An Empirical Study on the Relationship of Financial Sector Development, Remittances Inflows, and Income Inequality in South Asian Countries

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| ARTICLE DETAILS	ABSTRACT
History: *Accepted 08 March 2022* *Available Online March 2022* **Keywords:** *Economic Growth, Financial Sector, Income-Inequality, Remittances, South Asia* **JEL Classification:** *D63; F24; G2; O4; O53* **DOI:** 10.47067/reads.v8i1.435	*The study explores the moderating role of financial sector development in the remittances-income inequality nexus in the six highest remittances-recipient "South-Asian economies", "namely "Afghanistan, Bangladesh, India, Nepal, Sri Lanka, and Pakistan"" for the period 2006 to 2019. The direct channel of remittances-income inequality and the financial sector development & income-inequality have been greatly explored in the literature, but the indirect channel, i.e. the moderating role of the financial sector in the remittances- income inequality nexus, is still lacking; this study tries to fill this literature gap. The study explores the indirect link of the financial sector based on financial access, financial stability, financial depth, and financial efficiency in remittances-income inequality nexus in highest remittances-recipient South-Asian economies. The study applied Fixed effects and Pooled Ordinary Least Squares (POLS) econometric techniques in order to examine the role of financial sector development in the relationship between international remittances and income inequality. The empirical findings of the study show that the financial sector development mitigates the income-inequality effects in the selected remittance-recipient South-Asian economies. The interaction term of financial sector development and remittances mitigate the negative influence of income inequality in the selected economies. Remittances abridge income inequality in the presence of a well-functioning and sound financial sector in the selected South-Asian remittance-recipient economies*

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1. Introduction

International migration has a great impact on economic growth, income inequality, and poverty alleviation in both regional & destination economies. According to the World Bank Report (2019), people living outside of their home country are more than 247 million. People migrate for better job opportunities, living standards, and better education. These international migrants, when settled outside of their birth country, sent money home (in the form of remittances) to help out and support their families. In many developing nations, after foreign direct investement, foreign remittances are the primary source of external capital. The World Bank (2019) reports that the International remittances flow to the low and middle-income economies has crossed US$550 billion. India is the top remittances recipient economy in South Asia, according to the World Bank report (2020), which is presented in Fig. 1a. Fig.1a presents the remittances received in a million US $ of all remittance-recipient economies in "South Asia, i.e. India, Pakistan, Bangladesh, Sri Lanka, Nepal, and Afghanistan", covering the duration from 1976 to 2020. Figure 1a depicts a steady increase in foreign remittance inflows in selected South Asian nations. *Fig. 1b presents the remittances receiving countries by region. The World Bank Report (2020), South Asia is the largest foreign remittance-receiving region in the world. Therefore, we have focused on South-Asian remittance-recipient economies for the analysis.*

FIGURE 1a: Remittances inflows in South Asian Economies
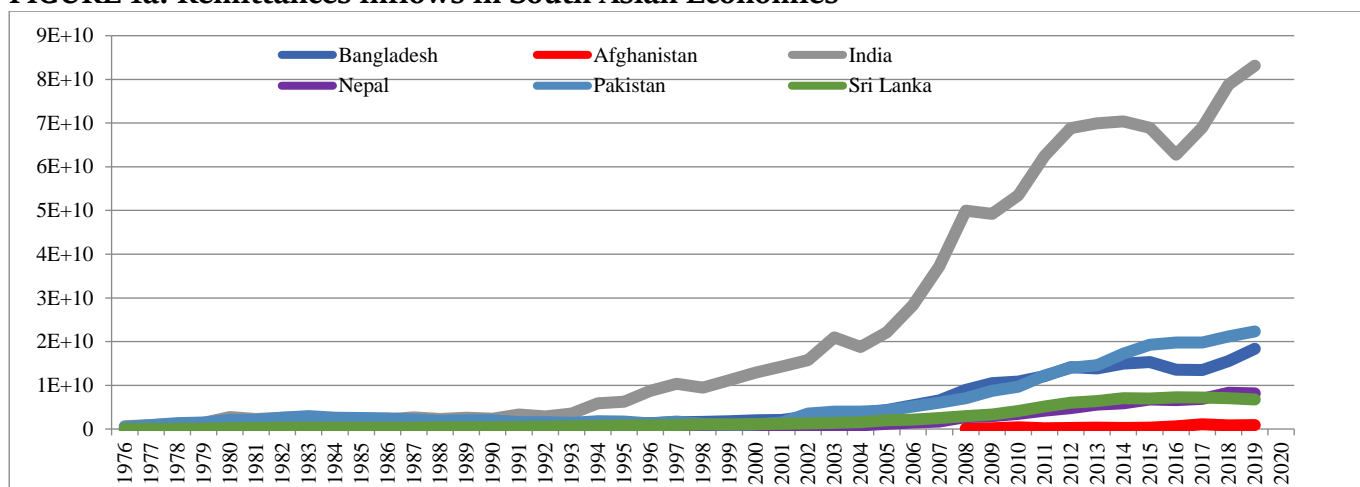
Source: Author's compilation using the World Development Indicators (2020)

