CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

The Effects of International Remittances on Poverty and Inequality in Developing Economies: Exploring the Role of Financial Institution Development

by

Muhammad Abouzar

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This work is dedicated to my beloved parents who have encourage me to achieve this milestone and to my respected supervisor Dr. Junaid Ahmed, who has been a constant source of inspiration.

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CERTIFICATE OF APPROVAL

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MMS-151039

THESIS EXAMINING COMMITTEE

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(c)	Supervisor	Dr. Junaid Ahmed	CUST, Islamabad

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October, 2018

Dr. Sajid Bashir
Head
Dept. of Management Sciences
October, 2018

Dr. Arshad Hassan
Dean
Faculty of Management & Social Sciences
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Abstract

International migration played an important role for many developing countries in the form of migrants earning sent to their families called remittances. Remittances flow to developing nations attracting increasing attention due to increase in volume as well as perceived as more stable source of foreign exchange compare to other financial flows. Regarding as an important source of foreign exchange, the study aimed to measure the developmental impact of remittance in particular on income inequality and poverty reduction with emphasis on the level of financial institution development in developing countries. The study used panel data techniques to examine the relationship of remittances, poverty and inequality considering the role of financial development for the period 1986-2015. The results suggest that remittances reduce the poverty in developing countries. After controlling for the level of financial institution development, the results reveal that countries with strong financial development decline in poverty severity (squared poverty gap) compared to the countries with weaker domestic financial institutions. In addition, remittances have an adverse effect on the income inequality. However, the adverse effect of remittances would be minimized for the countries with strong domestic financial sector. It indicates that developing countries with strong financial development could utilize as a tool for economic development. Therefore, it is suggested to the recipient economies in developing countries to implement pro-financial policies to optimize benefits from the foreign flows.

Keywords: Remittances, Poverty, Income inequality, Financial Institution.

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Chapter 1

Introduction

1.1 Background

In the recent decades, international migration across different countries increased significantly and reaching 258 million in 2017 compared to 220 million in 2010 and 172 million in 2000. In the world?s total population, the share of international migration increased modestly, from 2.8 to 3.4 percent from 2000 to 2017 (United Nations, 2017). The foreign remittances, earning by these migrant workers sent back home have a profound effect on the developing economies. These financial flows represent the second most important source of external finance for many developing countries. In 2017, the recorded remittances reached to USD 466 billion, compared to USD 440 billion in 2015, USD 334 billion in 2010 and USD 102 billion (World Bank, 2018; Ratha et al. (2015)). In fact, all regions of the world have witnessed significant expansions in remittance receipts. For instance, India received about 65.4 billion dollars followed by China 62.9 billion dollars, the Philippines 32.8 billion dollars, Mexico 30.5 billion dollars and other major recipients included Indonesia, Pakistan, Egypt, Bangladesh, Vietnam and Nageria. Though, as a share of GDP, remittances were larger in smaller and lower income countries, Tajikistan received 42.1 percent of GDP, Kyrgyz republic received 31.5 percent, Nepal 28.8 percent and other recipients includes Moldova, Tonga, and Liberia (World Bank, 2018).

Remittances have positive impacts on poverty reduction and improved health

and education (Ratha, 2013), increases in investment (Adams Jr and Cuecuecha (2013)), and an increase in a country?s foreign exchange and creditworthiness (Ncube and Brixiova (2013)). It is generally reducing the poverty and leads to higher human capital growth, better health, education. It upgraded the access to the formal financial sector, enhance small business investment and better awareness such as deficiencies, earthquakes, and reduced child labor (Owiafe (2008)).
Despite the monotonic increase in the volume of recorded remittances, very little attention has been paid to examining their income distribution effect of these financial transfers on developing economies. However, a few studies have examined the effect of international remittances on poverty in a broad range of developing countries. Furthermore, the contribution of this study to examine the important role of international remittances on poverty and income inequality with respect to the level of financial development of a country.

1.2 Theoretical Framework

1.2.1 Developmental Optimistic Neo-classical Theory

The general developmental theory views on the migration of the people, which bring remittances as well as knowledge in their home countries. This helps in the uplifting of their social life, increases the capital of the state or country which brings development in various sectors of the society. Due to this, the increasing remittance flows would positively contribute towards the long-term economic growth of many capitals constrained developing economies (Beijer (1970)).
In the context of remittances on income inequality, the empirical evidence is mixed. For instance, some empiric argue that the financial flows sharpen the income inequality (Stark et al. 1986; Adams (1991), Adams Jr (1998)).)). On the other side, the income distribution becomes more equal due to the liquidity provided for productive investment, or through trickle down effects in the labor market (Taylor and Wyatt (1996) ; Stark et al.1986). However, in the majority studies, the effect of remittances on poverty directly reduces the poverty due to an increase in the

income of the recipients.

The growing level of remittances does play a significant role in uplifting the standards of life for the poor recipients. This uplift in their standard of living also helps in the overall reduction of poverty regardless of its on economic growth. Furthermore, the international remittances could relax working capital constraints, so that both physical & human capital investment of the poor could rise. Adams and Page (2005) showed that remittances flow to reduce the level, depth, and severity of the poverty in recipient countries. However, Stahl (1982) argues that as international migration is an expensive venture every poor household member or head of a family member cannot afford to go abroad. So, in most scenarios, it?s those who can afford to migrate can benefit more with the remittances. This results in the addition to poverty in countries with the poor economic distribution system.

1.3 Contribution of the Study

Despite the monotonic increase in the volume of recorded remittances, very little attention has been paid to examining theirs on the income distribution effect of these financial transfers on developing economies. However, a few studies have investigated the effect of international remittances on poverty in a broad range of developing countries. Furthermore, the contribution of this study to examine the important role of international remittances on poverty and income inequality with respect to the level of financial development.

1.4 Research Questions

1. What is the effect of international remittances on poverty and income inequality in all developing countries?

2. What is the effect of remittances and financial development on poverty and income inequality in developing countries?

1.5 Objective of our Study

This study has two main objectives:

• To examine the relationship between remittances, poverty & income inequality negatively and to confirm whether finance supports the inequality & poverty reduction effects of international remittances.

• To examine the effect of remittances on poverty and inequality with a different level of financial development.

1.6 Organization of the Study

The study organized as follow. The second chapter contains literature review. In chapter 3, we have discussed data collection and methodology. Chapter 4 presents estimation results. Chapter 5 explains the empirical results and draws conclusions.

Chapter 2

Literature Review

2.1 Relationship Between Remittances, Poverty, and Income Inequality

Pradhan et al. (2016), investigate the relation of poverty and remittances for the twenty-five developing countries over the period 2000 to 2010. Date collected from the WDI (World Development Indicator), World Banks. The 2SLS (Two-stage least square method) was applied to examine the impact of international remittances and internal remittances in the developing countries. The result shows that both types of remittances effect significantly reduce the poverty level. On the other hand, the flows increase the inequality. Too conclude, this study supports the increase in international remittances, decrease the poverty headcount, poverty gap and poverty square gap.

Le Goff (2010), examines the effect of remittances on reducing poverty of 65 developing economies from the period of 1980 to 2005. The study used panel data and Fixed effect model. The results show the remittances have negative and significant impact on poverty regardless of different measurement level for instance, poverty gap ratio, poverty severity ratio, and poverty headcount ratio. Furthermore, they find that with an increase in remittances overall the living standards of the people in the recipient economies improve due to the provision of basic education and investment in different productive projects i.e purchase agriculture land, machinery and building.

Portes (2009), examine the impact of international remittances onincome inequality and poverty of forty-six developing countries during the period of 1970 to 2000. The study analyzed the impact of remittances and migration on income distribution and poverty reduction. The result shows that international remittances and migration have a negative impact on income inequality. This could be explain in two ways, Firstly, that the top twenty percent population have a positive impact, while the rest of the population have a negative and significant impact on remittances in the developing economies.

Ravallion and Chen (1997), examine the connection of remittances on poverty and inequality over the period 1981 to1994. They explain that people migrate to abroad and send money to his family then living standard of those family were increases as compere to others. So poverty was decrease of receipt economies.

Adams Jr and Page (2005), study the impact of migration and international remittance on poverty reduction in the seventy-one developing countries over the period of 1990 to 2000. In this study they used the panel data for applying OLS estimation techniques. The result show that international remittances and migration has significant effect on poverty reduction in the developing economies. When people migrate to higher income countries for the purpose of earnings, they save some portion of their income and sent back to their home or family members of home countries. Remittances increase the poverty gap, poverty headcount ratio and poverty squared gap also decreases.

Banga and Sahu (2015) , examine the effect of remittances for reducing poverty in the seventy seven developing countries for the period of 1980 to 2008. 3SLS (Three stage Least Squares) model used for the estimation of the effect of international migration and remittances in the developing countries for reducing poverty. 3 SLS result show that the impact of foreign remittances has negative effect on the ratio of poverty headcount, while impact on other poverty measure are not statistically significantly in poverty square gap and poverty gap. The impact of international migration and remittances occur when the ratio of skilled and unskilled workers increases and the remittances value taken in five percent or more of remittances GDP percentage.

The study explains the result of remittance in two aspect, first one is the value of remittances less then five percent and second is high, in case of low the remittances has negative effect only poverty headcount, while on the second way if value used greater then five percent then poverty reduce in three different measure of poverty. They suggested that with the ten percent increase remittances poverty headcount decrease 3.1 percent. While the effect of remittances on inequality is positive in the both causes, the study explains the reason of increasing inequality in the developing countries. When people migrate from developing to developed countries then everyone not moves or migrate due to shortage of income and information or awareness. In starting few people migrate and send income to their family, then the living standard of such family change to others.

Chami et al. (2005) , examine the international migration and remittances effect on 113 developing countries during the period of 1970 to 1998. Skilled and unskilled people migrate to foreign developed countries to support their family. The results show that remittances were negative and significant impact for reduction of poverty, while remittances were positively and significantly effect on inequality in developing countries. When 1 percent remittances are increases then 0.19 percent poverty decrease, gross domestic product (GDP) per capita significantly and negatively effect on poverty, but positive and significant effect on the income inequality in the developing economies.

Gaaliche and Gaaliche (2014), investigate the connection of international remittances for reducing poverty in the developing economies over the period of 1980 to 2012. In this study FMOLS (fully modified least squares) model used for the estimation of worker remittances to reducing the poverty rate in the fourteen emerging and developing economies. The result of non-stationary dynamic method of panel data show that international remittances have reduce the ratio of poverty in the recipient countries. Increase in remittances impact weakly on the reducing income inequality in emerging and developing economies.

