IMPACT OF REMITTANCE ON ECONOMIC GROWTH OF NEPAL

A Dissertation submitted to the Office of the Dean, Faculty of Management in partial fulfillment of requirement for the Master's Degree

By

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "**IMPACT OF REMITTANCE ON ECONOMIC GROWTH OF NEPAL**". The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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REPORT OF RESEARCH COMMITTEE

Mrs. Divya Adhikari has defended research proposal entitled **"IMPACT OF REMITTANCE ON ECONOMIC GROWTH OF NEPAL"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Ramesh Kumar Paudel and submit the thesis for evaluation and viva voce examination.

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APPROVAL SHEET

We have examined the dissertation entitled "**IMPACT OF REMITTANCE ON ECONOMIC GROWTH OF NEPAL"** presented by Mrs. Divya Adhikari for the degree of Master of Business Studies. We hereby certify that the dissertation is acceptable for the award of degree.

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Divya Adhikari

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ABBREVIATIONS

ADF	:	Augmented Dickey Fuller
ANOVA	:	Analysis of Variances
CPF	:	Capital Formation
ECT	:	Error Correction Term
EXP	:	Exports
FDI	:	Foreign Direct Investment
FY	:	Financial Year
GDP	:	Real Gross Domestic Product
GNE	:	Gross National Expenditure
HC	:	Human Capital
N	:	Number of Responses
OLS	:	Ordinary Least Square
PPP	:	Purchasing Power Parity
RMT	:	Remittance Inflow
S.D.	:	Standard Deviation
SAARC	:	South Asian Association for Regional Cooperation
SEE	:	South-East European
SPSS	:	Statistical Package for Social Science
VIF	:	Variance Inflation Factor
WDI	:	World Development Indicators
WREM	:	Workers' Remittances

ABSTRACT

This study investigates the role of remittances in Nepal's economy, addressing their significant contribution to GDP alongside challenges and varying impacts on economic growth. The study aims to analyze the relationships between remittance inflows, capital formation, exports, and real GDP to provide insights into their collective impact on Nepal's economic development. The research employs both descriptive and causal-comparative research designs. The population encompasses global economic growth influenced by remittances, focusing specifically on Nepal from FY 2000/01 to 2022/23. Data sources include the Economic Survey Report of Nepal, elected through convenience sampling to ensure relevance and reliability. Statistical tools utilized for data analysis includes descriptive statistics, correlation analysis, and multivariate regression models. The research framework examines the impact of remittance inflows, capital formation, and exports as independent variables on Nepal's real GDP as the dependent variable. Findings indicate that remittance inflows and capital formation significantly and positively influence Nepal's GDP, highlighting their pivotal roles in economic growth. In contrast, exports exhibit a weaker impact on GDP. These results underscore the importance of policies that promote remittance inflows and investment in physical capital to sustain and accelerate economic development in Nepal. Implications suggest the need for Nepal to prioritize policies enhancing remittance inflows, promoting capital formation, and strengthening export competitiveness.

Keywords: Remittances, Capital formation, Exports, Economic growth, Gross domestic product

CHAPTER I
INTRODUCTION

1.1 Background of the Study

In recent times, remittances have become one of the largest sources of foreign capital inflows for developing economies, accounting for about 27 percent of the gross domestic product (GDP) (Aggarwal, Demirgüç-Kunt, & Peria, 2011). The significant increase in remittance volumes to developing nations can be attributed to improved immigration between developed and developing countries and technological advancements that have made international money transfers more affordable (Meyer & Shera, 2017). According to the World Bank, remittances are personal transfers or worker compensation. Researchers such as Anton (2010) have highlighted that remittances are a crucial source of savings and capital for investment in health, education, and entrepreneurship, thereby boosting productivity and employment, leading to economic growth. Additionally, remittances can enhance the growth of the financial sector, as some funds are converted and deposited in banks, making more capital available for lending to the private sector, thus facilitating economic growth (Aggarwal et al., 2011). Furthermore, remittances support the welfare of relatives left behind, contributing to poverty reduction in recipient countries (Adams & Page, 2005).

Despite the numerous benefits remittances bring to developing countries, their impact on economic growth remains ambiguous (Kumar et al., 2018). While some studies argue that remittances positively influence economic growth (Catrinescu et al., 2009), other research highlights a negative or neutral relationship between remittances and economic growth (Chami, Fullenkamp, & Jahjah, 2005). This ongoing debate reflects the complex nature of remittances' role in economic growth, which may vary based on different economic contexts and conditions. Meyer and Shera (2017) have shown that remittances significantly contribute to the GDP of developing countries, while Feeny, Iamsiraroj, and McGillivray (2014) emphasize that remittances can have varying impacts depending on the financial development of the receiving country.

A significant aspect of this debate is whether financial development plays a critical role in the remittance-led growth relationship (Abida & Sghaier, 2014). It is widely argued that a well-developed and functioning financial sector is fundamental for economic growth (Levine, 2005). A robust financial sector helps produce essential information for

investments, enhances efficient allocation and utilization of savings, monitors investments, improves trading and diversification, and manages risk (Demetriades & Hussein, 1996). Adenutsi (2011) emphasizes that the financial sector provides an avenue through which remittances can be mobilized into productive investments, transforming remittance flows into areas that generate economic value and enhance development.

Besides the arguments portrayed by empirical literature, several theories have also explained the link between remittances and economic growth. The pure self-interest theory and the pure altruism theory, developed by Lucas and Stark (1985) and Stark (1991), offer insights into this relationship. The self-interest theory posits that migrants save money at their destination and remit funds to their home country to invest in projects that foster economic growth. Conversely, the pure altruism theory suggests that remitters send money to their families due to emotional ties, which in turn increases the income and purchasing power of their family members, thereby contributing to economic growth. These theories help elucidate how remittances can serve as a catalyst for development by either fostering direct investments or enhancing household consumption and welfare, ultimately leading to broader economic growth.

Additionally, several studies have been conducted in Nepal to evaluate the contribution of remittances to economic growth using variables such as real GDP, real GNP, and real PCI as indicators of economic growth. These studies present two main strands of literature on the association between remittances and economic growth in Nepal. On one hand, research by Dahal (2014), Acharya (2017), and Gaudel (2006) highlights the positive contributions of remittances to economic growth. Their findings suggest that remittances boost financial development, human capital accumulation, and overall economic growth by increasing disposable income and facilitating investment in productive activities. Acharya (2017) specifically examined the impact of remittances on economic growth using GDP, GNP, and PCI as dependent variables, while including remittances, physical capital, and exports as independent variables in regression equations. His results indicated a positive contribution of remittances to economic growth. Similarly, Dahal (2014) found that remittances significantly influence consumption and import patterns, although their impact on investments was less pronounced. Gaudel (2006) concluded that remittance income and foreign grants are crucial determinants in raising Nepal's nominal GDP.

Conversely, other studies such as those by Uprety (2017) and Srivastava and Chaudhary (2007) report a negative association between remittance inflows and economic growth in

Nepal. Uprety (2017) and Srivastava & Chaudhary (2007) found that remittances have a detrimental effect on Nepal's GDP and per capita income, suggesting that the influx of remittances might discourage local labor participation or lead to dependency on external funds rather than fostering domestic economic activities. Upadhyay et al. (2022) also analyzed the contribution of remittances to economic growth, discovering that while remittances positively influence financial development and human capital accumulation, they negatively impact international trade. These differing conclusions could be attributed to variations in study periods and the selection of regressors, indicating that the impact of remittances on economic growth may not be uniformly positive or negative but contingent on contextual factors and methodological approaches (Singh & Pradhan, 2023).

Remittance has emerged as a crucial pillar of the Nepalese economy over the past two decades, playing a significant role in the country's economic development (Sah, 2021). Nepal, like many other developing nations in South Asia, relies heavily on remittance inflows, driven by the migration of a substantial portion of its working-age population to foreign countries for employment opportunities (Acharya & Poudel, 2021). While India historically served as the primary destination for Nepalese migrants, the landscape has shifted, with a growing share of remittances originating from countries such as Malaysia, Qatar, Saudi Arabia, and the UAE (MoF, 2022). In 2021 alone, Nepal received a staggering $8.2 billion in remittances, accounting for 22.61% of the country's GDP (World Bank, 2022a). Remarkably, since 2005, remittance inflows have surpassed both export earnings and foreign direct investment, underscoring their paramount importance to Nepal's external finances (World Bank, 2022b). Moreover, remittances have played a pivotal role in poverty reduction, contributing to a 27% decline in poverty rates and enhancing households' access to essential goods and services (Dhakal & Paudel, 2023).

This study assesses the impact of remittances on the Nepalese economy by examining remittance inflow, capital formation, exports, and their collective influence on Nepal's GDP. By analyzing these factors, the research aims to understand how remittances contribute to economic growth and development in Nepal. Through empirical analysis and econometric modeling, the study seeks to provide insights into the dynamics of remittance utilization and its implications for overall economic performance in Nepal.

1.2 Problem Statement

The intertwining of remittances and Nepal's economic trajectory presents a complex narrative marked by both challenges and opportunities. The backdrop of a tumultuous decade-long Maoist insurgency, which aimed to address systemic issues of corruption, injustice, and governance failures, significantly disrupted the country's socio-political landscape (Uprety, 2017). The insurgency led to widespread displacement, with thousands seeking refuge abroad, exacerbating Nepal's already dire economic situation (Gaudel, 2006). The protracted conflict resulted in significant loss of life and heightened levels of unemployment, prompting a surge in migration and remittance inflows as Nepalese sought economic stability and security elsewhere.

Remittances have emerged as a crucial lifeline for Nepal's economy, especially in the aftermath of the insurgency. Despite being a landlocked, mountainous nation with limited export capabilities, Nepal relies heavily on remittances as a vital source of foreign exchange (Dhakal & Paudel, 2023). In fact, remittance inflows now surpass earnings from exports and play a pivotal role in financing a substantial portion of the country's imports. The increasing volume and proportion of remittances relative to other external flows, such as official development assistance (ODA) and foreign direct investment (FDI), underscore their growing significance for Nepal's macroeconomic stability.

However, the overwhelming dependence on remittances poses significant challenges for Nepal's long-term economic growth and development. While remittances provide essential support to households and contribute to poverty reduction, they also raise concerns about the country's economic resilience and sustainability. The dwindling contributions from ODA and export earnings, coupled with negligible FDI inflows, highlight Nepal's vulnerability to external shocks and fluctuations in remittance flows. Moreover, the structural shifts in information technology and globalization have facilitated the mobility of Nepali workers worldwide, intensifying the reliance on remittances as the primary source of foreign income (Uprety, 2017).

In essence, the nexus between remittances and economic growth in Nepal presents a complex conundrum. While remittances offer immediate relief and support to households, their disproportionate dominance in the economy raises questions about the country's ability to diversify and strengthen other sectors (Gaudel, 2006). Addressing the challenges associated with remittance dependency requires a multifaceted approach that promotes

economic diversification, enhances domestic investment, and fosters sustainable development strategies. Ultimately, striking a balance between harnessing the benefits of remittances and mitigating their potential pitfalls is essential for Nepal's long-term economic prosperity and resilience. The research questions of this study are as follows.

1. What is the status of remittance inflow, capital formation, export, and real gross domestic product in Nepal?
2. Is there a relationship between remittance inflow, capital formation, export, and the real gross domestic product in Nepal?
3. What is the impact of remittance inflow, capital formation, and export on the real gross domestic product in Nepal?

1.3 Objectives of the Study

The general objectives of this study is to analyze the impact of remittance on economic growth of Nepal. The specific objective of this study are as follows:

1. To assess the status of remittance inflow, capital formation, export, and real gross domestic product in Nepal.
2. To analyze the relationship between remittance inflow, capital formation, export, and real gross domestic product in Nepal.
3. To analyze the impact of remittance inflow, capital formation, and export on the real gross domestic product in Nepal.

1.4 Rationale of the Study

This study holds several significant rationales, making it a crucial contribution to understanding the economic landscape of Nepal. By examining the status, relationship, and impact of remittance inflows on Nepal's economic growth, the study provides essential insights for government officials, policymakers, researchers, students, business persons, foreign investors, and academicians. The findings will not only inform effective policy formulation and economic strategies but also enhance academic understanding and practical applications in various fields related to economic development. As remittances form a substantial part of Nepal's GDP, this study is vital for optimizing their benefits to foster sustainable growth and development.

The government of Nepal has a crucial role in managing and optimizing the benefits of remittances, which constitute a significant portion of the country's GDP. Remittances can help stabilize the national economy by providing a steady flow of foreign exchange. Understanding the patterns and impacts of remittance inflows can guide government policies to enhance economic stability and growth. The insights from this study can inform the development of policies that ensure the efficient use of remittances in sectors such as infrastructure, education, and healthcare, thereby fostering sustainable economic development. Additionally, policies aimed at reducing the transaction costs associated with remittances can increase the net benefit to recipients and the broader economy.

For policymakers, the study provides empirical data that can be used to design and implement effective strategies to harness remittance flows for economic development. Policymakers can use the findings to create a regulatory framework that encourages formal remittance channels, thus increasing transparency and reducing the risk of money laundering and other illegal activities. Furthermore, understanding the relationship between remittances and economic growth allows policymakers to craft targeted interventions that can amplify the positive impacts of remittances, such as supporting entrepreneurship and small businesses through remittance-backed financing options.

Researchers can benefit from this study by gaining access to comprehensive data and analysis on the dynamics of remittance inflows and their economic impacts in Nepal. This study can serve as a foundation for further research on various aspects of remittances, including their socio-economic impacts, regional disparities in remittance utilization, and the long-term effects on economic development. By building on this study, researchers can explore new methodologies and theoretical frameworks that enhance the understanding of remittances in developing economies.

Students studying economics, finance, and development studies can use the findings of this study as a practical example of the real-world applications of economic theories and principles. The study provides insights into how international migration and remittances affect a developing economy like Nepal. This can enhance students' understanding of global economic interdependencies and the role of financial flows in economic development. Additionally, it can serve as a case study for coursework and research projects, providing a rich source of data and analysis for academic purposes.