FIGURE 1b: Remittances Receiving Countries by Region
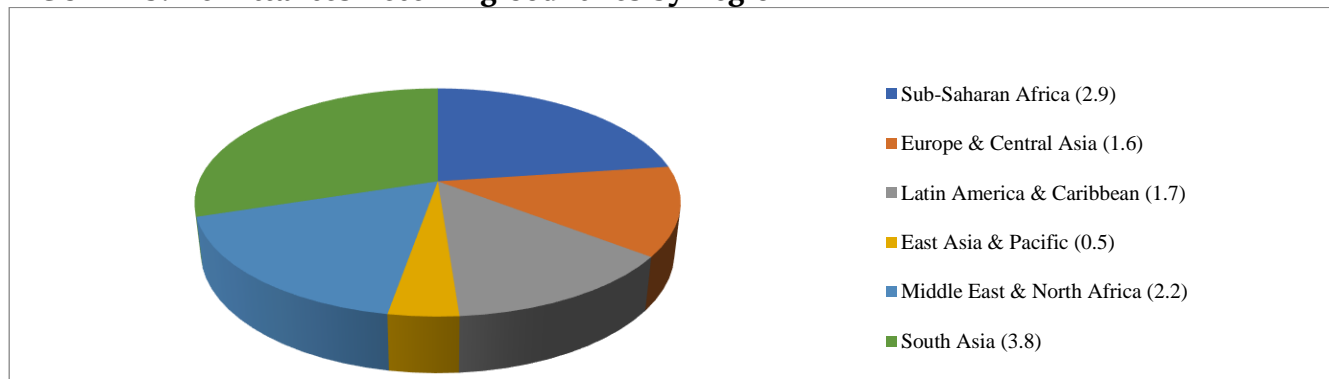
"Source: Author's compilation using World Bank Report (2019)"

Remittances directly impact household income, contributing to the economy by increasing consumption, saving, and investment levels. Many erstwhile studies have highlighted the vital role of remittances inflow in human development, poverty reduction, and income inequality, and thereby

socio-economic development of developing countries ("Mckenzie & Rapport, 2007; Azam; 2015; Azam & Raza, 2016; Azam et al. 2016ab; Vacaflores; 2018; Bang et al., 2020"). However, the literature studies give ambiguous results about remittances and income inequality. Some of the literature studies found that foreign remittances have an increasing influence on income inequality (Knowles & Anker, 1981; Rodriguez, 1998; "Oberai & Singh, 1980"). Other academic studies found a non-monotonic relationship, an inversted U-shaped curved have shown in the literature to depict the relationship between remittances and income inequality ("Stark et al.,1986; Koechlin & Leon, 2007").

On the contrary, remittances have been found in studies to help narrow the income gap. They found that international migration greatly impacts income inequality, and there is a strong connection. Furthermore, remittances lessen the gap of income inequality when the migrant belongs to a low-income family (Mckenzie & Rapport, 2007; Acosta et al., 2008; Vacaflores, 2018; Bang et al., 2020; Mallick et al., 2020*), but remittances confront high transaction cost, the World Bank report (2019). The transaction cost of sending US$ 200 remained almost 7% and about 9% in Sub- Saharan African region, extremely high than the Sustainable Development Goals target (10. c) of 3% by 2030. Financial institutions-banks are the most expensive channels to transfer remittances, at an average transferring cost of 10%. Therefore, migrants prefer to follow informal channels like Hawala and Hundi to remit home.* However, the financial sector can foster economic growth through different channels, i.e., channel household savings into the most productive investment projects. Moreover, checking out investment activities, ensuring investment funds available to investors, diversifying risk, especially credit risk, and increasing the economy's liquidity level (Levine 2005).

When it reduces its transaction cost on the flow of remittances from both sending and receiving countries, a good financial infrastructure increases the flow of remittances through the formal channel, contributing to the economy through financial inclusion in the economy. As a result, it mitigates the poverty levels and reduces the income-inequality gap in the economy. In economic literature, some studies "(Kuznets, 1955; Demirgüç-Kunt and Levine, 2009; Cecchetti and Kharroubi, 2012; Arcand, Berkes, and Panizza, 2015)" concluded that at a certain threshold level, the financial sector improves the economy, reduces poverty levels and narrows down the income inequality gap, but after that level, the financial sector worsens economic growth by widening the income inequality gap. The literature studies heavily explored the linear relationship and non-linear relationship between income inequality and the developed financial sector with different methodologies, time-period, and different economies. However, the financial sector as a moderator in the foreign remittances- income inequality relationship is still to be explored. This research study tries to fill the literature gap mentioned above.