Apergis and Cooray (2018), examine the role of international remittances on poverty reduction of developing countries over the period of 1980 to 2015. In this study used fixed effect modal and GMM model used for analysis the effect of international remittances on reducing poverty. The result show that remittances have statistically significant effect on the reduction of poverty in the developing countries. Skilled migrants more effective as compare with the unskilled worker migrants for the development of financial sector of the developing countries.

Lekhe and Hwang (2018), examine the linkage of international remittances and assets inequality in the developing economies. Using pooled least square method, the result shows that international remittances have significantly and negatively impact on the assets inequality in the developing economies.

Imai et al. (2016), study the relationship between remittances, poverty and growth in Asia developing countries over the period 1970 to 2014. Using panel data techniques, the study reveals that migration and remittances encouraging growth, decreases inequality and poverty in Asian developing economies. Results also show that migration and remittances are increase growth and decrease poverty but income inequality not decreases with the increase of remittances. When remittances increase then education level of people increases and development of village infrastructure also increases.

Vacaflores (2018), investigate the helping of remittance on inequality and lower poverty in Latin America over the period 2000 to 2013. In this paper used GMM for results. The results show that remittances were positive and significant impact on inequality and poverty rates. When remittances were increase then decrease the level of inequality and poverty. In this paper financial development was not better perform on the reduction of inequality and poverty in Latin America. He also fined that the remittance was important for those countries where per capita amount is smaller.

Anyanwu and Erhijakpor (2010), investigate the effect of international remittances reduce poverty in Africa over the period of 1990 to 2005. In this study they used the panel data for applying OLS estimation techniques. They examine that international remittances reduce the country poverty level, severity and depth in Africa. The result of OLS (Ordinary Least Squares) show that the international remittances has negative & significant effect on the poverty gap, poverty headcount and poverty square gap, while the impactof international remittances have positive and significant effect on income inequality (GINI) in Africa.

Siddique et al. (2016), relates international remittances and migration with poverty reduction for developing economies over the period of 1980 to 2012. Random and fixed effect model applied for estimating the effect of remittances on poverty in developing countries. The result shows the extra money in the form of remittances reduce the poverty and inequality in the developing nation.

Inoue and Hamori (2016), examine the impact on international remittances on reduction of poverty in Asian developing economies over the period of 1980 to 2012. In this study fixed effect model applied for estimation the impact of international remittances on reducing poverty in the Asian developing countries. The result show that international remittances has significant effect on reducing poverty in Asia developing economies. With the increase international remittances in the developing countries the living standard up of the receipt countries people. They expense it in education purposes and give higher education to their child, while they also support the needy people in the society in different aspects.

Yoshino (2017), investigate the impact of international remittances for reducing poverty in Asian developing countries over the period of 1981 to 2014. They used Ordinary Least Square regression modal for results. One percent increase in remittances as percentage of GDP (gross domestic products) reduce the poverty gap ratio by 22.6 percent and the ratio of poverty severity decline to 16.0 percent.

McKay and Deshingkar (2014), examine the impact of internal remittances on poverty reduction for Asia and Africa. The result show that international remittance reduce poverty in the developing economies. However, increase the income inequality, the reason is that few household migrate to the international countries the other poor household not effort the initial expenditure of the abroad migration abroad.

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Anyanwu et al. (2011), examine the linkage of international remittances on income inequality in Africa over the period of 1960 to 2006. In this study GMM model used for the estimation of income inequality in Africa. The study reveals that increase in international remittances havepositive and significant effect on income inequality in Africa. Ten percent increase in international remittances relative to GDP increase income inequality by 0.013 percent.

Shimeles and Nabassaga (2017), study the impact of international remittances for highly unequal distribution of income in Africa over the period of 1990 to 2013. The data has been collected from forty-four developing countries of Africa. Using OLS estimate, the result show that increase in foreign remittances initially increase the unequal distribution of income in the developing countries.

Adams (2004), investigate the relationship of international remittances on reducing the poverty in Guatmala over the period of 2000. Household data has been collected for different two regions i.e. rural and urban area in the country of Guatmala during the time period of July to December 2000 and gathering the information from 1568 household for estimate the effect of international remittances in both rural and urban regions on the poverty reduction in Guatmala. The result show that increase in internal remittances decrease the 21.1% of poverty, while increase the international remittances decrease the 19.8% of poverty in Guatmala.

Taylor and Mora (2006), examine the relationship of remittances, poverty and inequality in rural Mexico over the period of 1990 to 2002. In this study, household survey of the new data of rural Mexico. This household survey provides the data completely on assets, production, socio demographic characteristics and migration during the period. The result show that international remittances has negative and significant effecton poverty reduction in the rural of Mexico. While the impact of remittances and migration significant and negative on unequal distribution of income Rural Mexico. They analyzed that international migration reduce the inequality distribution of income in the rural area of Mexico. In this study they explore, that internal and international migration statistically positive impact on the inequality of the income in the country, the reason is that when the strength of migrates in the rural Mexico then the value of foreign remittances increases and with the increases of remittances the poverty and inequality reduce in the Rural Mexico.

Irfan (2011), examine the relation of poverty and international remittances in Pakistan over the period of 1975 to 2009. OLS (Ordinary Least Square) estimation techniques used to estimate the impact of remittances on poverty in Pakistan. Skilled and unskilled person migrate to the higher income or developed countries for the purposed of earning money and save some money which sent back to their family member in the home countries. In this study the secondary data is used to examine the connection of remittances and poverty for applying the OLS techniques. The result of OLS technique show that poverty reduced with the increase of remittances. Similarly, the connection of poverty and inflation were positive but not significant, the study concluded that international remittance has negative impact on poverty reduction, it means with the increase of remittances the ratio of poverty headcount decreases.

Edward et al (2005), investigate the linkage of poverty, inequality and remittances in Rural Mexico over the period of 1980 to 2002. Fixed effect model technique is used for the estimation of international remittances on poverty and inequality. The result of Fixed effect show that international remittances has negative and significant impact on reducing of poverty, while the result of foreign remittances not same in the context of income inequality. Remittances has positive impact on the distribution of income, means with the rise of international remittances the inequality in the developing economies high in the start. But with the increasing the ratio of migration of the skilled and unskilled people the international remittances rise in rural Mexico the distribution of income come up to down side.

Anyanwu and Erhijakpor (2010), investigate the effect of international remittances reduce poverty in Africa over the period of 1990 to 2005. In this study they used the panel data for applying OLS estimation techniques. They examine that international remittances reduce the country poverty level, severity and depth in Africa. The result of OLS (Ordinary Least Squares) show that the international remittances has negative & significant effect on the poverty gap, poverty head-count and poverty square gap, while the impactof international remittances have positive and significant effect on income inequality (GINI) in Africa.

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WouTerSe (2010), examine the impact of remittances on poverty and inequality evidence Burkina Faso over the period of 2003. In this study data has been collected in two ways of the central region of Burkina countries, one side is included two village of the Burkina Faso for south side are Niaogho and Beguedo, while the other north side are Korsimoro and Boussouma. The international remittances and migration play a vital role for the developing area, in this paper, four village of central region of Burkina Faso is discussed and estimate it the migration of people in intercontinental. The result show that the rise of remittances positively effect on income equality, while international remittances have negative and significant effect on poverty reduction in both side of the central region of Burkina Faso.

Pernia (2008), examine the connection of international migration and remittances for reducing poverty and inequality in Philippines. Internal and international migrationplay a vital role for bring the change in the society. People migrate from developed area or countries and their they earn money and knowledge and adopt different situation or environment like the education system, living standard and business trick. They earn money and send back to their family, which effect on environment living style and the education of their child. When education spread

in the society, then the awareness of people living standard also up. The result show that remittances have significant effect on reducing poverty and inequality. Zhu and Luo (2010), investigate the relation of international migration on reducing poverty and inequality in rural area of china. They extend the data of Shiyan-Manchuan the project of high way collecting January 2003, in this forty two village, nine towns and four districts included. Skilled and unskilled person move from city side and support their family. They examine the effect of remittances on poverty of the rural family. Migration is important role for reducing poverty in the rural area. The result show that remittances and migration play a vital role for rising the income level of rural area and distribution of income in rural area of Chinna. Similarly, the migration and remittances reduce the poverty in the rural area. It increases the income level of poor household, increase in remittances the poverty gap, poverty headcount and poverty square gap significantly decreases.
Cattaneo (2005), examine the relationship of international migration and remittances for reducing poverty for analysis of cross countries. The study explores the connection of poverty and migration in developing economies, people migrate developing economies to developed economies. The result describes the impact of remittance and migration on poverty reduction. International remittances reduce the poverty and increase inequality in the country. It means increasing of international remittances decrease the poverty headcount in the developing economies.
López-Feldman et al. (2007) Taylor and Yitzhaki (2007), study the linkage of inequality and remittances in the Mexico. Data is analyzed the effect of internal remittances and migration for distribution of income in the rural village. Skilled and unskilled people migrate to the developed economies for the purpose of earning, their main moto to support their family and live with best way to fulfill their necessary needs. They use the regression and fixed effect model apply to see the impact of internal and international remittances and migration on reducing poverty and inequality. The result of this study explain that international remittances negative and significant effect on reducing poverty, while international remittances and migration increase the unequal distribution of income in the rural

village of Mexico. Increase of 1 percent remittances and migrates rise the inequality 0.14 percent in the rural village of Mexico.

Siyan et al. (2016), investigate the connection of unemployment, inflation and poverty in Nigeria over the period of 1980 to 2014. VAR (Vector Auto Regressive) model apply for the connection of poverty, unemployment and inflation in the Nigeria. VAR result show poverty and unemployment have causality of two way, while poverty and inflation rate have one-way causality. They concluded that Government of Nigeria take action and introduced the training cources of education and provide the facility of the skilled and unskilled people. The study suggested to the Nigeria government to conduct the poverty reduction program which is neccesory for reducing the poverty level in the country i.e social security that is the main source to reduce the unemployment and inflation rate in country.

Acharya et al. (2013), examine the remittances effect on poverty and inequality in Nepal over the period 1998 to 2009. This study used panel LSMS (living standard measurement survey) model apply for the estimation of remittances effect on inequality and poverty. The results show that remittances have statistical significant effect on poverty reduction and positive significant impacton income inequality. In this study the researcher explain that international remittances and migration play a main role for reduction of poverty level in rural areas. Moreover, they reveals that significant portion of utilized in unproductive sector i.e purchase land, buying and luxury products.

