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Remittances and Economic Growth: Exploring the Role of Financial Development

Zakia Batool¹, Muhammad Haroon², Sajjad Ali³, Rashid Ahmad⁴

¹ Assistant Professor, Department of Economics, NUML. Email: zbatool@numl.edu.pk

² Lecturer, Department of Economics, NUML. Email: mhharoon@numl.edu.pk

³ MPhil Scholar, Quaid-e-Azam University Islamabad. Email: Sajjad3991ali@gmail.com

⁴Asistant Professor, School of Economics, BZU Multan, Pakistan. Email: rashidahmad@bzu.edu.pk

ARTICLE INFO

ABSTRACT

| Article History: | 1 | | Over the last several decades, the number of international | | |
|-----------------------|----------|----------|--|--|--|
| Received: | February | 28, 2022 | migrants has increased dramatically, resulting in enormous | | |
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| Accepted: | March | 29, 2022 | remittances in sustaining families of poor nations has been | | |
| Available Online: | March | 30, 2022 | well acknowledged by many researchers but at the same time | | |
| | | | a well-functioning banking system has been considered as an | | |
| Keywords: | | | important factor that increases migrant transfers by lowering | | |
| Economic growth | | | transaction costs and improving service availability. Therefore, | | |
| Remittances | | | this study attempts to analyse the role of financial sector | | |
| Financial Development | | | development in enhancing the effect of remittances in spurring | | |
| | | | economic growth of Pakistan. This study uses time series data | | |
| | | | for the period of 1980-2020 to delve into the nexus. Using | | |
| | | | ARDL approach, this study finds the complementary role of | | |
| | | | remittances and financial sector in both long run and short | | |
| | | | run. | | |
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Corresponding Author's Email: rashidahmad@bzu.edu.pk

1. Introduction

Remittances have become a major source of external financing for developing countries. Over the last several decades, the number of international migrations has increased dramatically, resulting in enormous cash flows to labor-exporting nations. The foreign remittances are of two types — inward remittance and outward remittance. Outward remittance is the sending of the money outside the country where the paid worker is living in the domestic country. The sender can take the services of a bank or trade organization to send money oversees to the targeted nation however inward remittance is receiving of the cash payment from household living abroad. Remittances, which account for around 27% of the gross domestic product of emerging economies, have been one of the most important sources of foreign capital inflows (Meyer & Shera, 2017). Remittances to low- and middle-income countries are likely to surpass the total of FDI and overseas development aid¹ which emphasises the significance of remittances in offering a lifeline by supporting household spending on basic commodities like food and basic services, that is, health, and education during times of economic difficulty. In 2020-21, Pakistan received a record \$29.4 billion in remittances, up from \$23 billion in 2019-20.

The increase in attention of policymakers and researchers towards the migrant's remittances is due to the understanding of the significant role of remittance in spurring economic activities, poverty reduction and economic betterment more widely. The sending of by the migrants to their families back home directly transforms the living standard while its affects economic activities through collective responses depending on the capabilities of

¹ The World Bank press release: Remittance Flows Register Robust 7.3 Percent Growth in 2021.

foundations that can support remittances to generate true development, thus it has a multiplier effect on local economies—as funds spending create incomes for others and encourage economic activity. Remittances are crucial source of savings and affects human capital investments and entrepreneurship, all of which contribute to increased productivity and generates employment opportunities, which ultimately leads to economic growth (Woodruff & Zenteno, 2007; Yang & Policy, 2008). On the other hand, remittances can also aid in the expansion of the financial sector, since part of the remittances are transferred and deposited with banks, making cash accessible for lending to the private sector and, as a result, facilitating economic growth.

