Vol. 3 No. 4 (2025)
ISSN 3007-3170(O)
ISSN :3007-3162(P)
Social Sciences & Humanity Research Review

The Economic Impact of People Moving from Rural to Urban Areas in Pakistan

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ARTICLE INFO

Keywords:
Augmented Dickey Fuller Test, Generalized Method of Moments, Economic Growth, Migration, Personal Remittance, and Political Stability.

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ABSTRACT

This study examines the causal relationship between Pakistan's gross domestic product (GDP) growth—used as a proxy for economic development—and eight key macroeconomic variables: urban population, rural population, net migration (used as a proxy for migration), trade, personal remittances, poverty, political stability, and control of corruption. Utilizing annual time series data spanning from 2000 to 2023, the study employs the Augmented Dickey-Fuller (ADF) unit root test to assess the stationarity of the data. To address the mixed order of integration among variables, the Generalized Method of Moments (GMM) and co-integration techniques are applied. Additionally, the Breusch-Pagan-Godfrey test is conducted to detect heteroskedasticity, while the Lagrange Multiplier (LM) test is used to examine serial correlation. The empirical findings reveal that net migration, trade, and personal remittances exert a statistically significant and positive long-term impact on Pakistan's economic growth. However, results from the Granger causality test indicate no causal relationship among the studied variables in either direction. Although political stability and control of corruption are correlated with economic growth, their effects are statistically insignificant. These findings provide valuable insights for policymakers, highlighting the substantial roles of migration, trade, and remittances in driving long-term economic development. Furthermore, the study underscores the importance of institutional reforms to enhance the effectiveness of governance-related variables such as political stability and corruption control.

1. INTRODUCTION

Migration is broadly defined as the movement of individuals from one geographical region to another, either temporarily or permanently (Adewale, 2005). People migrate based on a range of personal and contextual factors, making migration a selective process influenced by economic, social, educational, and demographic characteristics. In developing countries like Nigeria and Pakistan, rural-to-urban migration is a common and transformative phenomenon. While it offers opportunities for improved livelihoods, it also generates challenges for both rural and urban areas. In many rural regions, such migration has led to a weakened local economy, increased poverty, and heightened food insecurity (Mini, 2000).

Definitions of "rural" and "urban" used in national censuses are often based on administrative classifications rather than actual population dynamics. For instance, the censuses conducted in Pakistan in 1972, 1981, 1998, and 2017 (Ali, 2018) did not fully account for emerging urban settlements. Reclassifications moved nearly 31 million individuals from the urban to the rural category, affecting the accuracy of urbanization data. If these definitional issues persist, Pakistan's true urban population may already exceed 55% (Bajwa, 2018).

Migration is typically categorized as internal (within national borders) or international. Historical migration events, such as the Atlantic migration from Europe to North America in the 19th and early 20th centuries, reshaped global demographics. Between 1880 and 1910, around 17 million Europeans migrated to the United States, while millions also relocated to Russia and, later, to Western Europe and North America from developing nations after World War II.

In the context of Pakistan, rural-urban migration plays a central role in shaping the country's economic and social fabric. Since its independence in 1947, Pakistan has experienced multiple waves of migration. These include the mass migration during Partition (14.5 million people), internal economic migration in the 1950s–60s, labor migration to the Middle East in the 1970s–80s, and the influx of 3.5 million Afghan refugees during the Soviet Afghan War. Post-9/11, emigration to Western countries increased, and today, Pakistan experiences both internal migration and a significant diaspora, particularly in GCC countries. As of 2019, 6.3 million Pakistanis were living abroad. In 2020 alone, remittances reached $21.5 billion, contributing roughly 10% of the GDP. Internal migration also continues, driven by economic disparity, demographic pressures, environmental degradation, and social and political factors.