Adams (2006), examine the linkage of poverty and remittances in Ghana. Household survey data collected for estimate the effect of international migration and remittances for reducing poverty and inequality in the Ghana country. Using household survey, that international remittances have negative and significant impact on reduction of poverty in Ghana. while the inverse result occurs increasing the international and internal migration and remittances in distribution of income. The study shows that both type mean internal and international migration and remittance reduce the poverty headcount, poverty square gap and poverty gap in Ghana. When these poor economies received the internal and international remittance then the status of such household change with dramatically that effect on three poverty measure like poverty gap, poverty headcount and poverty squared gap.

Vargas and Garriga (2015), investigate the reduction of poverty and inequality in Bolivia over the period of 2000 to 2014. Skilled and unskilled people migrate to main city or developed countries for the work and earn money after fulfilling the basic requirement of such income they send saving amount to their home family member. Internal and international migration and remittances play a vital role for reducing the poverty in the country. They analyzed that the income of non-labor positive contribution for reducing poverty and inequality, while the impact of labour income in the country. They suggested that Government of Bolivia give the awareness of unskilled people and start different technical short courses which is helpful for the migrants people and they earn much money and send back to their family. The result show that international remittances of skilled person create significant change in reducing poverty and inequality in the Bolivia.

Wagle and Devkota (2018), examine the international remittances impact on reducing poverty in Nepal over the period of 1996 to 2011. Panel data used logistic regressions for the estimate the impact of international remittances on reduction of poverty. The result show that international remittances and poverty have significant effect on reducing poverty. They suggested that Government of Nepal make some policies to implement the labour migrants and international remittances received with proper way which is helpful to estimate the effect of international remittances on reducing poverty and inequality in Nepal.

Beyene (2014), analyzed the effect of international remittances on reducing poverty and inequalityin Ethiopia. Household urban survey data for 2004 used to analyze the impact of international remittance and migration on inequality of income and poverty reduction in Ethiopia. The result show that international migration and international remittances reduce the poverty headcount, poverty square gap and poverty gap. Ten percent increase in international remittances decrease the 2.5 percent poverty headcount, 0.6 percent poverty square gap and 1.1 percent poverty gap respectively. However, increase in international migration and international remittances have positive and significantly effect on income inequality.

Viet et al. (2008), examine the international remittances impact on reducing poverty in developing countries over the period of 1996 to 2011. Panel data used logistic regressions for the estimate the impact of international remittances on reduction of poverty. The result show that international remittances and poverty have significant effect on reducing poverty. They suggested that Government of developing economies make some policies to implement the labour migrants and international remittances received with proper way which is helpful to estimate the effect of international remittances on reducing poverty and inequality in developing economies.

Kinyondo and Pelizzo (2018), examine the linkage of international remittances on income inequality in developing economies over the period of 1990 to 2016. In this study GMM model used for the estimation of income inequality in developing economies. The study reveals that increase in international remittances have positive and significant effect on income inequality in developing countries. Ten percent increase in international remittances relative to GDP increase income inequality by 0.013 percent.

Adhikari (2016), investigate the remittances effect on reducing poverty and income inequality in Nepal. They used the panel data and fixed effect modal for results. In this paper they concluded that remittances were negative and significant effect on poverty severity ratio (PSR), poverty headcount ratio (PHR) and poverty gap ratio (PGR). While the increase of international migration and remittances then inflation rate increase, GDP also increases but trade openness was decreases in Nepal.

Brown and Jimenez (2008), study the impact of international migration and remittances on reducing poverty and income inequality in Fiji and Tonga. They used the survey data of household -level of both countries Fiji and Tonga with migration and remittances of these countries effect on poverty and income inequality, against which without international migration and remittances income comparing. The result show that the impact of international migration and remittances have strong significant and positive impact on income distribution and poverty reduction in both countries Fiji and Tonga.

? examine the linkage of international remittances on income inequality in Mexico over the period of 1980 to 2015. In this study GMM model used for the estimation of income inequality in Mexico. The study reveals that increase in international remittances have positive and significant effect on income inequality in Mexico. Ten percent increase in international remittances relative to GDP increase income inequality by 0.017 percent.

Vargas and Garriga (2015), investigate the reduction of poverty and inequality in Bolivia over the period of 2000 to 2014. Skilled and unskilled people migrate to main city or developed countries for the work and earn money after fulfilling the basic requirement of such income they send saving amount to their home family member. Internal and international migration and remittances play a vital role for reducing the poverty in the country. They analyzed that the income of non-labor positive contribution for reducing poverty and inequality, while the impact of labour income in the country. They suggested that Government of Bolivia give the awareness of unskilled people and start different technical short courses which is helpful for the migrants people and they earn much money and send back to their family. The result show that international remittances of skilled person create significant change in reducing poverty and inequality in the Bolivia.

Park and Wang (2010), examine the impact of migration on inequality and urban poverty reduction in china. Used the recent data of local resident and migrants survey of ten cities in China for the year 2005. The study investigates whether there is any difference between local resident and migration influence the estimation of income inequality and urban poverty reduction in ten cities of China. The result show that significant difference occurs between local residents and migrants. Poverty headcount ratio of migration is 1.4% which higher 1.3% the rate of poverty of local residents.

Beyene (2014), analyzed the effect of international remittances on reducing poverty and inequalityin Ethiopia. Household urban survey data for 2004 used to analyze the impact of international remittance and migration on inequality of income and poverty reduction in Ethiopia. The result show that international migration and international remittances reduce the poverty headcount, poverty square gap and poverty gap. Ten percent increase in international remittances decrease the 2.5 percent poverty headcount, 0.6 percent poverty square gap and 1.1 percent poverty gap respectively. However, increase in international migration and international remittances have positive and significantly effect on income inequality.

Ajaero et al. (2018), analyzed the relation of international remittances and migration the welfare of household in Nigeria. Data has been collected from thirty-six states of seven hundred seventy-six local Government, divided into six different zones, like North East, North Central, North West, South Central, South West and South East. They examine the linkage of remittances and poverty in the household welfare of Nigeria. The result show that international migration and remittances have a positive and significant linkage of poverty reduction. International remittances play a main role for the household welfare in the Nigeria.

Bouoiyour and Miftah (2014), investigate the remittances impact on inequality and poverty reduction in Morocco. OLS (Ordinary Least Squares) model is used for the estimation the effect of international migration and remittances in the reduction of poverty and income inequality in the Morocco. The result show that migration is the main source for reducing poverty in the developing economies, increase in international remittance decrease the poverty in the country. They analyzed the international remittances improve the inequality in the country and living standard of the rural area of the Morocco.

Koechlin and Leon (2007), investigate the linkage of international migration and remittances on income inequality over the period of 1960 to 2001. In this paper used GMM for results. The results show that remittances were positive and significant impact on inequality and poverty rates. When remittances were increase then decrease the level of inequality and poverty. In this paper financial development was not better perform on the reduction of inequality and poverty.

Adams Jr (1989), explore the linkage of inequality and remittances in rural Egypt over the period of 1976 to 1987. Data collected from different questionnaire of the household of rural Egypt for see the linkage of income inequality and remittances in rural area. The result show that international remittance has positive impact on income distribution. The study examines the reason of unequal distribution of income in the rural area. When the people migrate to foreign country they need to much money, so everyone not affords such expenditure then some people migrate in the rural area and they send back money to their family. Furthermore, the effect of said amount cause the inequality in the distribution of income in the rural area. When the ratio of migration increases in the rural area then the distribution of inequality reduces, the result will change with the passage of time that show the international remittances have negative effect on income inequality in rural Egypt.

Gubert et al. (2010), examine the effect of international remittances in income inequality and poverty reduction. Household survey data collected from June to December 2006. The result show that migration of skilled labour send income to their family member which effect the reduction of poverty in the developing economies, while the increase in international remittances positive impact on distribution of income inequality in Mali. The study show that the poverty reduces due to increase in international remittances five percent to eleven percent and the income inequality about five percent in Mali.

They explore that foreign migration not easy for poor household so few middle-class family efforts the expenditure of foreign and thats way they sent money to their family which change their living standard. They suggested that if government introduce such polices which help the poor households for migration and they can support their family. With the increase of foreign remittances, the ratio of unequal distribution of income reduce otherwise the ratio of income inequality increase with the increase of income of few families.

Bam et al. (2016), investigate the remittances impact on consumption, household income and reducing poverty in Nepal over the period of 1995 to 2011. In this study panel data and linear regression model apply for the estimation of international remittances impact on reducing poverty and household income. The result show that international income has positively and significantly effect on consumption and household income. The study analyzed that international income has significant and positive impact for reducing poverty headcount ratio, poverty gap and square poverty gap.

Karunaratne and Dassanayake (2018), analyzed the international remittances impact on reducing poverty in Sri Lanka over the period of 1990 to 2013. In this study panel data for regression model used for the estimate of foreign remittances on reducing poverty. The regression model show that international migration and international remittances has contribute the significant and positive to absolute reducing poverty, while significantly and negatively contribute the poverty relative augmentation in Sri Lanka.

Howell (2017), examine the international migration and remittances on income inequality and poverty reduction in rural Chinna. In this study household survey data used for the estimation of international migration and remittances on the un equal distribution of income in the rural area of the China. Unskilled and skilled workers migrate from less developing area to developed area for the purpose of earning. Remittances of skilled workers is greater than the unskilled migrants. The result show that international remittances increase the inequality in the developing area or undeveloped area in Chia.

Agwu et al. (2018), investigate the impact of remittances on unequal distribution of inequality in the Senegalese. Data collected from household international income and consumption over the period of twelve month to analyze the impact of international remittances on income inequality in rural area. The result show that the distribution of the income is unequal in the beginning of rural area, while increasing the ratio of migrants the ration of inequality come to down. They suggest that if the ratio of migration and awareness increases in the rural area then the ratio of unequal distribution of income decline, then with the increase of internal or international remittances have statistically significant effect on the reduction of poverty and inequality in the developing area or rural area of Senegalese.

Möllers and Meyer (2014), study the linkage of international migration on income inequality and poverty reduction in rural Kosovo. In this study logit and probit model used for the collection of household survey data over the period of 2009. The families of rural Kosovo totally depend on the international remittances. The result show that international migrants remittances have statistically significant effect on the income inequality. People migrate to internal or international countries and adopt the skill and education, which convert to their family member and give the awareness of the abroad rule regulation that is helpful for migration with skilled way. Skilled worker gets more remittances instead of unskilled migrants.

Stark et al. (1986), examine the impact of international remittances on inequality of Mexico. The household survey data has been collected for the estimation of remittances on distribution of income. The result show that increase in international remittances have positive impact for the distribution of income. When international remittances have positive impact on education system, the reason is that with the increase of remittances, the living standard up of the poor household of the developing countries.

