



## DO FOREIGN REMITTANCES LEAD TO INCLUSIVE GROWTH IN PAKISTAN?

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### ABSTRACT

Foreign remittances are increasing over time and becoming the main source of earning Foreign Exchange reserves, especially for the developing countries like Pakistan. So, this study explores the impact of Foreign Remittances (FR) on inclusive growth using the pooled data estimated from micro-level data over the period 1998/99–to 2018/19 in Pakistan. For this purpose, the study employs panel data techniques. The results reveal that foreign remittances have statistically significant positive effects on inclusive growth. These results are robust to the inclusion of per capita income, household size, and dependency ratio. There is also a statistically significant positive association between inclusive growth and per capita income. Further, the regional level analysis reveals that these findings are valid in the regions of urban and rural. The policy recommendation is that Government should formulate policies that maximize the inflow of foreign remittance and economic growth.

**Keywords:** Inclusive Growth (IG), Foreign remittances (FR), per capita income, Pakistan

**JEL Codes:** D63, F24

### I. INTRODUCTION

Poverty is pronounced deprivation in well-being (World Bank, 2000). Policymakers' major goal has always been to reduce poverty, but it has gotten a lot more attention since the Millennium Development Goals (MDGs) have been adopted. (Cheema & Sial, 2012; Fosu, 2009). They were signed by 189 countries to attain eight goals, the first of which was to reduce global poverty by half by 2015. Later on, 193 countries signed the Sustainable Development Targets (SDGs), seeking to achieve 17 goals by 2030, to end poverty. But the target was not met entirely. The worldwide poverty rate was 36% in 1990, but dropped to 10% in 2015, and was 8.6 percent in 2018. It would remain around 6% by 2030 if it continues to reduce at its current rate (SDG's Report, 2019). Economic Growth (henceforth EG) alone does not suffice to alleviate poverty; income disparity must also be reduced (Cheema & Sial, 2012; Chen & Ravallion, 2008; Dollar & Kraay, 2002). Later on, the concept of pro-poor growth (Henceforth PPG) was introduced (Cheema & Sial, 2012; Dollar & Kraay, 2002). If the poor gets benefit more than the non-poor, EG is pro-poor. It implies that during the EG process income inequality should decrease (N. Kakwani & E. M. Pernia, 2000; Kakwani, Son, & Wealth, 2008; McCulloch & Baulch, 1999; Ravallion & Chen, 2003). However, in this case, it may be possible that overall EG is minimal.

The concept of inclusive growth (henceforth IG) was established, later on. IG is a term that is sometimes interchanged with terms like diversified growth and participatory growth (Ianchovichina & Lundstrom, 2009). According to the ADB literature, in the international community, there is no widely accepted definition of IG. In contrast, the concept is considered to refer to "growth with an equivalent chance" (Ali & Son, 2007; Ali & Zhuang, 2007). It focuses that economic possibilities generated by EG are made accessible to everyone, including the poor, to the greatest extent possible, and that it focuses on creating chances for everyone, not just for the poor (Ali & Zhuang, 2007). The EG and income distribution are both considered in IG. To get the maximum benefits from EG, it must be inclusive (Ostry & Berg, 2011). IG goes together with a reduction in income disparities (Kanbur & Rauniar, 2009). IG is defined as fair and loss reducing growth that focuses on two aspects: the method (i.e., IG is based on input from the majority of people) and the outcomes of the growing process (That is, many people benefit from IG) (Klasen, 2010). Foreign remittances (henceforth FRs) are an important factor to affect IG. FRs are a significant source of foreign financial resources throughout the world. Foreign direct investment, loans, and aid are examples of various sorts of external capital inflows. It is the most important source of foreign exchange revenue for emerging countries. Several poor countries have seen a significant rise in them over the last two decades. They export labor to generate remittances. FRs help to alleviate poverty, enhance health care, and educate people. They are a significant source of foreign

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financial resources throughout the world. According to the Economic indicator, Pakistan got 7.5 billion dollars in FRs in 2019-20. Foreign direct investment, loans, and aid are not the same as FRs in terms of external capital input. For poor countries, it is their primary source of foreign exchange gains. They help in the reduction of poverty, and the improvement of health and education expenditures. They are the main factor stimulating investment and consumption in FRs receiving economies. Increased investment and consumption are indicators of economic development (Ahmad, Ahmad, & Hayat, 2013). FRs helped eliminate poverty and inequality in Pakistan (MUGHAL & Anwar, 2012). Migrant remittances benefit many developing countries' balance of payments and EG affecting directly/or indirectly saving and investment in human and physical resources (Acosta, Calderon, Fajnzylber, & Lopez, 2008). According to empirical studies, FRs appear to play a role to boost EG by influencing consumption, savings, and investment. They increase the recipient country's income, reduce credit limitations, speed up investment, and promote human development through supporting better education and health care. (Faini, 2002; Gupta, Pattillo, & Wagh, 2009; Stark & Lucas, 1988; Taylor, 1992). When FRs are utilized for consumption rather than investment, as they are in poor countries, they can be harmful. They are unable to save sufficient funds to promote EG (Ahmad et al., 2013). In Nepal, the volume of labor migration and remittances is enormous, and foreign employment represents one of the strongest prospects for IG (Jones & Basnett, 2013).