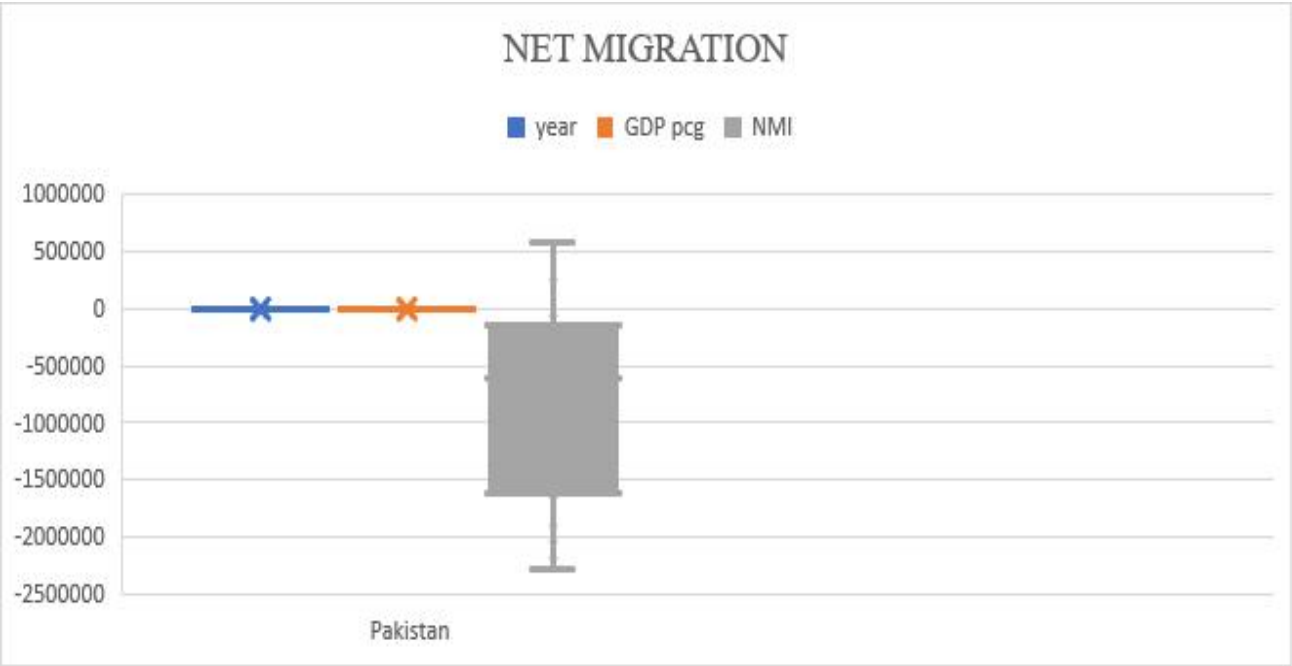

Figure 1: Net Migration

In recent decades, internal migration in Pakistan has persisted, primarily driven by economic factors. Following the events of 9/11, there was a noticeable increase in international migration to Western countries. Today, Pakistan experiences both substantial internal migration and a significant outflow of labor migrants, particularly to Gulf Cooperation Council (GCC) countries. Remittances have become a crucial pillar of the national economy, contributing approximately $20–21.5 billion annually, equivalent to around 10% of the country's GDP. Migration has facilitated labor market expansion, economic diversification, and human capital development. However, it also poses challenges such as brain drain, an overreliance on remittance inflows, urban congestion, and growing social tensions. As of 2019, an estimated 6.3 million Pakistanis were residing abroad, while the urban population continues to expand at a rate of 2.5% per year, exerting increasing pressure on urban infrastructure and services.

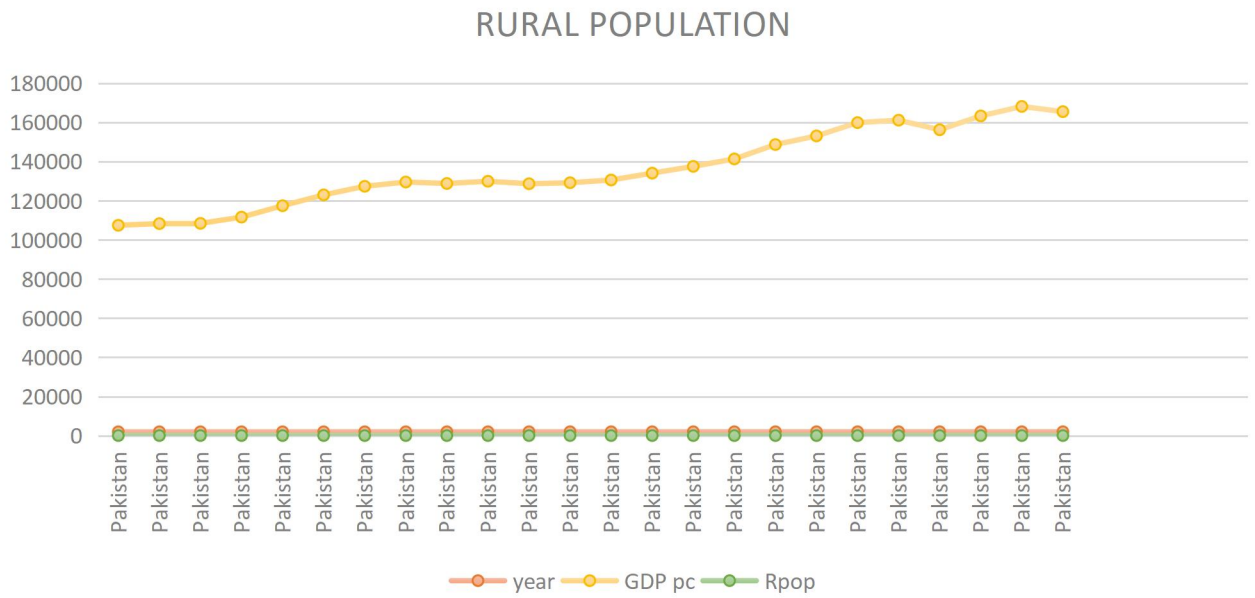

Figure 2: Rural Population

The Pakistani government has launched several key initiatives to address the challenges posed by migration and urbanization. These efforts include the Pakistan Vision 2025**,** which focuses on sustainable urban development, infrastructure enhancement, and the creation of green spaces; the National Urban Policy Framework**,** which prioritizes decentralization, public engagement, and improved service delivery; and the Prime Minister's Urban Development Package along with the Karachi Transformation Plan, which specifically target urban issues through funding and reforms. Additionally, Pakistan collaborates with international organizations, such as the World Bank and the Asian Development Bank, to support technical and financial development. At the provincial level, initiatives vary with Punjab concentrating on affordable housing, Sindh emphasizing inclusive urban planning, and cities like Lahore and Karachi investing in mass transit and waste management systems. Despite these efforts, Pakistan continues to face challenges like limited institutional capacity, corruption, and under-resourced infrastructure, which hinder the development of sustainable and livable cities. Migration from rural to urban areas in Pakistan is driven by several factors, including economic disparities, demographic pressure, environmental degradation, social factors such as better access to education and healthcare, and political instability. The World Bank reports that as of 2022, Pakistan's poverty rate was 21.9%, with rural poverty remaining higher than urban poverty, contributing to the continued migration trend. The government has introduced key poverty alleviation programs like the Benazir Income Support Programme (BISP**)**, the Pakistan

Poverty Alleviation Fund (PPAF), and the National Social Protection Strategy, focusing on cash transfers, microfinance, and skills training. Projections suggest that poverty could decline to 18.3% by 2025 and 14.5% by 2030, provided economic growth and reforms are sustained. Regarding economic fluctuations, Pakistan has seen periods of both growth and stagnation, with notable progress in the 1960s followed by setbacks in the 1970s due to nationalization policies and global shocks. Economic liberalization in the 1980s and the inflow of remittances helped stabilize growth during the 1990s and 2000s. However, the economy currently faces challenges such as low GDP growth (around 2-3%), high inflation (8-10%), and a significant trade deficit of $15 billion. Despite these challenges, agriculture, manufacturing, and services continue to be key contributors to the economy. The China-Pakistan Economic Corridor (CPEC) is expected to play a vital role in revitalizing infrastructure and attracting foreign investment, with a projected GDP growth of 4-5% by 2025, contingent on overcoming institutional and structural weaknesses.