Mesplé-Somps and IRD (2009), examine the effect of remittances in income inequality and poverty reduction. Household survey data collected from 2006 in Mali. The result show that migration of skilled labour send income to their family member which effect the reduction of poverty in the developing economies, while the increase in international remittances positive impact on distribution of income inequality in Mali. The study show that the poverty reduces due to increase in international remittances five to eleven percent and the income inequality about five percent in Mali.

Petreski and Jovanovic (2014), investigate the impactof international remittances on reduction of poverty in Macedonia. The data has been collected from one thousand household to estimate the impact of international remittances for the reduction of poverty in Macedonia. The result show that international remittances have reduce the rate of poverty headcount, poverty gap and poverty squared gap in the developing area of Macedonia. Increase in remittances also decrease the income inequality but not decrease the ratio of unemployment of the poor household in Macedonia. They suggested that policymaker worked on the preparing of such policies which increase the ratio of international remittances in the country.

Haji and Sera (2016), analyzed the effect of international remittances for the reduction of poverty in Ethiopia over the period of 2014. In this study household survey data collect and used for the estimation the effect of international remittances in Ethiopia for reducing the ratio of poverty in the developing area. The result show that remittances has negative and significant effect on the reduction of poverty in the developing area of Ethiopia. Increase in international remittances decrease the poverty of the poor people in the Ethiopia. They suggested that government of Ethiopia introduce the policies and procedure for the migrants before migration and also give the training to the unskilled people. Skilled worker impact greater for the reduction of poverty as compare the unskilled worker. The reason is that skilled worker send much money to their family as compare to unskilled worker.

MUGHAL et al. (2012), study the impact of international remittances, poverty and income inequality evidence in Pakistan over the period of 1979 to 2007. Ordinary Least Squares (OLS) model used in this study to see the linkage of international remittances for reducing poverty and income inequality in the developing area of Pakistan. The result of OLS show that remittances of the foreign developed countries reduce the poverty headcount ration in Pakistan. They find that increase in international remittances have statistically positive impact on the reduction of income inequality and poverty in Pakistan.

Dhrifi et al. (2013), investigate the linkage of financial development, poverty and inequality in 89 developing economies over the period of 1990 to 2011. The study analyzed the direct as well as indirect effect of financial development for reducing poverty. The result show that financial development has significant and positive impact on reducing poverty in the direct way, through services of insurance and savings, while in indirect way financial development has negative effect through inequality and growth. Financial development sector plays a vital role for the reducing of poverty and economic growth in developing countries of the world.

Imai et al. (2014), investigate the effect of remittances on economic growth and reducing poverty in Asian developing countries over the period of 1980 to 2009. In this study 2SLS panel data used for the estimation of international remittances in reducing the poverty and financialdevelopment in the Asian developing countries.

The result show that the impact of international remittances has negative and significant effect on the poverty reduction. Increase in international migration and remittances established the financial sector of the developing economies. They argue, remittances have more benefit for the economic growth and the reduction of poverty in the country. They suggested that policymakers implicate the use of remittances policies to investors which is helpful for the potential of economic development.

Devkota (2014) examine the impact of international remittances on reduction of poverty and income inequality in Nepal over the period of 1993 to 2013. Household survey data gathered for the estimation of worker remittances impact on the distribution of income inequality and reduction of poverty in developing area of Nepal. Skilled workers have increase international remittances as compare to unskilled workers. Worker remittances played vital role for the reduction of poverty in the developing economies. The result show that foreign remittances have positive and significant effect on distribution of income and negative significant effect for the reduction of poverty in the recipient countries.

Ratha (2013), study the international remittances impact on poverty reduction and economic growth in the developing economies. In this study regression model used for estimate the impact of remittances in reducing poverty and financial development in the under developed countries. The result show that international migration and remittances have positive and significant impact on poverty reduction in the developing countries.

Gupta et al. (2009), investigate the remittances, poverty and financial development impact in Sub Saharan Africa. In this study Panel data OLS model used for estimation the effect of international remittances on reducing poverty and development of financial sector in the Sub Saharan Africa. The result show that international remittances have negative and significant effect in the developing area, increase ten percent of international remittances has decrease the one percent of poverty headcount in Sub Saharan Africa. Furthermore, the increase of international remittances has positive and significant effect on income inequality. They introduced the interaction term among the remittances and dummy of Sub

Saharan, so the overall impact on reducing poverty of remittances show positively. Increase in international remittances has positive effect on reducing poverty and help in financial development.

Beck et al. (2005), investigate the linkage of poverty, inequality and finance evidence cross country over the period of 1980 to 2000. They analyzed the effect of financial sector to control the inequality in the poor income and reduce the poverty. Using the data of cross country sample, to estimate either financial development changes the income inequality distribution and poverty reduction of the poor household. The result show that financial development reduces the poverty and also decline the inequality of the poor in the developing countries. They suggested that greater induces the financial development income grow faster of poor than average per capita GDP and inequality of income rapidly decline more. Furthermore, the result show that financial development also helpful for reducing poverty.

Fowowe and Abidoye (2013), examine the effect of financial development on income inequality and reducing poverty in the African countries. In this study used fixed effect modal and GMM. The study analyzed the direct as well as indirect effect of financial development for reducing poverty. The result show that financial development has significant and positive impact on reducing poverty in the direct way, through services of insurance and savings, while in indirect way financial development has negative effect through inequality and growth. Financial development sector plays a vital role for the reducing of poverty and economic growth in developing countries of the world. They suggested that international remittances have positive and significant impact on the development of financial sector which is helpful for reducing the poverty in the developing area of the Africa.

Antwi and Koranteng (2017), analyzed the impact of international remittance of reducing poverty and economically development: does financial development matter in Ghana over the period of 1990 to 2014. Panel data regression model used for the estimation of remittances for the financial development of the Ghana. The result of regression model show that remittances to GDP (Gross domestic product) ratio has significant and positive contribute in short run for the economically development, while the financial sector has reduced the poverty but not significant in Ghana due to not proper way the savings of remittances.

Guetat and Sridi (2017), investigate the impact of international remittances on institutional quality in Mena over the period of 1984 to 2011. In this study Ordinary Least Square Model used for the estimation of international remittances impact on institutional quality in the region of Mena. The result of OLS show that international remittances has positive impact on financial openness in the significant level of 5 percent. Skilled and unskilled workers of Mena country send more money in the home country for their family member if the situation of the country is risky like, economically, politically or financially risk rises. The inflow on migrants worker remittances helpful to manage the risk of the country. They also analyzed the effect of international migration and international remittances for the development of financial sector in the developing area. When financial sector is strong, then the ratio of international remittances increased.

Uprety (2017), examine the international remittances impact on economic growth in Nepal over the period of 1976 to 2013. In this study VAR/ VECM model applied for the estimation of international effect on the growth and development of financial sector in the Nepal. The result show that international remittances has negative impact in the short run related to gross domestic products (GDP) per capita, while no effect on long run. This study suggested that the Government of Nepal introduces the policies and procedure to the migrants worker before going to abroad. International remittances of skilled labor are greater than the unskilled workers of the country. If Government give the training to the migrants which is helpful for the migrants and also increase the earnings of the migrants that is necessary for the economic development of the country.

Qayyum et al. (2008), investigate the connection of remittances on poverty and financial development in Pakistan over the period of 1973 to 2007. In this study ARDL model used for the analysis of international remittances on the reduction of poverty and economic growth in the province of Sindh, Baluchistan, NWFP and Punjab of Pakistan. The result show that international remittances has negative and significant effect on reducing poverty, while increase in remittances have positive effect on the development of financial sector and economic growth in Pakistan. Increase of international remittances have more effective for the poverty reduction and growth enhancement the improves the economic and social conditions the countries of receipts.

Haile and Asfaw (2018), investigate the determinants and status of inequality income distribution and poverty in Ethiopia. Household data collected from the Ethiopia district Girar Jarso for the analysis of income inequality and poverty reduction in the developing district of Girar Jarso the state of Ethiopia. In this study the information gathered from the 120 household for their basic requirement questionnaire basis and used the procedure of three stage sampling for the estimation of poverty reduction and income inequality in the developing district. The result show that poverty reduction has strongly linkage to the remittances or family size non-farm and farm income. They suggested that non-farm activities promote the inflow of international remittances which effect for the reduction of poverty in the country.

Adams et al. (2008), examine the effect of international remittances for reducing poverty and unequal distribution of income in Ghana over the period of 2005 to 2006. In this study household survey data gathered from 2005 and 2006 for analysis the effect of international remittances for reducing poverty and income inequality in Ghana. The result show that international remittances have negative effect on income inequality. Increase in internal and international remittances reduce the poverty gap, poverty square gap and poverty headcount ratio in the developing economies.

H_{a0}**:** International remittances have no impact on poverty headcount poverty gap and poverty square gap.

H_{a1}**:** International remittances have significant impact on poverty headcount poverty gap and poverty square gap.

H_{b0}: International remittances have no impact on income inequality.

H_{b1}: International remittances have significant impact on income inequality.

2.2 Relationship Between Remittances, Financial Development, Poverty and Inequality

Aggarwal et al. (2011), examine the impact international remittances for the promotion of financial development of developing countries over the period of 1975 to 2007. In this study GMM model used for the estimation of the effect of remittances for the development of financial sector in the developing economies. The result show that international remittances have positive and significant effect on the development of financial sector in the developing economies. They explore the connection of worker remittances and financial development in the developing economies is positive, while worker remittances and poverty reduction have negative relation with each other.

Jalilian and Kirkpatrick (2002), analyzed the linkage of poverty reduction and financial development in developing countries. Panel data 2SLS model used for the estimation the connection of poverty reduction in the income level and financial development of developing countries. The result show that the policies for the development of financial sector in low income countries support to achieve the goal of poverty reduction in developing countries. Furthermore, the study examines the connection of financial sector policies and procedure can affect for the reduction of poverty and can also improve the development of economic growth in the developing countries.

Giuliano and Ruiz-Arranz (2009), examine the effect of international remittances on financial development and economic growth in the hundred developing countries over the period 1975 to 2002. They used average of five year data for hundred developing economies. In this study used OLS (Ordinary Least Squares modal. They analyzed the few similar myth about remittances and see the effect of remittances in economic growth and development of financial sector in the developing economies. The result show that the lower transfer cost of transaction of international remittances helpful for the economic growth of the country. Furthermore, the lower cost of transaction impact on the development of financial sector of the less developed countries which cause the rise of international remittances in such countries where the transaction cost lower as compare to those where transaction cost high. Increase in international remittances decrease the poverty in the developing countries.