For business persons, particularly those involved in sectors that receive significant remittance investments, this study offers valuable insights into market opportunities and economic trends. Understanding the impact of remittances on consumer spending and investment patterns can help businesses strategize and position themselves to benefit from increased economic activity driven by remittance inflows. Moreover, the study's findings on the utilization of remittances for entrepreneurial activities can encourage business persons to develop products and services that cater to the needs of remittance-receiving families.

Foreign investors can use the study to assess the economic stability and growth potential of Nepal, influenced by remittance inflows. The data on how remittances are channeled into various sectors of the economy can inform investment decisions and risk assessments. For academicians, the study provides a comprehensive analysis of remittance impacts, offering a valuable resource for teaching and further academic research. The study's methodology and findings can be incorporated into academic curricula, enhancing the understanding of international financial flows and their implications for economic development.

Overall, the study on the assessment of remittances in the Nepalese economy is crucial for various stakeholders, providing them with the knowledge and tools needed to harness the full potential of remittances for sustainable economic growth and development.

1.5 Limitations of the Study

The limitation of this study are as follows.

- The study relies exclusively on secondary data, which may limit the ability to capture nuanced insights and context-specific factors affecting remittance inflows and economic growth.
- The analysis is constrained to a 24-year period, from FY 2000 to FY 2023, which may not fully encompass long-term trends and fluctuations in remittance patterns and economic growth.
- The variables used in this study remittance inflow, capital formation, and export—may not capture all the relevant factors influencing GDP, potentially overlooking other significant variables.

- The study employs descriptive and causal comparative research designs, which might not adequately address complex causal relationships and interactions between remittances and economic growth.
- The focus on real remittances and real GDP specifically for Nepal may limit the generalizability of the findings to other countries or contexts with different economic structures and remittance dynamics.

CHAPTER II
LITERATURE REVIEW

The literature review of this study encompasses an in-depth examination of related concepts, terminologies, previous articles, journals, theories, and research gaps. By critically analyzing existing literature, it aims to provide a comprehensive understanding of the topic, highlighting key findings and insights from prior research. This review also identifies gaps in current knowledge, establishing a foundation for the present study to address these gaps and contribute to the ongoing discourse on the impact of remittance inflow, capital formation, and export on economic growth in Nepal.

2.1 Conceptual Review

The conceptual review includes several key concepts essential for understanding the study's framework, including remittance, capital formation, and economic growth. It explores the concept of real gross domestic product (GDP) and its role in measuring economic growth, providing a basis for analyzing economic performance. Additionally, the review examines the motivations behind why people remit, shedding light on the driving factors of remittance flows. Finally, it focuses on the relationship between remittance and economic growth in Nepal, highlighting how remittance inflows have influenced the Nepalese economy.

2.1.1 Concept of Remittances

Generally, remittances refer to the transfer of money by a foreign worker to their home country. This typically involves cash transfers and goods that migrant workers send back to their families in their country of origin (Zohry, 2011). This definition encapsulates the core concept of remittances as a form of financial support that migrants provide to their households, which plays a crucial role in the economy of the home country.

In addition to the basic transfer of funds, remittances are considered value-added money since migrants often have insights into the most effective ways to use these funds (Ratha & Mohapatra, 2009). Remittances are not limited to monetary transactions; they can include non-monetary items that migrants earn while working abroad and send back to their families (Tewolde, 2005). This broader perspective emphasizes that remittances can encompass a wide range of support, contributing to both the immediate financial needs and the long-term economic stability of the recipient households (Kaphle, 2018).

Moreover, remittances act as a form of insurance against economic adversity. Migrants typically send more money when their families face financial difficulties or experience hardships, making remittances a stable and often "countercyclical" source of foreign exchange earnings (Ratha & Mohapatra, 2009). According to the International Organization for Migration (IOM), remittances are broadly defined as “monetary transfers that a migrant makes to the country of origin.” In simpler terms, they are "personal, cash transfers from a migrant worker or immigrant to a relative in the country of origin" (IOM, 2010). This definition underscores the personal and direct nature of these financial flows, highlighting their importance in supporting families and communities.

Remittances can also be defined as “funds invested, deposited, or donated by the migrant to the country of origin.” This definition can be expanded to include in-kind personal transfers and donations (Tenaye, 2019). Remittances can take various forms, such as investments, pension and social security transfers from destination countries where migrants earn the right to pensions, intra-family transfers, personal deposits, and donations made by migrants either for long-term development contributions or crisis relief (Tenaye, 2019). This multifaceted nature of remittances indicates their diverse impact on the economic and social fabric of the home country, influencing sectors ranging from healthcare and education to infrastructure and community development.

The literature on remittances identifies three main theories to explain the flow of remittances. According to the International Monetary Fund (Tenaye, 2010), remittances can be classified into three categories: workers’ remittances, compensation of employees, and migrants’ transfers. Workers' remittances are defined as “current private transfers from migrant workers residing in the host country for more than a year, irrespective of their immigration status, to recipients in their country of origin.” Compensation of employees refers to the income of migrants who have lived in the host country for less than a year. Migrant transfers, on the other hand, are defined as the “net worth of migrants who are expected to remain in the host country for more than one year and is transferred from one country to another at the time of migration” (Tenaye, 2019). These classifications provide a structured way to analyze and understand the different components of remittances and their specific economic implications.

2.1.2 Real Gross Domestic Product and Economic Growth

Gross Domestic Product (GDP) is a crucial economic indicator that measures the monetary value of all final goods and services produced within a country's borders in a specific period, typically a quarter or a year (Callen, 2024). It is extensively referenced by governments, central banks, businesses, and media as a key barometer of economic health. When GDP is growing, it generally signifies that the economy is doing well, which benefits workers and businesses, provided inflation is under control. Conversely, stagnant or declining GDP often indicates economic distress (Cazachevici et al., 2020). GDP encompasses market production and some non-market production like government-provided education and defense services, distinguishing it from Gross National Product (GNP), which counts all output by a country's residents regardless of production location (Barajas et al., 2009).

Barajas et al. (2009) stated that the calculation of GDP can be approached in three ways: the production approach, the expenditure approach, and the income approach. The production approach sums up the value added at each production stage, subtracting the value of intermediate goods from total sales. For instance, the value of flour as an intermediate good is subtracted to calculate the value of bread as a final product. The expenditure approach aggregates the value of all purchases by final users, including household consumption, business investments, and government purchases. The income approach totals the incomes generated by production, such as employee compensation and company profits. National statistical agencies usually compile GDP data, adhering to international standards like the System of National Accounts, ensuring consistency across countries.

Real GDP is adjusted for inflation, providing a clearer picture of economic growth by distinguishing between increases in output volume and price rises. This adjustment uses a price deflator to convert nominal GDP to constant prices, enabling comparisons across different periods. Real GDP growth is a critical indicator of economic performance (Cazachevici et al., 2020). Strong growth typically correlates with increased employment and higher income levels, while a shrinking GDP, as seen during economic crises, often leads to job losses and economic hardship. GDP growth rates fluctuate in cycles, with periods of rapid growth (booms) and slowdowns or recessions. For instance, the United States experienced six recessions between 1950 and 2011, with the National Bureau of Economic Research determining the dates of these business cycles.

Comparing GDP between countries requires converting national GDP figures into a common currency, usually U.S. dollars, either through market exchange rates or purchasing power parity (PPP) rates (Cazachevici et al., 2020). PPP rates account for differences in price levels between countries, providing a more accurate comparison of economic output. In emerging and developing countries, PPP-adjusted GDP is typically higher than market exchange rate-adjusted GDP due to lower prices for non-traded goods and services (Callen, 2024). This method helps better reflect the actual living standards and economic productivity of different nations.

While GDP is a valuable measure of economic activity, it has limitations and does not fully capture a country's standard of living or overall well-being. GDP per capita can indicate average economic prosperity but ignores factors such as income distribution, environmental impacts, and quality of life aspects like health and education. To address these shortcomings, alternative measures like the United Nations' Human Development Index (HDI) include factors such as life expectancy and literacy rates (Cazachevici et al., 2020). Other indices, like the Genuine Progress Indicator and the Gross National Happiness Index, attempt to incorporate broader well-being metrics but face their own challenges and criticisms. Understanding these limitations is essential for a comprehensive assessment of economic health and societal progress (Barajas et al., 2009).

2.1.3 Why Do People Remit?

For many years, research has differentiated between studying the effects of remittance flows and understanding the actual motivations behind why people remit (Grigorian & Melkonyan, 2008). The volume of remittances is influenced by numerous factors related both to the migrant worker and the receiving family, such as the migrant's income, the method of transfer, the duration of stay in the host country, and other variables that can be categorized.

Remittance flows are closely tied to the migrant's ability to earn income abroad and their willingness to lower their utility by saving money to send back home. Under this perspective, we examine various scenarios that determine the level of remitting. The pioneering study that explored the reasons behind remitting was conducted by Lucas and Stark (1985). They categorized the reasons for remittances into two main types: altruistic and self-interest motivations.

One of the most natural motivations for remitting, the altruistic reason, involves sending money without imposing any conditions on its future use by the receiving households. The sender decreases their personal satisfaction (utility level) to increase the budget constraints of their family. Altruistic motivations are strongly linked to the desire to raise the recipients' average consumption levels for goods, health, or education, to cover significant expenses like weddings or funerals, or to respond to economic crises in the home country, functioning as a form of insurance (Chami et al., 2005).

This model has further implications for the amount of remittances in relation to the income earned by the migrant in the host country and the level of connection between the migrant and the family left behind. Lucas and Stark (1985) found evidence in Botswana that, all other variables being equal, a 1% increase in the migrant's salary abroad leads to an increase in remittances by 0.25% to 0.75%. Another finding on altruistic reasons indicated a positive correlation between the level of remittances and the presence of children in the home country. Immigrants in America with minors in the country of origin were more than 50% more likely to remit money home, whereas those without children back home were 25% less likely to remit (Lowell and de la Garza, 2000).

Conversely, self-interest motivations involve sending money with restrictions on its use by the recipient. Beyond the desire to inherit, most self-interest incentives to remit fall within the range of investing in physical or human capital in the country of origin. These investments are seen as a savings strategy for the migrant's future return to their homeland, serving as a form of personal maintenance and enhancing the migrant's prestige or influence (Lucas & Stark, 1985). There is a positive correlation between the flow of remittances and the desire to return, as evidenced by the Greek migratory community in Germany, which sent significantly higher remittances to Greece than Greek migrants from Canada or Australia, who were less likely to return to their home country. Conversely, migrants from the United States showed a 2% decrease in the likelihood to remit for every 1% increase in time spent in the US, a phenomenon known as the "permanent settlement syndrome" (Lowell and De La Garza, 2000). Other self-interest reasons include repaying old debts, likely related to the costs of migration or education, and managing investments in the home country, such as land, houses, or small businesses (Yang & Martinez, 2006).

A third motivation, often seen as a middle ground between altruistic and self-interest reasons, is countercyclical remittances. This involves an informal agreement between the sender and their family or home community. There is a strong correlation between highly-

educated migrants and the amount of remittances, indicating that these funds are often sent to offset previous costs incurred by the family to send a member abroad (Johnson & Whitelaw, 1974). Thus, migration can be viewed as a form of human capital investment rather than an individual decision, representing a broader family strategy for risk diversification with remittances as the primary goal (Taylor, 1999).

The growing interest in studying the motivations behind remittances over the past two decades has led to a better understanding of this complex subject. By identifying why migrants remit, researchers can better predict migration trends, the amounts families might receive, and whether these remittances are temporary or permanent. This, in turn, has spurred further research in this specific area. Individuals who remit for altruistic reasons tend to transfer more to households with greater needs or those living in poverty, leading to higher direct consumption. On the other hand, remittances motivated by self-interest are primarily directed towards investment and savings, highlighting the significant impact of the desire to return, which suggests that both migration and remittances are often temporary in nature (Medina & Cardona, 2010).

2.1.4 Remittance and Economic Growth

In developing countries, remittances are a crucial source of household income and are regarded as a stable financial resource (Sutradhar, 2020).South Asian migrant workers send substantial amounts of remittances each year, contributing significantly to economic development. These remittances enhance national savings, alleviate foreign exchange constraints, balance payments, and fund development budgets. To maximize the inflow of remittances, it is essential that these funds are transferred through formal channels such as bank drafts and money transfer companies, rather than informal methods like traders or friends without legal status (Abbas et al., 2017).

According to the neoclassical theory of migration, labor migrates from low-wage countries to higher-wage countries due to wage disparities. Remittances from immigrants can reduce poverty and spur economic development in their home countries. However, this migration can also hinder development if the home country loses highly educated and skilled workers, a phenomenon known as brain drain. The resulting loss of human capital can negatively impact economic growth, as predicted by neoclassical growth theory (Ahmad et al., 2016).

Remittances can also have adverse economic effects. They may lead to exchange rate appreciation, reducing a country's competitiveness in international trade. Additionally,

remittances can affect the labor supply decisions of recipient families. An increase in remittances can be seen as an increase in non-labor income, leading households to demand more leisure, considering leisure as a normal good. Research by Rodriguez and Tiongson (2001) indicates that remittances reduce the labor supply of receiving households in the Philippines, particularly affecting female family members. This can increase inequality between families that receive remittances and those that do not, making recipient families dependent on remittances and diverting them from productive activities (Sutradhar, 2020).

The relationship between remittances and economic growth varies depending on the motive behind the remittances. A negative relationship suggests altruistic motives, while a positive relationship indicates productive motives. Often, people use unofficial channels like Hundi and Hawala to reduce remittance costs, known as informal remittances. Political stability and better government regulations are positively correlated with higher remittance inflows. While formal channels like banks and money transfer operators are subject to government supervision and high transaction costs, informal systems like Hundi and Hawala offer lower costs and faster transfers (Abbas et al., 2017). Despite being informal, these systems are well-organized, leveraging networks of relationships such as friendship and kinship.

2.1.5 Remittance and Economic Growth in Nepal

Chaudhary (2022) stated that remittances in Nepal have significantly surged since the fiscal year 1999/00, exceeding 10 percent of GDP and establishing themselves as a crucial source of foreign exchange reserves. By fiscal year 2019/20, Nepal received NPR 875 billion in remittances, constituting 23.3 percent of its GDP, a figure that surpasses the combined amounts of gross exports, official development assistance, and foreign direct investment in the country. Despite this substantial inflow, studies by the Central Bureau of Statistics (CBS) and Nepal Rastra Bank (NRB) have shown that only about 3.5 percent of these remittances have been allocated to productive uses such as capital formation and business activities, while more than 70 percent have been used for daily consumption. Although spending on health and education can be viewed as long-term investments in human capital, policymakers in Nepal aspire for remittances to be utilized in ways that create job opportunities, enhance entrepreneurship, and boost national economic growth. This has led to ongoing debates among policymakers about how to better direct remittances towards productive uses (Chaudhary, 2022).