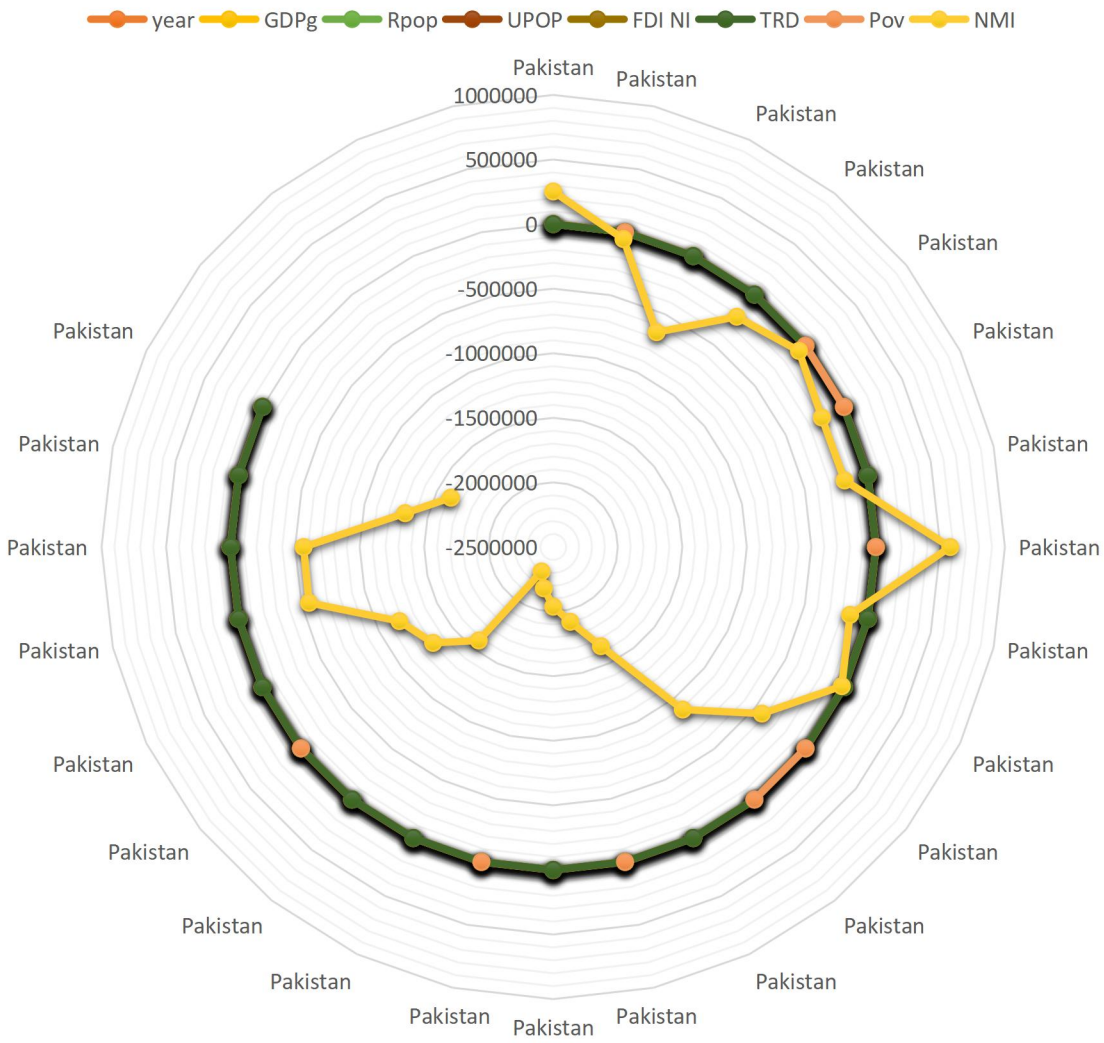

Figure 3: Urban Poverty

The consequences of rural-urban migration in Pakistan are multifaceted. Urban poverty is one of the most pressing challenges, as overcrowded cities struggle to provide adequate housing, healthcare, and education for the growing population. Migration also exacerbates inequality, deepening the rural-urban divide as rural areas continue to face economic and infrastructural deficits. Moreover, the influx of migrants into urban areas can lead to social unrest, as limited resources and strained infrastructure create tensions among residents. Additionally, rapid urbanization contributes to environmental degradation, worsening pollution, and intensifying climate challenges.

To maximize the benefits of migration while reducing its negative effects, several policy recommendations should be considered. First, Pakistan should promote evidence-based research to inform policymaking, ensuring that migration-related strategies are data-driven. Public-private partnerships should be encouraged to improve service delivery and facilitate development projects. Integrated urban-rural planning is crucial to ensure balanced development, while social protection systems must be expanded to support vulnerable migrants. Lastly, advancing sustainable urban planning will be vital to minimizing the environmental impact of rapid urbanization.

Various stakeholders play essential roles in shaping Pakistan's development. Individuals can contribute through entrepreneurship, education, civic engagement, and environmental efforts. Organizations can foster investment, innovation, and corporate responsibility to drive development. The government is tasked with creating policies, building infrastructure, and ensuring efficient service delivery to its citizens. Civil society can support community development, environmental protection, and advocacy for human rights. International bodies can offer critical aid, technical expertise, and global governance support. By collaborating on inclusive, sustainable, and innovative strategies, these stakeholders can help create a prosperous and equitable future. Addressing key issues like inequality, corruption, and climate change will be pivotal in ensuring long-term success.

Objectives of the Study

The primary objectives of this study are as follows:

1. Examine the underlying causes and consequences of rural-urban migration in Pakistan
2. Assess the impact of rural-urban migration on the country's economic growth.
3. Identify policy implications related to rural-urban migration.

REVIEW OF LITERATURE

The studies referenced in the text explore various aspects of rural-urban migration across different regions and periods, shedding light on the causes, consequences, and dynamics of this phenomenon. J.C. Caldwell (2000) highlighted the significant increase in Ghana's urban population between 1921 and 1960, attributing much of the urban growth to rural-urban migration and migrant reproduction. A 1963 survey of rural centers reinforced this view, showing the role of migration in urban expansion. In contrast, Saracoglu and Durdanen (2004) expanded traditional growth models to include capital market imperfections and migration decisions, highlighting income disparities and cost-of-living differences as key factors driving rural-urban migration.

