal security, community security, economic security and political security at the same time. In 2025, political instability, dishonesty, institutional weaknesses etc. have been cited as some of the most significant factors driving youth emigration, as confirmed by Cheema, Mumtaz and Zulfiqar (2025).

2.4 Research Gaps

The first gap is that there is no study testing the long-run net migration rate projection of UN DESA in Pakistan against the structural evidence. Most of the studies focus on either the causes or implications of migration. None has applied the framework of counterfactual scenarios to evaluate the structural support of the trajectory of the forecast. The second gap is the lack of links between the macro-demographic literature on migration projections and the political economy literature on institutional determinants of migration. Brain drain studies are within a different field of scholarship than UN DESA projections. This paper links them. The third gap is the lack of analysis beyond 2022 on the latest BEOE, Gallup Pakistan, MRC and ICMPD data. The 2023–2025 period has been the worst one in the history of Pakistani emigration as 2.9 million people left the country in just two years. In Pakistan there is no study that examines the structure of this period for its implications on the long run migration trajectory.

In this paper,

3. Theoretical Framework

Three theoretical approaches are combined together to account for the causes and the long-run evolution of net migration rate in Pakistan.

3.1 Push–Pull Theory

Push–Pull Theory (Lee, 1966) proposes that migration flows are a response to adverse factors in the home country as well as to favorable factors in the receiving country. The push factors in Pakistan are well known: unemployment, low wages, inflation, political instability, governance failure, weak rule of law, and poor working conditions in healthcare and education – Azizullah & Mughal, 2024; Farooq & Ahmad, 2017; Lawan Ngoma & Wana Ismail, 2013; Shah & Mehmood, 2023). The 'pull' factors in destination countries are also strong such as better wages, merit-based institutions, personal security, research facilities, and attractiveness to skilled workers through various recruitment programmes in the NHS, H-1B visas, Express Entry and Gulf labour markets (Ashraf, 2022b; Commander, Kangasniemi & Winters, 2004). For the UN DESA projection to be on track, Push–Pull Theory suggests that push factors in Pakistan need to substantially decrease, or pull factors in the destination countries need to significantly increase, or both. Neither is happening.

3.2 Political Economy Theory

Theory of Political Economy (Acemoglu & Robinson, 2012; Migdal, 1988; Fukuyama, 2004) suggests that the quality of governance and capacity of institutions will decide the retention or removal of skilled workers. Extractive institutions expel skilled workers through lack of reward opportunities and career ladders. Poor state capacity pushes professionals out, because they don't have the institutional environment they need to be productive. In line with the findings of Docquier (2014), weak institutions are found to decrease the expected return to staying and thus increase migration. The trajectory of net migration rate for Pakistan is very clear from the political economy perspective that unless there are continuous improvements in the institutions, the projection can't be met.

3.3 Human Capital Theory

According to the human capital theory (Schultz, 1961; Becker, 1964; Sjaastad, 1962), a skilled worker is a rational investor in his or her productivity. Migration is an investment choice: professionals estimate income opportunities and prospects abroad and relocate if the expected income from investment abroad is higher than the expected income from investment at home, taking into account the cost of migration. The education system in Pakistan produces professionals (Doctors, Engineers, Nurses, Information Technology experts etc.) who are internationally portable and their skills are directly transferable to the UK, USA, Canada and the Gulf countries (Ashraf, 2022a, 2022b). Pakistan needs to develop domestic returns for human capital investment that are at par with foreign alternatives for the net migration rate to rise to –0.9. It is the most difficult structural UN DESA forward-looking condition.

4. Methodology

4.1 Research Design

The research design was quantitative descriptive and comparative research, accompanied by a counterfactual scenario analysis. The design is suitable for a long run projection when it can be compared systematically with what the data show in order to test it against current structural conditions. The approach taken in the counterfactual scenario framework is similar to that of Docquier and Rapoport (2012) but adapted to the Pakistan context based on contemporary empirical evidence.