Bhattacharya et al. (2018), examine the linkage of international remittances and financial development in developing economies. In this study GMM model used for the estimation of international remittances on the development of financial sector of the developing economies. The result show that international remittances and financial development in the long run linkage with each other, inflow of foreigndirect investment in the developing economies have important role for financial development influencing. They suggested that policies and procedure formulated in future, which helpful for the skilled and unskilled workers migrants.

Svirydzenka (2016), investigate the impact of international remittances for the development of financial development in the 183 developing economies over the period of 1980 to 2013. Financial development was the collection of financial institution and financial market. In financial institution included financial institution depth, financial institution access and financial institution efficiency, while in financial market included financial market depth, financial market access and financial market efficiency. In this study 3SLS model applied for the estimation of the financial development in the developing economies. The result show that worker remittances have played vital role for the development of financial sector in the under developed economies or receipt countries.

Acosta et al. (2008), examine the international remittances impact on reducing poverty and inequality in Latin America. In this study used fixed effect modal and GMM. Increase in international remittances were significantly and negatively impact on inequality and poverty reduction. The result show that poverty decrease when remittance was increase in country. The decrease of poverty depends on measurement of poverty, remittances also impact on equalization of income.

The study examines the development of financial institution improve the inequality and poverty reduction impact on Latin America.

Satti et al. (2016), study the effect of international remittances for economic growth and povertyreduction in emerging countries over the period of 1978 to 2011. In this study, they used the approach of ARDL to analyze the effect of international remittances on poverty reduction in Pakistan. The result show that international remittances have significant effect on poverty reduction in the country and also improve the economic growth of the Pakistan. Internatioal remittances increase the education and skills of the rural Pakistanis. Inflow of international remittances decrease the ratio of unemployment in the country and also increase the opportunities of employment in developing areas due to establish of small business setup. Increase in remittances the ratio of poverty headcount decreases in the country, which effect the living standard of the developing area or rural area of the country.

McLeod and Molina (2005), investigatethe effect of remittances on income inequality and reducing poverty in Latin America over the period of 1975 to 2003. In this study panel data used for estimate the impact of inter and international remittances in the Latin America. The result show that remittances has statistically significant for reducing poverty, while positive effect on distribution of income in the Latin America. Increase in international remittance reduce the poverty headcount ratio, poverty square gap and poverty gap. The study explores the connection on remittance in inequality due to increase in remittances also increase the inequality of the income of Latin America. Additionally, international remittances have positive impact on the growth of the financial development.

Giuliano and Ruiz-Arranz (2009), examine the effect of international remittances on financial development and economic growth in the hundred developing countries over the period 1975 to 2002. They used average of five year data for hundred developing economies. In this study used OLS (Ordinary Least Squares modal. They analyzed the few similar myth about remittances and see the effect of remittances in economic growth and development of financial sector in the developing economies. The result show that the lower transfer cost of transaction of international remittances helpful for the economic growth of the country. Furthermore, the lower cost of transaction impact on the development of financial sector of the less developed countries which cause the rise of international remittances in such countries where the transaction cost lower as compare to those where transaction cost high. Increase in international remittances decrease the poverty in the developing countries.

Gupta et al. (2007), examinthe relationship of international migration and remittances for the development of financial sector in the Sub-Saharan Africa over the period of 1975 to 2005. In this study 3SLS (Three Stage Least Square) model used for the estimation of international remittances on the development of financial sector of the developing economies. The result of Three stage least square show that international migration and remittances play a vital role for the development of financial development in the sub Saharan Africa. Increase in remittances reduce the poverty headcount ratio and also decrease the poverty gap and squared poverty gap in the sub Saharan Africa.

Kouni (2016), examine the effect of international remittances for the development of financial sector in Tunisia over the period of 1987 to 2012. In this study GMM model used for the estimation of international remittances for the economic development of three sector industry, services and agriculture in Tunisia. The result show that remittances have positively significant effect on the economic development. The study explore that increase in one percent international remittances also increase the investment one to four percent for the developing economies. International remittances have main role for the reduction of unemployment and promote the educational level in the developing economies.

Feeny et al. (2014), study the impact of international remittances for the development of large countries and small countries over the period of 1971 to 2010. In this study OLS (Ordinary Least Squares method used for the estimation of remittances impact of economic development is greater or less in small Island developing state then large developing state. The result show that remittances has significant and positive impact on the development of small and large both developing state of sub

Saharan Africa but not same impact on the other state located in the Caribbean and Latin America.

Akobeng (2016), examine the impact of poverty and inequality on remittances evidence of sub-Saharan Africa over the period 1981 to 2010. The study used average of five-year data for forty-one sub Saharan countries. In this study used fixed effect modal and GMM. Remittances were negative and significant impact on inequality and poverty. The result show that poverty decrease when remittance was increase in country. The decrease of poverty depends on measurement of poverty, remittances also impact on equalization of income. The study also examines the development of financial institution improve the inequality and poverty reduction impact on Sub Saharan Countries.

H_{c0}**:** Impact of international remittances and poverty not depends on the level of FD.

H_{c1}**:** Impact of international remittances and poverty depends on the level of FD.

H_{d0}**:** Impact of international remittances on income inequality not depends on the level of FD.

H_{d1}**:** Impact of international remittances on income inequality depends on the level of FD.

Chapter 3

Data and Methodology

This section of study represents the sources from which data has been collected. It explains the research methodology that is used to conduct the study. The data have been collected from the World Bank, International Monetary Funds and various other sources. In this chapter, Firstly, we discuss about the data sources and their respective definition. Secondly, we explain the construction of empirical model and finally the methodology.

3.1 Data Description

The study aims at exploring the relationship between remittances and poverty and inequality considering the role of financial institution development. Annual panel data from 1986 to 2015 are used for analysis. The data sample consist of 102 developing countries further divided with respect to their income level Middle income group, and lower income group. The data gathered from various sources such as the World Development Indicators, World Bank, and International Monetary Funds, IMF, Standardized World Income Inequality Database (SWIID). The data description with variable definition, and sources are presented in Table 3.1.

3.2 Model Specification

This study intends to examine how international remittances impact on poverty in the developing countries. By applying the basic model of growth?poverty recommended by Ravallion and Chen (1997), Datt and Ravallion (1992) .

The poverty equation can be written as:

$$POV_{it} = \beta_0 + \beta_1 (REM/GDP)_{it} + \beta_2 GINI_{it} + \beta_3 GDPPC_{it} + \beta_4 INF_{it} + \beta_5 ADR_{it} \\ + \beta_6 (GFCF/GDP)_{it} + \mu_i + \eta_i + \epsilon_{it} \tag{3.1}$$

Where

Pov_{it} is the measure of poverty in country i at time t. $ln(GDPPC)_{it}$ shows the per capita income in natural logarithm and the $GINI_{it}$ coefficient represents inequality for country i at time t, respectively. $(REM/GDP)_{i,t}$ is the variable that explain the change in poverty, flows to the developing countries i at time t.

INF_{it} represents the inflation rate , $(GFCF/GDP)_{it}$ represents the gross fixed capital formation relative to GDP, μ_i ,η_i shows the country fixed effect, and time specific effect. Finally, ϵ_{it} the disturbance term.

$$POV_{it} = \beta_0 + \beta_1 (REM/GDP)_{it} + \beta_2 GINI_{it} + \beta_3 GDPPC_{it} + \beta_4 INF_{it} + \beta_5 ADR_{it} \\ + \beta_6 (GFCF/GDP)_{it} + \beta_7 Z_{it} + \mu_i + \eta_i + \epsilon_{it} \tag{3.2}$$

Zit represent the vector of all other control variables i-e unemployment, trade openness and political corruption. This study is interested in β_1, which measure the direct effect of international remittances on poverty.

The model of the effect of international remittances on income inequality is also formulated as:

$$GINI_{it} = \alpha_0+\alpha_1(REM/GDP)_{it}+\alpha_2 POVERTY_{it}+\alpha_3 lnGDPPC_{it}+\alpha_4 INF_{it}+\alpha_5 ADR_{it} + \alpha_6(GFCF/GDP)_{it} + \mu_i + \eta_i + \epsilon_{it} \tag{3.3}$$

$$GINI_{it} = \alpha_0+\alpha_1(REM/GDP)_{it}+\alpha_2 POVERTY_{it}+\alpha_3 lnGDPPC_{it}+\alpha_4 INF_{it}+\alpha_5 ADR_{it} + \alpha_6(GFCF/GDP)_{it} + \alpha_7 Z_{it} + \mu_i + \eta_i + \epsilon_{it} \tag{3.4}$$

In Equation 4, the parameters of interest are α_1, which represents the direct effect of inernational remittances on income inequality. The estimates of α_7 measure the direct effect of other variables in Z on income inequality.

$$POV_{it} = \beta_0+\beta_1(REM/GDP)_{it}+\beta_2 GINI_{it}+\beta_3 GDPPC_{it}+\beta_4 INF_{it}+\beta_5 ADR_{it} + \beta_6(GFCF/GDP)_{it} + \beta_7 REM * FIN_{it} + \beta_8 Z_{it} + \mu_i + \eta_i + \epsilon_{it} \tag{3.5}$$

$$GINI_{it} = \alpha_0 + \alpha_1 (REM/GDP)_{it} + \alpha_2 Poverty_{it} + \alpha_3 lnGDPPC_{it} + \alpha_4 INF_{it} + \alpha_5 ADR_{it} + \alpha_6 (GFCF/GDP)_{it} + \alpha_7 REM * FIN_{it} + \alpha_8 Z_{it} + \mu_i + \eta_i + \epsilon_{it} \tag{3.6}$$

The role of financial institution development proxied with finance (The sum of depth + access + efficiency) are important factor in the analysis of international remittances on income inequality and poverty. In order to capture the impact of international remittances on income inequality and poverty, Equations (2) and (4) are rewritten in considering the level of financial institution development.

Where

FID > 0 countries with strong financial institution development.

FID < 0 countries with low financial institution development.

Based on the median of financial development. Below median are consider as low financial development, and above one considered as highly financial development countries.

In this study we intend to know whether financial institution development variable improves the outcome of remittances on poverty and inequality independently.

3.2.1 Dependent Variable

In this study, we use poverty and inequality as a dependent variable. The alternative measure of poverty is poverty gap, poverty squared gap and poverty headcount. However, for inequality we also use a new measurement of inequality constructed by Standardized World Income Inequality Database (SWIID). The benefits of this variable over World Bank Gini Index, that it covers more observations which would indeed improve the results.

