

Impact of the foreign remittances on economic growth and poverty reduction: an analysis of Pakistan's economy

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Abstract

Remittance is one of the significant factors of foreign capital inflow, which has an essential role in GDP growth and poverty reduction by increasing income, investment, decreasing credit limitations, and promoting HDI. Since 1970, remittances have played a significant role in Pakistan's economy. The study aims to investigate the impact of foreign remittances on economic growth and poverty reduction in Pakistan and uses data from 1981-2020. Based on the form of data, this study used auto-regressive distributed lag systems for assessment. This research discovered that exports, FDI, capital formation, labour force and secondary school enrolment positively affect GDP growth in the long term. In contrast, remittances have helpful effects on GDP growth. Similarly, the GDP per capita, exports, labour force and remittances positively affect poverty reduction in the long term. The FDI, capital formation and secondary school enrolment positively affect poverty reduction. As a result, this study concluded that remittances significantly influence GDP growth and poverty reduction in Pakistan. The study strongly recommended facilitating the families and workers working abroad to increase foreign remittances to enhance GDP growth and poverty reduction.

Keywords: ARDL, FDI, GDP, GDP growth, GDP per capita, foreign direct investment, exports, imports, gross domestic products, capital formation, labour force.

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1. Introduction

Remittances are the transfers of foreign currency from immigrants in their home country. Remittances are one of the most important sources of cash flows to developing countries. History reveals that population relocation from one region to another to improve development has been practiced for centuries (Khan, 2005). Remittances have been proved to help lowering income inequality, supporting low-income families (Yang & Choi, 2007), growing saving (Adams, 2002), improve GDP significantly (Mundaca, 2009), and lower productivity volatility (Hakura et al., 2009). In recent years, academicians, financial institutions and politicians have taken a keen interest in international remittances. The recent surge in remittances to origin countries and foreign direct investment (FDI) to impoverished countries has reignited debate in recipient countries about their development potential (Batool & Bhatti, 2020; Kousar et al., 2020; Mwangi & Mwenda, 2015).

Since 1970, remittances have been an essential form of foreign currency earnings for Pakistan. Pakistan has received a substantial remittance throughout the previous 40 years; nonetheless, oscillations of remittances have been documented. Remittances improve GDP by dipping the deficit and external loans, and improving BOP (Iqbal & Sattar, 2010). South-Asian migrant labour sends significant sums of amount each-year, which contribute significantly to economic development (Ozaki, 2012). According to neoclassical-migration theory, labour migrates from low-income countries to comparably high-wage ones due to wage inequalities across countries (Kurekova, 2011). Remittances sent by immigrants to their home countries serve to relieve poverty and encourage economic progress (Gul et al., 2021; Ozaki, 2012). On the other hand, such migration may impair growth by forcing the home country to lose competent and educated people (Rahmiye & Florentina, 2017). As a result, as described by neoclassical growth theory, human capital (HK) losses may have an undesirable influence on GDP. It has the potential to hinder economic progress and trade (Ratha, 2013).

An undesirable impact on the labour-supply decisions of recipient households. Remittance encourages the working decision of recipient families, as results, they prefer leisure instead of work (Silva et al., 2009) and wasted money (Hassan & Shakur, 2017). Increased remittances are connected with political stability and good government laws (Abbas et al., 2017). Other sources of remittances include FDI, external financial flow, and foreign loan and support. It is observed as the primary foundation of foreign exchange earnings for nations such as Pakistan. Pakistan's remittance inflow has changed dramatically during the previous 30 years. Pakistan exports workers in order to make remittances. It also plays an important role in poverty reduction, health care expansion, and education (Iqbal & Sattar, 2010; Rafiq et al., 2022; Raza et al., 2021; Shafique et al., 2020).

Remittance inflows boost GDP growth and lessen poverty by increasing income, investment, decreasing credit limitations, and promoting HDI (Gupta et al., 2009) and (Calero et al., 2009). But, Chami et al. (2003) argues that remittances have a harmful effect on GDP, since a large flow of remittances reduces labour force (LF), lowering production. As a result, the influence of remittances on country's GDP has been debated. In the case of Pakistan, a lot of studies have been conducted that engrossed on the influence of remittances on GDP. The overall result of these research is that remittances have a beneficial impact on the Pakistani economy in terms of aggregate investment, consumption, decrease deficit, and foreign debt load. Furthermore, labour migration is seen as an important source of foreign exchange revenues (Siddiqui &

Kemal, 2006). Banerjee and Goldfield (2007) investigated the influence of remittance declines poverty in Pakistan.