4.2 Data Sources

This study relied on five main data sources each of which captures one aspect of the Pakistan migration system. The first source is the administrative dataset of Pakistan Bureau of Emigration and Overseas Employment (BEOE). BEOE collects data on all registered labour emigrants from 9 protectorates in Pakistan. It offers information on overall outflows, countries to which people move, provinces of origin, gender, and occupational skill classification. The BEOE data for the period 2019–2025 is taken from Ashraf (2022a, 2022b), Shah, Quddus, and Shahzad (2022), and Gallup Pakistan (2025). The second source is the migration analysis from Gallup Pakistan (March 2025), which is based on BEOE, UN DESA and IOM statistics, and offers the most detailed analysis of migration patterns in Pakistan at the provincial level, occupational trends (2011-2024), distribution by destination (1971-2025), and UN DESA net migration rate projections.

The third source is ICMPD Migrant Resource Centre (MRC) Pakistan Q3 2025 report which covers the period of July to September 2025. This report is the most up-to-date quarterly report on volume of emigration, destination trends, emigration inquiry pattern and participation in pre-departure sessions at the MRCs Islamabad, Lahore and Peshawar. The fourth source is from country-wise workers' remittance data provided by the State Bank of Pakistan (SBP). This is a bi-annual data source regarding remittances inflows from the sending country, and Ashraf (2022b) uses it as a diagnostic tool to estimate the actual size of Pakistani professionals in the USA and UK. The fifth source is the projection data on net migration rate from the UN DESA (2024) International Migrant Stock and World Population Prospects datasets that this paper tests.

4.3 Analytical Approach

The analysis will be conducted in three phases, reflecting the three research questions. In RQ1, the paper compares five structural conditions (governance, political stability, wage differentials, skilled professional retention, and cultural attitudes) with the requirements of the UN DESA projection trajectory. The paper is organized around certain policy changes for each structural condition for RQ2 and an assessment of where policies are in terms of status in RQ2. RQ3 explores the possibility of different counterfactuals: continuation of the current situation, partial reform, and structural transformation, and evaluates the extent to which each is plausible, based on existing evidence. Comparative descriptive analysis and structured scenario reasoning based on Push–Pull Theory and Political Economy Theory are the main analysis tools used.

4.4 Limitations

BEOE only registers officially registered labour migrants. Irregular migrants, students, asylum seekers and skilled workers on non-BEOE visa pathways (in particular migrants to USA, UK) are not captured. According to Ashraf (2022b), there are no pathways for employers to register for BEOE in these four routes, namely, NHS Skilled Worker visas, H-1B petitions, Post-Study Work routes, and family reunification routes. Migration figures to USA and UK are systematic underestimates for BEOE. The analysis overcomes this limitation by supplementing SBP's remittance data with it as an additional diagnostic tool. The counterfactual scenario analysis is not quantitative because the three dimensions of the structural variables used, such as governance quality, political stability, and cultural attitudes, are not adequately modeled with available data. The scenario boundaries are based on the empirical literature rather than econometric forecasts.

5. Data Analysis

5.1 Pakistan's Migration Trajectory: The Historical Pattern

Emigration from Pakistan has been on an upward trend for the last few decades. Table 1 shows the key volume of migration data for the latest time period.

Table 1

Annual Registered Emigration from Pakistan: Core Indicators, 2019–2025

Indicator	2019	2020	2021	2022
Total registered emigrants	625,876	225,213	288,280	832,339
Year-on-year change (%)	—	-64.0	+28.0	+188.8
Highly qualified + skilled (N)	25,424	8,866	13,959	38,841
Highly qualified + skilled (% of total)	4.1	3.9	4.8	4.7
Semi-skilled + unskilled (% of total)	50.1	50.2	49.7	53.7
UK share of registered total (%)	0.1	0.4	0.4	0.4
GCC share of total (%)	~93.0	~92.0	~90.0	~96.0
Nurse emigrants (N)	337	148	599	1,768

Note. Sources: BEOE dataset as synthesised in Ashraf (2022a, 2022b) and Shah et al. (2022). USA does not appear in BEOE top-10 destination list in any year 2019–2022. Highly qualified + skilled includes BEOE-defined categories only; Western visa pathway migrants are not captured.