The importance of remittances in sustaining families of poor nations has been well acknowledged by many researchers but at the same time a well-functioning banking system is being considered as an important factor to increase migrant transfers by lowering cost of transaction and improving service availability. A developed financial system can assist route remittances to initiatives that give the best return, hence enhancing economic growth, by minimising the costs of accessing loans (Giuliano & Ruiz-Arranz, 2009). There is also the concept that remittances may be utilised to compensate for inefficient credit markets by allowing local entrepreneurs to launch productive operations despite a lack of collateral or excessive financial sector and remittances (Brown, Carmignani, & Fayad, 2013; Olayungbo & Quadri, 2019). Thus, keeping in view, the importance of financial development and remittances in accelerating growth, this study investigates whether there exits substitutability or complementarity relation between remittances and development of financial sector in case of Pakistan.

2. Literature Review

Many studies in the literature have investigated the impact of remittances on economic growth and development. Remittances may have both good and bad consequences. They may boost investment, influence human capital accumulation, and help people get out of poverty on the other hand, they may also diminish job effort, generate moral dangers, or cause Dutch disease-like symptoms (El Hamma & Statistics, 2019; Lartey, Mandelman, & Acosta, 2012). The theories established by (Lucas & Stark, 1985; Stark, 1991), are prominent theories of remittance. According to them, migrants save and send money to their home country in order to invest in initiatives such as land and property purchases, as well as stock and money market investments. These assets, which are managed by the migrant's family back home country, promote an upsurge in total investment in the domestic nation, resulting in stronger economic growth.

Remittances have a favourable influence on the balance of payments in many developing nations, as well as results in the enhancement of economic growth, due to direct impacts on savings, investment in physical capital and increase in human capital, as well as indirectly due to increase in consumption and thereby aggregate demand. Migrant remittances have a constructive influence on the balance of payments in many emerging countries and enhances economic growth, through direct effect on savings decisions and investment in capital, as well as indirect influence through consumption, resulting in higher economic growth (Acosta, Calderón, Fajnzylber, & López, 2006; Adams, Klobodu, & Policy, 2016; Benhamou & Cassin, 2021). Giuliano and Ruiz-Arranz (2009) found that remittances can boost economic growth only in countries that are less financially developed. The role of remittances as an alternative to debt in countries where microfinance is not widely available emphases on the multiplier impact of consumption. The development of financial sector that manage remittance payments, the usage of remittances as a source of inflow of foreign exchange, and the part of remittances as a substitute to debt helps relieve people's credit constraints. Fayissa and Nsiah (2012); (Olayungbo & Quadri, 2019) examined the role remittances in 64 countries and found that remittances increase the growth of economic activities in a country having low level of financial development by removing the liquidity constraints.

Although many studies have highlighted the positive role of remittances in stimulating economic activities (Abduvaliev & Bustillo, 2020; Qayyum, Javid, & Arif, 2008; Siddique, Selvanathan, & Selvanathan, 2012) few studies have also found negative influence of remittances on economic growth. Singh, Haacker, Lee, and Le Goff (2011)

found that remittances affect economic growth negatively in Sub-Saharan Africa. Working on the same line, a study by (Adams et al., 2016; Ahamada & Coulibaly, 2013; Kadozi, 2019; Karagöz, 2009; Sutradhar, 2020) explain that remittances do not accelerate the investment in physical capital therefore effect of remittances on economic growth is insignificant. Increase in the inflow of remittances results in appreciation of currency which destabilises economic growth of developing economies in the long run (Chini et al., 2007; Rodrik, 2000). A study by (Chami, Fullenkamp, & Jahjah, 2005) realized that remittances are used for consumption purpose and a little goes into capital investment.

Many researchers have identified both the financial sector development and remittances as key drivers of economic growth of developing countries (Chowdhury, 2016; Hassan, Ding, Shi, & Zhao, 2016; Mundaca, 2009; Nyamongo, Misati, Kipyegon, Ndirangu, & business, 2012) investigated the role of remittances and financial development in the growth of economy and found that development of financial sector augments the positive role of remittances on accelerating economic growth. Rocher and Pelletier (2008) are of the view that even if remittances are used for consumption purpose, still it can affect economic activities due to increase in aggregate demand. Sobiech (2019) found that the positive effect of remittances can be realised only at low levels of financial development. Credit limitations are lifted when the financial sector is well-developed, and remittances, on the other hand, may be a valuable source of funding for growth-enhancing activities in nations with underdeveloped financial systems (Bettin & Zazzaro, 2012; Catrinescu, Leon-Ledesma, Piracha, & Quillin, 2009; Giuliano & Ruiz-Arranz, 2009).