The decrease in remittances during 1990s increased poverty in Pakistan. The main motivation of the study is that the remittances have an impact on the economy of the receiving nation via several transmission mechanisms. On the one hand, remittances are an important source of external finance for the local economy, reducing credit limitations, stimulating investment, and therefore positively contributing to economic growth (Giuliano & Ruiz-Arranz, 2009; Riaz et al. 2020). Remittances may also aid the home economy during idiosyncratic recessions by acting as an insurance mechanism, raising consumption and disposable income when other sources of domestic aggregate demand are weak (Yang & Choi, 2007). The remittances, on the other hand, might have negative consequences, such as contributing to the Dutch disease or diminishing labour supply in the home country (Acosta et al., 2009).

According to Kemal (2001) the remittance inflows are a primary variable influencing poverty stages through changes in consumption and income levels of the people, along with the increases in stock of capital. Many studies have been conducted to evaluate the impression of remittances on GDP and poverty reduction especially women economic empowerment, and stability of the stock exchange but none have been conducted in the setting of Pakistan throughout the research period (Ali et al., 2021; Manzoor et al., 2022; Khan & Mahmood, 2023). Hence, this study was steered to explore the consequence of remittance on GDP growth and poverty reduction in Pakistan.

This study significantly contributed to the literature, and the findings would emphasize the relevance of remittances in Pakistan and throughout poor countries. As a result, the study encourages remittance recipients in Pakistan to spend their remittances on productive products in order to enhance their standard of living and support GDP growth and development. The rest of the paper contain literature review in section 2, methodology in section 3, discussion and results in section 4 and conclusion at the end of the study.

2. Literature review

In this section we present the review of the prior studies like Qayyum et al. (2008) used data from 1973-2007 and use the ARDL technique for estimation and found that remittances have a favourable and considerable impression on poverty alleviation and GDP in Pakistan. Ahortor and Adenutsi (2008) used the developing countries data set from 1996-2006 and GMM methods for assessments. They discovered that remittances had greatly aided GDP growth. Azam and Khan (2011) indicate that remittances are favourable stimulus on GDP in the case Azerbaijan and Armenia. Jawaid and Raza (2012) use data from 1980 to of China and Korea a used cointegration techniques for estimation and explored that there is helpful connection between GDP and remittances in the Korean, whereas a harmful association exists between GDP and remittances in Chinese. Javid et al. (2012) used the data from 1973 to 2010 of Pakistan and ARDL technique for estimation and suggest that remittances enhancing GDP and poverty reduction.

Yaseen (2012) used the MENA economies data set 2000-2010 and OLS and GMM methods for assessment and suggest that In most countries, remittances are more than 10% of GDP. Driffield and Jones (2013) employed 3SLS and GMM approaches and revealed that all bases

of foreign capital including remittances have a favourable inspiration on growth. Datta and Sarkar (2014) used Bangladesh data from 1975 to 2011, and ARDL model for estimation and found that there is helpful link between remittances and GDP. Mwangi and Mwenda (2015) used Kenyan data from 1993 to 2013 and Granger Causality techniques for estimation and specified that foreign remittance indicators had a helpful impression on Kenya's GDP growth. Chowdhury (2016) used GMM and data 1979-2011 and found that remittances are successful in fostering GDP.

Meyer and Shera (2017) used from 1999-2013 and designate that remittances stimulus growth. Comes et al. (2018) used data from seven European countries from 2010-2016 and remittances and FDI have a helpful impression on GDP. Eggoh et al. (2019) used data from 49 (forty-nine) developing countries data from 2001-2013 and indicate that the nonlinear link between remittances and growth. Abduvaliev and Bustillo (2020) found that remittances reduced poverty by rising income and stabilizing consumption forms. Sutradhar (2020) used data 1977-2016 and pooled OLS and dummy variable interaction models and found that remittances have a negative impact on GDP growth in Pakistan, Bangladesh, and Sri Lanka while, have a beneficial influence on India's GDP.