The core of the study is to focus on the main question would remittances and an efficient financial sector prove to be potent in mitigating the income inequality gap? Would it ensure to take off the economy and lead to a better egalitarian distribution of economic resources? This study is among the few studies which focus on the moderating effects of the developed financial sector on remittances-income-inequality nexus in the selected South-Asian countries. First, the paper aims to investigate the unconditional or direct impact of remittances on income inequality and, secondly, to investigate the conditional or indirect influence of remittances on income inequality in selected remittance-receiving South Asian nations through banking sector growth.

This research adds to the body of knowledge in the following ways. First, create an overall financial sector development index covering the financial institutions' size, depth, efficiency, and stability. Second, the financial sector and remittances interaction term represents the financial sector's indirect marginal impacts in the remittances-inequality nexus. Third, the study exclusively focuses on

South Asia's highest remittance-recipient emerging economies, wherein the study uses the latest facts and figures for analysis. Finally, this appears to be the rare paper that provides empirical research to reflect the significance of financial sector development in the link between remittances and inequality in remittance-recipient South Asian nations

The structure of the paper is organized as follows: in the upcoming part, a brief literature review related to remittances, the financial sector, and income inequality. Then, in section-3, the methods and materials used are discussed, section-4 presents empirical results and discussion, and finally, the study conclusion and some of the policy recommendations wrap up the paper.

2. Review of Literature
2.1 Studies on Remittances and Income Inequality

The literature studies showed that remittances and income inequality greatly connect with migration. For example, suppose a migrant belongs to a low-income family. In that case, remittances may help decrease the income inequality gap, but if the migrant is from a rich background, then the remittances may increase the income inequality gap. This impact highlights two strands. Remittances have a rising effect on the income inequality gap, according to one strand, while remittances narrows down the income-inequality gap, according to the other. For example, the study of Mckenzie and Rapport (2007) in the case of Mexico, it supports the diminishing impact of remittances on income Inequality. Likewise, Acosta et al. (2008) concluded that remittances negatively affect income inequality in Latin American nations.

On the contrary, in earlier studies, Oberai and Singh (1980) documented that foreign remittances widen the gap of income-inequality in India. Similarly, the studies of Knowles and Anker (1981), and Rodriguez (1998) found similar results. They concluded that international remittances tends to increase the income inequality. Furthermore, remittances and income inequality documented an inverted U-shaped structure, according to certain studies. In other words, a non-monotonic relationship; this idea was first introduced by Stark et al. (1986) based on an endogenous migration cost model. Koechlin and Leon (2007) found that income inequality increases by remittances in the initial stage of migration history due to the cost of migration incurred and later on has a decreasing effect of remittances on income inequality, as the migration cost is reduced. They also discovered that financial sector and education sectors development also help to reduce the income inequality gap in the selected 78 economies.

Vacaflores (2018) concluded that international remittances negatively impact the poverty level and income inequality in the selected economies of Latin America. Furthermore, the regional difference also greatly affects the remittances and well-being of the economies. In Nigeria, Bang et al. (2020) looked at the impact of remittances on poverty and income inequality. They analyzed the microlevel household survey and analyzed the data with the help of the Instrumental variable quantile regression technique in Nigeria and concluded that remittances reduced the poverty level and Income Inequality when it increased household expenditure level in Nigeria. Mallick et al. (2020) explored the effects of globalization on income inequality by taking the external financial inflows in the form of foreign direct investment (FDI) and international remittances and other macroeconomic indicators as endogenous variables in the model like sectoral output, human capital formation, government size, development of infrastructure, urbanization and economic growth in two largest emerging economies namely China and India. The study considered the time-period from 1980 to 2013. They concluded that both FDI and international remittances reduced the income inequality gap in China; however, it widened the income inequality gap in India.

2.2   Studies Based on Financial Sector Development, and Income Inequality

The developmental impact of the financial sector development on the growth of the economic is highly debated topic in the literature, although some analyses establish two linear hypotheses that link of the financial sector expansion and income inequality. The first hypothesis related to the widening income-inequality, states that the financial sector excludes the poor sector and focuses only on the rich sector. In addition, the financial industry allocates more credit to the rich ones, as they have fewer chances of defaults and can offer more collaterals for the credit than the poor, even if the economy has a well-developed financial sector. As a result, it widens income- inequality gap in the economy (Rajan and Zingales, 2003). De Haan and Sturm (2017) discovered that from 1975 to 2005, financial liberalisation, financial sector expansion, and the banking crisis all had a growing influence on income inequality in 121 nations. Bittencourt et al. (2019) investigated 50 US states from 1976-to 2011. They concluded that financial sector development has an increasing effect and a linear impact on income inequality when all the 50 US states have analyzed collectively. Still, when segregated into two groups, i.e. Above-average and Below-average, the financial sector development showed a non-linear behaviour towards income-inequality, an inverted U-shaped curve. They concluded that income-inequality increases in the above-average US state when the financial sector gets developed and decreases in the below-average US state. Contrary to these studies, the second hypothesis is related to narrowing income inequality. It states that as the financial sector gets developed, the previously neglected poor sector might access credit; hence it narrows down the income-inequality gap (Jalil and Feridun, 2011; Mookerjee and Kalipioni, 2010; Beck et al., 2007; Clarke et al., 2006). Law et al. (2014) investigated the impact of financial sector development on income inequality in the presence of institutional quality in 81 emerging economies from 1985 to 2010. They concluded that financial sector development narrows the income inequality gap by reaching a certain threshold level of institutional quality in selected 81 economies.