The direct economic benefits of remittances in recipient economies typically manifest through the consumption of domestic goods, domestic capital formation, or savings creation. However, these benefits are not guaranteed and depend on various factors such as the motives of migrant workers, the duration of migration, the level of financial development, institutional quality, and the investment climate in recipient economies. Some studies have found a positive impact of remittances on capital formation, suggesting that remittances can lead to increased investment in productive activities. However, other studies have denied such effects, indicating a complex and often contradictory relationship between remittances and economic growth (Chaudhary, 2022).

Chaudhary (2022) supported that remittances can discourage labor supply and work effort among recipients, resulting in delayed economic growth. Remittances can be used to purchase both financial and physical assets, thereby supporting productive activities such as farm investments and entrepreneurial ventures. This potential for remittances to support productive activities underscores the need for targeted policies to channel remittances into areas that can drive economic growth and development.

In Nepal, the debate over the productive use of remittances remains unresolved. While some evidence suggests that remittances have the potential to support investment and economic growth, other findings indicate that they primarily support consumption and may even discourage productive activities. As such, policymakers in Nepal face the challenge of creating an enabling environment that can maximize the developmental impact of remittances. This includes improving financial infrastructure, enhancing institutional quality, and fostering a conducive investment climate to ensure that remittances are effectively utilized for sustainable economic development (Chaudhary, 2022).

In 2017, Nepal received $6.92 billion in remittances, amounting to 27.8 percent of its GDP (Shrestha, 2022). This positioned Nepal among the top five countries globally in terms of remittances as a share of GDP. From 1981 to 2001, remittance flows remained stable, but they saw a sharp increase afterward. During the period from 1981 to 2017, Nepal's economy grew at an average annual rate of 4.4 percent, while remittances grew at a rate of 19 percent. These remittance inflows have played a crucial role in reducing poverty, improving human development (Shrestha, 2022), maintaining the balance of payments, and easing foreign exchange constraints in Nepal (Pant, 2006).

The substantial increase in remittances over this period coincided with significant socio-economic and political changes in Nepal. Up until 1985, Nepal adhered to state-led, inward-looking protectionist economic policies. However, due to a balance of payment crisis in the early 1980s, structural adjustment programs (SAPs) were implemented from 1985 onwards (Khanal et al., 2005). In 1990, a regime shift occurred, replacing the autocratic, party-less 'Panchayat System' with a democratic government. This shift, combined with the SAPs of the 1980s, steered Nepal towards economic liberalization and privatization, marking a significant policy departure. This period also saw an increase in work-related migration abroad, driven by the labor demand created by the 'Oil Boom' in the Gulf countries (Shrestha, 2008).

Following the restoration of democracy, Nepal experienced a decade-long civil conflict from 1996 to 2006, followed by transitional governance until the transition to federal governance in 2015. Throughout these turbulent times, especially post-2001, international labor migration and remittances became key features of Nepal's economy. Over the past three decades, the importance of remittances has grown, both in terms of the volume of remittances and the shift in migration destinations from India to the Gulf and other developed countries (Shrestha, 2022).

Despite the high inflow of remittances, economic growth in Nepal during this period remained low and inconsistent, characterized by low productivity, a predominantly subsistence agricultural economy, stagnation in the manufacturing sector, and limited capacity of the service sector (Basnett et al., 2014). The structural transformation of Nepal's economy from agriculture to the service sector occurred without significant expansion in manufacturing, thus lowering the overall growth potential of the country (Khan, 2020). During this time, labor migration and remittances have been vital lifelines for the economy (Shrestha, 2008; Sapkota, 2013). Despite the poor economic performance, there have been notable reductions in poverty and improvements in health and education indicators (Dahal, 2014; Wagle & Devkota, 2018).

While the welfare benefits of remittances in Nepal are well-documented, their role in economic growth remains inconclusive, and the number of studies on this topic is limited (Dahal, 2014). It is crucial to investigate whether remittances have any long-term effects on Nepal's economic growth and to identify the factors that either constrain or facilitate this growth. A systematic analysis of the impact of remittances on economic growth could provide valuable insights for formulating development policies. Such policies could help

moderate the effects of remittances on the economy. Some argue that Nepal may remain stuck in a low-growth equilibrium characterized by high migration and high remittances unless there are significant changes in current development practices (Shrestha, 2022). This underscores the need for a better understanding of the role of remittances in the economic growth process.

2.2 Theoretical Review

The theoretical review encompasses several theories that provide a foundation for understanding the dynamics of remittance and economic growth. It includes the Remittance Pluralist Theory, which offers a multifaceted perspective on remittance behaviors and effects. The Pure Altruism Theory explains remittance as a selfless act to support family members back home. The Pessimistic Structuralist Theory views remittances as potentially reinforcing economic dependency and underdevelopment. Economic Growth Theories provide a broad context for analyzing how remittances can influence a nation's economic progress. Finally, the Theory of the Implicit Family Contract examines remittance as a reciprocal arrangement within families, where migrants support their relatives in exchange for future benefits or support.

2.2.1 Remittance Pluralist Theory

The Remittance Pluralist Theory emerges from a critique of both the optimistic perspectives, such as developmentalist and neoclassical theories, and the pessimistic structuralist theory. The pluralist approach considers the earlier entrenched positions as too static and deterministic to deal with the complex realities of the international remittance-development nexus. Pluralists provide a more dynamic understanding of the migration and development relationship, connecting the causes and consequences of migration more explicitly. This approach takes into account all possible positive and negative development responses, offering a comprehensive view of remittances' impact on recipient countries.

According to Asmelash (2022), the determinants, uses, and effects of remittances on recipients are crucial in understanding their economic impact. The economic impact of remittances is likely to depend on the propensity of recipient households to consume or invest. When remittances are invested rather than consumed, they contribute to wealth generation and income growth for the family. This investment aspect highlights the potential for remittances to foster long-term economic stability and growth, rather than merely providing short-term financial relief. Abdullaev (2011) support this view, noting

that remittances can boost growth in countries with less developed financial systems by providing an alternative way to finance investment and reduce liquidity constraints.

Moreover, remittances play a significant role in human capital investment in recipient countries by relaxing resource constraints. This is particularly important in developing countries where access to education and healthcare can be limited. By providing additional resources, remittances can enhance the educational opportunities and health outcomes of recipients (Abdullaev, 2011). This investment in human capital can have long-term benefits, improving the overall productivity and economic potential of the recipient country. Furthermore, the infusion of remittances can help to diversify income sources and reduce the vulnerability of households to economic shocks.

International remittances also perform an important role in reducing inequality and poverty. Tenaye (2019) argue that remittances have negative, though relatively small, inequality-reducing effects. By providing additional income to poorer households, remittances can help to narrow the income gap between different socioeconomic groups. This reduction in inequality can lead to more inclusive economic growth and development. Additionally, remittances contribute to poverty alleviation by reducing the saving-consumption gap among recipients, increasing their ability to invest in productive activities and improve their standard of living.

Tenaye (2019) stated that the remittance pluralist theory offers a nuanced view of the impact of remittances on economic development. It recognizes the potential for remittances to foster growth by providing an alternative source of investment and alleviating resource constraints. It also highlights the role of remittances in reducing inequality and poverty by boosting household income and enabling greater access to education and healthcare. This pluralist perspective underscores the importance of considering both the positive and negative effects of remittances in order to develop policies that maximize their developmental impact. By addressing the complex realities of the international remittance-development nexus, this theory provides a more comprehensive understanding of how remittances can contribute to sustainable economic growth and development (Tenaye, 2019).

2.2.2 Pure Altruism theory

The theory of altruism centers around the concept of benefiting others under certain criteria that classify any behavior as "altruistic behavior" (Piliavin & Charng, 1990). To be

considered altruistic, a behavior must benefit another person, be performed voluntarily and intentionally, have the benefit as the primary goal, and occur without any expectation of external reward (Piliavin & Charng, 1990). This theoretical framework can be applied to migrants, the main focus of this paper, in the sense that migrants not only care about their own utility but also the utility of their household in their country of origin. According to this theory, remittances are a way for migrants to support their families back home, reflecting their emotional attachment and commitment (van Wey, 2004). This explains why remittances tend to increase with the migrant's income and decrease as the recipient's income rises.

In the Pure Altruism model, the migrant derives utility from the well-being of their household in the origin country. The utility of the household is dependent on its per capita consumption, which is directly influenced by the remittances received. The migrant's utility function, therefore, depends on their own consumption and the weighted utility of the rest of the household (Tenaye, 2018). This interdependence means that the migrant will choose the level of remittances that maximizes their overall utility, balancing their own needs with those of their family. Two testable hypotheses arise from this model: first, that remittances increase with the migrant's wage level, and second, that remittances decrease with the household's income level, implying that poorer households receive more remittances (Lucas & Stark, 1985).

Furthermore, the emotional bond between the migrant and their family in the origin country is crucial in driving remittance behavior. The act of sending money reflects the migrant's commitment to their family's welfare, acting as a financial safety net during economic hardships. This emotional connection can explain the countercyclical nature of remittances, where migrants send more money during times of economic downturn or crisis in their home country (Tenaye, 2018). The theory suggests that migrants view their remittances as a form of insurance for their families, which ensures that basic needs are met despite any economic challenges faced at home.

The impact of household size on the level of remittances is complex and can vary depending on several factors. It can be either positive or negative based on the presence of economies or diseconomies of scale in consumption. The rate at which the marginal utility of home consumption declines and whether the migrant has a preference for supporting a particular subset of the household also play significant roles (Lucas & Stark, 1985). For instance, a larger household might receive more remittances due to higher overall needs, but this might

be offset if the marginal benefit of additional consumption diminishes rapidly. Additionally, if a migrant prefers to support specific family members, such as parents or siblings, the distribution and amount of remittances might vary accordingly.

The Pure Altruism theory provides a robust framework for understanding remittance behavior among migrants. It highlights the importance of emotional bonds and familial commitment in driving financial support across borders. By considering the migrant's and recipient's income levels and the household size, this theory offers valuable insights into the dynamics of remittance flows (Tenaye, 2018). This understanding is crucial for policymakers and researchers aiming to harness remittances as a tool for economic development and poverty alleviation in migrant-sending countries.

2.2.3 Pessimistic Structuralist Theory

Economists like Mironenko and Sorokin (2022), Rubenstein (1977), and Binford (2013) argue that the net effect of migration and remittances is often detrimental, sustaining or even exacerbating poverty rather than fostering growth and development. This school of thought posits that migration intensifies the extraction of human capital, leading to the development of passive, nonproductive, and remittance-dependent societies in developing countries. The massive departure of the active segment of the population results in a critical labor shortage, depriving poor communities and countries of their most valuable workforce. This "brain drain" syndrome further hinders the prospects of economic development and growth, as the most skilled and educated individuals leave in search of better opportunities abroad (Rubenstein, 1977); Binford, 2013).

Tenaye (2019) also argues that migration does not usually involve the poorest individuals; rather, it is often those who are relatively better off and have the resources to migrate. As a result, remittances are more likely to increase inequality in labor-exporting communities. The families who receive remittances might experience an improved standard of living, but this can lead to a widening gap between them and those who do not have migrant family members. This increase in inequality can exacerbate existing social and economic divides, making it harder for the poorest to escape poverty.

Moreover, economists like Olusuyi et al. (2017), Siddique et al. (2012) argue that remittances tend to be spent on conspicuous consumption and nonproductive investments, such as the acquisition of real estate. These types of expenditures do not contribute to the productive capacity of the economy. Instead, they lead to a consumption-driven economy

where the focus is on immediate gratification rather than long-term development. This tendency to spend on nonproductive assets can weaken local economies and increase dependency on remittances, as there is little investment in enterprises that could generate sustainable economic growth.

The pessimistic structuralist perspective also highlights the inflationary pressures that can result from increased consumption and land purchases by migrants. According to Russell (1992), the influx of remittances can drive up prices for goods and services in local markets, contributing to inflation. Additionally, Rubenstein (1977) note that the increased demand for land can lead to soaring land prices, making it more difficult for local residents to afford property. This inflationary effect can erode the purchasing power of remittances and negatively impact the overall economy.

Furthermore, the reliance on remittances can create a dependency syndrome where communities become reliant on these financial inflows to meet their basic needs. This dependency can stifle local initiative and innovation, as individuals and communities may prefer to rely on remittances rather than engaging in productive economic activities. This phenomenon can perpetuate a cycle of dependency and underdevelopment, as remittances are used to support consumption rather than investment in productive ventures that could spur economic growth and development (Tenaye, 2019).

The pessimistic structuralist theory presents a critical view of the impact of migration and remittances on developing economies. It argues that remittances can reinforce poverty and inequality, lead to nonproductive investments, and create dependency and inflationary pressures. This perspective underscores the need for policies that channel remittances into productive investments and support sustainable economic development, rather than perpetuating a cycle of dependency and underdevelopment (Tenaye, 2019). By addressing these concerns, policymakers can help ensure that remittances contribute to meaningful and sustainable economic growth.

2.2.4 Economic Growth Theories

Economic growth has been widely studied as a dependent variable influenced by various economic factors, in contrast to remittances, which are often treated as an independent variable. One foundational theory is the canonical model by Solow (1956), which posits that an economy's unique and stable growth path is determined by labor force growth and technical progress, with the latter typically expanding at a steady, if unobserved, rate.

Another significant theory is Arrow's endogenous theory of knowledge change (Arrow, 1962), where economic growth primarily occurs through learning from experience. This theory suggests that new investments continuously create learning opportunities that stimulate growth. Arrow also highlights that economic development tends to favor already well-endowed regions, suggesting that technological and social advancement, particularly through education, are critical for a country's growth potential.