There are so many studies to find the effect of FRs on EG at the international level (Azam & Khan, 2011; Faini, 2005; Giuliano & Ruiz-Arranz, 2009; Imai, Gaiha, Ali, & Kaicker, 2014; Javid, Arif, & Qayyum, 2012; Jayaraman, Choong, & Kumar, 2011; Nyamongo, Misati, Kipyegon, & Ndirangu, 2012; Oshota & Badejo, 2015). These studies showed that a positive relationship exists between EG and FRs. But concerning finding the role of FRs on IG, only a few studies are available (Doumbia, 2019). As far as Pakistan is concerned, there is no evidence to explore the effects of FRs in the context of IG. So, this study aims at estimating the roles of FRs on IG in Pakistan. The results depict that IG is statistically significantly positively related to FRs. These results are insensitive to the inclusion of per capita income, household size, and dependency ratio. Further, the results show that IG is also statistically significantly positively associated with per capita income positively. Further, the analysis at the regional level reveals that these findings are equally good in areas of urban and rural. This study contributes to the literature at the national level by estimating the impact of FRs on IG in Pakistan. There was a high prevalence of poverty in the nineties around the globe as well as in Pakistan. Then MDGs were set to reduce poverty to half up to 2015. Later on, SDGs were signed to eliminate poverty up to 2030. To speed up the reduction of poverty, the concept of pro-poor growth emerged (i.e., along with EG, income inequality must decrease) (Kakwani & Pernia, 2000; Kakwani et al., 2008; McCulloch & Baulch, 1999; Ali, 2015; Ali, 2018; Ali and Ahmad, 2014; Ali and Bibi, 2017; Ali and Audi, 2016; Sajid and Ali, 2018). But it may be possible that EG may be minimal. After this concept of IG appeared. This study is the pioneer to find the determinants of IG in Pakistan. The structure of the study is as follows: After the introduction, section 2 deals with data and methodology. Section 3 discusses the results and the section final concludes the paper.

## II. DATA AND METHODOLOGY

### II.I. DATA

So many Households Income and Expenditure Surveys (henceforth HIES) have been conducted, from 1963 to 2019 in Pakistan. But, at present following ten HIES collected by Pakistan Bureau of Statistics (henceforth PBS) are available<sup>4</sup> (e.g., 1999, 2002, 2005, 2006, 2008, 2011, 2012, 2014, 2016, 2019). There is only one data set for the year 2005 in which the variable- FRs is not available. So, this study uses nine data sets for the purpose. Eight observations are estimated for each year (four provinces, urban and rural). In this way, 72 observations are generated. There is not even a single study that used so much larger data set.

### II.II. METHODOLOGY

To highlight the relationship between IG and its main driver. This study estimates the following model.

*Function can be expressed as:*

$$\ln(IG_{it}) = \beta_0 + \beta_1(FR_{it}) + \beta_2(\text{income}_{it}) + \beta_3 X_{it} + \varepsilon_{it}$$

The equation is the baseline inclusive-growth model where  $IG_{it}$  is the income share of the poorest 20 percent quantile (Doumbia, 2019).

Where  $i$  refers to the cross-section,  $t$  refers to the number of years,  $IG$  denotes the inclusive growth and is measured as the income share of the lowest 20% quantile.  $FR$  denotes the foreign remittances;  $\text{Income}$  is a control variable,  $X_{it}$  is a set of control variables and  $\varepsilon_{it}$  is an error term.

This study has the following Hypotheses.

#### Hypothesis 1

$H_0 : \beta_1 = 0$  There does not exist any relationship between IG and FR.

$H_1 : \beta_1 > 0$  There exists a positive relationship between IG and FR

#### Hypothesis 2

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<sup>4</sup> <https://www.pbs.gov.pk/content/microdata>

$H_0 : \beta_2 = 0$  There does not exist any relationship between IG and income.  
 $H_1 : \beta_2 > 0$  There exists a positive relationship between IG and income.