Peter (2004) and Goldsmith (2004) focused on the relationship between agricultural productivity and migration. In Senegal, they found that low rural income compared to urban income was a primary driver of migration, suggesting that improving farm productivity could reduce migration pressures. Similarly, a study by Yenigul (2005) noted that mechanization and land distribution changes in rural areas led to unemployment, sparking mass migration to urban areas. Salvador and Luisitor (2006) examined climate change as a unique driver of urbanization in sub-Saharan Africa, emphasizing rainfall fluctuations as a significant factor influencing migration trends.

Tiwari (2008) explored how migration, alongside economic transformation, played a vital role in shaping urbanization, particularly through the movement of peasants seeking better opportunities. Zhiqiang (2008) looked at China's rural-urban migration and found that rural residents with higher human capital were less likely to migrate, suggesting that improving rural education could mitigate migration and alleviate urban unemployment. Omariba and Boyle (2009) investigated the effects of migration on infant health in 52 developing countries and found that while migration to urban areas slightly increased infant mortality, family factors like education and socioeconomic status had a greater impact. Stark (2009) challenged the notion that rural-urban migration is driven solely by income disparity, proposing that the possibility of a major reward, despite slim chances, could also motivate migration. In Pakistan, Afzal (2009) studied the correlation between rapid population growth and economic stagnation, concluding that the country's high dependency ratio hindered investment growth. Similarly, Mustapha (2009) and Clem (2010) examined the push factors

driving migration from rural areas in West Africa and South Asia, including poverty, lack of basic services, and economic insecurity.

Bowen et al. (2010) and Cris (2010) studied the health impacts of migration and found that rural-urban migration often led to increased health issues, including obesity and diabetes in urban areas, and worsened mental health conditions due to family disruptions. Yao (2010) also explored the psychological effects of migration in Indonesia, noting that labor migration led to an increased risk of psychological disorders. In Australia, Kettlewell (2010) found that migration had gender-specific effects on well-being, with women reporting an improvement in well-being after migrating. Finally, Naeem (2011) analyzed rural-urban migration in North-West Pakistan, showing that economic factors like income and education influenced migration decisions, while poor living conditions in rural areas discouraged it. He recommended balanced regional development strategies to mitigate the pressure on urban infrastructure caused by migration.

Connell & Lipton (2012) provide a comprehensive review of migration patterns in the developing world, supported by a large-scale statistical analysis of 40 Indian villages. Their work explores the role of villages in sending migrants, the effects of migration on local economies and households, and presents a more rigorous, evidence-based perspective on migration compared to previous verbal reports. Their findings confirm the complex and multifaceted nature of migration and its varied consequences for village conditions. Greiner & Sakdapolrak (2012) focus on rural-urban migration in Kenya, examining the relationship between migration and environmental changes, particularly agricultural transformations and environmental degradation. Their study highlights that migration influences not just economic conditions but also socio-environmental dynamics. By calling for a trans-local perspective, they advocate for future research to consider multiple locations and factors, recognizing the complexity of these migration-environment interactions.

Momtaz (2012) explores the rural-urban migration patterns in Bangladesh, specifically focusing on Dhaka, where rapid migration has led to significant social and economic challenges. The study underscores the disparities migrants face, including poor living conditions and limited access to resources. It employs dynamic models to show the correlation between migration and persistent poverty, suggesting that migration, while offering opportunities, can also perpetuate socio-economic hardships for migrants. Abigai (2013) investigates how rural-urban migration in Ghana affects agricultural production. Using data from the Ghana Living Standards Survey 5, the study reveals that temporary migration significantly reduces farm production, challenging the assumption that migration always facilitates investment and risk mitigation in rural areas. The study suggests that policies should focus on reducing migration by boosting rural per capita income through agricultural investments. Mahapatra & Jadhav (2013) examine the adverse effects of rural-urban migration on Bhutan's rural economy. The migration of youth to urban centers has led to declining agricultural productivity, increased rural poverty, and a shrinking labor force, particularly among the elderly. The study highlights the need for policies to address these issues, such as improving rural infrastructure and incentivizing youth retention in rural areas.

Ajaero & Ani (2014) in southeastern Nigeria analyze the impact of migration on rural livelihoods. The study highlights that the influence of migration varies across different regions, with financial and food security being key factors. The study uses Principal Component Analysis to identify the impact of migrant investments on livelihoods and recommends improving local infrastructure and establishing small-scale industries to alleviate migration's negative effects. Faridi & Ayyoub (2016) investigate the socio-economic factors driving rural-urban migration in Punjab, Pakistan. Their study finds that factors like education, job opportunities, and infrastructure availability significantly influence migration decisions. They suggest that improving rural infrastructure and providing better access to education and healthcare can help mitigate the forces pushing people from rural areas to urban centers. Mulcahy (2016) assesses the psychological and emotional costs of migration, specifically focusing on South Africa. The study reveals that rural-urban migration leads to a decrease in migrants' subjective well-being due to the emotional costs of

leaving family and familiar environments behind. The research suggests that unrealistic expectations and shifting social comparisons contribute to this decline in well-being.

In terms of urban development, Maosanen & Lumami (2014) study migration in Gangland, India, where rural-urban migration has contributed to rapid urban growth, placing significant pressure on urban infrastructure and resources. The study highlights the environmental and social challenges of this growth, such as urban poverty, unemployment, and inadequate services. The researchers call for more sustainable urban planning to address these issues and manage the impacts of migration effectively. Huang et al. (2014) investigate the role of social ties in shaping settlement intentions among rural-urban migrants in China. Their study finds that migrants who form ties with urban residents are more likely to settle permanently, whereas ties to their rural communities may reduce settlement intentions. This research underscores the importance of social relationships in shaping migration outcomes. Fauzi & Juanda (2020) analyze migration in Indonesia and its effects on family well-being. Their study shows that migration driven by economic prospects significantly improves access to better education, healthcare, and employment opportunities, while migration due to adversity yields fewer positive outcomes. The research emphasizes the need for policies to support migrants seeking better opportunities and those fleeing hardship. These studies collectively argue for policies that recognize migration's potential benefits, such as the financial remittances sent back by migrants, the diversification of local economies, and the transfer of new agricultural techniques. Rather than focusing solely on controlling migration, these studies suggest that policymakers should create strategies that harness the positive effects of migration while addressing the challenges it presents. This might include improving urban infrastructure, supporting migrants' integration, and enhancing rural development to reduce migration pressures.