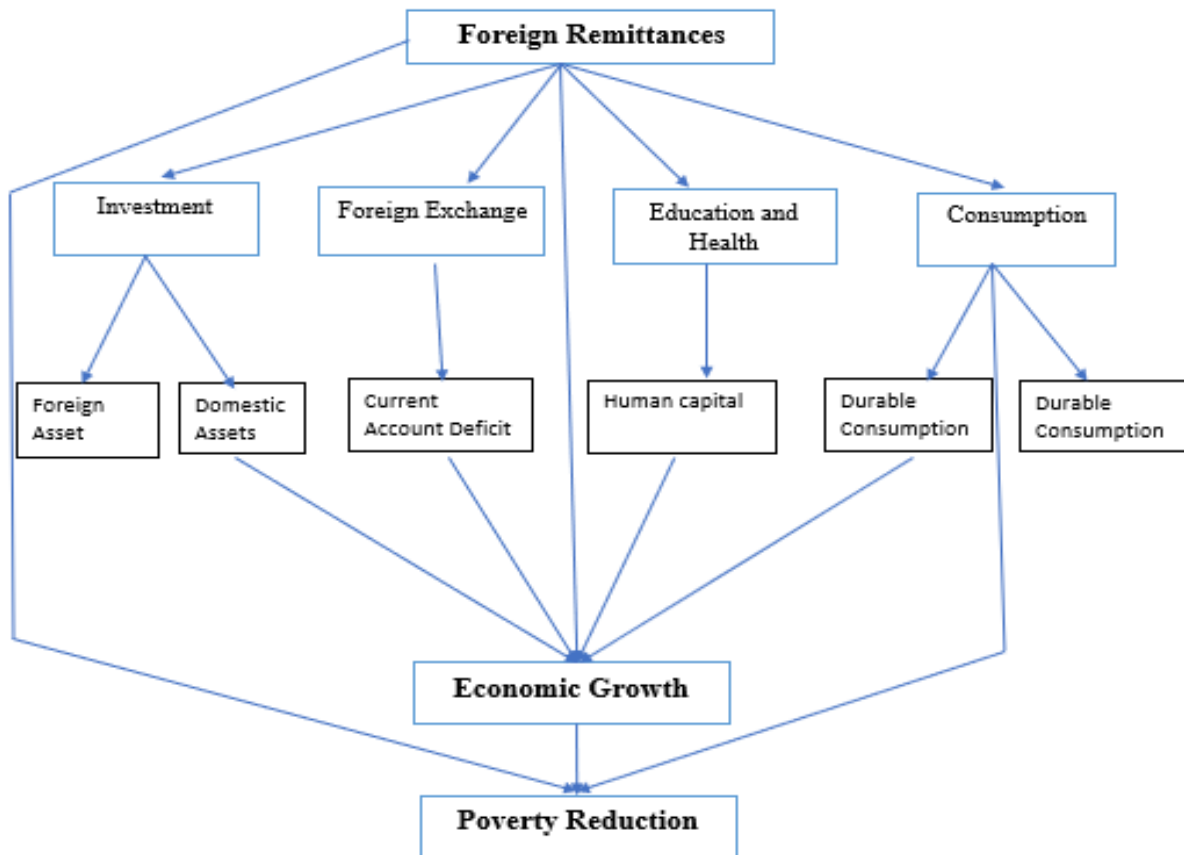
Emam et al. (2021) use an Autoregressive Distributed Lags (ARDL) bounds testing technique for estimation and suggested that worker remittances have no major influence on economic development. Imran et al. (2021) used SAARC countries data from 1994 to 2017 and OLS for assessment and found that remittances have a favourable and notable influence on GDP. Islam (2022) used the panel data from 1986 to 2019 of selected South Asian Countries and FMOLS, GLS techniques for estimation and found that remittances have helpful effect on GDP. Tchekoumi and Nya (2023) used the data from 1990 to 2018 and GMM techniques for estimation and the findings confirmed that there is non-linear connection among the remittances and GDP.

For more than a half-century, fierce discussions have raged over the GDP growth across the world. The apparent drivers of GDP have ranged from excess GKF and technical progress, foreign-aid, FDI, human-capital (HK), growing returns from investment in new ideas, and R&D. However, like Kaufmann et al. (2005) have engrossed on the influence of institutional elements on GDP, as well as poverty alleviation. However, for many poor nations, remittances outnumber FDI, export receipts, and foreign aid in terms of international capital flows (Giuliano & Ruiz-Arranz, 2009).