This study has reviewed many past studies to examine the relation between personal remittance, financial development and economic growth. The literature so far on remittance has highlighted the effect of remittances but the results are different for different regions. Most of the studies have taken bank credits and number of bank branches to explore the effect of financial development however this study uses financial development index that covers financial access, usage and depth. Thus, this study using financial development index attempts to investigate whether financial development enhances the role of remittances in Pakistan or not.

3. Data and Methodology

The aim of this study to investigate the role remittances in promoting economic growth, through their positive footprint on saving, consumption, or investment. Along with remittances, this study also considers financial development and interaction of financial development and remittances as regressors. This study follows the model used by (Lucas & Stark, 1985) which highlights that remittance have a positive effect on economic growth and development. The positive and productive use of the remittance will boost the economy of the country by investing that money into investment and consumption. There is possibility that countries may confront a situation in which the remittance's inflow results in real appreciation, or face depreciation in the future, of the exchange rate. In order to assess the effect of remittances and financial development following model is used:

$$GDP = \beta_0 + \beta_1 REM_t + \beta_2 FD_t + \beta_3 X_t + \mu_t$$

(1)

GDP= Gross Domestic Product REM=Personal Remittance FD= Financial Development X= Vector of control variables. μ = Error Term

The set of control variables consist of gross fixed capital formation as a prosy for capital and labour force and trade. However, to investigate the role of financial development on effectiveness of remittances in promoting growth, we have included the interaction term.

 $GDP = \beta_0 + \beta_1 REM_t + \beta_2 FD_t + \beta_3 REM. FD_t + \beta_4 X_t + \mu_t$

(2)

For the analysis, this study takes time series data on all the variables from 1980 to 2020 and the data is taken from WDI database except financial development. For financial development, data on financial development index is collected from IMF database.

3.1. Empirical Model

Pesaran, Shin, and Smith (2001) developed the ARDL approach which is used to investigate the dynamic interactions between variables. This approach is most suitable when sample size is small, and variables have different level of integration. The unrestricted error correction form of the model given in equation (2) is as follows:

 $\Delta GDP_{t-i} = \lambda_0 + \lambda_1 GDP_{t-1} + \lambda_2 FD_{t-1} + \lambda_3 REM_{t-1} + \lambda_4 FD. REM_{t-1} + \lambda_5 X_{t-1} + \sum_{i=1}^p \Pi_1 \Delta GDP_{t-i} + \sum_{i=0}^p \Pi_{2i} \Delta FD_{t-i} + \sum_{i=0}^p \Pi_{3i} \Delta REM_{t-i} + \sum_{i=0}^p \Pi_{4i} \Delta FD. REM_{t-i} + \sum_{i=0}^p \Pi_{5i} \Delta X_{t-i} + \varepsilon_t$

 $\sum_{i=0}^{p} \Pi_{2i} \Delta F D_{t-i} + \sum_{i=0}^{p} \Pi_{3i} \Delta REM_{t-i} + \sum_{i=0}^{p} \Pi_{4i} \Delta F D. REM_{t-i} + \sum_{i=0}^{p} \Pi_{5i} \Delta X_{t-i} + \varepsilon_t$ (3) Where, λ_i are the long run coefficients and Π_i are short run coefficients. The lag length of the differenced variables is determined using akaike information criterion. To examine the existence of cointegration, F test is used, and the hypotheses are as follows:

H0: $\lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = 0$ H1: $\lambda_1 \neq \lambda_2 \neq \lambda_3 \neq \lambda_4 \neq \lambda_5 \neq 0$

The significant value of F-statistic confirms the existence of long run equilibrium relationship between variables.