Furthermore, the study discovered that, in the presence of good institutions, financial sector development has a considerable negative influence on income inequality in the selected emerging economies. Akobeng (2016) found that remittances mitigate poverty in the economy and have income-equalizing effects in Sub-Saharan African economies. Besides, a well-functioning financial sector highlighted the impact of remittances in Sub-Saharan countries. Park and Shin (2017) explored the influence of income inequality on economic growth, as well as the link between income inequality and the development of the financial industry. They found a non-linear relationship between the financial sector development and income-inequality. As the financial sector gets developed it mitigates the income-inequlaity effects to certain levels, and after that further development in the financial sector worsen the situation by widen the gap in income inequality. Meniago and Asongu (2018) investigated that between 1996 and 2014, the financial industry had a critical role in narrowing the income inequality gap in 48 African nations in terms of access to credit and efficiency. Danou-Adonsou et al. (2020) empirically investigated the link between remittances and financial development in the highest remittance-recipient countries in Sub-Saharan African region. The study used a panel cointegration technique for estimation. They found that remittances inflows strengthen the financial sector in the long run and found strong evidence of bi-directional causality between remittances and financial sector development in the selected economies.

From the above literature studies, the direct links between remittances on income inequality and financial sector development and economic growth are widely explored. Furthermore, the direct link between financial sector development on remittance, income inequality, and economic growth has also

been investigated. However, the indirect channel of financial sector development in the income inequality nexus is still less explored. This study tries to fill this gap in the academic literature.

## 3. Data and Methodology
"FIGURE 2: The Financial Sector Moderating Role in Remittances and Income Inequality Relationship
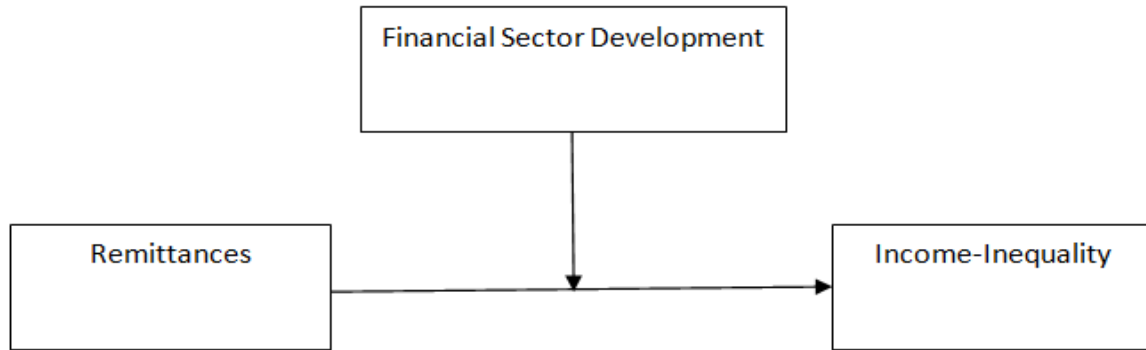
"Source: Author's construction."

Fig. 2 presented the remittances as an independent variable, income inequality as the dependent variable, and financial sector development as a moderator. The moderating variable can be defined as a variable that has a contingent (or conditional) impact on the relationship between the dependent and independent variables. The moderating variable greatly affects the strength of the connection; it either mitigates or enhances the strength between the independent and dependent variables. In Figure 3, the financial sector acts as a mediator, enhancing or dampening the impact of remittances on income disparity.