Based on a survey of the literature; however, no study acquired into consideration the impact of remittances on GDP in Pakistan. Furthermore, the conclusions of previous study are based on panel-data from a range of countries. This may be acceptable, but it is irrelevant to particular governments wanting to manage internal policies. Furthermore, most previous study examined HDI (Rahman et al., 2006; Raza et al. (2020)). There is no consensus about the impression of remittances on GDP. Prior studies has revealed that it may be related to the recipient nation's financial progress, albeit the direction of the link is uncertain (Sobiech, 2019). Many prior studies used the old data like Azizi (2021) used the data period 1990-2014 in the case 103 developing countries. This study used the updated methodology, data and the unique combination of the variables, which is not yet used by prior studies. There is no current research for Pakistan. Therefore, our findings will help to bridge that gap.

3. Conceptual framework

Figure 1: Effect of foreign remittances on economic growth and poverty reduction



Source: Qayyum et al. (2008)

4. Research methodology

This section presents the different techniques and estimation methods to analyze the data. These econometrics techniques are helpful in achieving the main goals of the study. This quantitative analysis examined the influence of remittances on poverty reduction and GDP growth in Pakistan from 1981-2020 using yearly data from World Development Indicators (WDI) (2022).

4.1. Model specification

This study used the following adapted model, as used by Meyer and Shera (2017), Raza et al. (2021), Kemal (2001), Yaseen (2012), Raza et al. (2020), and Fayissa and Nsiah (2010) in their studies.

$$GDPpc_t = \beta_0 + \beta_1 GKF_t + \beta_2 SSE_t + \beta_3 LF_t + \beta_4 Rem_t + \beta_5 FDI_t + \beta_6 Exp_t + \mu_t \quad (1)$$

$$Pov_t = \beta_0 + \beta_1 GKF_t + \beta_2 SSE_t + \beta_3 LF_t + \beta_4 Rem_t + \beta_5 FDI_t + \beta_6 Exp_t + \beta_7 GDPpc_t + \mu_t \quad (2)$$

4.2. Variables

The detail of the study variables is as follows:

Table-1: Explanation of variables

S#	Variables	Symbol
1.	GDP per capita growth (annual %)	GDPpc _t
2.	Gross capital formation (% of GDP)	GKF _t
3.	School enrolment, secondary (% gross)	SSE _t
4.	Remittances, (% of GDP)	REM _t
5.	Poverty gap (2011 PPP) (%)	Pov _t
6.	FDI, net inflows (% of GDP)	FDI _t
7.	Labor force, total (% of total population ages 15+)	LF _t
8.	Exports (% of GDP)	EXP _t

4.3. Econometric techniques

The ADF test, established by Dickey and Fuller (1979) and PP test were employed to check the integration order of each variable. There are several methods for assessing the data, but ARDL methods began by Pesaran and Shin (1999) are predominantly well suited for assessment, due to the ability to deal with the mixed integrated order data and deals with endogeneity.

Model (1) in ARDL and ARDL bound format.

$$GDP_{pc_t} = \beta_0 + \sum_{i=1}^n \beta_{1i} GDP_{pc_{t-i}} + \sum_{i=0}^n \beta_{2i} SSE_{t-i} + \sum_{i=0}^n \beta_{3i} GKF_{t-i} + \sum_{i=0}^n \beta_{4i} LF_{t-i} + \sum_{i=0}^n \beta_{5i} REM_{t-i} + \sum_{i=0}^n \beta_{6i} FDI_{t-i} + \sum_{i=0}^n \beta_{7i} EXP_{t-i} + \mu_t \quad (3)$$

$$\Delta GDP_{pc_t} = \beta_0 + \sum_{i=1}^n \beta_{1i} \Delta GDP_{pc_{t-i}} + \sum_{i=0}^n \beta_{2i} \Delta SSE_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta GKF_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta LF_{t-i} + \sum_{i=0}^n \beta_{5i} \Delta REM_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta FDI_{t-i} + \sum_{i=0}^n \beta_{7i} \Delta EXP_{t-i} + \gamma_1 SSE_t + \gamma_2 GKF_t + \gamma_3 LF_t + \gamma_4 REM_t + \gamma_5 FDI_t + \gamma_6 EXP_t + \mu_t \quad (4)$$

