



Remittances and Economic Growth in Philippines

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ARTICLE DETAILS	ABSTRACT
History Revised format: Aug, 2019 Available Online: Sep, 2019 Keywords GDP, Remittances, Economic Growth, ARDL, Philippines.	Recent study was examining about remittances and economic growth in Philippines. The Auto Regressive Distributive Lag Model (ARDL) Analysis was used to get the results of the relevant study for the time period of 1990-2019 that showed there is positive long and short-run impact of Remittances on GDP while negative impact was found in between FDI and GDP. Findings also showed long run co-integration relationship among the variables. For the development of remittances, the Government should place different institutes for the awareness of remittances to the local people. Also, the Government should provide facilities to the workers while working in foreign countries.

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Introduction:

Remittances are very important source of income to give strengthen to the countries because by the migrants they may earn a number of benefits in the growth of their economy. As explored by the Poirine (1997) the theory of migration and remittances focused on an effort to evaluate whether the remittances are not mostly invested in the village area. This theoretical concept may not be reliable on spreading the risk budget, and may be able to implement that remittances may invest, but rather that they are mostly consumed. The concept of loan which is informal in between family members that may explain remittances is not new, but on the other hand its full implementations have not been defined in the theoretical text to the best of one's knowledge. Most of empirical testable propositions might be resulting from this exclusive hypothesis, particularly when trying to give details why brain drain remit, what may be the time profile of remittances, how may depend on the target to settle, on the expected duration of stay, and on interest rates; what use people formulate remittances, and also how the behavior of family consumption may affect by the economic prospects in the receiving country, etc.

Ang (2007) discussed about the global scale phenomenon on which Global Development Finance Report of World Bank was discussed about that after Mexico and India, Philippine has become the 3rd largest remittance received country.

According to Azeez & Begum (2009) migration is a worldwide occurrence. Migration may occur in two ways by external migration and by internal migration. External migration happens in a case when worker transfer from

their country to any other foreign country. While internal migration may take place from one area to another area within the country.

Nyeadi and Atiga (2014) explored that remittances may encourage economic growth with channels just like to facilitate the financial market growth, by helping the activities of financial consumption, to finance household expenses, also financing family capital formation, to fill the gap of savings and along with the outer financial gap. All these results proved that the inflow of remittances gives direction to the growth of any economy.

According to the estimation Aboulezz (2015) from the last ten years, remittances from the developing countries are increasing rapidly, according to an estimation it increased till US\$404 billion in 2013 and performing well in the field of development. In this figure money transferred by informal channels is excluded that may not be able to record. Now a days, the remittances of migration have become second largest source of outer income for the developing nations.

Tolcha and Rao (2016) investigated that migrant remittances play a different role and increased rapidly within last ten years, and 2014th annual inflow to Africa was also recorded near to \$60 billion, while in 2000 it was \$11.4 billion (United Nation Economic Commission for Africa, 2013). So, we can say it that the remittances can give a good opportunity to African countries for increase their important source and impact towards employment.

Literature Review:

Cooray (2012) discussed about the Migrant Remittances Impact on the growth of South Asian Economy for the period of 1970-2008. For the estimation of data, the panel data was carried out by using the ordinary least squares (OLS) method. The positive significant effect was found after getting the results of remittances on the growth of the relevant economy in the context of the growth of education and also financial sector of the selected area.

The Remittances and Economic Growth of workers in South Asia was also discussed in Jawaid and Raza (2012) study for five South Asian countries for the time period of 1975 to 2009 on which Phillip Perron (PP) unit root test and Augmented Dickey Fuller (ADF) were used to analyze the long run relationship of selected time series variables. The results exist significant positive long run relationship between remittances and economic growth in India.

Effect of the Remittances of Workers on Economic Growth was discussed in the study of Dilshad (2013) on which time series data was used for the period of 1991-2012. The regression model was used to find the relationship in between the selected variables. The results showed positive relationship between the remittances of workers and the growth of the economy of Pakistan.

Akinpelu, Ogunbi, Bada and Omojola (2013) expressed their opinion about the impact of Remittance Inflows on Nigerian Economic Growth. Co-integration and causality tests were used to analyzed the collected data for the year of 1991-2011. It was demonstrated that there is no specific causality among remittances and foreign exchange rate and also in FDI.