FIGURE 3: Different Channels of Financial Sector affecting Remittances and Income Inequality
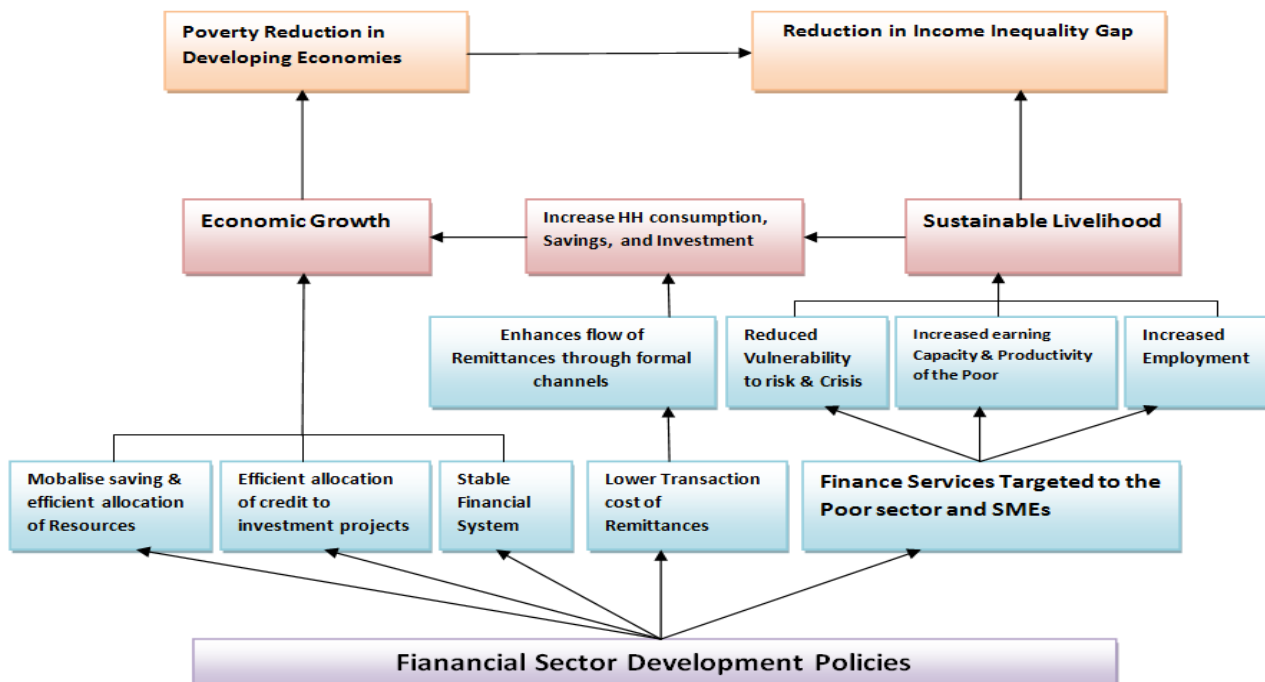
"Source: Author's construction"

Fig. 3 presents how the financial sector contributes to economic growth via different channels. First, the financial sector mobilises savings from the household into productive investments. Furthermore, it efficiently allocates financial resources to the economy. Moreover, it stabilises the financial system and reduces transaction costs of remittances to encourage migrants to send remittances through formal channels. More specifically, the impact of the financial sector on economic growth is depicted on the left side of Fig. 3, as well as how economic growth decreases poverty by reducing income disparity in the economy through financial inclusion. The genuine image of the economy is depicted in the center section of Fig. 3 by the remittances channel and the financial sector. When the financial sector reduces the transaction cost of sending remittances, it will encourage remittance flows through proper channels and promote financial inclusion in the economy, which directly impacts the economy. And finally, the right side of Fig. 3 depicts that as the financial sector improves in terms of its efficiency, stability, size, and depth will greatly impact economic growth and sustainable livelihood and ultimately equalise the income inequality effects on the economy.

4. Empirical Model

The model has incorporated the financial sector development into the remittances-income inequality nexus followed by Stark et al. (1986); Rodriguez (1998); Clarke et al. (2006); and Akobeng (2016).

The first step in the estimation process is to find the direct impact of remittances on income inequality, as presented in equation (1) below.

$$Gini_{it} = \propto_i + \propto_1 Rem_{it} + \propto_2 X_{it} + \epsilon_{it} \tag{1}$$

In equation (1), the subscript "i" denotes cross-sectional units while the subscript "t" indicates time-specific units among countries. The Gini coefficient is used to measure the dependent variable income inequality denoted by $Gini_{it}$, Rem_{it} is the main independent variable that represents remittances. The $\propto_1$ is the parameter of interest, determines how remittances affect income inequality directly. X_{it} represents the direct impact of control variables on the Gini coefficient in the model. We include the Inflation rate and Population Growth as control variables in the model. ϵ_{it} is an error term in the model.

$$Gini_{it} = \propto_i + \beta_1 Rem_{it} + \beta_2 FD_{it} + \beta_3 (Rem_{it} * FD_{it}) + \beta_4 X_{it} + \epsilon_{it} \tag{2}$$

By differentiating eq(2) with.respect.to Remittances, we get eq (3)

$$\frac{\partial (Gini_{it})}{\partial (Rem_{it})} = \beta_1 + \beta_3 (FD_{it}) \tag{3}$$

Where,

Equation (3) represents the marginal effects, FD_{it} represents the Financial Sector Development index combines the information in terms of the overall size, depth, efficiency, and stability of the financial institutions. The interaction term $(Rem_{it} * FD_{it})$ represents the role of the financial sector to mitigate or enhance the effects of remittances on income inequality. In other words, by estimating the above model, we capture the impact of remittances on income-inequality, given the size, depth, efficiency, and stability of the overall financial sector.