Model (2) in ARDL and ARDL bound format.

$$Pov_t = \beta_0 + \sum_{i=1}^n \beta_{1i} Pov_{t-i} + \sum_{i=0}^n \beta_{2i} SSE_{t-i} + \sum_{i=0}^n \beta_{3i} GKF_{t-i} + \sum_{i=0}^n \beta_{4i} LF_{t-i} + \sum_{i=0}^n \beta_{5i} REM_{t-i} + \sum_{i=0}^n \beta_{6i} FDI_{t-i} + \sum_{i=0}^n \beta_{7i} EXP_{t-i} + \sum_{i=0}^n \beta_{8i} GDP_{pc_{t-i}} + \mu_t \quad (5)$$

$$\Delta Pov_t = \beta_0 + \sum_{i=1}^n \beta_{1i} \Delta Pov_{t-i} + \sum_{i=0}^n \beta_{2i} \Delta SSE_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta GKF_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta LF_{t-i} + \sum_{i=0}^n \beta_{5i} \Delta REM_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta FDI_{t-i} + \sum_{i=0}^n \beta_{7i} \Delta EXP_{t-i} + \sum_{i=0}^n \beta_{8i} \Delta GDP_{pc_{t-i}} + \gamma_1 SSE_t + \gamma_2 GKF_t + \gamma_3 LF_t + \gamma_4 REM_t + \gamma_5 FDI_t + \gamma_6 EXP_t + \gamma_7 GDP_{pc_t} + \mu_t \quad (6)$$

5. Data analysis and discussion

5.1. Unit root tests results

Table- 2 shows the unit root tests of each variable. This study used two tests to notice the unit root issues. The ADF and PP tests shows that the series GDPpc, FDI and LF are stationary at level, while, the series poverty, exports, gross capital formation, remittances, and secondary school enrolments are stationary at first difference 1(0), therefore, the ARDL methods is suitable for assessment.

Table-2: Unit root tests results

Variables	ADT test (p-value)		PP test (p-value)		Order of Integration
	At level	At First Difference	At level	At First Difference	
Pov _t	-1.2501 (0.6427)	-4.6029* (0.0007)	-1.3494 (0.5967)	-4.5671* (0.0007)	I(1)
GDPpc _t	-3.8037* (0.0060)	----	-3.7894* (0.0063)	----	I(0)
EXP _t	-1.2095 (0.6607)	-6.4793* (0.0000)	-1.2486 (0.6434)	-6.4966* (0.0000)	I(1)
FDI _t	-3.0999** (0.0350)	----	-1.9459 (0.3087)	-4.0072* (0.0036)	I(0) & I(1)
GKF _t	-1.7815 (0.3839)	-6.5695* (0.0000)	-1.7877 (0.3809)	-6.5694* (0.0000)	I(1)
LF _t	-5.0400* (0.0002)	-----	-5.1320* (0.0001)	-----	I(0)
REM _t	-0.5864 (0.8621)	-4.8924* (0.0003)	-0.7503 (0.8218)	-4.8643* (0.0003)	I(1)
SSE _t	0.5522 (0.9864)	-4.2702* (0.0017)	0.5521 (0.9864)	-4.2686* (0.0017)	I(1)

Note: *, **, & *** showed the implication level at 1%, 5% and 10%.

5.2. Regression results

Table- 3 shows the results of the impression of remittances on GDPpc of Pakistan. In the long period, the ARDL approach results show that the EXP have inspiring and notable consequence on economic growth. A % upsurge in the EXP will bring surge in the economic growth by 0.29% as like Bakari (2017) while dissimilar with Forgha and Aquilas (2015) and Adeleye et al. (2015). Likewise, the FDI has positive and distinguished impression on GDPpc. A % upsurge in the FDI will bring surge in the economic growth by 0.29%. As like Rehman et al. (2020), Azman-Saini et al. (2010) and Alfaro et al. (2004), while, opposing with Wang (2009) and Karimi and Yusop (2009).

The GKF has helpful and noteworthy effect on GDPpc. A % upsurge in the GKF will bring surge in the economic growth by 0.41%. The outcomes is similar with Oketch (2006), Ugochukwu and Chinyere (2013), Ali et al. (2012), and Adhikary (2011). Likewise, the LF has a constructive and noteworthy impression on the GDP. A % upsurge in the LF will bring upsurge in economic growth by 0.09%. The outcome is similar with Rehman et al. (2020) and Rehman et al. (2018).