The estimates of long run coefficients of equation (3) are estimated as

The short run estimates are obtained using Error Correction Model,

$$\Delta GDP_{t} = \Pi_{0} + \sum_{i=1}^{p} \Pi_{1} \Delta GDP_{t-i} + \sum_{i=0}^{p} \Pi_{2i} \Delta FD_{t-i} + \sum_{i=0}^{p} \Pi_{3i} \Delta REM_{t-i} + \sum_{i=0}^{p} \Pi_{4i} \Delta FD.REM_{t-i} + \sum_{i=0}^{p} \Pi_{5i} \Delta X_{t-i} + \tau ECT_{t-1} + \varepsilon_{t}$$
(4)

Where γ_i shows the short-run impact of independent variables on IHDI and ψ measures speed of adjustment and ECT is obtained using the following equation

 $ECT_{t-1} = GDP_{t-1-} \lambda_{0-} \lambda_{1}FD_{t-1-} \lambda_{2}REM_{t-1-} \lambda_{3}FD.REM_{t-1-} \lambda_{4} Xt_{-1}$ (5)

4. Findings and Discussion

Before applying ARDL, unit root test is applied to examine the stationarity of the data, and the result of unit root test is reported in Table 1. The result of unit root test shows that financial development and the interaction term are stationary at level and rest of the variables are stationary at first difference so we will use ARDL model to analyse the short run and long run effects of financial development and remittances on economic growth.

| Table 1 | | |
|-----------|------|---------|
| Unit Root | Test | Results |

| Variables | ADF Value | Probability | Order Of Integration |
|------------|-----------|-------------|----------------------|
| GDP | -4.156311 | 0.0022 | I (1) |
| Remittance | -6.136563 | 0.0000 | I (1) |
| FD | -4.259896 | 0.0000 | I (0) |
| FD.REM | -3.665347 | 0.0531 | I (0) |
| Capital | -6.217483 | 0.0000 | I (1) |
| Labour | -3.89244 | 0.0329 | I (1) |
| Trade | -4.76321 | 0.0000 | I (1) |

The second step is to apply bound test to check long run association among the variables of the model and the result is given in Table 2. The null hypothesis of bound-F test states that there is no equilibrium relationship between dependent and independent variable.

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| Test Statistic | Value | Prob | |
|----------------|-----------------|------------|--|
| F-statistic | 6.545225 | 0.004 | |
| | Critical values | | |
| Significance | I(0) Bound | I(1) Bound | |
| 10% | 2.45 | 3.52 | |
| 5% | 2.86 | 4.01 | |
| 2.5% | 3.25 | 4.49 | |
| 1% | 3.74 | 5.06 | |

Table 2

The F-stat value is greater than the upper bound critical value, so we reject the null hypothesis and concluded that there is cointegration between the dependent (GDP) and independent variables. The estimates of long run model are given in Table 3. Estimation results in Table 3 show that our main variable remittance has positive and significant impact on economic growth with coefficient value of 0.741. If remittances increase by one percent, then the GDP growth will increase by 0.741 percent. The reason behind it is that this money will change so many hands which generate economic activity. If this money is invested in any business, will improve economic situation in the country. The increase in the inflow of migrant remittances in the country affects the balance of payments, increases savings and physical capital. It also affects human capital because the families use the remittances to cover their education and health expenses which ultimately contribute to human capital.

| Table 3 | |
|----------|---------|
| Long Run | results |

| Variable | Coefficient | Statistic | Prob. | |
|----------|-------------|---------------|-------|--|
| FD | 0.355* | 1.984 | 0.092 | |
| REM | 0.741*** | 2.954 | 0.008 | |
| FD.REM | 0.234*** | 3.179 | 0.005 | |
| Trade | -0.424** | -2.692 | 0.010 | |
| Capital | 0.153* | 1.949 | 0.101 | |
| Labour | 0.005** | 2.5342 | 0.023 | |
| С | 3.073*** | 2.545 | 0.017 | |
| Square | 0.698 | Durbin Watson | 2.23 | |