4.1 Measurement of Variables, Data Sources, and Time-Period

The selected time-period is from 2006 to 2019, the selected remittance recipient "South Asian" countries are "Afghanistan, Bangladesh, India, Nepal, Sri Lanka, and Pakistan". The details of the selected variables, unit of measurement, and their respective data sources are summarized and presented in Table 1.1

Table.1 Selected Variables Description, Measurements, and Data sources		
Selected Variables	**Description (Proxy used)**	**"Data Sources"**
Foreign Remittances (Independent variable)	The proxy used as personal remittances received (current US$).	The World Bank Data Base, (2021).
Population Growth rate (control variable)	"The used proxy is the population growth rate (annual %) The population is based on all residents of the country regardless of citizenship or legal status "	
Inflation Rate (control variable)	"The proxy used for the inflation rate is the Consumer Price Index (CPI). The CPI can be elaborate as the percent change annually in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. Generally, for computation, the formula of the Laspeyres formula is used."	
Moderator (Financial Sector Development)		
Financial Development(Depth)	"Domestic Credit to the private sectors by banks (% of GDP) used as a proxy for financial Depth. Broadly speaking it includes loans, trade credits, purchases of nonequity securities, and other account receivables."	"The World Bank's Global Financial Development Database, (2021)"
Financial Development (Size)	"Broad Money (% of GDP)is used as a proxy for financial sector size."	
Financial Development (Efficiency)	"The proxy for efficiency is used as Profitability (Return on Assets, ROA) can be defined as the After-tax net income of all selected countries' commercial banks divided by yearly averaged total assets of the selected countries' commercial banks."	
Financial Development	"The proxy used for stability is Z-Score, which captures the probability of default of	

| (Stability) | all selected countries' commercial banks. The formula used for Z-Score in the analysis is the sum of Return on Assets and Equity or Assets of the selected countries' commercial banks to the standard deviation of the Return on Assets i.e. (Return on Assets(ROA) + Equity/ Assets)/ Standard deviation of ROA". | |
| Income-Inequality (DependentVariable) | "For income- inequality Gini Coefficients used as a proxy and is the measure of the Lorenz curve. Lorenz curve, graphically indicates the share of income received. The range of the Gini coefficient lies between 0-1, zero indicates perfect equality, and near 1 indicates perfect inequality." | "Standardized World Income Inequality Database (SWIID), (2021)." |

Using Principal Component Analysis, the study created a financial sector development index (PCA) by considering the size of the financial sector as "Broad money (percent of GDP)", the depth of financial institutions as "Domestic credit to the private sector by banks (percent of GDP)", the efficiency of financial development in terms of profitability as "Return on Assets (ROA)", and the financial sector's stability as Z-score.

4.2 Estimation Techniques
Generally, the Panel data model can be estimated using three main different techniques, the first technique is Pooled OLS based on a common constant, the second technique is Fixed effects and the last technique allows for Random effects.

4.2.1 Pooled OLS Estimation
The pooled OLS technique also called the common constant technique under the basic assumption that there are no differences among the cross-sectional units "i", In other words, the pooled OLS estimation estimates common constants for all cross-sectional units, implying that the predicted cross-sections are identical. The intercept of the constant term has no subscripts, indicating that it is a common constant for all the selected countries, treating them as a homogenous panel. The following is the general form of an econometric model with a single independent variable:

$$Y_{it} = \alpha + \beta X_{it} + \mu_{it}$$

It is useful only in the case of homogeneity among countries like high-income countries or EU economies, etc. but when it comes to the heterogeneous panel then the Fixed and Random effects tackle the situation to deal with the heterogeneity and individuality issues.

4.2.2 The Random-Effects Estimation
The Random effects handle the constant term not as a fixed but as a random parameter. In other words, the parameter of the model behaves randomly. The constant term for cross-sectional units is variable due to the following factors:

$$\alpha_i = \alpha + V_i$$

The generalized random variable with a single independent variable will takes the form below

$$Y_{it} = (\alpha + V_i) + \beta X_{it} + \mu_{it}$$

$$Y_{it} = \alpha + \beta X_{it} + (V_i + \mu_{it})$$

The main difference between random and fixed effects model is the former is differ in the error term and the latter is differ in the intercept term. One of the main advantage of the random-effects over fixed effects is that it works well if a model has fewer parameters, and it also allows additional observations and dummies. But the disadvantage of the random-effects model needs specific assumptions about the distribution of the error term. The second problem of using this model is if there is a correlation among group-specific effects and explanatory variables then it leads to inconsistent and biased results.

4.2.3 The Fixed-Effects Estimation

In the fixed effects model every unit have its specific intercept which differs cross-sectionally, however, it is constant over time. The fixed effects model second name is the Least Squares Dummy variable (LSDV) model because the cross-sectional effects can be captured by introducing dummies in the model. The generalized model of the fixed-effects model with a single independent variable is given below:

$$Y_{it} = \alpha i + \beta X_{it} + \mu_{it}$$

4.2.4 The Hausman Test

The Hausman test, devised by Hausman (1978), was designed to opt the best model.
Ho: The appropriate model for estimation is Random-effects model.
H1: The best model for estimation is Fixed-effects model.