The remittances have constructive and notable effect on economic growth. A % surge in the remittances will bring upsurge in the GDPpc by 0.90%. The finding are with same with Cooray (2012), Ahoritor and Adenutsi (2008), Cazachevici et al. (2020), and Meyer and Shera (2017), while, opposing with Chami et al. (2005) and Feeny et al. (2014). Likewise, the SSE has beneficial and notable effect on economic growth. A % upsurge in the SSE will bring rise in the GDPpc by 0.19%. The matching outcome was given by Rehman et al. (2018) and Rehman et al. (2020).

In the short period, the results of the data show that the exports, FDI, LF, and SSE have insignificant effect on GDP growth. While the remittances have beneficial and notable effect on GDPpc. A % upsurge in the remittances will bring rise in the economic growth by 0.59%. Furthermore, there exist the long-period co-integration among the variables and 53% convergence rate.

Table-3: Regression Results: impact of Remittances on GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
<i>Long-period Coefficients</i>				
EXP _t	0.2944*	0.0716	4.1138	0.0006
FDI _t	0.2908***	0.1539	1.8896	0.0742
GKF _t	0.4118*	0.1330	3.0959	0.0059
LF _t	0.0854*	0.0265	3.2214	0.0045
REM _t	0.8955*	0.2833	3.1607	0.0051
SSE _t	0.1887**	0.0731	2.5810	0.0183
C	10.1616**	4.5781	2.2196	0.0388
<i>Short-period Coefficients</i>				
D(EXP _t)	-0.0099	0.1653	-0.0598	0.9527
D(FDI _t)	0.1212	0.4437	0.2732	0.7865
D(GKF _t)	0.1856	0.1965	0.9445	0.3524
D(LF _t)	0.0431	0.0464	0.9288	0.3604
D(REM _t)	0.5863*	0.2099	2.7938	0.0090
D(SSE _t)	-0.1188	0.1386	-0.8569	0.3983
ECM _t	-0.5330*	0.0631	-8.4457	0.0000
<i>ARDL Bound Test value</i>		5.6975*		
		Signif.	I(0)	I(1)
		10%	1.99	2.94
		5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

Note: *, **, & *** indicated the implication level at 1%, 5% and 10% correspondingly.

Table-4: Diagnostic tests results: impact of remittances on economic growth

Test	Statistic	Value	Probability Value	Decision
Breusch-Godfrey Serial Correlation LM Test	F-Statics	0.4647	0.6361	Sustain H ₀ : No Autocorrelation
Heteroskedasticity Test: Breusch-Pagan-Godfrey	F-Statics	0.7936	0.6817	Sustain H ₀ : Homoskedasticity
Ramsey RESET Test	t-statistic	0.5217	0.6082	Sustain H ₀ : No
	F-statistic	0.2722	0.6082	Specification error in the model

The table- 5 shows the ARDL test results of the impact of remittances on poverty in Pakistan. The long-period results show that the GDPpc has helpful and noteworthy effect on poverty. A % upsurge in the GDP per capita will lessen the poverty by 0.14%. The similar results were found by Agrawal (2007), Škare and Družeta (2016) while dissimilar results were given by Fosu (2009). The exports have also positive and notable consequence on poverty lessening. A % upsurge in the exports will lessen the poverty by 0.23%. The similar results were found by Maertens and Swinnen (2009) while dissimilar results were given by Adetunji et al. (2012) and Rodríguez-Castelán et al. (2020).

Similarly, the FDI has helpful and notable effect on poverty reduction. A % upsurge in the FDI will diminish the poverty by 0.46%. The similar results were found by Ucal (2014) and Andrew (2004). The GKF has encouraging and substantial effect on poverty reduction. A % upsurge in the GKF will lessen the poverty by 0.43%, as like Akobeng (2017). Correspondingly, the LF has a helpful and noteworthy effect on the poverty reduction. A % upsurge in the LF will reduce the poverty by 0.03% as a similar result given by Faridi et al. (2016).