The coefficient value of financial development is 0.355 which is significant at 10 percent level of significance. The positive value of financial development implies that access to credit facilities supports many investors and results in capital accumulation. The easy access to financial services causes allows investors to have diversified portfolio and encourages the risk-averse investors to insure against risks. The value of interaction term is also positive and significant at one percent level of significance which shows that financial development and remittances complement each other in terms of supporting GDP growth. This further implies that effect of remittances is if the domestic banking system is strong enough. By reducing the cost of transactions, the developed financial institutions channelize remittances into productive economic activities and results in economic expansion.

The coefficient value of both capital and labour are positive and significant as expected. Increase in gross fixed capitals results in increase output and create job opportunities for the people living in a country. This will increase the per capita income of the residents of the country. increase in labour force causes increase in production and this result is in accordance with the findings of (Jayaraman & Singh, 2007) who claimed that without the engagement of labour as an input, no growth can be achieved. Volume of trade has negative impact on economic growth, coefficient value of variable is -0.424, this is because our trade is intensively focused on imports rather than exports. In long run this trend may cause demotivation for domestic industries which may results in shut downing of the industries in the country.

Short run results are reported in Table 4. The value of error correction coefficient is -0.769359 which implies that 76% of the disturbance is corrected each year. Results in Table 4 show that lag of remittance has a positive impact on GDP in the short run and that is because, if this money is used by migrant's family for their daily expenses, it causes rise

in demand for goods and services which results in the rise of production. The positive and significant value of the interaction term confirms the complementarity effect of financial development and remittances in the short run. Among control variables only capital is found to have a positive influence on economic growth whereas the coefficient value of trade and labour are insignificant in the short run.

| Short Run Result | S | | | |
|------------------|-------------|-------------|--------|--|
| Variable | Coefficient | t-Statistic | Prob. | |
| D(FD) | 0.3376 | 2.8494 | 0.0088 | |
| D(REM) | -0.1455 | -0.4741 | 0.6397 | |
| D(REM(-1)) | 0.9847 | 2.1152 | 0.0450 | |
| D(FD.REM) | -0.8435 | -2.7559 | 0.0110 | |
| D(TRADE) | -0.0568 | -1.3021 | 0.3013 | |
| D(Capital) | 0.7895 | 2.7470 | 0.0112 | |
| D(Labor) | 0.0780 | 1.3773 | 0.5046 | |
| D(Labor (-1)) | -0.0247 | -0.1966 | 0.8457 | |
| D(Labor (-2)) | 0.0938 | 0.6900 | 0.4968 | |
| Cointeq(-1) | -0.7693 | -8.2023 | 0.0000 | |

Table 4 *Short Run Results*

5. Conclusion and Policy Recommendations

This study examines the relationship between the remittance, financial development and GDP growth of Pakistan by taking data from 1980 to 2020, by applying ARDL estimation technique. Based on empirical findings we conclude that there is a positive relation among GDP and personal remittance. Remittances brings foreign currency in the home country that improves balance of payment, on the other hand, the remittance money may change so many hands which generates economic activity, e.g., if money is invested in any business, then it will have positive influence on economic growth while by increasing consumption level, remittances affect aggregate demand which causes increase in the output in the short run as well. Financial development, by affecting saving-investment decisions, also affects economic growth positively. However, a developed financial sector, by lowering cost of transaction and easy access to financial instruments, encourages the migrants to send money to their families through banks and encourages their families back home to increase savings and investment. In order to encourage remittances, government should make our institutions much strong that the international sanctions may have minimum effects on economy, another restriction in the rise of remittances level of the country is the transfer of money through hawala (hundi) However, based on the findings, this study recommends the policymakers to make reforms in financial sector in such a way that it could address the structural issues in the country and reduce the cost of transacting remittances to encourage the migrants to use the financial route for the transferring money.

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