Neoclassical theory also addresses economic growth, focusing on the distribution of national products based on production factors like labor and capital, technical production conditions, and consumer preferences (Cesaratto, 1999). From the neoclassical perspective, economic growth is endogenous, influenced by the community's choices between saving (a source of capital) and current consumption. Solow's model, in particular, emphasizes the relationship between the savings rate and economic growth. It shows that market forces can adjust the "warranted rate" in an economy, with growth being a function of labor force expansion and technical progress. Solow concludes that an increase in the savings rate, derived from full employment income, positively impacts per capita income levels and the overall growth rate (Tenaye, 2019).

Other theories also explore economic growth as a dependent variable. For instance, Greenwood and Smith (1997) investigate the role of financial markets in fostering economic growth. They argue that financial markets facilitate the reallocation of savings into more productive projects and channel investment capital to its highest return uses, thus promoting economic growth. Their study concludes that financial markets significantly impact economic growth by providing external funding to enterprises and enabling efficient risk pooling.

Studies by Tenaye (2019) examine whether openness to trade leads to economic growth or vice versa, using the gravity model of bilateral trade data from 123 East Asian countries. They find that trade openness significantly impacts growth in countries like Hong Kong, Singapore, Korea, Malaysia, and Taiwan. Additionally, investment and education have a more substantial effect on growth than trade openness. These results suggest that multiple variables contribute to economic growth, viewing it as a consequence of the growth of several other factors.

Edison et al. (2002) also explore economic growth as a dependent variable in relation to international financial integration. Using various regression models and methodologies to

avoid biases, they test the impact of financial integration on growth. Their findings indicate that international financial integration does not significantly foster economic growth, even when controlling for other economic and financial variables. Additionally, Barro (2008) examines the relationship between income inequality, economic growth, and investment, using an extended neoclassical growth model. This study, like others, highlights the complex interplay between different economic factors and their cumulative effect on a country's growth trajectory.

2.2.5 The Theory of the Implicit Family Contract

The theory of the Implicit Family Contract posits a dynamic relationship between migrants and their families back home, characterized by elements of investment and repayment. According to this theory, families invest in the education and migration costs of their members, essentially providing them with a loan to facilitate their move abroad. This investment is made with the expectation of repayment once the migrant establishes themselves in the foreign country and begins earning income. Remittances serve as the primary mechanism for repayment, allowing migrants to fulfill their financial obligations to their families (Poirine, 1997).

Furthermore, the Implicit Family Contract theory suggests that this arrangement can be beneficial for the household as a whole. By strategically allocating certain members as migrants, households can potentially achieve Pareto-superior outcomes, enhancing overall welfare. Remittances play a crucial role in redistributing the gains obtained from migration, effectively serving as a form of income insurance (Hawthorne, 2007). Families act as both insurance providers, offering protection against income shocks through diversification, and as financial institutions, financing migration for select members. Borrowers, in turn, remit funds to repay their loans, thus perpetuating a cycle of investment and repayment that benefits the entire family unit (Poirine, 1997). This dual role of families as both insurers and lenders highlights the complex and multifaceted nature of the Implicit Family Contract theory in shaping migration dynamics and household economics.

2.3 Review of Literature in International Context

Siddique et al. (2012) conducted an empirical investigation into the causal relationship between remittances and economic growth across Bangladesh, India, and Sri Lanka using a Vector Autoregression (VAR) framework and Granger causality tests on 25 years of time series data. The study identified distinct patterns of causality among these countries: in

Bangladesh, it found evidence of a unidirectional causality where growth in remittances leads to economic growth. Conversely, in India, no significant causal relationship between remittance growth and economic growth was observed. In Sri Lanka, however, the study revealed a two-way directional causality, indicating that economic growth influences remittance growth, and vice versa. The presence of bidirectional causality in Sri Lanka underscores the complex interplay between remittances and economic growth dynamics in that context. The study's findings provide critical insights for policymakers aiming to optimize the benefits of remittances for economic development, emphasizing the need for tailored strategies based on the specific causal dynamics observed in each country.

Munir et al. (2016) conducted an extensive study investigating the impact of personal remittances on the economic growth of Pakistan from 1980 to 2014, with a focus on exploring the roles of Foreign Direct Investment (FDI) and Human Capital (HC) as control variables. Utilizing Augmented Dickey Fuller (ADF) and Philips-Peron (PP) unit root tests, the researchers confirmed that all variables were stationary at order one (I(1)), ensuring their suitability for further econometric analysis. Johansen Cointegration analysis established a long-run relationship among personal remittances, FDI, human capital, and economic growth in Pakistan, indicating their interconnectedness over time. The study revealed a positive long-run impact of personal remittances, FDI, and human capital on the country's economic growth trajectory. Notably, the Error Correction Term (ECT) at lag (-1) was found to be -0.04 and statistically significant, suggesting the presence of a short-term adjustment mechanism whereby deviations from equilibrium are corrected annually by 4%. Granger causality tests highlighted a unidirectional causality running from personal remittances to economic growth, underscoring the significant role of remittances as a driver of economic expansion in Pakistan. Diagnostic tests conducted on residuals affirmed their normal distribution, absence of autocorrelation, and stationarity at the level, validating the reliability of the model's findings. Based on these robust results, the study recommended that Pakistani policymakers focus on implementing supportive policies aimed at enhancing remittance inflows through efficient and cost-effective transfer mechanisms. Such strategic initiatives are crucial for harnessing the positive impact of personal remittances to stimulate sustainable economic growth and development in Pakistan.

Zafar et al. (2016) conducted a comprehensive study to examine the impact of remittances on the Gross Domestic Product (GDP) of Pakistan over a 30-year period from 1985 to 2014, using data sourced from the World Development Indicators. Employing the Ordinary Least

Square (OLS) method, the researchers analyzed the relationship between remittances, foreign aid, investments, and GDP. The findings revealed a significant and positive correlation between remittances and economic growth in Pakistan, underscoring remittances' substantial contribution to the country's economy. Specifically, the study highlighted that a 1% increase in remittances led to a noteworthy 6.68% growth in GDP, indicating a strong multiplier effect of remittance inflows on economic output. The high R-squared value of 0.9798 indicated that approximately 97% of the variation in Pakistan's GDP could be explained by the independent variables, emphasizing the robustness and explanatory power of the model. Furthermore, the study identified foreign aid and foreign direct investment (FDI) as additional significant contributors to economic growth, with coefficients of 36.40 and 5.29 respectively, both showing strong statistical significance. This comprehensive analysis not only reaffirmed the positive impact of remittances on economic development but also underscored the importance of integrating foreign contributions into Pakistan's economic policies to foster sustainable growth. The findings provide valuable insights for policymakers and stakeholders aiming to optimize the benefits of remittance inflows for long-term economic development strategies in Pakistan.

Meyer and Shera (2017) conducted an econometric study investigating the impact of remittances on economic growth across six high-remittance receiving countries: Albania, Bulgaria, Macedonia, Moldova, Romania, and Bosnia Herzegovina. Spanning from 1999 to 2013, the study utilized panel data to analyze the relationship, focusing on periods where remittances constituted a significant portion of GDP in these economies. Their findings highlighted a positive association between remittances and economic growth, indicating that as remittances increased relative to GDP, their impact on economic growth became more pronounced. The fixed effects model yielded an adjusted R-squared of 0.3385, suggesting that 33.85% of GDP growth variance is explained by the model, with remittances showing a statistically significant positive coefficient of 0.293 (p-value: 0.00). This implies that a unit increase in remittances correlates with a 0.293% increase in GDP. The study also identified other variables such as fixed capital formation, education, trade, and consumption as significant contributors to GDP growth, reinforcing the multifaceted nature of economic development factors. The suitability of the fixed effects model was confirmed by the Hausman test, affirming the robustness of the findings and underscoring the importance of remittances as a driver of economic growth in these countries.

Sarkar et al. (2018) conducted a comprehensive study focusing on the relationship between remittances and economic growth in Bangladesh, recognizing remittances as a crucial capital source for developing countries like Bangladesh. Using time series data spanning from 1995 to 2016 sourced from the World Bank database and Bangladesh Bank statistics, the researchers aimed to measure the correlation between remittances and gross domestic product (GDP), alongside other economic variables such as gross capital formation, domestic saving, and household final consumption expenditure. Their analysis, which included estimating Pearson's correlation coefficient, revealed consistently positive associations between remittances and these economic indicators in Bangladesh. Specifically, the study found strong correlations: remittances were highly correlated with GDP (correlation coefficient = 0.981, $p < 0.01$), gross capital formation (correlation coefficient = 0.952, $p < 0.01$), domestic saving (correlation coefficient = 0.926, $p < 0.01$), and household final consumption expenditure (correlation coefficient = 0.966, $p < 0.01$). Highlighting Bangladesh's robust average remittance growth rate of 10.85% during the observed period, surpassing the country's average GDP growth rate, the study underscored the pivotal role of remittances in driving economic activities and household consumption. Despite acknowledging fluctuations in remittance flows in recent years, the study emphasized the necessity for Bangladesh to implement strategic initiatives aimed at stabilizing and potentially increasing remittance inflows. Such initiatives, according to the study, are crucial for sustaining and enhancing socio-economic development, thereby ensuring long-term economic stability and growth in Bangladesh.

Shah and Majid (2018) investigated the impact of remittances on Pakistan's economic growth using time series data from 1973 to 2015. Employing the Augmented Dickey Fuller test, they confirmed stationarity of all variables at the first difference, indicating integration of order one (I(1)). Diagnostic tests for autocorrelation, heteroskedasticity, and normality showed no issues. The Johansen Cointegration test suggested a significant long-term relationship among variables. Ordinary Least Square (OLS) estimation revealed positive and significant coefficients for household consumption, capital investment, government spending, net exports, per capita income, and remittances, indicating strong relationships with real GDP (RGDP). Vector Error Correction Model (VECM) results confirmed a long-run relationship between RGDP and these variables. Specifically, a one percent increase in remittances corresponded to a 0.55 percent increase in RGDP, highlighting the significant positive impact of remittances on economic growth. These findings emphasize the

importance of policy strategies that prioritize productive investment to maximize the benefits of remittances for sustainable economic development in Pakistan.

Ali et al. (2019) investigated the impact of remittances on economic growth across South Asian countries from 1981 to 2018, utilizing panel data and employing panel unit root tests along with the panel ARDL technique. Their findings revealed a consistently positive effect of remittances on economic growth in both the short and long run throughout the region. The study also included controlled variables such as Official Development Assistance (ODA), Export Earnings (EXP), and Foreign Direct Investment (FDI), which showed no significant impact on growth in the short run but had positive effects in the long run. Notably, variations were observed in the short-term effects of remittances on growth among individual countries, suggesting differential contributions to economic growth. The study recommended that policymakers tailor their strategies based on these variations to effectively harness the potential benefits of remittances for sustainable development in South Asia. The detailed econometric results highlighted a coefficient of 0.392 (Std. Error = 0.061, t-statistic = 6.426, Prob.* = 0.000) for remittances, indicating their significant positive impact on economic growth. This nuanced understanding underscores the importance of country-specific considerations in policy formulation to optimize the developmental impact of remittance inflows across the region.

Sutradhar (2020) conducted a comprehensive examination of the impact of workers' remittances on economic growth across four South Asian emerging countries-Bangladesh, India, Pakistan, and Sri Lanka-using balanced panel data from 1977 to 2016. Employing a range of econometric techniques including Pooled OLS, fixed effects, random effects, and dummy variable interaction models, the study revealed contrasting findings among the countries. Specifically, remittances were found to have a negative impact on GDP per capita growth in Bangladesh, Pakistan, and Sri Lanka (t-statistics: -0.033, -0.033, -0.033 respectively, all p-values < 0.05), while they exerted a positive effect in India (t-statistics: 0.033, p-value < 0.05). The F-test confirmed a joint significant and negative relationship between remittances and economic growth across all four countries (p-value < 0.05). The study underscored the nuanced nature of the remittances-economic growth relationship in South Asia, emphasizing the importance of context-specific analyses and policy considerations. By utilizing a balanced panel dataset and employing rigorous econometric methodologies, the research enhanced the robustness of its findings, thereby strengthening the credibility of its results. This approach allowed for broader generalizations about the

effects of remittances on economic growth in similar developing country contexts within the region, offering valuable insights for policymakers aiming to optimize the impact of remittance inflows on economic development.

Karim and Tiasha (2020) conducted a reassessment of the relationship between remittances and economic growth in Bangladesh, using data from 1981 to 2018 and employing Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM) methods. The study found a negative and significant association between remittances and economic growth in the long run (-0.74934), contrasting with a positive short-run effect (0.43504). Granger causality tests using the Vector Error Correction Model (VECM) indicated a unidirectional causality from remittances to economic growth. These findings highlight the nuanced nature of the remittances-economic growth relationship in Bangladesh, revealing both short-term stimulative effects and long-term adjustments towards equilibrium. This study contributes valuable insights into how remittances influence economic dynamics, offering policymakers crucial information to enhance the effectiveness of remittance policies in driving sustainable economic development.

Orok et al. (2020) investigated the impact of diaspora remittances on economic growth in Nigeria using an ex-post facto research design. Employing Ordinary Least Square (OLS) multiple regression analysis, they assessed various macroeconomic indicators and found a significant positive relationship between total remittances and Nigeria's gross domestic product (GDP), as indicated by the regression coefficient for total remittances (LTREM) of 0.375096. However, they observed that workers' remittances specifically (LWREM) had an insignificant effect on GDP, with a coefficient of 1.106790. The intercept coefficient was 0.938299, and the model's R-squared value was 0.976942, indicating a high level of explanatory power. The F-statistic of 444.8739 confirmed the overall significance of the regression model. Summarized t-test results showed significant t-values for both total remittances (TREM) and workers' remittances (WREM), with t-cal values of 7.58 and 7.48, respectively, and p-values of 0.0000. To enhance remittance impact on economic growth, the study recommended implementing a robust regulatory framework for remittance distribution and creating a conducive environment to attract international remittances. They suggested establishing migrant offices within governmental ministries to facilitate streamlined remittance transactions. Overall, Orok et al.'s research provides valuable insights and policy recommendations aimed at optimizing the contribution of diaspora remittances to Nigeria's economic development.