There are several important patterns that are apparent in Table 1. Emigration volume trended down significantly in 2020 due to COVID-19 and then rose up significantly in 2022. But the composition of the emigrants' skills remained unchanged. The share of highly qualified and skilled workers in total outflows stayed fairly steady, between 4.1 and 4.7 percent of outflows in all four years. There were some semi-skilled and unskilled workers still over 50 percent. Outflows were retained by the GCC in all years, with about 90-96 percent of them being absorbed. While the UK is the top professional destination of Pakistani doctors, nurses, and engineers it still only had 0.4 percent of BEOE-registered emigrants. This is because there are no major professional visa pathways that require BEOE registration in the UK (Ashraf, 2022b). The nurse category is the only occupation with a true structural acceleration, growing by 5.3 times, from 337 in 2019 to 1,768 in 2022.

5.2 Skilled Emigration Trends: 2011–2024

Gallup Pakistan's long-term occupational trend data shows a different story from what can be gleaned from the proportional analysis of the post-COVID period. The skilled professional emigration trends are shown in Table 2.

Table 2

Skilled Pakistani Professional Emigration: BEOE Registration Trends, 2011–2024

Occupation	2011 (N)	2024 (N)	Change (%)	Policy significance
Nurses	131	2,940	+2,144	Highest structural acceleration; UK NHS recruitment driver
Managers	2,272	24,760	+990	Category includes mid-level supervisory staff; requires disaggregation
Engineers	2,951	8,018	+172	Gulf construction and Western tech sectors both absorbing
Doctors	1,453	3,642	+151	BEOE captures Gulf-bound only; NHS-route doctors not counted
Salesmen	7,461	12,075	+62	Lower-skilled commercial category; modest absolute numbers

Note. Source: Gallup Pakistan (2025), based on BEOE data. Percentage change calculated from 2011 to 2024 registration figures.

The results in Table 2 further show that the migration of highly skilled professionals has increased significantly in absolute numbers from 2011 to 2024. The most significant increase is by the nurse which is 2,144% and is confirmed as structural acceleration by Ashraf (2022a, 2022b). The other rises (990 percent for managers, 172 percent for engineers, and 151 percent for doctors) are due to the growth of total BEOE outflows as well as to truly professional emigration increases. However, Ashraf (2022b) warns that doctors, engineers, nurses, and other professionals who go to the UK and USA do not need to be registered in BEOE, which leads to an undercount of such workers. The actual number of professional immigrants to the western destinations is greater than that indicated in Table 2.

5.3 The Remittance Diagnostic: Evidence of an Invisible Professional Diaspora

In this regard, Ashraf (2022b) employs SBP bilateral remittance data as a diagnostic tool to estimate the actual extent of Pakistani professionals in USA and UK. The remittance data is shown in Table 3.

Table 3: Pakistan Remittance Inflows by Source Country: USA and UK Share vs. BEOE Emigrant Share, FY2019–FY2022

Measure	FY2019	FY2020	FY2021	FY2022
Total remittances received by Pakistan (USD bn)	21.74	23.13	29.45	31.28
UK remittance share (% of total)	15.7	11.1	13.9	14.4
USA remittance share (% of total)	15.2	7.5	8.8	9.9
USA + UK combined remittance share (%)	30.9	18.6	22.7	24.3
USA + UK combined remittances (USD bn, est.)	~6.72	~4.30	~6.69	~7.60
UK BEOE registered share (%)	0.1	0.4	0.4	0.4
USA BEOE registered share (%)	<0.1	<0.2	<0.2	<0.1

Note. Source: State Bank of Pakistan, Country-wise Workers' Remittances, as synthesised in Ashraf (2022b). FY = fiscal year (July–June). USD billion figures are percentage shares applied to annual totals.

The structural imbalance indicated in Table 3 is of great significance. However, the USA and UK remitted around USD 7.60 billion to Pakistan which accounted for 24.3 percent of total remittance inflows to Pakistan of USD 31.28 billion in FY2022, and only around 0.5 percent of the BEOE-registered emigrants. As for Saudi Arabia, it welcomes 61.9 per cent of the registered emigrants and exports 24.8 per cent of remittance. The implicit remittance per worker at Saudi Arabia is about USD 15,000 per year, and this is in line with the earnings of workers in the construction industry in the Gulf. The remittance per worker from USA and UK would come to be more than USD 1.5 million per registered worker, mathematically impossible without a huge unregistered population of Pakistani professionals in both countries. As Ashraf (2022b) summarizes, the brain drain to western destinations is a decades -old structural reality, not a 2022 reality, and is structurally invisible to BEOE.