David.L.(2022). This study examines how encouraging people to move from rural to urban areas in developing countries affects their well-being. To do this, we created a complex economic model that takes into account various reasons why people migrate. We used data from a field experiment in rural Bangladesh, where seasonal migration was subsidized, leading to a significant increase in migration and consumption. Our analysis shows that the benefits of migration subsidies come from providing financial protection to vulnerable rural households, rather than from helping highly productive individuals who are stuck in rural areas due to credit constraints. In other words, migration subsidies help rural households manage risks and uncertainties, leading to improved welfare outcomes. Our findings have important implications for policymakers seeking to design effective migration policies that promote economic development and poverty reduction. By understanding the motivations and outcomes of migration, we can create better programs to support those who move and improve their overall well-being.

David L. (2022) examines the effects of rural-to-urban migration subsidies on well-being in developing countries. The study utilized a complex economic model and data from a field experiment in rural Bangladesh, where subsidies were provided to encourage seasonal migration. The results showed a significant increase in migration and household consumption. Notably, the study found that the benefits of migration subsidies stemmed from offering financial protection to vulnerable rural households, rather than simply supporting highly productive individuals facing credit constraints. This approach allowed rural households to manage risks and uncertainties, leading to improved welfare outcomes. The study’s findings highlight the importance of understanding the motivations behind migration, suggesting that policies designed to support migration can effectively promote economic development and reduce poverty.

Similarly, a 2022 study by NBER explored how encouraging rural-to-urban migration impacted well-being, particularly through subsidies for seasonal migration in Bangladesh. The findings aligned with David L.'s research, indicating that these subsidies enhanced financial security for vulnerable rural households. The study emphasized that rural-urban migration was a major factor contributing to urban poverty and overcrowding in cities like Dhaka, where poverty, natural disasters, and lack of security pushed many poor rural individuals, especially youth, to migrate. This highlights

the complex interaction of pull and push factors that drive migration patterns and their consequences on urban development and poverty.

Sennuga et al. (2023) investigated the impact of youth rural-urban migration on social and economic activities in Nigeria. The study, which focused on the migration of youth, revealed how migration affected employment opportunities, cost of living, and the informal sector. The researchers also explored the effects on social services, such as education, health, poverty, and housing. Data was collected through questionnaires administered to 210 rural-urban migrants, and descriptive analysis was used to conclude. The study found that better education opportunities were a primary motivator for youth migration, which, in turn, led to various social and economic challenges. These included increased pressure on urban infrastructure and services, as well as heightened competition in the job market.

In Thailand, Jitsuchon (2024) studied the effects of rural-urban migration on economic development between 2008 and 2010, using data from 2,000 rural households in three provinces and a survey of 650 migrants in Greater Bangkok. The study revealed that while migration contributed to income growth in rural households, it had less impact on reducing inequality and relative poverty in rural areas. Furthermore, the study highlighted the need for better social protection for urban migrants, who often faced economic insecurity in the city. These findings suggest that while migration can enhance household income, it may not necessarily lead to more equitable development outcomes unless accompanied by policies addressing migrants' social and economic vulnerabilities.

3. Theoretical Framework

Brain Drain Model

The Brain Drain Model is a theoretical framework that examines the emigration of highly skilled and educated individuals from one country to another. This movement often results in a substantial loss of human capital in the country of origin, ultimately diminishing its productive capacity, innovative potential, and long-term economic development. Brain drain is particularly concerning for developing countries, where the outflow of professionals such as doctors, engineers, academics, and IT experts can severely impact national progress. The departure of these individuals weakens key sectors, disrupts public service delivery, and reduces the country's ability to compete in a globalized economy.

Several consequences stem from brain drain. First, it leads to a direct loss of the investments made in education and training. Governments and families invest significant resources in developing skilled professionals who then contribute their expertise abroad. Second, the economic growth of the home country slows as the skilled labor force shrinks, resulting in decreased productivity and limited innovation. Third, the reduced availability of qualified professionals undermines the quality of public services, particularly in healthcare and education. Additionally, brain drain can have social and cultural implications, weakening community structures and contributing to a sense of disconnection between the state and its citizens. To address this challenge, governments and institutions must create favorable conditions to retain and attract talent. Key strategies include improving job opportunities and working conditions, offering competitive salaries and career advancement paths, investing in research and higher education, and fostering a business environment that supports innovation and entrepreneurship. Furthermore, countries should actively engage with their diaspora, encouraging knowledge exchange, investment, and return migration.

The causes of brain drain are multifaceted. A lack of employment opportunities, poor working environments, political instability, and restricted career progression often push individuals to seek better prospects abroad. In recent decades, developed countries have intensified efforts to attract international talent, particularly through education and work visa programs. Since 1960, the share of foreign-born populations in wealthy nations has tripled, reflecting the growing movement of skilled workers from the Global South to the Global North. The effects of this phenomenon are wide-ranging. Brain drain alters the skill structure of the workforce, often leading to shortages in vital sectors. It also has fiscal implications, as the departure of high-income professionals reduces tax

revenues, placing strain on public budgets. In contrast, the receiving regions may experience brain gain but also face challenges such as urban overcrowding, rising living costs, and infrastructure pressures. Influxes of migrants can drive up housing prices, increase demand for services, and strain transport and healthcare systems.

Despite its negative aspects, brain drain can also have positive outcomes. Migrants often send remittances back home, contributing to household incomes and national reserves. In some cases, professionals return with new skills, ideas, and investments. Therefore, the overall impact of brain drain depends largely on the country's policy responses and ability to transform potential losses into opportunities. Through targeted interventions, developing countries can work toward mitigating the adverse effects while leveraging the benefits of global mobility.