Cazachevici et al. (2020) conducted a meta-analysis to investigate the relationship between remittances and economic growth across low- and middle-income countries. Their study synthesized data from 95 studies encompassing 538 estimates to assess the prevalence and direction of the reported effects. The findings revealed that approximately 40% of the studies reported a positive effect of remittances on economic growth, while another 40% found no significant effect, and 20% reported a negative effect. Notably, the analysis identified a publication bias favoring studies reporting positive effects, which was mitigated using advanced statistical techniques. Despite correcting for this bias, the study still found that the mean effect of remittances on economic growth remained positive but economically modest. Regional analysis indicated that remittances tended to enhance growth in Asia but did not show a significant impact in Africa. Moreover, the study underscored the importance of controlling for alternative sources of external finance, such as foreign aid and foreign direct investment, as their omission could lead to inaccuracies in measuring the effect of remittances. The meta-analysis also highlighted that studies failing to address endogeneity issues and those using time-series designs tended to overestimate the impact of remittances on growth. These findings underscored the complexity of the remittances-growth relationship and emphasized the necessity of employing rigorous research methodologies to obtain accurate estimates. Overall, the study provided valuable insights into the nuanced dynamics between remittances and economic growth, offering essential guidance for future research and policy-making endeavors in this area.

Saha (2021) conducted a comprehensive investigation into the impact of remittances on the economic growth of Bangladesh, utilizing empirical data spanning from 1995 to 2016. Employing various time series techniques such as the Johansen-Juseliues test and Granger causality test, the study aimed to elucidate the relationship between remittances and economic growth dynamics. The findings highlighted that overseas remittances exert a significant long-term impact on economic growth, particularly influencing per capita GDP. Additionally, the analysis identified a unidirectional causality where remittances stimulate domestic investment, underscoring their role in fostering economic development within the country. Furthermore, the econometric analysis revealed that remittances had a statistically insignificant and negative impact on GDP (t-statistics: 0.361419, p-value: 0.7211). In contrast, investment and consumption exhibited statistically significant positive effects on GDP, with t-statistics for investment at 6.651637 and consumption at 7.452723, both with p-values of 0.0000. Government expenditure showed a statistically insignificant yet

positive relationship with GDP (t-statistics: 0.436442, p-value: 0.6666). The high R-squared value of 85.9993% indicated that a substantial portion of GDP variation was explained by remittance inflows, investment, consumption, and government expenditure. Additionally, diagnostics confirmed that residuals were homoskedastic, free from serial correlation, and normally distributed, affirming the reliability of the econometric model used in the study.

Bucevska (2022) conducted a study focused on assessing the impact of remittances on economic growth in South-East European (SEE) countries, which are characterized by significant emigration and increasing remittance inflows that surpass foreign direct investment (FDI) flows. The research utilized quarterly balanced panel data spanning from 2008 to 2020 across six SEE countries: Albania, Bosnia and Herzegovina, Croatia, Montenegro, the Republic of North Macedonia, and Serbia (SEE6). Employing panel regression with a fixed-effects model, the study aimed to capture and analyze potential cross-sectional variations within the dataset. The findings underscored that remittances exert a statistically significant positive impact on economic growth within the SEE6 panel, with a coefficient of 0.037 and a p-value of 0.021. This empirical evidence highlights the pivotal role of remittances as a driver of economic development in South-East European countries. Additionally, the study identified significant relationships between economic growth and other variables such as FDI, gross capital formation (GCF), tourism receipts (TROPEN), and inflation (INFL). The overall R-squared of 0.161 indicates that the model explains a substantial portion of the variation in economic growth across these countries. Furthermore, diagnostic tests including the Hausman specification test and Wooldridge test for autocorrelation affirmed the robustness of the model, with no issues of multicollinearity observed based on variance inflation factors. These findings provide valuable insights for policymakers and stakeholders, suggesting that policies aimed at directing remittances towards productive investments could effectively enhance economic growth and promote convergence with the European Union (EU) standards in the SEE region.

Safdar et al. (2022) conducted a comprehensive investigation into the interrelationship between remittances and economic growth across SAARC countries, with a specific emphasis on Pakistan. Utilizing panel data from 2002 to 2019 sourced from the World Development Indicators (WDI), the study employed rigorous statistical methods including unit root tests and Panel Auto Regressive Distributive Lag (PARDL) modeling to analyze the dynamics among variables such as gross domestic product (GDP), remittances (REM),

gross fixed capital formation (GFCF), population (Pop), gross national expenditure (GNE), and imports (Imp). The findings revealed significant correlations: remittances, GFCF, and GNE positively influenced GDP, indicating their substantial roles in fostering economic growth. Specifically, remittances exhibited a positive correlation coefficient of 0.036289 with GDP, underscoring their significant impact on economic development. In contrast, population showed a negative correlation coefficient of 0.806830 with GDP, suggesting that higher population levels could potentially hinder economic growth. Moreover, GFCF demonstrated a positive correlation coefficient of 0.206044, highlighting its role in enhancing GDP through increased investment in fixed capital. Similarly, GNE showed a robust positive correlation coefficient of 0.807540, indicating that higher national expenditure contributes positively to economic growth. Conversely, imports displayed a negative correlation coefficient of 0.137761 with GDP, implying that increased imports might have a slight adverse effect on economic growth. These findings provide valuable insights into the complex relationships among remittances and various economic indicators within the SAARC region, offering policymakers strategic guidance on leveraging remittance inflows for sustainable economic development initiatives in Pakistan and similar developing economies.

Mehmood et al. (2023) conducted a comprehensive analysis using World Development Indicators (WDI) data to explore the impact of foreign remittances on Pakistan's economic growth. Spanning from 1980 to 2019, their study employed rigorous econometric techniques including the Augmented Dickey-Fuller (ADF) unit root test and Autoregressive Distributed Lag (ARDL) bounds test. The findings revealed a significant positive relationship between foreign workers' remittances and economic growth in Pakistan. Descriptive statistics highlighted mean values for key variables such as LGDP (25.46097), LEXPORT (23.21786), LREM (22.06953), LCPI (1.980033), and LK (23.75945). Correlation analysis indicated strong positive correlations between LGDP and LEXPORT (0.970797), and LGDP and LK (0.980974), while LGDP and LCPI showed a negative correlation (0.074911). Unit root tests confirmed the stationarity of LGDP at the level and other variables at first differences, validating the use of ARDL bounds test. The ARDL bounds F-test indicated cointegration among GDP, exports, inflation, gross fixed capital, and remittances. In the long run, exports (0.499619) and remittances (0.163377) exhibited positive and significant impacts on GDP, while inflation (CPI) (-0.346818) had a negative and significant impact. Other variables such as gross fixed capital (K) showed

negligible impact on GDP in the long run. The study's insights emphasize the importance of informed policymaking to harness the potential of remittances for sustainable economic development and inclusive growth strategies in the country.

Chigombe et al. (2024) found significant and positive associations between diaspora remittances and economic growth in Zimbabwe using yearly time series data from 1990 to 2022. Their study, employing the Autoregressive Distributed Lags (ARDL) technique, revealed that increasing diaspora remittances by 1% led to a corresponding long-run increase of 0.1061% in economic growth. This suggests that remittances play a crucial role as a potential driver of economic expansion in the country. The study also examined other factors alongside remittances. It found that inflation did not show a statistically significant correlation with economic growth. However, variables such as Foreign Direct Investment (FDI), exports, and interest rates demonstrated positive associations with economic growth, all statistically significant at the 5% level. Specifically, a 1% increase in FDI was associated with a 0.7018% increase in economic growth, exports with a 0.1610% increase, and interest rates with a -1.1565% decrease in economic growth. These findings underscore the importance of diaspora remittances as a reliable source of economic growth in Zimbabwe. The study's empirical evidence supports the implementation of policy measures aimed at enhancing remittance inflows through reduced transaction costs and financial literacy programs. Such initiatives could foster sustained economic growth by leveraging the positive impact of remittances alongside other conducive economic factors.

Khan (2024) conducted an empirical study analyzing the impact of remittance inflows on sustained economic growth in India using a time series dataset from 1976 to 2021. Employing a nonlinear autoregressive distributed lag model (NARDL), the study assessed the effects of remittance inflows, broad money, and service sector performance on India's economic growth. The findings revealed that positive shocks in remittance inflows significantly boost economic growth in both the short and long run (coefficient: 4.0579, p-value: 0.0354), whereas negative shocks have no significant effect. Additionally, service sector performance positively influences economic growth (coefficient: 0.9003, p-value: 0.0000), while broad money is statistically insignificant in the long term. These insights suggest that policymakers in India can formulate remittance-friendly policies to promote economic growth. Organizations like NITI Aayog can also leverage these findings to devise strategies for achieving sustainable development goals (SDGs). The study contributes

valuable empirical evidence to the literature on remittances and economic growth in India, providing a basis for informed policy decisions.

2.4 Review of Literature in Nepalese Context

Acharya (2017) conducted a comprehensive analysis spanning 41 years from 1974/75 to 2014/15 to examine the impact of remittances on Nepal's economic indicators using national annual time series data. Employing multiple regression methods, the study established significant positive correlations between remittances and key economic metrics, including Gross Domestic Product (GDP), Gross National Product (GNP), and Per Capita Income (PCI). Specifically, remittances exhibited notable positive relationships with GDP (ß = 0.014, t = 2.588, p < 0.01), GNP (ß = 0.023, t = 2.375, p < 0.01), and PCI (ß = 0.007, t = 2.846, p < 0.01). Concurrently, capital formation also demonstrated robust positive associations with these economic indicators, showing significant correlations with GDP (ß = 0.431, t = 4.184, p < 0.01), GNP (ß = 0.428, t = 4.111, p < 0.01), and PCI (ß = 0.417, t = 3.285, p < 0.01). In contrast, the study did not find a significant relationship between exports and GDP, GNP, or PCI. These findings underscore the pivotal role of remittances and capital formation in driving economic growth and improving income levels in Nepal over the studied period. The study's emphasis on channeling remittance inflows into productive investments aligns with its recommendations for policymakers to maximize the positive impact of remittances on sustainable economic development in Nepal, emphasizing strategic utilization to ensure continued growth and stability in the country's economy.

Kaphle (2018) investigated the relationship between remittances, trade, and economic growth in Nepal from 1976 to 2017 using time series econometric techniques. The study found that GDP, remittances, and trade were nonstationary at levels but stationary in first differences, indicating a long-run relationship among them. However, no short-run causal relationship was observed between remittances and economic growth, contrasting with trade, which showed a significant influence on GDP even in the short term. The Error Correction Mechanism (ECM) analysis revealed a significant negative coefficient for the error correction term (0.4848), suggesting a long-run relationship between remittances and GDP. Specifically, remittances were found to have a statistically insignificant effect on GDP (coefficient = 0.0388, p-value = 0.1522), whereas trade exhibited a highly significant impact (coefficient = 0.6376, p-value < 0.0001) on GDP growth. The ECM model explained 80.88% of the variation in GDP growth (R-squared = 0.8088), indicating its

robustness. The study's findings underscore the importance of trade over remittances in influencing economic growth in Nepal and provide crucial insights for policymakers aiming to maximize the benefits of remittances for sustainable economic development.

Acharya and Paudel (2021) conducted a rigorous investigation into the impact of remittances on economic growth in Nepal, employing a range of econometric techniques and data from 1989/90 to 2017/18 sourced from Nepal Rastra Bank, the Economic Survey, and the Ministry of Finance. Using Gross Domestic Product (GDP) as the dependent variable, their study included remittances, investment, consumption, and government expenditure as independent variables. The researchers utilized the Augmented Dickey Fuller (ADF) Unit Test to assess variable stationarity and conducted ordinary least square (OLS) regression analysis alongside various diagnostic tests. Their findings revealed that while investment and consumption had statistically significant positive effects on Nepal's economic growth (t-statistics: 6.651637 for investment and 7.452723 for consumption, both with p-values of 0.0000), remittances and government expenditure exhibited positive effects on GDP that were statistically insignificant (t-statistics for remittances: 0.361419, p-value: 0.7211; for government expenditure: 0.436442, p-value: 0.6666). The study's R-squared value of 85.9993% indicated that a substantial portion of GDP variation was explained by these variables. Additionally, diagnostic tests confirmed that residuals were homoskedastic, devoid of serial correlation, and normally distributed, affirming the reliability of the econometric model employed.

2.5 Research Gap

Based on the review of previous research, there has been a significant research gap in the study of remittance and economic growth, particularly in the context of Nepal. Various studies, such as those by Chigombe et al. (2024), Mehmood et al. (2023), Safdar et al.(2022), Bucevska (2022), Acharya and Paudel (2021), Saha (2021), Cazachevici et al. (2020), and Orok et al. (2020), have explored the relationship between remittances and economic growth in different contexts and regions. However, there remains a noticeable gap in research that specifically addresses the Nepali economy. This gap includes contextual, temporal, variable, and methodological dimensions, highlighting the need for a comprehensive study that can fill these voids.

In terms of the context gap, there has been limited research specifically focused on the assessment of remittance on the Nepalese economy. While other studies have looked at

remittances in broader or different regional contexts, there is a lack of focused research examining how remittances impact Nepal's unique economic structure. This study aims to fill this contextual gap by providing a detailed assessment of the role remittances play in Nepal’s economic development, considering the specific socio-economic conditions and challenges faced by the country.

Regarding the time gap, previous studies have not utilized the most recent data available. This study stands out by using the latest year data spanning from 2000 to 2024, providing a more current and comprehensive analysis. By including recent data, this research can capture the latest trends and developments in remittance inflows and their impact on the Nepalese economy, offering more relevant and up-to-date insights for policymakers and stakeholders.

The variable gap is another critical aspect that this study addresses. Previous research has often used a limited set of variables to explore the impact of remittances on economic growth. This study, however, incorporates a broader range of factors, including remittance inflow, capital formation, and exports, as determinants of gross domestic product (GDP). By examining these additional variables, the study provides a more nuanced understanding of how remittances influence economic growth through various channels.

Finally, the methodological gap is evident in the approaches used by earlier studies. While many have relied on basic statistical methods, this study employs both descriptive statistics and a causal-comparative research design. This mixed-method approach allows for a more robust analysis of the data, providing deeper insights into the causal relationships between remittances and economic growth. The use of advanced methodologies ensures that the findings are more reliable and can be used to inform effective policy decisions.