5.4 Testing the UN DESA Projection against Structural Conditions

Table 4 systematically compares the UN DESA projection with five structural conditions.

Table 4: Testing the UN DESA Net Migration Rate Projection for Pakistan against Current Structural Conditions

Structural condition	Required for projection trajectory	Current status (2024–2025)	Direction of change
Governance quality	Sustained improvement in rule of law, merit systems, institutional capacity	No improvement in World Bank Governance Indicators 2008–2024; extractive institutions persist	Against projection
Political stability	Sustained democratic consolidation; predictable policy environment	Most turbulent political period in modern history; PTI crisis; disputed 2024 elections	Against projection
Wage differentials with OECD/GCC	Narrowing wage gap reduces migration incentives over time	PKR lost ~70% against USD 2020–2024; real wage gap widening, not narrowing	Against projection
Skilled professional retention	Stabilisation of skilled outflows; return migration emerging	Nurses +2,144%; managers +990%; engineers +172%; doctors +151% (2011–2024); 2.9M left since 2023	Against projection
Cultural attitude toward emigration	Emigration seen as one option among many; staying seen as equally valid	66% of Pakistanis believe emigrants are more intelligent (Gallup Pakistan, August 2025)	Against projection

Note. Sources: UN DESA (2024); Gallup Pakistan (2025); ICMPD (2025); Ashraf (2022a, 2022b); Acemoglu & Robinson (2012); Shah & Mehmood (2023); World Bank Governance Indicators (2024).

Table 4 indicates that all structural conditions are running in reverse to the UN DESA forecast. This is NOT a partial or compound answer. It is a universal truth that is true in all five dimensions. There isn't any structural condition that is moving in the direction the projection needs to be moving.

5.5 Counterfactual Scenario Analysis

Table 5 shows three scenarios of net migration rate trend in Pakistan up to 2050.

Table 5: Counterfactual Scenario Analysis: Pakistan Net Migration Rate Trajectories to 2050

Dimension	Scenario 1: Status quo	Scenario 2: Partial reform	Scenario 3: Structural transformation
Governance quality	No change; extractive institutions persist	Partial improvement in rule of law and merit systems	Sustained inclusive institutional reform over 10+ years
Political stability	Continued civilian-military tension; repeated crises	Reduced crisis frequency; democratic consolidation by 2030	Sustained democratic stability; predictable transitions by 2035
GDP per capita growth	Volatile; 2–3% real growth in good years	Consistent 4–5% real growth through economic reform	Consistent 6–7% sustained growth reducing wage differentials
Skilled emigration trend	Continued acceleration; >1 million per year by 2030	Stabilisation of skilled outflows by 2035	Return migration emerging; net skilled migration near zero by 2050
Cultural attitude toward emigration	66% endorsement of exit deepens further	Endorsement falls to 40–50% as domestic opportunities improve	Emigration seen as one option; staying seen as equally valid
Projected net migration rate by 2050	–6.0 to –8.0 (worsening)	–3.0 to –4.0 (partial improvement)	–1.5 to –2.5 (broadly on UN DESA path)
Plausibility given 2024–2025 conditions	High — all current trends point here	Low to moderate — requires political will not currently evident	Very low — requires transformation not yet started

Note. Note. The UN DESA projection requires Scenario 3 conditions to be sustained for 76 years. Sources: author's scenario analysis based on UN DESA (2024); Gallup Pakistan (2025); ICMPD (2025); Ashraf (2022a, 2022b); World Bank Governance Indicators; Docquier & Rapoport (2012). Table 5 indicates that the most empirically supported scenario is Scenario 1 (Status Quo Continuation). All the current structural indicators suggest that this is what will happen. In the base scenario (Scenario 1), Pakistan's net migration rate is projected to deteriorate from –5.6 (2024) to be between –6.0 and –8.0 by 2050, as the population continues to increase and emigration volumes increase. The UN DESA projection is for Scenario 3 (Structural Transformation). It requires institutional reform that is inclusive and lasting, democratic stability, growth of real GDP of 6-7% annually for many years, and a cultural revolution in attitudes towards internal opportunities. Pakistan is yet to embark upon this process of change. Not all the required conditions of scenario 3 are being met systematically.