The remittances have substantially beneficial and notable effect on poverty reduction in Pakistan. A % upsurge in the remittances will reduce the level of poverty by 0.34%. The same findings were given by Yoshino et al. (2017), Inoue (2018), Khan et al. (2022), Arapi-Gjini et al. (2020) and Azizi (2021) while the opposite results was given by Bertoli and Marchetta (2014). Similarly, the SSE has encouraging and notable effect on poverty lessening. A % upsurge in the SSE will lessen the poverty by 0.44%. The identical outcome was also given by (Bashir (2018).

In the short period, the GDPpc has inconsequential effect on poverty lessening. Similarly, the exports have inconsequential effect on poverty reduction. Though, the FDI has optimistic and important impression on poverty reduction. A % upsurge in the FDI will lessen the poverty by 0.80%. Also, the gross capital formation has beneficial and notable effect on poverty reduction. A % upsurge in the GKF will reduce the poverty by 0.64%. However, the LF and remittances has also irrelevant impression on poverty lessening. However, the SSE has beneficial and notable effect on poverty lessening. A % upsurge in the SSE will reduce the poverty by 0.42%. Furthermore, there exist the long-period co-integration among the variables and 72% convergence rate.

Table-5: Regression results: impact of remittances on poverty

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
<i>Long-period Coefficients</i>				
GDP _{pc,t}	0.1374**	0.0596	2.3031	0.0286
EXP _t	0.2290*	0.0122	18.7368	0.0000
FDI _t	0.4674*	0.1499	3.1188	0.0041
GKF _t	0.4350*	0.0445	9.7767	0.0000
LF _t	0.0321*	0.0055	5.8741	0.0000
REM _t	0.3428*	0.0298	11.5185	0.0000
SSE _t	0.4376*	0.0149	29.4464	0.0000
C	-7.7400*	0.3816	-20.2829	0.0000
<i>Short-period Coefficients</i>				
D(GDP _{pc,t})	-0.0065	0.1011	-0.0646	0.9490
D(EXP _t)	0.1178	0.1645	0.7159	0.4797
D(FDI _t)	0.8077***	0.4400	1.8358	0.0767
D(GKF _t)	0.6378*	0.2117	3.0137	0.0053
D(LF _t)	0.0009	0.0465	0.0202	0.9841
D(REM _t)	0.3392	0.2082	1.6295	0.1140
D(SSE _t)	0.4280*	0.1502	2.8491	0.0080
ECM _t	-0.7228*	0.1308	-5.5256	0.0000
<i>ARDL Bound Test value</i>		4.5286*		
		Signif.	I(0)	I(1)
		10%	1.92	2.89
		5%	2.17	3.21
		2.5%	2.43	3.51
		1%	2.73	3.9

Note: *, **, & *** indicated the consequence level at 1, 5 and 10% correspondingly.

Table-6: Diagnostic tests results: impact of remittances on poverty

Test	Statistic	Value	Probability Value	Decision
Breusch-Godfrey Serial Correlation LM Test	F-Statics	2.5949	0.1687	Sustain H ₀ : No Autocorrelation
Heteroskedasticity Test: Breusch-Pagan-Godfrey	F-Statics	1.8269	0.2086	Sustain H ₀ : Homoskedasticity
Ramsey RESET Test	t-statistic	0.5486	0.6031	Sustain H ₀ : No Specification error in the model
	F-statistic	0.3010	0.6031	

6. Conclusion

The study investigated the effect of foreign remittances on economic growth and poverty reduction in Pakistan and used the data 1981-2020 and ARDL methods for estimation. This study initiates that the exports, FDI, GKF, LF, and SSE have helpful effect on GDPpc in the long period only, while the remittances have helpful effect on GDPpc. Similarly, GDP, exports, labour force and remittances have positive consequence on poverty lessening in the long period only, while the FDI, GKF and SSE has positive effect on poverty reduction. Therefore, this study concluded that the remittances have strong influence on GDP growth and poverty reduction in Pakistan. The study strongly recommended facilitating the families and worker working abroad to increase the foreign remittances to enhance GDP and poverty lessening. Furthermore, providing the investment opportunities to the families and worker working abroad to increase the foreign remittances to enhance economic growth and poverty. However, this study limited to Pakistan and shorter period due to unavailability of data of the target variables. Therefore, this study recommended for future researcher to conduct the similar studies in the other developing countries with long data set and updated methodology.

Declaration of conflict of interest

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