3.2.2 Independent Variables

We use remittances relative to economic size as the variable of interest. The rest is our control variables that include, trade openness, cash surplus/deficit ratio, primary enrolment rate, Population growth, Inflation rate (consumer price index) and gross fixed capital formation.

3.3 Econometric Methodology

Panel data, also known as longitudinal data are a combination of time series and cross-sectional data. Multiple observations on the same units allow to include unobserved characteristics of individuals, firms, countries etc. (Wooldridge (2015)). The advantage of using panel data as it captures the effects of unobserved characteristics in different countries. Therefore, lessen the risk of biased results. Similarly, panel data leads more variability, less collinearity and more degree of freedom (Baltagi (2008)). Moreover, it?s also captured the effects of a variable that changes over time, but not across entities, e.g., national policies and federal regulations. As pooled OLS suffers from unobserved heterogeneity bias in the presence of unobserved heterogeneity (Hsiao (2003)). To capture the unobserved heterogeneity, we use panel data to approach i.e Fixed and Random effects rather than pooling data method. Fixed-effects model extends individual effect to intercepts by including dummy variable for each cross-section (e.g countries in our study) to deal with unobserved heterogeneity (Wooldridge (1995) ; Baltagi (2007)). However, the Random-effects model extends individual effect to error terms (Wooldridge, 1995; Baltagi 2007). To select between Fixed and Random effect model, we use Hausman test that formulates the null hypothesis is more appropriate, meaning that the random effect model would be more appropriate. However, if the P - value is greater or equal to 5 percent, than the Fixed effect model would be more suitable. In this study, we use the fixed effect model based on Hausman test to examine the relationship of remittances, poverty and inequality with the level of financial institution development.

Table 3.1: Variables Description
Definitions of Variables

Variable Name	**Definitions**	**Sources**
Gini Index	Gini index measures the extent to which the income distribution (or consumption expenditure) between the individuals or households within an economy deviates from a perfectly equal distribution.	World Bank, PovcalNet,
Gini.net	Estimate of Gini index in equalizedof inequality (square root scale) householddisposable (post-tax, post-transfer) income	Standardized World Income Inequality Database (SWIID)
Remittances	People of developing countries go to abroad or developed countries for jobs or works their and send the money to their family or relatives. The data of remittances collect or taken from World Bank data sources.	World Bank, WDI

Variable Name	Definitions	Sources
Poverty Headcount (Poverty Rate or Level)	Poverty headcount is calculated the international price basis inwhich the proportion of the population are not living more then 1.25 Dollar per day.	World Bank, Povcal Net
Poverty Depth (Poverty gap)	The poverty line is expressed as insufficient (where the non-poor population is a zero gap) as a percentage of the poverty line.	World Bank, PovcalNet,
Poverty Severity (Squared Poverty Gap)	The poverty gap index cannot fully reflect concerns about changes in the internal distribution of the poor. This is similar to the poverty gap indicator, except that the poverty gap is a change in the severity of the poverty gap, thus giving the highest weight to the largest poverty gap.	World Bank, PovcalNet,

Variable Name	**Definitions**	**Sources**
GDP per capita	This is the Gross domestic products (GDP) divided by the population.	World Bank, WDI
Inflation rate	Inflation, consumer prices (annual %)	World Bank, WDI
Financial institution index	The weighted sum of Depth, Access and Efficiency	IMF staff calculation
Trade Openness	The sum of export and import relative to GDP	World Bank, WDI

Variable Name	**Definitions**	**Sources**
Age Dependency Ratio	Age dependency ration calculated for applying the dependent ration over population of working age.	World Bank, WDI
Gross fixed capital formation (percentage of GDP)	Gross fixed capital formation contains land, machinery and building etc. relative to GDP.	World Bank, WDI
Unemployment rate	Unemployment is a part of labour force, that are unemployed , but actively looking for employment.	World Bank, WDI

Chapter 4

Results and Discussion

4.1 Descriptive Statistics

Descriptive statistics used to describe the variable with their mean, median, range and standard deviation.

Table 4.1 gives the summary statistics of the data used in the analysis. The average of poverty headcount (poverty rate is 17.19 percent, meaning that the population in developing countries are living below the poverty line. Thus, on average 17.19 percent of the population is living on less than US$1.25 a day. The variability in this variable is about 20.47. The maximum value of the variable is 94.05 and the minimum value is 0. The mean value of poverty gap (poverty depth) dependent variable poverty rate is 6.69 which mean income of population have within the mean shortfall from the poverty as a percentage of the poverty line. The variability in this variable is about 9.64. The maximum value of the variable is 63.59 and the minimum value is 0. This is the Poverty squared gap (Poverty Severity) dependent variable, having mean value 4.69. The variability in this variable is about 23.43. The maximum value of the variable is 663 and the minimum value is 0. It is clear that by squaring the poverty gap for distributional concerns are trapped 4.69percent in severe poverty.

For measuring income inequality, we use the Gini coefficient ranging from 0 to 100. The coefficient near to 0 represents better income distribution, whereas near to 100 represents the worse income distribution among recipients. The mean value

Table 4.1: Descriptive Statistics

Variables	Observation	Mean Values	Std. Dev.Values	Min Values	Max Values
remgdp	2507	4.85681	7.886267	0.000197	87.6637
pov.g90	894	6.691711	9.641663	0	63.59
pov.h90	894	17.19379	20.47405	0	94.05
pov.sgap	900	4.694667	23.43175	0	663
gini	854	42.51795	9.909698	16.23	65.76
gdppc	2586	5161.924	4659.114	242.001	26606.3
inf.rate	2645	59.2438	603.1641	-35.8367	23773.1
dc.pg	2714	28.99385	26.15226	0.000823	166.504
trade.g	2815	75.44964	36.14604	11.3152	280.361
adr	3022	72.81608	19.3463	34.5215	111.665
gfcf.g	2721	21.73268	8.234861	-2.42436	68.0227
unemp.te	2525	9.33879	6.979311	1	39.2
Pol.corr	2811	.6316608	.2008764	.1037	.969

Note: the table depicts the description of the variables included in the study. Mean shows the average value, Std. Dev. shows standard deviation, Min shows the lowest value of the individual variable. Max shows the peak value of the variable. Pov.h90 stand for Poverty headcount, pov.g90 stand for poverty gap and pov.sgap stand for the poverty squared gap are poverty alternative measures and therefore, do not put the regression at the same time. Among the independent variables are rem/GDP stand for remittances, Gini stand for the Gini index, gdppc stand for GDP per capita, inf.rate stand for inflation rate, Fin.inst stand for Financial Institution Index, trade.g stand for trade openness, adr stand for age dependency ratio,gfcf.g stand for gross fixed capital formation relative to GDP, unemp.te stand for unemployment of the remittance sending and pol.corr stand for political corruption.

is about 42.52 and the value of variability is 9.91. The maximum value of the variable is 65.76 and the minimum value is 16.23.

In the present study remittances receipts as a percentage of GDP used as a variable of interest. The minimum value is. 000197 and the maximum value of remittances to GDP is occurred 87.66 for Lesotho in 1996.
The other explanatory variable is trade openness proxied by the ratio of trade to GDP. The maximum value of the variable is 280.36 and the minimum value is 11.31. The standard deviation is 36.14 while the mean of a variable is 75.44. The other explanatory variable is the annual inflation rate measured by the consumer price index (CPI). The mean value of inflation rate measured by the consumer price index (CPI) is 59.24 with the level of variability that is 603.16. The minimum value is. -35.8367 and the maximum value of inflation is occurred 23773.1 for Congo, Dem. Rep. The mean value of the age dependency ratio of this variable is 72.81608. The maximum value of the variable is 111.66 and the minimum value is 34.52. While the variability is 19.34.
The other important determinant of poverty and inequality is Gross Domestic Product, i.e. GDP taken in current U.S. $. having a mean value 5161.92. The variability in this variable is about 4659.11. The maximum value is 26606.3 and a minimum value of this variable is 242.001. The maximum value of Investment represented by the Gross Fixed Capital formation as a ratio of GDP is 68.02 and the minimum value is -2.42. The standard deviation is 8.23 while the mean of a variable is 21.73. The unemployment rate, having a mean value of 9.33 percent. The variability in this variable is about 6.97. The maximum value of the variable is 39.2 and the minimum value is 0 .1

4.2 Correlation Matrix

Correlation shows the association among the variable. Correlation also show the relationship between two variables is strongly and weakly correlated. Table 4.2 depict the correlation of different explanatory variable used in the empirical analysis. This in important to check the collinearity between variables. The correlation coefficient ranges from -1 to +1, -1 indicating a perfect negative correlation, +1 indicating a perfect positive correlation, and 0 indicating no correlation at all. We didn?t find any strong correlation between the variable and conclude that the explanatory could be used together in the model.

Table 4.2: Correlation Matrix

	remgdp	pov.g90	pov.h90	pov.sgap	gini	lgdppc.t	inf.cpa	ldc.pg	ltrade.g	adr	lgfcf.g	unemp.te	Pol.corr
remgdp	1												
pov.g90	-0.0229	1											
pov.h90	0.0340	0.9529	1										
pov.sgap	-0.0637	0.3297	0.2880	1									
gini	-0.1567	0.3592	0.2526	0.2465	1								
lgdppc	-0.3726	-0.5416	-0.6821	-0.1454	0.0763	1							
inf.rate	-0.1205	-0.0499	-0.0537	-0.0386	-0.1601	-0.1430	1						
ldc.pg	-0.0102	-0.2064	-0.2636	-0.0253	0.2321	0.4042	-0.4192	1					
ltrade.g	0.2635	-0.0974	-0.1264	0.0487	-0.2765	-0.0360	0.0741	0.1714	1				
adr	-0.0480	0.6787	0.6961	0.2593	0.4859	-0.5468	-0.0223	-0.2013	-0.2272	1			
lgfcf.g	0.0964	-0.1410	-0.1402	-0.1776	-0.3497	0.0954	-0.0253	0.1145	0.3690	-0.2305	1		
unemp.te	0.0524	-0.1087	-0.1390	-0.0849	0.0720	0.1923	-0.1968	0.1152	-0.1275	-0.2048	-0.0880	1	
Pol.corr	0.2072	0.0467	0.1009	0.0270	-0.1914	-0.3232	-0.0029	0.1670	0.0443	0.1552	-0.0457	-0.1816	1

Note: The table represents the unconditional relationship coefficient between any couple of variables. In this table pov.g90 abbreviation for poverty gap, Pov.h90 is the Poverty headcount and pov.sgap is the squared poverty gap are alternative measures of poverty and therefore, do not enter the regression simultaneously. Among the independent variables are rem/gdp abbreviation for remittances, gini stand for gini index, gdpppc is the nominal GDP per capita, inf.rate stand for inflation rate, Fin.inst is the Financial Institution Index, trade.g abbreviation trade openness, adr abbreviation for age dependency ratio,gfcf.g stand for gross fixed capital formation, , unemp.te is stand for unemployment of the remittance sending and pol.corr is the political corruption.