### III. RESULTS AND DISCUSSIONS

This section contains the findings as well as a discussion of the research. The research results and discussion sections are equally crucial because they serve as the foundation for all reports and theses. We can talk about any relationship based on our judgment or experience, but the specific relationship can only be determined by analyzing data manually or through software estimating findings. As a result, we can confidently prepare any report based on facts and data. The descriptive statistics of the data are given below. It includes the number of observations and the minimum, maximum, mean, and standard deviation of all variables.

**Table 1: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
lincshpoor	72	2.12	2.40	2.28	0.0654
Remitf	72	0.00	6712.19	1926.53	1582.71
Pcincome	72	695	7622	1645	1490.80
Hhsize	72	5.68	8.71	7.01	0.7709
Depratio	72	0.71	1.39	1.04	0.1505
<i>Source: Author's Calculation</i>					

lincshpoor=log of income shares of the poorest 20 % quantile, remitf= foreign remittances, pcincome= per capita income hhsiz=household size, depratio=dependency ratio

Table 1 reveals that the minimum per capita income is Rs. 694.74 and the maximum is Rs. 7622.27. The mean and standard deviation of the per capita income are 1645.35 and 1490.81, respectively. The minimum per capita remittances received is Rs 0.00 and the maximum is Rs. 6712.19. It is mentioned that zero FRs were received in rural areas of Sindh in 2001/02. The mean and standard deviation of the FRs are 1926.53 and 1582.71, respectively. The mean for lincshpoor is 2.12 and the standard deviation is 0.0654. The minimum household size is 5.68 and the maximum is 8.71. The minimum dependency ratio is 0.7 and the maximum is 1.40. The correlation matrix is presented in table 2. The results show that there are no chances of multicollinearity.

**Table 2: Correlation Matrix**

	lincshpoor	remitf	Per capita income	hhsiz	depratio
lincshpoor	1.000				
remitf	0.184	1.000			
income	0.2655	0.1425	1.000		
hhsiz	0.2415	-0.1698	-0.2154	1.00	
depratio	0.6331	-0.2407	-0.2640	0.5616	1.000

#### III.I. ROLE OF FOREIGN REMITTANCES TOWARDS INCLUSIVE GROWTH IN PAKISTAN

The study first applied the fixed-effect (henceforth FE) model and conducted the F-test. The F-test result showed that the FE model is the preferred model. After that, the random effect (henceforth RE) model was used. Then the Breusch Pagan LM test was applied which decided that RE is the better choice. Then the Hausman specification test was applied which decided in favor of the FE model. The study checked heteroscedasticity and found it. So, we obtained robust standard errors and used them to get t-statistics. These results are presented in Table 3.

Table 3 reveals that FRs have statistically significant positive impacts on IG in Pakistan. Its impact on IG remains stable whether we allow all other variables to vary or hold constant. When all other variables are allowed to vary 1 unit increase in FRs rises IG by 0.00005 percent. But when we hold all other variables constant 1 unit rise in FRs increases 0.00001 percent. These result are in line with those of Doumbia (2019). This study also uses some other variables to check the robustness of the results. Income is another important variable to affects IG. It has also statistically significant positive effects on IG. Our results remain intact even if we include the income variable in the model. One unit increase in income brings about a 0.00001 percent increase in IG. The study also uses the household size and dependency ratio to check the reliability of our results. In the presents of all these variables, our results remain stable. So, we can say there is a role of FR towards IG in Pakistan.

**Table 3: Role of foreign remittances towards inclusive growth in Pakistan**

Variables	Income shares of the poorest 20 % quantile	Income shares of the poorest 20 % quantile	Income shares of the poorest 20 % quantile	Income shares of the poorest 20 % quantile
constant	2.2562 (333.54)***	2.2338 (277.75)***	2.3960 (17.28)***	2.42 (23.00)***
FRs	0.00005 (4.02)***	0.00001 (3.53)***	0.000012 (4.10)***	0.000012 (3.62)***
Per capita income		0.000015 (6.21)***	0.000014 (5.52)***	0.000014 (4.68)***
Hhsize			0.0228 (-1.16)	-0.2111 (-0.82)
Depratio				-0.0261 (-0.23)
F-test	5.28 (0.000)	7.49 (0.000)	5.81 (0.000)	3.22 (0.000)
BP LM test	20.20 (0.000)	0.0000 (1.0000)	0.0000 (1.000)	0.0000 (1.0000)
Hausman s test	10.73 (0.001)	-	-	-
MWTH#	36.93 (0.0000)	27.94 (0.0000)	26.78 (0.0008)	26.76 (0.0008)

#MWT H= Modified Wald test for groupwise heteroscedasticity in case of F-test, Bruesh Pagan (BP) LM test, Hausman specification test and Modified Wald test within brackets are p-values

Note: Within brackets are t-Values based on robust standard error; \*\*\*, \*\*, \* show statistically significant at 1, 5 and 10 percent level, respectively.