The p-value of less than 5 percent of the Hausman test proposes rejection of the null and acceptance of the alternate hypothesis.

5. Results and Discussion

The estimation process is carried out in two main steps. Firstly, to check the order of integration, the stationarity check of all the selected variables is assessed to analyze whether all the selected variables are stationary at Level or have a unit root process. Afterward, an appropriate methodology has been applied based on the panel unit root estimation results.

5.1 The Panel Unit Root Test

In the below Table 2 shows the estimated results of "Panel unit root showed that all the specified variables are Level I(0) stationary. At 1 percent & 5 percent, the selected variables are extremely significant.

Table 2 Panel-Based Unit Root Test				
Variables	LLC statistics	IPS statistics	ADF statistics	PP statistics
GINI Co-efficient	-32.2748***	-23.1478***	53.0729***	56.9391***
Remittances	-5.6589***	-2.3823***	27.6261***	87.5647***
Financial Development	-2.9739***	-1.8551**	22.7343**	25.2542***
Inflation	-3.5126***	-2.1066***	22.9428**	22.9073**
Population Growth	-5.7699***	-7.5187***	62.5504***	14.4232
*"Note: ***,**,* denotes P-value<0.01, P-value<0.05, P-value < 0.10 respectively"*				

5.2   Pooled OLS Estimation

The Table 3 presented the pooled OLS estimates.

Table 3 Direct/Unconditional Pooled OLS and Indirect/ Conditional Pooled OLS model		
GINI Co-efficient (DV)	Direct/Unconditional Pooled OLS (1)	Indirect/ Conditional Pooled OLS (2)
Remittances	**0.0154***** (0.0013) [11.7692]	**0.0154***** (0.0013) [11.6074]
Financial Development	-	**-0.0043***** (0.0015) [-2.8232]
Inflation	0.0005 (0.0004) [1.0830]	0.0004 (0.0004) [1.0785]
Population Growth	0.0064** (0.0026) [2.4141]	0.0039 (0.0033) [1.2047]
Financial Development * Remittances	-	**-0.0016** (0.0010) [-1.6345]
Constant	0.0522 (0.032) [1.6298]	0.0589* (0.03149) [1.8730]
R^2 Adj-R^2	0.6745 0.6613	0.7192 0.6997
Number of obs	78	78
Countries included	6	6
"Note: ***,**,* denotes P-value<0.01, P-value<0.05, P-value < 0.10 respectively. The values in ( )- standard error in Parenthesis, and [ ]- t-values in square bracket."		

Table 3 presented the pooled OLS technique, pooling all the data and ignoring the heterogeneity and individuality issues in the model. The estimated results depicted those remittances are highly positively significant at 1% with the income inequality in both direct and indirect effects model presented in column (1) and column (2) in Table 3. It indicates that as remittances increases in the economy, it also enhances the effects of income inequality. It supports the income-widening hypothesis. The financial sector development index (column 2), demonstrates that a unit change in the development of the financial infrastructure will bring a change by decreasing the income inequality gap by 0.0043 units. The financial sector development supports the hypothesis of income narrowing effects of income inequality. The interaction term is insignificant in the case of pooled OLS, showing that the banking sector plays no role as a moderator in the remittances and income inequality nexus. The pooled OLS technique is inefficient in capturing the cross-sectional effects of the selected countries due to the same intercept for all the countries. Therefore, to capture the cross-sectional impact and tackle the heterogeneity and individuality of the economies, the Random and Fixed effects models are applied. The best technique for estimation is opted based on the Hausman test results.

Table: 4 Correlated Random Effects- Hausman Test		
Test Summary- Cross-section random	Direct/Unconditional model	Indirect/ Conditional model
Chi-sq. statistic	71.0236	155.6415
Degree of freedom	3	5
Prob.	0.0000	0.0000

5.3   The Fixed-Effects Estimation
Table 5 below presented the fixed-effects model of the direct/unconditional and Indirect/ conditional models.

Table 5 Direct/Unconditional Fixed-Effects and Indirect/ Conditional Fixed-Effects model		
GINI Co-efficient (DV)	Direct/Unconditional Fixed-Effects (1)	Indirect/ Conditional Fixed-Effects (2)
Remittances	**-0.011***** (0.0027) [-3.8242]	**-0.0058**** (0.0026) [-2.2625]
Financial Development	-	**-0.0082***** (0.0019) [-4.4473]
Inflation	-0.0054* (0.0039) [-1.8902]	-0.0003 (0.0003) [-1.1574]
Population Growth	0.0098** (0.0037) [2.4169]	0.01273*** (0.0033) [3.8099]
Financial Development * Remittances	-	**-0.0025**** (0.0012) [-2.1704]
Constant	0.6396*** (0.0641) [9.9809]	0.5297*** (0.0601) [8.8126]
R²	0.8842	0.9155
Adj- R²	0.8718	0.9029
Number of obs	78	78
Countries included	6	6
"Note: ***,**,* denotes P-value<0.01, P-value<0.05, P-value < 0.10 respectively. The values in ()- standard error in Paranthesis, and [ ]- t-values in square bracket."		