6. Discussion

All structural conditions analyzed in the data analysis part are against the projection trajectory. The quality of governance does not significantly improve over the 2008-2025 period. The years 2022 to 2025 were the most tumultuous in the history of political stability in Pakistan. The depreciation of the Pakistan Rupee and slow per capita wage growth in the public sector sectors in Pakistan led to an increase in the wage gap between Pakistan and destination countries

instead of decreasing. Emigration also grew at an accelerating rate among skilled professionals: nurses grew by 2,144 per cent, managers 990 per cent, engineers 172 per cent and doctors 151 per cent in the 2011 to 2024 period. Emigration was also being endorsed by society to a greater extent with 66 percent of Pakistanis saying emigrants are smarter than locals.

The 66 percent cultural finding is of special note because it is qualitatively different from the results of previous survey work undertaken on people's migration intentions. According to Durr-e-Nayab (2022), 37 per cent of Pakistanis declare migration plans. Only 1–2 percent of people who desire to migrate actually do so worldwide (Migali and Scipioni, 2019). The finding of 66% is not a finding of intention. It's the social acceptability and the status value of emigration. If two-thirds of the population think that the “poor intellectuals” are the ones who leave, then the emigration creates a cultural script that is not related to a wage assessment, but it is related to governance. This cultural script was not found at this level of intensity in previous survey responses. It is a change in the structure of the migration system in Pakistan not reflected in long run projection models.

Kousar et al. (2020) and Azizullah and Mughal (2024) were both found to be empirical evidence of the fact that in the long-run, the only most important factor responsible for brain drain reduction in Pakistan is governance quality. In 2006, Haque (2006) found that governance failure is the cause. The same diagnosis was confirmed by Ahsan (2024). The situation of emigration over the 20 years between these two analyses has not changed structurally. At this point in the 76-year curve, conditions in governance should be measurably improved to be on track for the UN DESA projection. They are not.

RQ2 identifies five specific structural changes that Pakistan needs to make for solution. The most basic and most fundamental is governance reform. Acemoglu and Robinson (2012) demonstrate that inclusive institutions need to supplant extractive ones, which include merit-based public sector hiring, competitive remuneration of skilled labor, effective rule of law and decreased political influence over institutional administration. Pakistan has tried such reforms in various forms, such as the 18th amendment devolution, HEC quality assurance and civil service reforms. No one has demonstrated any ongoing measurable improvements in governance indicators. The challenge is political economy: Incentives to political economy to sustain patronage systems exist and are greater than reform pressures.

The second change that needs to be made is a nursing retention program. However, Ashraf (2022a, 2022b) notes that nursing is the only verified increase in the brain drain of structures in BEOE data. Firdos et al. (2020) report that the major retention failures are inadequate salary packages, the absence of service structures for the degree holders nurses, and poor professional status. Ashraf (2022b) suggests a bilateral agreement based on ethics with NHS England akin to those of UK-India and UK-Philippines. This covers negotiated flow limit for recruitment of nurse from Pakistan via NHS and return pathway arrangements for NHS trained nurse. This policy shift can be made by diplomatic negotiation.

A third change is necessary for remittance channels to remain in the formal banking system, and that is the stabilization of exchange rates. The channel switching from official to informal rates (such as hundi, hawala) when the official rates differed from market rates is a primary reason for the drop in the share of the US remittance, as shown by Ashraf (2022b). According to Salik (2020), exchange rate management is the most important determinant of choice of remittance channels. Pakistan has slightly made progress in the implementation of program conditionality with IMF but the gap has always opened up during the political crises years.

A fourth necessary change is to have a migration monitoring system along the West corridor. Unfortunately, BEOE itself is blind to the phenomenon of professional emigration to the USA and

UK, as documented by Ashraf (2022b). The Pakistani High Commissions in London and Washington should establish an additional system to keep records of those professionals who leave the country for other countries, by their profession, visa category and province. This calls for coordination among BEOE, NADRA and foreign missions which is not a requirement of new legislation.