Overall, this study identifies and addresses significant research gaps in the existing literature on remittances and economic growth. By focusing on the specific context of Nepal, using the latest data, incorporating a broader set of variables, and employing advanced methodological approaches, this research makes a substantial contribution to the field. It provides valuable insights that can help guide policymakers, researchers, and other stakeholders in leveraging remittances for sustainable economic development in Nepal.

CHAPTER III
RESEARCH METHODOLOGY

This chapter outlines the research methodology used in the study, covering key aspects such as research design, population and sample selection, sampling techniques, data sources, instruments used for data collection, methods of analysis, research framework, and variable definitions. Each component is carefully crafted to ensure the study comprehensive understanding of the chosen research topic.

3.1 Research Design

This study has employed both descriptive and causal-comparative research designs to achieve its objectives. The descriptive research design has been used to examine the status of remittance inflow in Nepal, providing a detailed account of the trends and patterns of remittance over time. On the other hand, the causal-comparative research design has been utilized to analyze the impact of remittances on economic growth in Nepal. This approach has allowed the study to identify and assess the causal relationships between remittance inflows and key economic indicators, offering insights into how remittances have contributed to the country's economic development.

3.2 Population and Sample, and Sampling Design

The population of this study has encompassed the overall global economic growth influenced by remittances. Focusing specifically on Nepal, this study has utilized data from Nepal as the population for analysis. A convenience sampling method has been employed, selecting relevant data to analyze the impact of remittances on Nepal's economic growth. This approach has ensured that the sample is representative of the specific context under investigation, allowing for a detailed examination of how remittances have affected the Nepalese economy.

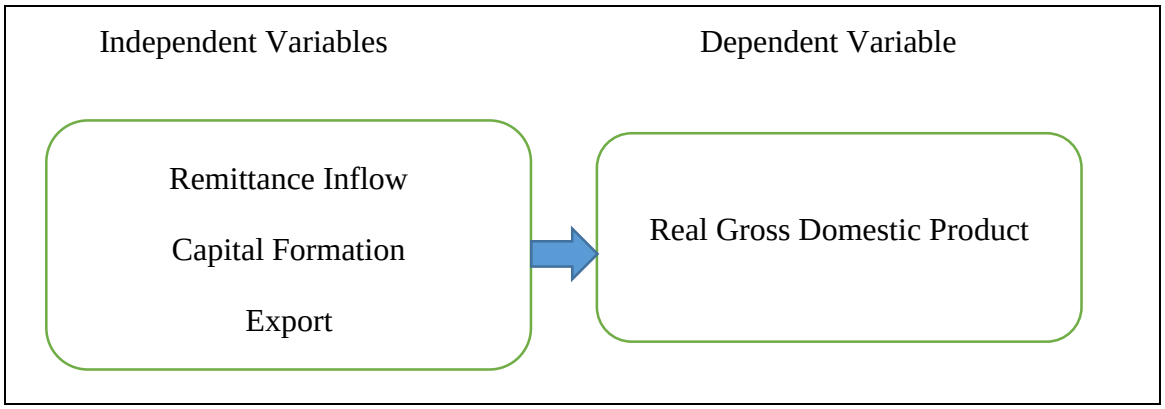
3.3 Nature and Sources of Data and the Instrument of Data Collection

This study has adopted a quantitative approach, utilizing secondary sources of data for analysis. The latest 23 years of data (FY 2000/01 to 2022/23) have been collected from various sources, including the Economic Survey Report of Nepal. These sources have served as instrumental tools for analyzing the relationship between remittances and economic growth in Nepal. By leveraging existing data sets and reports, this study has

aimed to provide a comprehensive understanding of the impact of remittances on the Nepalese economy.

3.4 Research Framework and Definition of Variables

In this study, the research framework is constructed to systematically explore the impact of remittance inflows on economic growth in Nepal. The framework adopted is based on the model developed by Acharya (2017), which delineates the relationships between key economic variables. In this model, remittance inflows, capital formation, and export levels are identified as the independent variables, while real gross domestic product (GDP) serves as the dependent variable. This structure allows for a detailed examination of how variations in remittances, investment in physical capital, and export activities influence the overall economic performance of Nepal. By employing this comprehensive framework, the study aims to uncover the direct and indirect pathways through which remittances contribute to economic growth, thereby providing valuable insights into policy measures that could enhance the positive impacts of remittances on the Nepalese economy.



Source: Acharya (2017)

Figure 1. Research Framework

The variables used in this study is as follows.

Real Gross Domestic Product (GDP)

Real GDP measures the total value of all goods and services produced within a country's borders over a specific time frame (Acharya, 2017). It's a key indicator of economic health, reflecting the overall productivity and growth of a nation's economy. As a comprehensive measure, GDP encompasses consumption, investment, government spending, and net exports, providing insights into a country's standard of living, economic performance, and potential for development. Policymakers, economists, and investors use GDP to assess

economic trends, formulate policies, and make informed decisions about investments and resource allocation.

Remittance Inflow (RMT)

Remittance refers to the transfer of money by migrant workers to their home countries, typically to support their families or for investment purposes (Acharya, 2017). It plays a crucial role in the economies of many developing countries, serving as a stable source of income and foreign exchange. Remittances contribute to poverty reduction, improve access to education and healthcare, and stimulate economic growth by increasing household consumption and investment. Governments often implement policies to facilitate remittance inflows, recognizing their significant impact on national development, financial stability, and social well-being.

Capital Formation (CPF)

Capital formation represents the process of increasing the stock of capital goods in an economy through investment in physical assets such as machinery, equipment, infrastructure, and technology (Acharya, 2017). It plays a fundamental role in driving economic growth by enhancing productivity, efficiency, and competitiveness. Capital formation encompasses both fixed capital formation, which involves investment in durable assets for production, and human capital formation, which focuses on improving the skills, knowledge, and capabilities of the workforce. Governments, businesses, and investors prioritize capital formation as it fosters innovation, fosters job creation, and lays the foundation for sustained economic development.

Exports (EXP)

Total exports refer to the value of goods produced domestically and sold to foreign markets within a specified period (Acharya, 2017). Exporting goods allows countries to generate revenue, create jobs, and promote economic growth by tapping into global markets and leveraging their comparative advantages. Exports drive industrialization, stimulate innovation and technological advancement, and diversify economies, reducing dependence on domestic consumption. Governments implement trade policies, provide incentives, and support exporters to enhance competitiveness, expand market access, and capitalize on international trade opportunities, ultimately contributing to national prosperity and development.

3.5 Method of Analysis

After the data collection phase, the gathered data has been organized and presented using statistical software like Microsoft Excel and SPSS. Various statistical tools, including descriptive statistics, correlation analysis, and multivariate regression models, have been employed to analyze the data. These analytical techniques have helped uncover patterns, relationships, and trends within the data, allowing for a comprehensive examination of the impact of remittances on economic growth in Nepal. By utilizing these statistical methods, this study has aimed to provide robust insights into the dynamics between remittance inflows and economic development in the context of Nepal.

3.5.1 Mean

The mean, often referred to as the average, is a measure of central tendency that summarizes the typical value in a dataset. It is calculated by summing all the values in the dataset and then dividing by the number of values. In the context of this study, the mean will provide an overview of the average level of remittance inflows and key economic indicators over the 23-year period. This measure helps to identify the central point around which the data points are distributed, offering a straightforward summary of the data's central tendency and enabling comparisons across different time periods or datasets. Mathematically,

$$\text{Mean} = \frac{\sum x}{n}$$

Where,

X = Value of observations of each independent or dependent variable

n = Number of observations

3.5.2 Standard Deviation (S.D.)

The standard deviation (S.D.) is a statistical measure that quantifies the amount of variation or dispersion in a set of values. A low standard deviation indicates that the values tend to be close to the mean, while a high standard deviation suggests a wide range of values. In this study, the standard deviation will help assess the variability of remittance inflows and economic growth indicators in Nepal over the specified period. Understanding the dispersion of data points from the mean provides insight into the stability and predictability of the trends being analyzed, which is crucial for interpreting the consistency of remittance contributions to economic growth. Mathematically,

$$\text{Standard Deviation}(\sigma) = \sqrt{\frac{\sum(X - \overline{X})^2}{n}}$$

Where,

X = Value of observations of each dependent or independent variable

$\overline{X}$ = Mean value of observations of each dependent or independent variable

n= Number of observations

3.5.3 Correlation Analysis

Correlation analysis is a statistical technique used to measure and interpret the strength and direction of the relationship between two variables. The correlation coefficient, which ranges from -1 to 1, indicates the extent to which variables move in relation to each other. In this study, correlation analysis will be employed to explore the relationship between remittance inflows and various economic indicators in Nepal. A positive correlation would suggest that as remittances increase, economic indicators also tend to improve, whereas a negative correlation would indicate an inverse relationship. This analysis helps to identify potential causal links and the degree of association between variables. The correlation coefficient between two variables is also calculated by using the following formula:

$$\text{Correlation Coefficient}(r) = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\ \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

Where,

n = Number of observations

X = Value of independent variable

Y= Value of dependent variable

3.5.4 Regression Analysis

Regression analysis is a powerful statistical method used to examine the relationship between a dependent variable and one or more independent variables. It helps in predicting the value of the dependent variable based on the values of the independent variables. In the context of this study, regression analysis will be used to determine the impact of remittance inflows on economic growth in Nepal by modeling the relationship between these variables. By estimating the coefficients of the regression equation, the analysis will provide insights

into how changes in remittance levels can influence economic outcomes, enabling a deeper understanding of the potential causative effects and the strength of these relationships. The multivariate regression model in this study is as follows

$Y_{GDP} = \alpha + \beta_1 RMT + \beta_2 CPF + \beta_3 EXP$ ……..……. Eq (1)

Where,

GDP = Real Gross Domestic Product

RMT = Remittance Inflow

CPF = Capital Formation

EXP = Exports

E = Error Term

α = Intercept term

$\beta_1, \beta_2, \beta_3 =$ Coefficients

CHAPTER IV

RESULTS AND DISCUSSION

This chapter includes results and discussion. First, the findings are presented and analyzed to explore the impacts of various factors on economic growth. In the discussion section, these results are compared and contrasted with conclusions drawn from previous research.

4.1 Situation of Remittance on Real GDP

In this section, the study examines the status of remittances on Nepal's real GDP from FY 2000/2001 to FY 2022/23. This period spans over two decades and offers a comprehensive analysis of how remittance inflows have impacted the country's economic growth over time.

Table 1
Situation of Remittance on Real GDP

FY	Real GDP (Rs. in Millions)	Remittance (Rs. in Millions)	Remittance on Growth
2000/01	1078567.00	26391.19	2.45%
2001/02	1079863.00	121085.25	11.21%
2002/03	1122465.00	136719.87	12.18%
2003/04	1175025.00	132883.46	11.31%
2004/05	1215905.00	181231.87	14.91%
2005/06	1256815.00	201957.16	16.07%
2006/07	1299693.00	218242.02	16.79%
2007/08	1379034.00	299775.84	21.74%
2008/09	1441548.00	334549.06	23.21%
2009/10	1510979.00	327081.40	21.65%
2010/11	1559223.00	304770.42	19.55%
2011/12	1632040.00	360389.14	22.08%
2012/13	1689572.00	425682.68	25.19%
2013/14	1791141.00	463997.11	25.91%
2014/15	1862357.00	514496.33	27.63%
2015/16	1870424.00	504276.88	26.96%
2016/17	2038337.00	487438.62	23.91%
2017/18	2193706.00	549006.09	25.03%
2018/19	2339743.00	564261.08	24.12%
2019/20	2284300.00	553948.37	24.25%
2020/21	2394818.00	533507.46	22.28%
2021/22	2529243.00	575678.30	22.76%
2022/23	2576251.00	679300.40	26.37%

Source: Appendix I

Among the years listed in Table 1, the year with the highest percentage of remittances on GDP is FY 2014/15, with a remittance-to-GDP ratio of 27.63 %. This indicates that remittances constituted a significant proportion of Nepal's GDP during that fiscal year. On the other hand, the year with the lowest percentage of remittances on GDP is FY 2000/01, where remittances contributed only 2.45% to the GDP. This reflects a much lower reliance on remittances relative to GDP compared to subsequent years.

4.2 Situation of Capital Formation on Real GDP

In this section, the situation of capital formation on Nepal's real GDP from FY 2000/01 to 2022/23 has been thoroughly examined. Capital formation, encompassing investments in physical capital such as infrastructure and technology, plays a crucial role in driving economic growth by enhancing productivity and facilitating sustainable development.

Table 2
Situation of Capital Formation on Real GDP

FY	Real GDP (Rs. In Millions)	Capital Formation (Rs. In Millions)	Capital Formation by Real GDP
2000/01	1078567.00	207,032.19	19.20%
2001/02	1079863.00	211,272.79	19.56%
2002/03	1122465.00	223,641.97	19.92%
2003/04	1175025.00	239,013.77	20.34%
2004/05	1215905.00	242,472.60	19.94%
2005/06	1256815.00	260,423.20	20.72%
2006/07	1299693.00	273,816.48	21.07%
2007/08	1379034.00	301,698.88	21.88%
2008/09	1441548.00	307,833.12	21.35%
2009/10	1510979.00	335,554.10	22.21%
2010/11	1559223.00	373,938.90	23.98%
2011/12	1632040.00	391,533.04	23.99%
2012/13	1689572.00	417,835.07	24.73%
2013/14	1791141.00	452,300.44	25.25%
2014/15	1862357.00	513,150.26	27.55%
2015/16	1870424.00	536,909.36	28.71%
2016/17	2038337.00	623,230.43	30.58%
2017/18	2193706.00	711,482.04	32.43%
2018/19	2339743.00	791,187.04	33.82%
2019/20	2284300.00	696,008.40	30.47%
2020/21	2394818.00	702,539.96	29.34%
2021/22	2529243.00	719,655.19	28.45%
2022/23	2576251.00	813,210.36	31.57%

Source: Appendix I

Table 2 presents the status of capital formation on Nepal's real GDP from FY 2000/01 to 2022/23. Capital formation represents the investment in physical capital such as infrastructure, machinery, and technology, crucial for economic growth. The analysis reveals varying levels of capital formation as a percentage of GDP over the years, reflecting fluctuations in investment trends. In FY 2018/19, capital formation peaked at 33.82% of GDP, indicating significant investment activities contributing to economic expansion. Conversely, FY 2000/01 recorded the lowest capital formation relative to GDP at 19.20%.