4. DATA AND METHODOLOGY

In this study, we aim to explore the relationship between migration and economic growth in Pakistan using three distinct models. The central variable in all models is GDP growth, which serves as a proxy for economic growth, representing the increase in an economy's productive capacity, income, output, and employment. Economic growth is often associated with improved living standards, and this research seeks to understand how migration affects economic growth, considering both positive and negative outcomes. On the positive side, migration can address labor shortages in certain sectors, while on the negative side, it can contribute to brain drain, which may deplete the country's human capital, thus hindering long-term growth prospects.

The study divides independent variables into three categories. The first model examines rural migration as an independent variable, the second model focuses on urban migration, and the third model analyzes the relationship between overall migration and economic growth. Each model controls several factors, including the trade percentage of GDP (TRD), personal remittance percentage of GDP (PR), poverty (POV), foreign direct investment (FDI), political stability (PS), and control of corruption (COC). These control variables are crucial for understanding the intricate relationship between migration and economic growth, as they help isolate the specific effects of migration from other influencing factors.

The rural population, characterized by low population density and economies based on agriculture or natural resources, typically lacks access to essential services like education and healthcare. In contrast, the urban population, concentrated in cities where economies are industrialized or service-based, generally has better access to healthcare, education, and infrastructure. Migration, whether voluntary or forced, often occurs in search of better economic, social, or environmental conditions. It is driven by various factors such as job opportunities, conflict, or natural disasters.

Several other independent variables are considered in the study. Personal remittances, which are financial transfers sent by migrants to their families or communities back home, play a vital role in supporting living expenses, education, and healthcare for recipients. The study also addresses poverty, defined by the United Nations as the lack of basic choices and opportunities, and by the World Bank as living on less than $1.90 per day. Poverty can drive migration, as individuals seek better opportunities in urban areas or abroad. Foreign direct investment (FDI) is another critical variable in the analysis. FDI, which involves investments by foreign entities in a country, is essential for economic integration and the flow of capital, technology, and resources, all of which can impact a country's economic growth.

Political stability and control of corruption are also important factors in this study. Political stability reflects the strength and functionality of a country's political system, including its ability to manage internal conflicts and leadership transitions. A stable political environment encourages investment and migration, whereas instability may have the opposite effect. Control of corruption refers to the mechanisms in place to ensure transparency and fairness in governmental processes,

reducing the economic distortion caused by corrupt practices. In countries with higher corruption, economic growth may be stifled, and migration patterns may be impacted.

The data for this study is sourced from the World Development Indicators database, a comprehensive and reliable resource that covers 264 countries and 1443 economic indicators. This dataset spans from 2000 to 2023, providing valuable insights into the trends and dynamics of migration and economic growth in Pakistan over time. By analyzing this data, the study aims to offer a clear understanding of how migration influences economic growth in Pakistan, shedding light on the broader implications of migration policies and economic strategies.

Model Specification

To check the relationship between dependent and independent variables, which are economic growth and migration. We must specify the following model with the help of a statistical equation,

Economic growth=f (net-migration, personal remittance, poverty, foreign direct investment, political stability, control of corruption)

$$GDPG = b_0 + b_1 Migrationt + b_2 Tradet + b_3\ personalremit\ \tan\ cet + b_4\ povertyt + b_5 FDIt + b_6\ politicalstabilityt + b_7 controlofcurrotiont + ei$$

Descriptive Analysis

Descriptive analysis involves summarizing the data by calculating key statistics such as the mean, median, maximum, and minimum values for each variable. Table 5.10 presents the descriptive analysis for the selected variables.

Table 1: Descriptive Analysis

Variable	Mean	Std. Dev.	Min	Max
gdpg	4.027	2.203	-1.274	7.831
nmi	-841,742.83	833,964.29	-2,290,411	576,349
trd	28.492	3.682	21.46	34.349
pr	5.131	2.159	1.081	8.984
pov	2.389	2.033	0.6	6.8
fdini	0.948	0.766	0.31	3.036
ps	-2.156	0.463	-2.81	-1.105
coc	-0.924	0.118	-1.179	-0.802

Table 1 presents the descriptive statistics for the variables used in the model, providing key insights into the data's general trends and variability. The mean value for GDP growth (gdpg) is 4.027, indicating moderate annual economic growth on average in Pakistan. This reflects the overall expansion of the economy, including output, income, and employment. Migration (nmi) has a mean of -841,742.83, suggesting a net negative migration, where more individuals might be leaving the country than entering. This figure may represent a decline in migration activity, but further context on how migration is measured would be necessary for a clearer understanding.

The trade percentage of GDP (trd) has a mean of 28.492, indicating that trade constitutes nearly 28.5% of the country's GDP on average. The standard deviation of 3.682 shows variability around this mean, highlighting fluctuations in trade activity over time. Personal remittances (pr) have a mean of 5.131, suggesting that remittances make up about 5.13% of GDP, emphasizing their importance in supporting the economy, particularly for households with migrants. Poverty (pov) has a mean of 2.389, likely representing the percentage of the population living in poverty, although the exact measurement criteria need to be clarified.

The foreign direct investment index (fdini) has a mean of 0.948, reflecting a moderate level of foreign investment in the country. The political stability (ps) and control of corruption (coc) indices show mean values of -2.156 and -0.924, respectively, indicating challenges in both areas. Negative values in these indices suggest that political stability and governance structures may be suboptimal. Interestingly, the low standard deviation of the control of corruption variable (0.118)

indicates that the level of corruption control has been consistent, though still at a less-than-ideal level. These descriptive statistics offer an overview of the data, setting the stage for further analysis of how migration and other factors impact Pakistan's economic growth.

Correlation Matrix

The correlation matrix demonstrates the relationships between the variables. It shows how two or more variables are positively or negatively correlated. The correlation coefficient ranges from -1 to +1, where +1 indicates a perfect positive correlation, -1 represents a perfect negative correlation, and 0 suggests no correlation. Table 2 provides the correlation values between the variables.