Sustained improvement in governance is the fifth need that should be transformed: from remittance senders into institutional investors in the diaspora. Using Roshan Digital Account data, Ashraf (2022b) demonstrates that governance sensitiveness in the Pakistani professional diaspora in the USA and UK is present as capital withdrawals increased 37.7 percent during a period of deteriorating conditions in FY2022, while investments during the period of manageable conditions increased to USD 883 million in FY2020–21. But Chand (2019) and Gaillard, Gaillard, and Krishna (2015) do not lend credence to emotional nationalism as a determinant of diaspora investment; instead, they emphasize that governance signals govern it. Without stable governance, brain circulation will not come to fruition until political changes come and go.

No change in status quo, with a net migration rate reaching a net loss of between 6.0 and 8.0 by 2050. This is the most favorable structural scenario. The formal theoretical framework is provided by Bénassy and Brezis (2013): Pakistan has the characteristics of a development trap in which low human capital results in emigration which exacerbates the lack of human capital, which in turn results in more emigration. The concrete manifestation is reported by Meo, Eldawlatly, and Sultan (2024) such as the fact that after 22 years of rising trend in research publications, Pakistan's research publishing trend became negative in 2022, indicating the damage already inflicted on institutional capacity due to cumulative brain drain.

The paper does not claim that the projection by UN DESA is impossible. Wadhwa (2009) demonstrated India and China's path to reverse brain drain by continuous domestic economic growth. Tavakol (2012) demonstrated that South Korea and Taiwan have been successful in the same direction that is, through export-led growth and institutional development. This precedents demonstrate that structural transformation is possible. But they also demonstrate, that it takes thoughtful, sustained and consistent policy effort over several decades, beginning with a political and institutional base that Pakistan is lacking. The institutional change in South Korea was initiated in the 1960s and maintained over the following 30-40 years before meaningful changes in the dynamics of migration occurred. In Pakistan, the process is not yet underway.

The most accurate estimate is that the UN DESA estimate is a target rather than a structural forecast. It will be realised if Pakistan transforms itself through Scenario 3 process till date. It will not be possible on the Scenario 1 path, if Pakistan goes down that path. If the transformation starts, it takes a long period of 76 years. The 2008-2025 experience is an empirical one, and it has not started yet.

7. Conclusion

This study applied five categories of existing structural evidence, while testing the hypothesis of UN DESA that Pakistan's net migration rate will be better in 2024, coming up to 5.6, and in 2100, at 0.9. Findings are consistent and coherent. All of the structural conditions studied act opposite to the trajectory of the projection. There is no improvement in governance quality. In the history of Pakistan, the political stability is at its lowest ebb. Wage disparities with destination countries are increasing, rather than decreasing. Good professional emigration is gaining pace and in the last 2 years (2023-2025), around 2.9 million people are said to have illegally emigrated from Pakistan. In August 2025, a Gallup Pakistan survey revealed that 66 percent of Pakistanis think emigrants are more intelligent, and that is a new cultural normalization in recorded migration

statistics from Pakistan. Based on the counterfactual scenario analysis, the most structurally plausible trajectory for Pakistan is for Scenario 1: status quo continuation which leads to a net migration rate that deteriorates to 6.0 to 8.0 by 2050. The UN DESA projection, scenario 3 (structural transformation), calls for conditions which are not currently happening in a systematic manner.

This research suggests five policy changes that would help Pakistan get on the projection path: governance reform as the main driver; a policy on nursing retention or a migration monitoring system on the Western corridor; exchange rate stabilization; and, engagement with the diaspora through investment by government. These are not stand-alone answers to Pakistan's structural migration issue. However, they're steps that can be taken that are measurable, and based on facts, which can begin to slow the acceleration of skilled emigration while deeper institutional reform is completed. According to the UN DESA projection, Pakistan will have 76 years to reach “-0.9”. That's the length of time it takes if the transformation starts today! The empirical track record from 2008 to 2025 does not show that it has really started. The brain drain in Pakistan is not an irreversible trend. However, the more the structural conditions reported in this paper remain, the more damage is done to the institutions, faster than institutional change can compensate for it. The UN DESA projection is a target under these conditions. It's up to Pakistan's political and institutional choices and whether those choices are made will determine if Pakistan will achieve it.

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