Empirical Findings

The empirical model is conducted in the following steps: First the poverty and inequality model estimated for the whole sample of developing countries. Secondly, we use sub-sample of the countries with respect to the countries level of financial development and then estimate the poverty and inequality model . For the more comprehensive picture, the poverty and inequality equations also estimated with respect to different regions (see Appendix). For the empirical analysis, the study employed fixed effect model also controlling the time specific effect.

4.3 Remittances and Poverty

In Table 4.3, we estimate regress poverty on different socio-economic variables. For example, we take remittances as a percentage of GDP, Gini measurement used for inequality, GDP per capita, Inflation rate, Age dependency ratio, trade as a percentage of GDP, unemployment rate, political corruption. In this first model, we run the baseline regression including important poverty determinants. In the second model others important control variable, and in model three we include the institutional variable represented by political corruption. What is more, we used three different definitions for measuring poverty i.e Poverty headcount, poverty gap, and poverty squared gap ratio. The results find that international remittances have statistically negative and significant effect on the reduction of poverty in the developing economies. This means that a rise in remittances decreases the poverty regardless of different measurement of poverty described before. Whether it is. The results are also consistent with the different models and also corrobrates with different empirical studies, for example, Portes (2009). Moreover, another measurement of the depth of poverty that reveals the distance of the poor from the poverty line. The result is in line with the empirical literature that the rise in remittances, reduce the distance of the poor people from the poverty line.

Besides, we find a positive and significant Gini coefficient regardless of the poverty

Table 4.3: Remittances and Poverty

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	PH	PH	PH	PG	PG	PG	PSG	PSG	PSG
remgdp	-0.510***	-0.479***	-0.393***	-0.198***	-0.198***	-0.161***	-0.190**	-0.156***	-0.171**
	(0.0678)	(0.0637)	(0.0601)	(0.0301)	(0.0277)	(0.0262)	(0.0703)	(0.0536)	(0.0808)
gini.disp	0.230***	0.180***	0.109**	0.112***	0.0930***	0.0599**	-0.0522	-0.0858	-0.0767
	(0.0526)	(0.0506)	(0.0486)	(0.0293)	(0.0292)	(0.0289)	(0.153)	(0.172)	(0.147)
lgdppcc	-11.69***	-11.39***	-12.00***	-4.076***	-3.942***	-4.165***	-1.856	-0.888	-0.255
	(0.895)	(0.688)	(0.742)	(0.433)	(0.392)	(0.425)	(1.103)	(0.879)	(1.557)
inf.rate	0.00146	-0.00158	-0.00321	0.00117*	0.000718	-1.86e-05	0.000813	0.000731	0.000928
	(0.00178)	(0.00222)	(0.00268)	(0.000586)	(0.000950)	(0.00111)	(0.000793)	(0.00124)	(0.00108)
adr	0.421***	0.448***	0.472***	0.208***	0.224***	0.238***	0.228	0.287*	0.319*
	(0.0449)	(0.0405)	(0.0388)	(0.0230)	(0.0228)	(0.0236)	(0.155)	(0.157)	(0.180)
gfcf.g	0.00517	0.0719	0.0373	-0.0325	-0.00544	-0.0240	-0.0894	-0.111	-0.111
	(0.0500)	(0.0510)	(0.0517)	(0.0276)	(0.0263)	(0.0268)	(0.0764)	(0.0822)	(0.0733)
trade.g		-0.0437***	-0.0441***		-0.00749	-0.00671		0.000253	0.00816
		(0.0107)	(0.0107)		(0.00603)	(0.00642)		(0.0117)	(0.0104)

*** $p < .01$, ** $p < .05$, * $p < .1$.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	PH	PH	PH	PG	PG	PG	PSG	PSG	PSG
unemp.te		0.254***	0.214**		0.134**	0.119**		0.0388	0.0617**
		(0.0864)	(0.0778)		(0.0498)	(0.0468)		(0.0402)	(0.0263)
Pol.corr			-13.10***			-5.660***			3.968
			(2.118)			(1.231)			(6.309)
Constant	71.40***	69.56***	85.04***	21.14***	18.93***	25.17***	9.468	-0.134	-10.38
	(8.537)	(6.972)	(7.170)	(3.817)	(3.309)	(3.762)	(10.54)	(6.878)	(19.25)
Observations	763	713	699	763	713	699	768	717	703
R squared	0.673	0.705	0.723	0.549	0.572	0.592	0.037	0.041	0.044
Number of year	29	24	24	29	24	24	29	24	24
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

$^{***}p < .01$, $^{**}p < .05$, $^{*}p < .1$.

measurement, this shows that higher inequity is associated with an increase in poverty. GDP per capita is negative and significant, indicating that are increasing in per capita income in the developing countries reduces the poverty. Moreover, the increase in trade openness between countries also has negative and significant influence in poverty level, though the relation becomes weaker when we estimate the model with a relative poverty level. On the other hand, more dependent population in a country and unemployment rate both contribute towards higher poverty. Contrary to the above results, we find a trivial relationship of gross fixed capital formation as a percentage of GDP and poverty. Furthermore, to capture the institutional drivers of poverty, we use political corruption, the result confirms negative and significant relationship of poverty albeit insignificant when introduce the squared poverty gap measurement.

4.4 Remittances, Poverty and Financial Institution Development

Table 4.4 shows the empirical findings of remittances and poverty with respect to the level of financial development in the developing countries. The empirical results show that remittances ?poverty relationship are similar in most of the cases. However, the reported result reveals that countries with strong financial development decline in poverty severity (squared poverty gap) compared to the countries with low level of financial development.

Thirdly, we estimate the inequality model using remittances as a variable of interest, with a few another imprortant control variable reported in Table 4.5. In model 1, 2 and 3 we run the model with full sample. The results show that increase in remittances exerts adverse the income distribution in developing countries. The results remain stable after controlling for other important variables. However, one important result can be extracted for model 4 and 5. The marginal effect of remittances ?inequality nexus shows that the adverse effect of remittances on inequality would be neutralized once the level of financial development is considered. The result reveals that the developing countries with strong financial development benefits for foreign remittances as remittances relative reduce the inequality. In contrast, the countries with weaker financial market suffer from the widening of inequality due to remittances.

Table 4.4: Remittances, Poverty and Financial Institution Development

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	PH	PG	PSG	PH	PG	PSG
	Without	Financial	Institution	With	Financial	Institution
remgdp	-0.366***	-0.188***	-0.0152	-0.334***	-0.121***	-0.0583**
	(0.118)	(0.0560)	(0.152)	(0.0901)	(0.0415)	(0.0273)
gini.disp	0.0660	0.0537	-0.211	0.142**	0.0821**	0.0587**
	(0.118)	(0.0691)	(0.333)	(0.0652)	(0.0367)	(0.0262)
lgdppcc	-13.55***	-5.693***	8.166	-10.58***	-3.076***	-1.194***
	(1.479)	(0.952)	(10.86)	(1.067)	(0.519)	(0.329)
inf.rate	-0.000757	0.00225	0.000939	-0.000254	0.00131	0.00161**
	(0.00411)	(0.00211)	(0.00534)	(0.00298)	(0.00128)	(0.000720)
adr	0.678***	0.306***	0.751	0.347***	0.187***	0.120***
	(0.0655)	(0.0448)	(0.615)	(0.0494)	(0.0244)	(0.0182)
gfcf.g	-0.0728	-0.0523	-0.0555	0.155**	0.0279	0.0238
	(0.0831)	(0.0430)	(0.101)	(0.0600)	(0.0310)	(0.0234)
trade.g	-0.0134	0.00231	-0.0338	-0.0436***	-0.00287	0.000748
	(0.0205)	(0.0132)	(0.0569)	(0.0151)	(0.00942)	(0.00715)
unemp.te	0.646***	0.400***	-0.316	0.127	0.0679	0.0392
	(0.175)	(0.105)	(0.465)	(0.103)	(0.0507)	(0.0351)
Pol.corr	-24.75***	-12.78***	15.74	-7.746***	-1.748	-0.190
	(3.529)	(2.181)	(20.75)	(2.321)	(1.282)	(0.982)
Constant	87.38***	34.13***	-97.09	74.47***	15.03**	1.914
	(11.07)	(7.405)	(113.7)	(13.26)	(6.392)	(4.171)
Observations	253	253	251	446	446	452
R squared	0.816	0.694	0.056	0.619	0.491	0.360
Number of year	24	24	24	24	24	24
Country FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
****p < .01, **p < .05, *p < .1.*

4.5 Remittances, Inequality and Remittances, Inequality and Financial Institution

This implies development impact of remittances relies on the strength of financial development. The countries with relatively stronger financial sector may take maximum benefits from the foreign flows in order to ensure the productive use of remittances. Besides countries with poor domestic financial market, the policy maker needs to take possible steps for the improvement the financial development in order to get optimum benefits from the surge of remittances.

Table 4.5: Remittances, Inequality and Remittances, Inequality and Financial Institution

	(1)	(2)	(3)	(4)	(5)
VARIABLES	GINI.D	GINI.D	GINI.D	GINI.D	GINI.D
	Remittances	, and	Inequality	Without Financial Institution	With Financial Institution
remgdp	0.133***	0.122***	0.223***	0.294***	0.101***
	(0.0127)	(0.0115)	(0.0160)	(0.0338)	(0.0176)
lgdppcc	3.554***	3.217***	2.632***	2.986***	1.715***
	(0.198)	(0.247)	(0.285)	(0.303)	(0.360)
inf.rate	0.000506	-0.00284**	-0.00353**	-0.0122***	0.00230
	(0.000741)	(0.00125)	(0.00131)	(0.00282)	(0.00154)
adr	0.177***	0.175***	0.169***	0.138***	0.184***
	(0.0134)	(0.0159)	(0.0180)	(0.0258)	(0.0196)
gfcf.g	0.0831***	0.0882***	0.0117	-0.0518**	0.0441
	(0.0203)	(0.0226)	(0.0251)	(0.0223)	(0.0332)
trade.g		-0.00222	-0.00643	0.00151	-0.0195**
		(0.00347)	(0.00400)	(0.00450)	(0.00767)
unemp.te		0.133***	0.0601***	0.103**	-0.0287
		(0.0191)	(0.0179)	(0.0382)	(0.0408)
Pol.corr			-11.81***	-13.00***	-13.68***
			(0.666)	(0.862)	(0.892)
Constant	1.757	3.136	17.70***	19.04***	26.19***
	(2.522)	(3.045)	(3.923)	(4.509)	(4.559)
Observations	1,852	1,676	1,622	730	861
R squared	0.139	0.148	0.220	0.311	0.221
Number of year	30	25	25	24	24
Country FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES

Robust standard errors in parentheses
****p < .01, **p < .05, *p < .1.*

Chapter 5

Conclusion

This study examined the relationship between remittances, poverty, and inequality in developing countries. This study uses panel data for 102 developing countries for over the period of 1986 to 2015. For this purpose, the Fixed effect model was applied to investigate the relationship between remittances and poverty in considering the importance of financial institution development. This study intends to examine in particular, firstly the effect of remittances on poverty and inequality, and then to examine the effect of remittances with poverty and inequality considering the role of financial institutional development in the developing countries.