Table 2: Correlation Matrix

	(1) gdpg	(2) nmi	(3) trd	(4) pr	(5) pov	(6) fdini	(7) ps	(8) coc
(1) gdpg	1.000							
(2) nmi	0.195	1.000						
(3) trd	-0.714	0.138	1.000					
(4) pr	-0.502	-0.889	0.073	1.000				
(5) pov	0.645	0.717	-0.285	-0.943	1.000			
(6) fdini	0.050	0.772	0.242	-0.663	0.415	1.000		
(7) ps	0.925	0.388	-0.691	-0.674	0.814	0.120	1.000	
(8) coc	-0.060	-0.326	-0.064	0.455	-0.588	0.218	-0.306	1.000

The correlation matrix presented in Table 2 highlights the relationships between the variables in the model, offering valuable insights into their interdependencies. For example, GDP growth (GDPG) shows a positive correlation with political stability (PS) and poverty (pov), implying that as political stability improves and poverty decreases, economic growth tends to rise. This suggests that a stable political environment and poverty reduction are beneficial for fostering economic growth in Pakistan.

However, the matrix also indicates a negative correlation between GDP growth and both trade (trd) and control of corruption (coc). This might seem counterintuitive, as one might expect higher trade levels and stronger anti-corruption measures to drive economic growth. The negative correlations, though, suggest that in this context, increases in trade or stronger corruption controls could potentially be associated with slower economic growth. This could be due to a variety of factors, such as trade imbalances, trade barriers, or the cost of implementing corruption control measures that may initially impede growth before yielding long-term benefits. The findings from the correlation matrix provide a nuanced view of how these variables interact and can guide further investigation into the dynamics of migration and economic growth in Pakistan.

GMM System

The Generalized Method of Moments (GMM) system is widely used for time series data, helping to assess the relationship between the dependent and independent variables by calculating coefficients. Table 3 shows the results of the GMM system.

Table 3: GMM System

Variables	Coefficient	Std. Error	T-statistic	Prob.
NMI	1.7208	3.5808	0.0047	0.096

TRD	0.1984	0.7034	0.2821	0.049
PR	1.3792	8.5280	0.1617	0.0897
POV	1.6352	8.8258	0.1852	0.8834
PS	5.2219	3.8159	1.3684	0.0753
COC	6.4373	15.9118	0.4045	0.7553
C	7.9566	57.0476	0.1394	0.9110
R-squared	0.9369			
Durbin-Watson	2.6075			
Adjusted R-squared	0.5588			

The results from the GMM system indicate a positive relationship between migration (measured by NMI), trade (TRD), personal remittances (PR), and political stability (PS) with economic growth in Pakistan. The coefficients suggest that migration, trade, and remittances all have a statistically significant and positive impact on GDP growth. For example, the coefficient for NMI is 1.7208, and the probability value of 0.096 indicates that migration has a significant relationship with economic growth. The model's R-squared value of 0.9369 shows that the model explains most of the variation in economic growth.

Granger Causality Test

The Granger Causality test is used to check the causal relationship between variables. The results, shown in Table 4, indicate the direction of causality between the variables.

Table 4: Granger Causality Test Results

null hypothesis	obs	f-statistic	prob.
TRD does not Granger-cause GDPG	22	2.66520	0.0984
GDPG does not Granger cause trd		2.07452	0.1563
pr does not Granger cause gdpg	22	0.33098	0.7227
gdpg does not granger cause pr		2.76627	0.0912
pov does not granger cause gdpg	22	1.05890	0.3686
gdpg does not granger cause pov		4.63671	0.0247
fdi_ni does not granger cause gdpg	20	1.86256	0.1895
gdpg does not granger cause fdi_ni		0.16076	0.8529
ps does not Granger cause gdpg	20	0.47359	0.6318
gdpg does not Granger cause ps		0.42061	0.6642
coc does not Granger cause gdpg	22	0.64632	0.5364
gdpg does not Granger cause coc		2.83199	0.0868
NMI does not Granger-cause GDPG	22	0.48398	0.6246

GDPG does not Granger cause nmi		0.80954	0.4615

CONCLUSION

This study provides a comprehensive analysis of the relationship between economic growth and rural-urban migration in Pakistan. It begins by establishing the historical context, defining the research problem, highlighting the significance of the issue, and outlining the study's objectives. A review of relevant literature is undertaken, focusing on empirical and theoretical contributions, particularly those examining the nexus between economic growth and migration within Pakistan. These insights inform the research design and methodological approach.

The theoretical foundation draws on established economic theories to explain the interaction between the key variables, underscoring that both migration and economic growth are critical macroeconomic indicators influencing national development. The study employs well-defined model specifications and clearly describes the variables, their roles, and interrelationships. Econometric techniques—including co-integration tests and the Generalized Method of Moments (GMM)—are utilized to examine the statistical relationships among the variables. Using time series data from 2000 to 2023, the study explores the link between Pakistan's economic growth and rural-to-urban migration, along with other key macroeconomic control variables. The results reveal a positive association between GDP growth and migration. Additionally, the findings confirm the absence of heteroscedasticity and show no evidence of a direct causal relationship between the variables. The analysis highlights that migration significantly contributes to foreign exchange earnings through remittances, which help stabilize the exchange rate and promote trade. These remittances also enhance household purchasing power, leading to increased consumption and aggregate demand, thereby supporting economic growth. Furthermore, migration may result in a "brain gain" for Pakistan, as returning migrants often bring back valuable skills, knowledge, and experience that contribute meaningfully to national development.

Policy Implications

For developing countries such as Pakistan, policymakers must cultivate an enabling environment that supports development across multiple sectors. This study underscores the critical role of migration, remittances, poverty reduction, political stability, control of corruption, and trade in driving sustained economic growth. Considering these findings, several policy recommendations are proposed: streamline procedures to facilitate overseas employment for migrant workers; invest in vocational training and skill development initiatives to improve workforce competitiveness; and strengthen legal frameworks to safeguard migrant workers' rights, ensuring fair wages, safe working conditions, and access to social protection. Ultimately, the government must prioritize policies that promote employment and economic development through effective migration governance and comprehensive support for migrant workers.

REFERENCES

Adaku, A. A. (2013). The effect of rural-urban migration on agricultural production in the northern region of Ghana. *International Journal of Agricultural Economics and Rural Development, 3*(1), 45-56.