### III.II. REGIONAL LEVEL ANALYSIS

After applying all of the relevant tests the study concludes that the fixed effect model is the better choice in urban areas. Heteroscedasticity was checked and we did not find it. The results are presented in Table 4.

**Table 4: Role of foreign remittances towards inclusive growth at the regional level in Pakistan**

Variables	URBAN				RURAL			
	FIXED EFFECT MODEL				POOLED REGRESSION			
	ISp20q	ISp20q	ISp20q	ISp20q	ISp20q	ISp20q	ISp20q	ISp20q
constant	2.21*** (130.1)	2.19*** (119.92)	2.57*** (10.93)	1.97*** (19.08)	2.29** (171.44)	2.27*** (167.86)	2.14*** (27.07)	2.18*** (19.88)
remif	0.000 (2.74)***	0.000016 (2.80)***	0.000014 (2.40)**	0.000015 (2.32)**	0.0000 (2.05)**	0.00002 (2.21)**	0.0000 (1.28)	0.0000 (1.27)
Pcincome		0.000014 (2.61)***	0.000012 (2.26)**	0.000015 (2.41)**		0.00001 (4.42)***	0.00002 (3.02)	0.00002 (2.86)
hhsize			-0.0546 (-1.64)	0.0322 (1.40)			0.0195 (1.81)	0.0228 (1.86)
depratio				-0.0062 (-0.03)				-0.0584 (-0.59)
F-Test	3.34 (0.032)	4.64 (0.008)	3.26 (0.035)	3.34 (0.032)	1.16 (0.341)	1.18 (0.166)	0.69 (0.564)	0.64 (0.596)
BP LM	0.000 (1.000)	0.0000 (1.000)	0.000 (1.0000)	0.000 (1.000)	0.02 (0.439)	0.000 (1.000)	0.000 (1.000)	0.000 (1.000)
Hausman S test	-	-	-	-	-	-	-	-
MWTH#	3.90 (0.415)	4.94 (0.294)	4.32 (0.365)	2.40 (0.662)	12.37 (0.015)	8.18 (0.085)	8.35 (0.080)	10.55 (0.032)

#MWT H= Modified Wald test for groupwise heteroscedasticity pcincome=per capita income, in case of F-test, Bruesh Pagan (BP) LM test, and Modified Wald test within brackets are p-values

Source: Authors' estimation: Note: Within brackets are t-Values based on robust standard error where there is heteroscedasticity: \*\*\*, \*\*, \* show statistically significant at 1, 5 and 10 percent level, respectively.

Table 4. reveals that there is a statistically significant favorable impact of FRs on IG in urban areas whether we allow other variables to vary or hold constant. One percent increase in FRs rises IG by 0.00002 percent by allowing the other variables to vary. The study also checks the robustness of the results including some other variables. Another important variable to effects IG is income. There are statistically significant relationships between IG and FRs. When it increases by 1 unit, there is a 0.00001 percent rise in IG. When we include the household size and dependency ratio in the model, our findings remain intact. The regional results also show that there is also a statistically significant favorable effect of FRs on IG in rural areas. The study checks the robustness of findings by including some other variables. The findings reveal that per capita income is also an important variable to affect IG in rural areas too. But when including household size and dependency ratio, the role of FRs becomes insignificant, however, the sign remains intact.

#### IV. CONCLUSION AND POLICY RECOMMENDATIONS

The study estimates the impact of FRs on IG in Pakistan. The findings reveal that there is a statistically significant positive association between IG and FRs. Their effects remain intact when we include some control variables. When we include of FRs in the model, then a 1 unit rise in FRs increases IG by 0.00005 percent. In the case of inclusion of some control variables, one unit increase in FR brings an increase of 0.000012 percent in IG. The other important variable to IG is income. Results depict that study also uses some other control variables to come to know the robustness of the results. There is a statistically significant positive relation between IG and FR. The results do not vary with the inclusion of household size and dependency ratio. The analysis at the regional level shows that the effect of FR on IG is statistically significantly positive in both urban and rural areas. Further, the findings reveal that income has also a statistically significant positive impact on IG in both urban and rural areas. The study suggests that such policies should be formulated that help increase the inflow of FRs and maximize EG.

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