4.4 Situation of Export on Real GDP

In this study, the situation of exports on Nepal's real GDP from FY 2000/01 to 2022/23 has been investigated. Export values, which represent the earnings from goods and services sold to foreign markets, are critical indicators of a country's economic performance.

Table 3
Situation of Export on Real GDP

FY	Real GDP (Rs. in Millions)	Export (Rs. in Millions)	Export by Real GDP
2000/01	1078567.00	170,382.23	15.80%
2001/02	1079863.00	130,872.71	12.12%
2002/03	1122465.00	124,661.56	11.11%
2003/04	1175025.00	139,965.13	11.91%
2004/05	1215905.00	135,717.95	11.16%
2005/06	1256815.00	133,962.14	10.66%
2006/07	1299693.00	132,696.37	10.21%
2007/08	1379034.00	133,661.09	9.69%
2008/09	1441548.00	138,837.03	9.63%
2009/10	1510979.00	124,344.05	8.23%
2010/11	1559223.00	121,715.03	7.81%
2011/12	1632040.00	146,292.90	8.96%
2012/13	1689572.00	165,234.58	9.78%
2013/14	1791141.00	194,705.53	10.87%
2014/15	1862357.00	199,214.87	10.70%
2015/16	1870424.00	164,738.90	8.81%
2016/17	2038337.00	179,327.03	8.80%
2017/18	2193706.00	193,124.72	8.80%
2018/19	2339743.00	203,830.60	8.71%
2019/20	2284300.00	171,457.94	7.51%
2020/21	2394818.00	134,904.00	5.63%
2021/22	2529243.00	180,852.39	7.15%
2022/23	2576251.00	141,064.86	5.48%

Source: Appendix I

Based on Table 3, the year with the highest percentage of exports relative to Nepal's real GDP is FY 2000/01, where exports accounted for 15.80% of the GDP. On the other hand, the year with the lowest percentage of exports relative to GDP is FY 2022/23, with exports contributing 5.48% to the GDP. These percentages reflect the varying contribution of exports to Nepal's economic output over the years analyzed.

4.4 Summary of Descriptive Statistics

In this descriptive statistics, the status of remittance inflow, capital formation, export, and real gross domestic product (GDP) in Nepal is assessed. The analysis provides a detailed examination of these key economic indicators, highlighting trends, magnitudes, and fluctuations over the specified period.

Table 4

Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	S.D.
RMT (Rs. in Millions)	23	26391.19	679300.40	369420.44	181270.93
CPF (Rs. in Millions)	23	207032.19	813210.36	449814.76	206995.14
EXP (Rs. in Millions)	23	121715.03	203830.60	154850.59	26811.35
GDP (Rs. in Millions)	23	1078567.00	2576251.00	1709610.83	491274.10

Source: Appendix I & II

Table 4 summarizes the descriptive statistics of remittance inflows, capital formation, exports, and real GDP of Nepal from 2000/2001 to 2022/2023. The variables analyzed are remittance (RMT), capital formation (CPF), export (EXP), and GDP.

For remittance (RMT), the analysis reveals a mean score of Rs. 369,420.44 million with a standard deviation (S.D.) of Rs. 181,270.93 million. This indicates substantial variability in remittance inflows over the period, reflecting the dynamic nature of remittances as a financial resource for Nepal. The minimum remittance recorded was Rs. 26,391.19 million, while the maximum reached Rs. 679,300.40 million, highlighting a significant increase in remittance volumes over the years.

In terms of capital formation (CPF), the mean score stands at Rs. 449,814.76 million, with a standard deviation of Rs. 206,995.14 million. This suggests that capital formation has also experienced considerable fluctuations during the period. The minimum and maximum values were Rs. 207,032.19 million and Rs. 813,210.36 million, respectively. These figures

underscore the importance of capital formation in supporting Nepal's economic development and its variable nature over time.

Regarding exports (EXP), the mean score is Rs. 154,850.59 million, with a standard deviation of Rs. 26,811.35 million. Compared to remittances and capital formation, exports show less variability, indicating a relatively stable trend in export values over the years. The minimum export value was Rs. 121,715.03 million, and the maximum was Rs. 203,830.60 million, suggesting moderate growth in the export sector.

Lastly, for real GDP, the analysis indicates a mean score of Rs. 1,709,610.83 million, with a standard deviation of Rs. 491,274.10 million. This reflects the overall economic growth of Nepal over the period. The minimum GDP recorded was Rs. 1,078,567.00 million, while the maximum was Rs. 2,576,251.00 million, illustrating significant economic expansion over the years.

Overall, Table 4 provides a comprehensive overview of the key economic variables in Nepal, demonstrating the critical roles of remittance inflows, capital formation, and exports in shaping the country's economic landscape.

4.5 Correlation Analysis

In this correlation analysis, the relationship between remittance inflow, capital formation, export, and the economy (Real GDP) in Nepal has been rigorously examined. This analysis focuses on uncovering the degree and direction of correlations among these variables, providing insights into how changes in remittance inflows, capital formation activities, and export performance impact Nepal's overall economic output.

Table 5

Correlation Matrix

Variables		RMT	CPF	EXP	GDP
RMT	Pearson Correlation	1.00			
	Sig. (2-tailed)				
CPF	Pearson Correlation	.941**	1.00		
	Sig. (2-tailed)	0.00			
EXP	Pearson Correlation	.556**	.582**	1.00	
	Sig. (2-tailed)	0.01	0.00		
GDP	Pearson Correlation	.956**	.987**	.539**	1.00
	Sig. (2-tailed)	0.00	0.00	0.01	

Source: Appendix I & III

Table 5 presents the correlation between remittance inflow (RMT) and real gross domestic product (GDP) in Nepal. The Pearson correlation coefficient between RMT and GDP is 0.956, indicating a very strong positive correlation. This implies that as remittance inflows increase, GDP also tends to increase significantly. The correlation is statistically significant at the 5 percent level of significance (p-value = 0.00), suggesting that the relationship between RMT and GDP is highly reliable.

The table also presents the correlation between capital formation (CPF) and GDP. The Pearson correlation coefficient between CPF and GDP is 0.987, showing an extremely strong positive correlation. This indicates that higher levels of capital formation are strongly associated with higher GDP. The correlation is significant at the 5 percent level (p-value = 0.00), highlighting the crucial role of capital formation in driving economic growth in Nepal.

Additionally, the table shows the correlation between export (EXP) and GDP. The Pearson correlation coefficient between EXP and GDP is 0.539, indicating a moderate positive correlation. This suggests that increases in exports are associated with increases in GDP, though the relationship is not as strong as those between remittances or capital formation and GDP. The correlation is significant at the 5 percent level (p-value = 0.01), confirming the importance of exports in contributing to economic growth, albeit to a lesser extent compared to remittances and capital formation.

Overall, the correlation analysis reveals that remittance inflows and capital formation have a very strong and significant positive relationship with GDP, underscoring their critical roles in Nepal's economic growth. Although the correlation between exports and GDP is moderate, it is still significant, indicating that exports contribute to economic growth but to a lesser extent compared to remittances and capital formation.

4.6 Regression Analysis

In this section, the impact of remittance inflow, capital formation, and export on Nepal's economy, specifically Real GDP, has been thoroughly examined. By analyzing how these factors contribute individually and collectively to economic output, the study aims to quantify their respective influences and understand their interrelationships. Through econometric methods such as regression analysis or structural models, researchers assess the magnitude and significance of each variable's contribution to GDP growth. This analysis provides valuable insights into the drivers of economic expansion in Nepal,

highlighting the pivotal role of remittances, capital investments, and export performance in shaping the country's overall economic trajectory. Policymakers can leverage these findings to formulate strategies that enhance the positive impacts of remittance inflows, foster productive capital formation, and promote export-led growth for sustainable economic development.

Table 6

Model Summary of Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.992	0.984	0.981	67753.765

Source: Appendix I & IV

Table 6 presents the model summary of the regression model analyzing the impact of export, remittance, and capital formation on real GDP in Nepal. The model has a correlation coefficient (R) of 0.992, indicating a very strong relationship between the predictors and the dependent variable. The R square value is 0.984, meaning that 98.4% of the variance in real GDP is explained by the model. The adjusted R square value of 0.981 accounts for the number of predictors in the model, confirming the high explanatory power of the model. The standard error of the estimate is 67753.765, reflecting the average distance that the observed values fall from the regression line.

Table 7

ANOVA Table of Regression Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	484.12	3.00	1,74.37	379.22	0.00
	Residual	881.19	9.00	450.59		
	Total	1365.31	22.00			

Source: Appendix I & IV

Table 7 presents the ANOVA of the regression model analyzing the impact of export, remittance, and capital formation on real GDP in Nepal. The regression model shows a significant F-value of 379.22 with a very low p-value (0.00), indicating that the model is statistically significant and fit for analysis

Table 8

Beta Coefficient of Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	785695.503	87265.805		9.003	0.000		
	RMT	0.653	0.235	0.241	2.783	0.012	0.115	8.673
	CPF	1.886	0.210	0.795	8.977	0.000	0.110	9.065
	EXP	1.071	0.663	0.058	1.614	0.123	0.660	1.515

Source: Appendix I & IV

Table 8 presents the unstandardized beta, standardized beta coefficient, significance, and VIF of the independent variables on the dependent variable.

The first variable, remittance, has an unstandardized beta coefficient of 0.653, indicating that for every one-unit increase in remittance, real GDP increases by 0.653 units. The standardized beta coefficient is 0.241, showing a positive but moderate impact on GDP. The significance level is 0.012, which is below the 5 percent threshold, indicating that the relationship between remittance and GDP is statistically significant. The VIF for remittance is 8.673, suggesting no multicollinearity issues. The positive and significant impact of remittance implies that increasing remittance inflows can effectively contribute to economic growth, highlighting the importance of policies that encourage remittance flows.

The second variable, capital formation, has an unstandardized beta coefficient of 1.886, meaning that for each unit increase in capital formation, real GDP rises by 1.886 units. The standardized beta coefficient is 0.795, signifying a strong positive impact on GDP. The significance level is 0.000, which is well below the 5 percent level, confirming a highly significant relationship. The VIF for capital formation is 9.065, indicating no multicollinearity concerns. The strong and significant influence of capital formation suggests that increasing investments in physical capital is crucial for economic growth, emphasizing the need for policies that promote capital investment in the economy.

The third variable, export, has an unstandardized beta coefficient of 1.071, indicating that a one-unit increase in export leads to a 1.071-unit increase in real GDP. The standardized beta coefficient is 0.058, showing a weak impact on GDP. The significance level is 0.123, which is above the 5 percent threshold, indicating that the relationship between export and GDP is not statistically significant. The VIF for export is 1.515, suggesting no

multicollinearity issues. Despite the weak and insignificant impact, exports remain a vital component of economic growth, implying that enhancing export capacity could potentially benefit the economy, although other factors might currently play a more significant role.

Overall, Table 5 demonstrates that remittance and capital formation significantly contribute to the economic growth of Nepal, as evidenced by their positive and statistically significant beta coefficients. Remittance, with a moderate impact, underscores the importance of encouraging and facilitating remittance inflows to stimulate economic growth. Capital formation exhibits a strong positive influence on GDP, highlighting the necessity for policies that bolster investment in physical capital. On the other hand, while export shows a positive relationship with GDP, its impact is weak and statistically insignificant, suggesting that other factors might be more influential in driving economic growth. The absence of multicollinearity across the variables, as indicated by the VIF values, further strengthens the reliability of these findings. These results underscore the multifaceted nature of economic growth and the need for a comprehensive approach that leverages remittances, investments in capital, and enhanced export capacities to achieve sustainable economic development in Nepal.

4.7 Discussion

The study assessed remittance inflow, capital formation, exports, and real GDP in Nepal, revealing fluctuating remittance and capital inputs alongside stable export values. Real GDP showed significant growth, indicating robust economic expansion. This underscored the pivotal roles of remittances, capital formation, and exports in Nepal's economic trajectory, emphasizing the need for policies to sustain and enhance these drivers for continued growth and stability. Khan (2024) and Chigombe et al. (2024) both support the positive impact of remittances and capital formation on economic growth, aligning with the current study's emphasis on these factors. Mehmood et al. (2023) also find significant long-run impacts of exports and remittances on GDP, reinforcing the relevance of these variables in economic models. However, Acharya and Paudel (2021) and Saha (2021) differ by suggesting insignificant effects of remittances on GDP, contrasting with the current study's positive findings. Moreover, studies like Bucevska (2022) and Orok et al. (2020) similarly support the significant role of remittances and capital formation in economic growth, in line with the current study's conclusions.

This study explored the relationships between remittance inflows, capital formation, exports, and Nepal's economy (Real GDP). It found that remittances and capital formation exhibited strong positive correlations with GDP, indicating significant impacts on economic growth. Export values also correlated positively with GDP, though to a lesser extent. These relationships were statistically significant at the 5 percent level, highlighting their reliability. Overall, remittances and capital formation were pivotal drivers of Nepal's economic performance, while exports contributed positively but less prominently. In comparing the results of the current study with previous research, several key findings emerge. Khan (2024) and Chigombe et al. (2024) align with the current study by highlighting the significant positive impact of remittance inflows on economic growth, emphasizing its robust contribution compared to other factors like capital formation and exports. Conversely, studies by Acharya and Paudel (2021), Saha (2021), Karim and Tiasha (2020), and Kaphle (2018) contrast with the current findings, indicating either insignificant or negative effects of remittances on GDP. Safdar et al. (2022) and Meyer and Shera (2017) show mixed results, with Safdar et al. suggesting a positive correlation but with lesser magnitude compared to capital formation.

The current study concluded that remittances and capital formation significantly contribute to Nepal's economic growth, with remittances showing a positive and statistically significant impact on GDP, and capital formation demonstrating a strong positive relationship. Conversely, exports exhibit a weak and statistically insignificant impact on GDP. This aligns with findings by Khan (2024) and Safdar et al. (2022), who similarly report positive impacts of remittances and capital formation on economic growth. In contrast, Acharya and Paudel (2021) and Saha (2021) found remittances to have statistically insignificant effects on GDP, differing from the current study's results. Furthermore, Mehmood et al. (2023) highlighted significant positive impacts of both exports and remittances on GDP, aligning partially with the current study's findings on remittances but contrasting on exports.