Afzal, M. (2009). Population growth and economic development in Pakistan. *The Open Demography Journal, 2*(1), 1-10.

Amare, M., Hohfeld, L., Jitsuchon, S., & Waibel, H. (2012). Rural–urban migration and employment quality: A case study from Thailand. *Asian Development Review, 29*(1), 57-79.

Amrevurayire, E. O., & Ojeh, V. N. (2016). Consequences of rural-urban migration on the source region of Ughievwen clan, Delta State, Nigeria. *European Journal of Geography, 7*(3), 42-57.

Barrios, S., Bertinelli, L., & Strobl, E. (2006). Climatic change and rural–urban migration: The case of sub-Saharan Africa. *Journal of Urban Economics, 60*(3), 357-371.

Beauchemin, C. (2011). Rural–urban migration in West Africa: Towards a reversal? Migration trends and economic situation in Burkina Faso and Côte d'Ivoire. *Population, Space and Place, 17*(1), 47-72.

Dubey, A., Palmer-Jones, R., & Sen, K. (2006). Surplus labour, social structure, and rural to urban migration: Evidence from Indian data. *The European Journal of Development Research, 18*(6), 86-104.

Fareed, G., Faridi, M. Z., & Ayyoub, M. (2016). Socioeconomic determinants of rural-urban migration: Evidence from Punjab, Pakistan. *New Horizons, 10*(2), 89-105.

Gheitarani, N., El-Sayed, S., Cloutier, S., Budruk, M., Gibbons, L., & Khanian, M. (2020). Investigating the mechanism of place and community impact on quality of life of rural-urban migrants. *International Journal of Community Well-Being, 3*, 21-38.

Goldsmith, P. D., Gunjal, K., & Ndarishikanye, B. (2004). Rural–urban migration and agricultural productivity: The case of Senegal. *Agricultural Economics, 31*(1), 33-45.

Gosai, M. A., & Sulewski, L. (2014). Urban attraction: Bhutanese internal rural–urban migration. *Asian Geographer, 31*(1), 1-16.

Greiner, C., & Sakdapolrak, P. (2013). Rural–urban migration, agrarian change, and the environment in Kenya: A critical review of the literature. *Population and Environment, 34*, 524-553.

Hassan, A. U., Khan, N. P., Shah, M. T., Khan, N., & Khan, N. (2021). Effects of rural-urban migration on socio-economic conditions of migrant households in district Peshawar, Pakistan. *International Journal of Agricultural Extension, 9*(2), 261-268.

Ikramullah, G. S., & Rehman, N. U. (2011). Economic and social dimensions of rural-urban migration in Pakistan: Results from a recent survey in North West Pakistan. *International Journal of Business and Social Science, 2*(3), 59-67.

Ishtiaque, A., & Ullah, M. S. (2013). The influence of factors of migration on the migration status of rural-urban migrants in Dhaka, Bangladesh. *Human Geographies, 7*(2), 45-60.

J. C. Caldwell (2000) investigated between (1921 and 1960), Ghana's urban population multiplied nine-fold, while the country's total population tripled.*10*(2), 89-105

Jahan, M. (2012). Impact of rural urban migration on physical and social environment: The case of Dhaka city. *International Journal of Development and Sustainability, 1*(2)

Kanwal, H., Naveed, T. A., & Khan, M. (2015). Socio-economic determinants of rural-urban migration in Pakistan. *Pakistan Journal of Social Sciences, 39*(3), 979-993.

Kousar, R., Naz, F., Sadaf, T., Adil, S. A., Shahid, T. Z., & Mushtaq, S. (2016). The impact of migration on rural poverty: A case study of district Faisalabad, Pakistan. *International Journal of Economics and Financial Issues, 6*(3), 22-27.

Lu, Y. (2010). Rural-urban migration and health: Evidence from longitudinal data in Indonesia. *Social Science & Medicine, 70*(3), 412-419.

Lucas, R. E. (2007). Migration and economic development: The role of rural-urban migration. *Development Economics Review, 21*(2), 203-220.

Mendola, M. (2012). Rural out-migration and economic development at origin: A review of the evidence. *Journal of International Development, 24*(1), 102-122.

Naz, A., & Khan, F. N. (2021). Rural-urban migration in South Asia: A case study of Pakistan. *South Asian Studies, 36*(01), 49-64.

Omariba, D. W. R., & Boyle, M. H. (2010). Rural–urban migration and cross-national variation in infant mortality in less developed countries. *Population Research and Policy Review, 29*, 275-296.

Potts, D. (2013). Rural-urban and urban-rural migration flows as indicators of economic opportunity in Sub-Saharan Africa: What do the data tell us? *Journal of African Economic Development, 15*(4), 98-112.

Saracoglu, D. S., & Roe, T. L. (2004). Rural-urban migration and economic growth in developing countries. *Journal of Development Economics, 73*(1), 89-101.

Selod, H., & Shilpi, F. (2021). Rural-urban migration in developing countries: Lessons from the literature. *Regional Science and Urban Economics, 91*, 103713.

Sennuga, S. O., Bamidele, J., Omole, A. O., Osho-Lagunju, B., Iheonu, M. E., & Chinwuba, M. A. (2023). Exploring the economic and social impacts of rural-urban migration of youths in Abuja, Nigeria. *Global Research in Environment and Sustainability, 1*(7), 01-17.

Sharma, P. K., Singh, E. H., Jadhav, U. N., & Mahapatra, A. (2013). Rural-urban migration: A micro level analysis of rural Bhutanese population. *Asia Pacific Journal of Management & Entrepreneurship Research, 2*(3), 5-19.

Tacoli, C., McGranahan, G., & Satterthwaite, D. (2015). Urbanisation, rural-urban migration and urban poverty. *Human Settlements Group, International Institute for Environment and Development*.

Umair, M., & Naz, L. (2019). The index value trend analysis of rural-urban migration in Pakistan: The current and future perspectives. *Pakistan Journal of Social Sciences, 39*(3), 979-993.

Zhang, B., Brauw, A. D., & Rozelle, S. (2004). Rural industry and employment in China. *The Journal of Development Economics, 73*(2), 131-152.