Column (1) in Table 5 presented the direct/unconditional fixed- effects of remittances on income inequality in the selected economies without financial sector development. The chi-square value (i.e., 71.0236) of the Hausman test for cross-section random is highly significant at 1%, therefore, the fixed-effects model is best as it rejects the null hypothesis of the selection of random effect model. As a result, the paper concluded that foreign remittances have a significantly negative influence on the Gini coefficient at 1%. More precisely, a 0.01 (1%) increase in remittances inflow in the selected economies decreases income inequality by 0.011(1.1%). Furthermore, the control variables' inflation rate and the population growth rate are also significant at 10% and 5%, respectively. The R-square is 0.8814.
The Indirect/conditional fixed-effects are presented in column (2), demonstrating the importance of remittances and income disparity in the financial sector's rise. The chi-square cross-section random term's p-value is significant at 1 percent; therefore, the study rejects the null hypothesis based on the Hausman test result. According to the null hypothesis statement random effect model is preferable over fixed effects. The fixed-effects estimates demonstrate that financial sector has a significant negative effect on income disparity, meaning that as the financial sector get develops, it will narrow down the gap of the income inequality in the selected locations. More specifically, a 0.01 (1 percent) rise in financial/banking sector development reduces income disparity and lessen the income gap in the chosen nations by 0.008 (0.8 percent). The interaction term (Remittance* Financial sector) coefficient is negative and significant at 5% in the fixed-effects model. As a result, the financial sector has a moderating impact on remittances and income inequality as follows:

$$\frac{\partial\ (Gini_{it})}{\partial(Rem_{it})} = \beta_1 + \beta_3(FD_{it}) = -0.005825 - 0.002502(FD_{it})$$

Where,

$$0 < FD_{it} < 1$$

Thus, when the FD_{it} =1 i.e. the presence of the financial sector, the marginal effect is -0.0083(0.8 %), and when the FD_{it} = 0 i.e. absence of the financial sector, the marginal effect is equal to -0.0058 (0.5%). Hence, from the interaction term, the remittances mitigate the effects of income inequality when the economy has developed the financial sector. In other words, with the well-functioning and developed financial sector, remittances decrease the income inequality gap. Our estimated results support the studies of "(Mookerjee & Kalipioni 2010; Akobeng 2016; Beck et al. 2007; Clarke et al. 2006; Jalil & Feridun 2011; Meniago & Asongu 2018)" and contradict the studies "(Rajan and Zingales 2003; De Haan & Sturm 2017; Bittencourt et al. 2019)".

6. Conclusion

In the literature, the developmental impact of foreign remittances and the financial sector on the economic growth has been comprehensively examined using various estimating methodologies and sample data. However, the banking sector's indirect or moderating impact on remittance-income inequality is been minimally examined. Although a few studies have found that financial/ banking sector has exacerbating effects on the remittances-income disparity relationship. Economic theory provides solid ground for how the financial sector lessens income inequality and how remittances narrow the income inequality gap with a sound financial/banking sector. Those findings conclude that the financial/banking industry has a crucial role in enhancing remittances and minimizing the income inequality gap and poverty levels heavily relied on the aspect of financial sector deepening, summing up that it significantly affects the remittances-income inequality nexus linearly. This study has broaden the spectrum from financial sector depth to the other aspects of the financial sector based on size, depth, efficiency, and stability by exclusively focusing on the highest remittance-recipient South Asian economies.

In the six most remittance-receiving nations of South Asia, namely "Afghanistan, Bangladesh, India, Nepal, Sri Lanka, and Pakistan", this study shows how banking sector growth moderates the link between foreign remittances and income inequality from 2006 to 2019. The fixed effects and pooled least square econometric techniques used for analysis. The unconditional and conditional effects of remittances, and the income inequality relationship, were addressed in this paper. International remittances have a highly negative substantial influence on income inequality, according to the empirical findings. In other words, remittances have a narrowing down effect on the income inequality gap when embedded in a well-developed financial sector. The highly significant interaction term assures the moderating role of the financial sector, and its negative sign demonstrates that remittances mitigate the income inequality effects when the economy has a sound financial sector. Assume that the financial industry reduces the cost of remitting foreign remittances & fulfill the the sustainable development target by reducing it to 3%. In that case, it will encourage migrants to send remittances through the proper channel, further reducing remittances' data measuring issues—moreover, the well-functioning financial sector channels funds from rich sectors to the poor sector. In addition, financial sector development means the government announces investment-friendly strategies and provides loans to small and medium enterprises to create more businesses and employment opportunities. Therefore, providing loans to the poor sector at low-interest rates will reduce the poverty level and help equalise income inequality effects in the economy, which may result in sustainable economic growth.

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