CHAPTER V
SUMMARY AND CONCLUSION

This chapter encompasses a thorough examination of the relationship between remittance inflows, capital formation, exports, and Nepal's economic growth through descriptive, correlation, and regression analyses. Key findings highlight that remittances and capital formation significantly bolster real GDP, supported by strong beta coefficients and statistical significance. In contrast, while exports exhibit a positive association with GDP, their impact is comparatively weak and non-significant. These outcomes stress the necessity of policies aimed at fostering remittance inflows and promoting investments in physical capital to sustain Nepal's economic growth. Moreover, the absence of multicollinearity among variables reinforces the reliability of the findings. Going forward, policymakers are encouraged to prioritize strategies that leverage remittance flows and enhance capital investments, alongside initiatives to strengthen export capabilities, fostering sustainable economic development and reducing reliance on external factors.

5.1 Summary

This study delves into the significant role of remittances in Nepal's economy, where they constitute a substantial portion of the GDP, highlighting their crucial contribution to national finances. Over recent years, remittances have become a key source of foreign capital inflows, facilitated by improved migration patterns and advancements in international money transfers. Despite their recognized benefits in fostering savings, human capital investment, and poverty alleviation, the exact impact of remittances on economic growth remains debated. While some studies emphasize a positive association with GDP growth, others suggest varied or neutral effects depending on economic contexts. This research aims to address these uncertainties by examining the status of remittance inflows, capital formation, exports, and their collective impact on Nepal's real GDP. Through empirical analysis and econometric modeling, the study seeks to provide comprehensive insights into how remittances influence Nepal's economic performance, shedding light on both their potential benefits and challenges for sustainable development.

This study has employed both descriptive and causal-comparative research designs to investigate the impact of remittances on economic growth in Nepal. The descriptive research design has been used to examine the trends and patterns of remittance inflows in Nepal over the period from FY 2000/01 to 2022/23. Concurrently, a causal-comparative

approach has been utilized to analyze the causal relationships between remittance inflows and key economic indicators, aiming to understand how remittances have contributed to Nepal's economic development. The population for this study encompasses global economic growth influenced by remittances, with a specific focus on Nepal. A convenience sampling method was employed to select relevant data sources, including the Economic Survey Report of Nepal. These secondary data sources have served as instrumental tools for quantitative analysis, ensuring a robust examination of the relationship between remittances and economic growth in Nepal. This study employed a methodological approach centered on statistical analysis using tools like Microsoft Excel and SPSS. It encompasses descriptive statistics, correlation analysis, and multivariate regression models. The research framework examines the impact of remittance inflows on Nepal's economic growth, with remittances, capital formation, and exports as independent variables, and real GDP as the dependent variable.

The findings of this study reveal that remittance inflow and capital formation are significant determinants of Nepal's real GDP, playing crucial roles in influencing economic growth. Remittance inflows in Nepal varied significantly, from Rs. 26,391.19 million to Rs. 679,300.40 million, with a mean of Rs. 369,420.44 million and a standard deviation of Rs. 181,270.93 million, demonstrating a strong positive correlation with real GDP ($r = 0.956$). Capital formation also showed substantial fluctuations, ranging from Rs. 207,032.19 million to Rs. 813,210.36 million, with a mean of Rs. 449,814.76 million and a standard deviation of Rs. 206,995.14 million, exhibiting an extremely strong positive correlation with GDP ($r = 0.987$). Export values displayed moderate variability, ranging from Rs. 121,715.03 million to Rs. 203,830.60 million, with a mean of Rs. 154,850.59 million and a standard deviation of Rs. 26,811.35 million, correlating moderately with GDP ($r = 0.539$). Real GDP showed significant growth, ranging from Rs. 1,078,567.00 million to Rs. 2,576,251.00 million, with a mean of Rs. 1,709,610.83 million and a standard deviation of Rs. 491,274.10 million. The regression model indicates that 98.4% of the variability in real GDP can be explained by remittance inflows, capital formation, and export values ($R^2 = 0.984$). Remittance and capital formation showed positive and statistically significant impacts on GDP, with standardized beta coefficients of 0.241 and 0.795, respectively. In contrast, exports exhibited a weak and statistically insignificant impact (standardized beta = 0.058). These findings underscore the importance of policies promoting remittance inflows and investment in physical capital to sustain and accelerate Nepal's economic

development, while also highlighting the need for enhanced export capabilities. Based on the findings of this study, the practical implications highlight the need for Nepal to prioritize policies that enhance remittance inflows, promote capital formation through investments in infrastructure and technology, and strengthen export competitiveness

5.2 Conclusion

The first objective of this study is to assess the status of remittance inflow, capital formation, export, and real gross domestic product in Nepal. The findings reveal a dynamic economic landscape characterized by significant variability in remittance inflows and capital formation, reflecting the fluctuating nature of these financial inputs over the years. Export values, while showing moderate variability, indicate relative stability compared to other economic indicators. Real GDP demonstrates substantial growth, suggesting a satisfactory economic expansion in Nepal during the study period. Overall, the assessment highlights the critical role of remittances, capital formation, and exports in shaping Nepal's economic trajectory, underscoring the need for policies that sustain and enhance these economic drivers to foster continued growth and stability.

The second objective of this study is to analyze the relationship between remittance inflow, capital formation, export, and the economy (Real GDP) in Nepal. The findings indicate that remittance inflows (RMT) exhibit a very strong positive correlation with GDP, suggesting a robust and significant impact on economic growth. Capital formation (CPF) shows an extremely strong positive correlation with GDP, highlighting its critical role as a driver of economic expansion in Nepal. Export values (EXP) demonstrate a moderate positive correlation with GDP, indicating a less pronounced but still meaningful contribution to economic growth. All correlations are statistically significant at the 5 percent level, underscoring the reliability of these relationships. Overall, remittances and capital formation emerge as pivotal factors positively influencing Nepal's economic performance, whereas exports play a supportive role, albeit to a lesser extent compared to remittances and capital formation.

The third objective of this study is to analyze the impact of remittance inflow, capital formation, and export on the economy (Real GDP) in Nepal. The findings reveal that remittance demonstrates a positive and statistically significant impact on Nepal's real GDP, indicating a moderate but reliable contribution to economic growth. Capital formation exhibits a strong and highly significant relationship with real GDP, underscoring its crucial

role in driving economic expansion through increased investment in physical capital. In contrast, export shows a weak and statistically insignificant impact on GDP, suggesting that its current influence on economic growth is limited. Overall, while remittance and capital formation significantly contribute to Nepal's economic growth, exports play a supportive but less substantial role. These results emphasize the importance of policies that enhance remittance inflows and promote investment in physical capital to sustain and accelerate economic development in Nepal.

5.3 Implications

5.3.1 Theoretical Implications

The theoretical implications drawn from the findings of this study underscore several key insights into the dynamics of economic growth in Nepal. First and foremost, the strong positive correlations between remittance inflows (RMT) and real gross domestic product (GDP), as well as between capital formation (CPF) and GDP, highlight the significant roles these factors play as drivers of economic expansion. These results align with existing economic theories that emphasize the importance of financial inflows and investments in physical capital in fostering economic development. Specifically, the study reaffirms the relevance of the Harrod-Domar model, which posits that sustained economic growth depends on capital accumulation and productivity gains, both of which are facilitated by remittances and capital formation. Moreover, the findings contribute to the literature on economic growth theories by demonstrating how these theories manifest in the context of a developing economy like Nepal, where remittances serve as a stable source of income and capital formation supports infrastructure development and technological advancement.

Furthermore, the moderate correlation between exports (EXP) and GDP, albeit statistically insignificant in this study, raises theoretical questions regarding the factors influencing export performance in Nepal. This highlights the need for deeper exploration into trade policies, market access, and international competitiveness to enhance the role of exports in driving economic growth. The study also prompts theoretical inquiries into the broader implications of economic diversification and structural transformation, as Nepal seeks to reduce its dependency on remittances and expand its export base to achieve sustainable economic growth

5.3.2 Practical Implications

From a practical standpoint, the findings of this study offer actionable insights for policymakers and practitioners in Nepal. Firstly, the significant and positive impact of remittance inflows suggests that policies should be geared towards facilitating and maximizing the benefits of remittances for economic development. This includes measures to reduce transaction costs, enhance financial literacy among remittance-receiving households, and promote productive investments of remittance funds in sectors that contribute to long-term economic growth.

Secondly, the strong relationship between capital formation and GDP underscores the critical importance of policies that promote domestic investment in infrastructure, technology, and human capital. Initiatives aimed at improving the business environment, attracting foreign direct investment (FDI), and supporting small and medium-sized enterprises (SMEs) can bolster capital formation and stimulate economic productivity.

Moreover, the findings regarding exports highlight the need for targeted interventions to strengthen Nepal's export competitiveness. This includes trade facilitation measures, quality standards compliance, investment in export-oriented industries, and diversification of export products and markets. Addressing infrastructure bottlenecks, enhancing trade logistics, and negotiating favorable trade agreements can further enhance Nepal's export performance and integration into global value chains.

The theoretical implications emphasize the alignment of empirical findings with established economic theories, providing a deeper understanding of the mechanisms driving economic growth in Nepal. On the other hand, the practical implications offer actionable recommendations for policymakers and stakeholders to capitalize on the identified economic drivers, thereby fostering sustainable and inclusive economic development in Nepal. By leveraging remittances, promoting capital formation, and enhancing export competitiveness, Nepal can navigate towards resilient economic growth and achieve its development aspirations in the coming years.

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APPENDICES

Appendix I: Data of Variable from (2000/2001 to 2022/23)

FY	Real GDP (Rs. in Millions)	Remittance (Rs. in Millions)	Capital Formation (Rs. in Millions)	Export (Rs. in Millions)
2000/01	1078567	26391.1906	207032.1941	170382.226
2001/02	1079863	121085.25	211272.7916	130872.711
2002/03	1122465	136719.872	223641.9688	124661.56
2003/04	1175025	132883.46	239013.7746	139965.126
2004/05	1215905	181231.872	242472.5961	135717.947
2005/06	1256815	201957.158	260423.2034	133962.136
2006/07	1299693	218242.024	273816.4778	132696.374
2007/08	1379034	299775.845	301698.8752	133661.09
2008/09	1441548	334549.06	307833.1151	138837.032
2009/10	1510979	327081.402	335554.0994	124344.052
2010/11	1559223	304770.421	373938.8983	121715.029
2011/12	1632040	360389.14	391533.0449	146292.898
2012/13	1689572	425682.677	417835.0659	165234.585
2013/14	1791141	463997.113	452300.4422	194705.527
2014/15	1862357	514496.327	513150.262	199214.866
2015/16	1870424	504276.883	536909.3557	164738.905
2016/17	2038337	487438.623	623230.4331	179327.035
2017/18	2193706	549006.087	711482.0352	193124.718
2018/19	2339743	564261.082	791187.036	203830.601
2019/20	2284300	553948.373	696008.4043	171457.942
2020/21	2394818	533507.462	702539.9638	134904.002
2021/22	2529243	575678.301	719655.1884	180852.39
2022/23	2576251	679300.395	813210.3629	141064.865

SPSS Output

Appendix II: Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Remittance (Rs. in Millions)	23.000	26391.191	679300.395	369420.436	181270.934
Capital Formation (Rs. in Millions)	23.000	207032.194	813210.363	449814.765	206995.142
Export (Rs. in Millions)	23.000	121715.029	203830.601	154850.592	26811.349
Real GDP (Rs. in Millions)	23.000	1078567.000	2576251.000	1709610.826	491274.097
Valid N (listwise)	23.000				

Appendix III: Correlation Analysis

Correlationsb

		RMT	CPF	EXP	GDP
RMT	Pearson Correlation	1.00	.941**	.556**	.956**
	Sig. (2-tailed)		0.00	0.01	0.00
CPF	Pearson Correlation	.941**	1.00	.582**	.987**
	Sig. (2-tailed)	0.00		0.00	0.00
EXP	Pearson Correlation	.556**	.582**	1.00	.539**
	Sig. (2-tailed)	0.01	0.00		0.01
GDP	Pearson Correlation	.956**	.987**	.539**	1.00
	Sig. (2-tailed)	0.00	0.00	0.01	

**. Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=23

Appendix IV: Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.992a	0.98	0.98	67,753.77

a. Predictors: (Constant), Export (Rs. in Millions), Remittance (Rs. in Millions), Capital Formation (Rs. in Millions)

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	484,.12	3.00	1,74.37	379.22	.000b
	Residual	881.19	19.00	450.59		
	Total	1365.31	22.00			

a. Dependent Variable: Real GDP (Rs. in Millions)

b. Predictors: (Constant), Export (Rs. in Millions), Remittance (Rs. in Millions), Capital Formation (Rs. in Millions)

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	785,695.50	87,265.80		9.00	0.00		
	Remittance (Rs. in Millions)	0.65	0.23	0.24	2.78	0.01	0.12	8.67
	Capital Formation (Rs. in Millions)	1.89	0.21	0.79	8.98	0.00	0.11	9.07
	Export (Rs. in Millions)	1.07	0.66	0.06	1.61	0.12	0.66	1.51

a. Dependent Variable: Real GDP (Rs. in Millions)

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ABSTRACT This study investigates the role of remittances in Nepal's economy, addressing their significant contribution to GDP alongside challenges and varying impacts on economic growth. The study aims to analyze the relationships between remittance inflows, capital formation, exports, and real GDP to provide insights into their collective impact on Nepal's economic development. The research employs both descriptive and causal-comparative research designs. The population encompasses global economic growth influenced by remittances, focusing specifically on Nepal from FY 2000/01 to 2022/23. Data sources include the Economic Survey Report of Nepal, elected through convenience sampling to ensure relevance and reliability. Statistical tools utilized for data analysis includes descriptive statistics, correlation analysis, and multivariate regression models. The research framework examines the impact of remittance inflows, capital formation, and exports as independent variables on Nepal's real GDP as the dependent variable. Findings indicate that remittance inflows and capital formation significantly and positively influence Nepal's GDP,