The main finding shows that remittances have significant negative effects on poverty regardless of the different measurement of poverty. More importantly, considering the level of financial institutional development, we didn?t find any significant difference based on the level of financial development. However, interestingly the result reveals that countries with a strong financial development decline in poverty severity (squared poverty gap) compared to the countries weaker domestic financial institutions.

Similarly, with respect to remittances and inequality, the results reveal positive and significant relationship. This explains that remittances exert an adverse effect on the income distribution in developing countries. However, the adverse effect of remittances on inequality would be minimized for the countries with strong domestic financial sector. The result reveals that the developing countries with strong financial development benefits for foreign remittances as remittances reduce the inequality.

To conclude, our findings indicate no clear difference between remittances, poverty and inequality relationship with respect to the financial institution development. However, still observed findings have a policy implication: developing countries in particular the poor remittances recipients? countries should leverage the external financial sources like remittances for combating the poverty reduction and income inequality, depending on their domestic financial sector. Therefore, it is recommended to the poor recipient economies to implement pro-financial policies to yield the maximum advantage from the foreign flows.

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Appendix A

Table 5.1: Developing Countries with Strong Financial Institutions

Country Name	**Country Name**	**Country Name**
Albania	Angola	Argentina
Bangladesh	Belarus	Belize
Bolivia	Bosnia and Herzegovina	Botswana
Brazil	Bulgaria	Cabo Verde
Cambodia	China	Congo, Dem. Rep.
Croatia	Djibouti	Ecuador
El Salvador	Ethiopia	Fiji
Georgia	Guatemala	Guinea
Honduras	India	Indonesia
Iran, Islamic Rep.	Jamaica	Kazakhstan
Kenya	Kosovo	Kyrgyz Republic
Lao PDR	Lesotho	Macedonia, FYR
Maldives	Mali	Mauritius
Mexico	Moldova	Mongolia
Morocco	Mozambique	Namibia
Nepal	Nicaragua	Niger
Papua New Guinea	Peru	Philippines
Romania	Russian Federation	Senegal
South Africa	Thailand	Tonga
Tunisia	Turkey	Ukraine
Uzbekistan	Venezuela, RB	Vietnam
Zambia		

Appendix B

Table 5.2: Developing Countries with Weak Financial Institutions

Country Name	**Country Name**	**Country Name**
Armenia	Azerbaijan	Benin
Bhutan	Burkina Faso	Burundi
Cameroon	Chad	Colombia
Congo, Rep.	Costa Rica	Cote d'Ivoire
Dominican Republic	Gambia, The	Ghana
Guinea-Bissau	Guyana	Haiti
Madagascar	Malawi	Malaysia
Mauritania	Montenegro	Nigeria
Pakistan	Panama	Paraguay
Rwanda	Serbia	Sierra Leone
Sri Lanka	Swaziland	Tajikistan
Tanzania	Togo	Turkmenistan
Uganda		

Appendix C

TABLE 5.3: List of Developing Countries

S. No.	Country Name	Region	Income.group
1	Albania	Developing Asia and Europe.	Middle Income
2	Angola	Sub-Saharan Africa	Middle Income
3	Argentina	Latin America and Caribbean	Middle Income
4	Armenia	Developing Asia and Europe	Middle Income
5	Azerbaijan	Developing Asia and Europe.	Middle Income
6	Bangladesh	Developing Asia and Europe	Middle Income
7	Belarus	Developing Asia and Europe.	Middle Income
8	Belize	Latin America and Caribbean	Middle Income
9	Benin	Sub-Saharan Africa	Low income
10	Bhutan	Developing Asia and Europe	Middle Income
11	Bolivia	Latin America and Caribbean	Middle Income
12	Bosnia and Herzegovina	Developing Asia and Europe	Middle Income
13	Botswana	Sub-Saharan Africa	Middle Income
14	Brazil	Latin America and Caribbean	Middle Income
15	Bulgaria	Developing Asia and Europe.	Middle Income
16	Burkina Faso	Sub-Saharan Africa	Low Income
17	Burundi	Sub-Saharan Africa.	Low Income
18	Cabo Verde	Sub-Saharan Africa	Middle Income
19	Cambodia	Developing Asia and Europe.	Middle Income
20	Cameroon	Sub-Saharan Africa	Middle Income
21	Chad	Sub-Saharan Africa.	Low Income
22	China	Developing Asia and Europe.	Middle Income
23	Colombia	Latin America and Caribbean.	Middle Income
24	Congo, Dem. Rep.	Sub-Saharan Africa	Low Income
25	Congo, Rep.	Sub-Saharan Africa.	Middle Income
26	Costa Rica	Latin America and Caribbean	Middle Income

S. No.	**Country Name**	**Region**	**Income.group**
27	Cote d'Ivoire	Sub-Saharan Africa.	Middle Income
28	Croatia	Developing Asia and Europe.	Middle Income
29	Djibouti	Developing Asia and Europe.	Middle Income
30	Dominican Republic	Latin America and Caribbean.	Middle Income
31	Ecuador	Latin America and Caribbean.	Middle Income
32	El Salvador	Latin America and Caribbean.	Middle Income
33	Ethiopia	Sub-Saharan Africa.	Low Income
34	Fiji	Developing Asia and Europe	Middle Income
35	Gambia, The	Sub-Saharan Africa.	Low Income
36	Georgia	Developing Asia and Europe.	Middle Income
37	Ghana	Sub-Saharan Africa.	Middle Income
38	Guatemala	Latin America and Caribbean	Middle Income
39	Guinea	Latin America and Caribbean.	Low Income
40	Guinea-Bissau	Latin America and Caribbean.	Low Income
41	Guyana	Latin America and Caribbean.	Middle Income
42	Haiti	Latin America and Caribbean.	Low Income
43	Honduras	Latin America and Caribbean.	Middle Income
44	India	Developing Asia and Europe.	Middle Income
45	Indonesia	Developing Asia and Europe.	Middle Income
46	Iran, Islamic Rep.	Developing Asia and Europe.	Middle Income
47	Jamaica	Latin America and Caribbean.	Middle Income
48	Kazakhstan	Developing Asia and Europe.	Middle Income
49	Kenya	Latin America and Caribbean.	Middle Income
50	Kosovo	Developing Asia and Europe.	Middle Income
51	Kyrgyz Republic	Developing Asia and Europe.	Middle Income
52	Lao PDR	Developing Asia and Europe.	Middle Income

S. No.	Country Name	Region	Income.group
53	Lesotho	Latin America and Caribbean.	Middle Income
54	Macedonia, FYR	Developing Asia and Europe.	Middle Income
55	Madagascar	Latin America and Caribbean.	Low Income
56	Malawi	Latin America and Caribbean.	Low Income
57	Malaysia	Developing Asia and Europe.	Middle Income
58	Maldives	Developing Asia and Europe.	Middle Income
59	Mali	Latin America and Caribbean.	Low Income
60	Mauritania	Latin America and Caribbean	Middle Income
61	Mauritius	Sub-Saharan Africa.	Middle Income
62	Mexico	Latin America and Caribbean.	Middle Income
63	Moldova	Developing Asia and Europe.	Middle Income
64	Mongolia	Developing Asia and Europe.	Middle Income
65	Montenegro	Developing Asia and Europe.	Middle Income
66	Morocco	Developing Asia and Europe.	Middle Income
67	Mozambique	Sub-Saharan Africa.	Low Income
68	Namibia	Sub-Saharan Africa	Middle Income
69	Nepal	Developing Asia and Europe.	Low Income
70	Nicaragua	Latin America and Caribbean.	Middle Income
71	Niger	Sub-Saharan Africa.	Low Income
72	Nigeria	Sub-Saharan Africa	Middle Income
73	Pakistan	Developing Asia and Europe.	Middle Income
74	Panama	Latin America and Caribbean.	Middle Income
75	Papua New Guinea	Developing Asia and Europe.	Middle Income
76	Paraguay	Latin America and Caribbean.	Middle Income
77	Peru	Latin America and Caribbean.	Middle Income
78	Philippines	Developing Asia and Europe.	Middle Income

S. No.	Country Name	Region	Income.group
79	Romania	Developing Asia and Europe.	Middle Income
80	Russian Federation	Developing Asia and Europe.	Middle Income
81	Rwanda	Sub-Saharan Africa.	Low Income
82	Senegal	Sub-Saharan Africa	Low Income
83	Serbia	Developing Asia and Europe.	Middle Income
84	Sierra Leone	Sub-Saharan Africa	Low Income
85	Sri Lanka	Developing Asia and Europe.	Middle Income
86	Swaziland	Sub-Saharan Africa	Middle Income
87	Tajikistan	Developing Asia and Europe.	Middle Income
88	Tanzania	Sub-Saharan Africa	Low Income
89	Thailand	Developing Asia and Europe.	Middle Income
90	Togo	Sub-Saharan Africa	Low Income
91	Tonga	Developing Asia and Europe.	Middle Income
92	Tunisia	Developing Asia and Europe.	Middle Income
93	Turkey	Developing Asia and Europe.	Middle Income
94	Turkmenistan	Developing Asia and Europe.	Middle Income
95	Uganda	Sub-Saharan Africa.	Low Income
96	Ukraine	Developing Asia and Europe.	Middle Income
97	Uzbekistan	Developing Asia and Europe.	Middle Income
98	Venezuela, RB	Latin America and Caribbean.	Middle Income
99	Vietnam	Developing Asia and Europe.	Middle Income
100	West Bank and Gaza	Developing Asia and Europe.	Middle Income
101	Zambia	Sub-Saharan Africa.	Middle Income