Agbola (2013) investigated on the restriction of human capital that impact on foreign direct investment and also the remittances on growth of the economy of Ghana. Fully Modified Ordinary Least Squares (FMOLS) estimator and along with this employing annual data were used to get the results for the time period of 1965-2008. The

evidences suggests that the domestically the inflation pressure, uneven political atmosphere and also the unstable globalized economy is putting a negative effect on the growth of the economy of Ghana.

Kumar (2013) expressed the opinion about Remittances and also the economic growth of Guyana by using the data for the time period of 1982–2010. To get the better results augmented Solow framework and an ARDL bounds test for co-integration, were applied. The results showed that there was positive and significant relation found in between remittances in both cases short run and also in long run, on the other hand there was negative impact found in aid during long run while financial deepening was also not found significant.

Paranavithana (2014) argues that whether Remittances of Workers mitigate Economic Growth in Sri Lanka? For this purpose, the researcher has taken the annual time series data for the period of 1977-2012 on which endogenous growth model was used. A Cobb-Douglas production function was applied to analyze the impact of the remittances of workers on economic growth.

Bayar (2015) discussed in the study to explore the close relationship between the personal remittances received, real GDP per capita growth and also the net foreign direct inflows in the changeover economies of the European Union for the time period of 1996-2013. Dumitrescu and Hurlin causality test was used to get the results. As a result, the significant impact was of economic growth was found in model countries of the relevant study.

Azam (2015) pointed out about the role of the workers' migrant remittance in the development of economic growth for the Asian developing countries. The time series data was applied for the time period of 1976-2012 and ordinary least squares method was used to get the results. After examining the results showed positive relationship between the workers migrated and the economic growth.

Jouini (2015) discussed about remittances and Economic growth of Tunisia for the time period of 1970-2010 by using Autoregressive Distributed Lag (ARDL) approach to access the results. The results showed that under the short run, there may be significant directional relation between the selected variables, especially in between remittances and the economic growth.

Chowdhury (2016) focused on Economic Growth, Remittances and Financial Development with the help of Dynamic Panel Estimation on which the data of 33 developing countries was used for the duration of 1979 to 2011. Solow growth model was used to get the required results which were suggested that financial development could not perform as a replacement or even not as a complement for the remittances in the development.

Impact of Remittances of Workers and its instability South Asian countries' Economic Growth was also discussed in Jawaid and Raza (2016) study for the time period of 1975 to 2009. Cointegration method was used to analyze the results that argues the positive long run relationship in economic growth and remittances of South Asian countries.

Remittances effect on the Growth of the economy of Developing Countries was discussed in Dastidar (2017) study. The sample size of 62 developing countries was taken for the period of 1990–2014 on which Balasubramanyam, Salisu, and Sapsford (1996) model was applied for the results. Considering the econometric results there is not a specific verification received for the considerable link between the growth and the remittances.

Meyer and Shera (2017) also suggested to discuss about the effect of remittances on the development of growth for six highly remittance received countries for the duration of 1999-2013. A fixed effect model was used to get the results of panel data that shows the positive effect of remittances on growth which suggest that this effect may increase at high level of remittances related to GDP.

Data and Methodology:

Time series data over the period of 1990-2019 are used to check the relationship between economic growth and Remittances in Philippines. Data source is World Bank. GDP is used as dependent variable and its unit of measurement is Remittance while the Export, Domestic investment, foreign direct investment, Terms of Trade and Labor force participation rate are used as independent variables in this study. The Auto Regressive Distributive Lag Model (ARDL) econometric methodology is used to analysis the relationship between the variables.

$$GDP = f(REM, EX, DI, FDI, TOT, LFPR)$$

GDP is the function of the remittances, export, domestic investment, foreign direct investment, terms of trade and labor force participation.

Econometric model is used to analyze the relationship between dependent and independent.

Variables:

$$GDP = \alpha_0 + \alpha_1 REM + \alpha_2 EX + \alpha_3 DI + \alpha_4 FDI + \alpha_5 TOT + \alpha_6 LFPR + \varepsilon$$

Here,

REM = Remittances

EX = Export

DI = Domestic investment

FDI = Foreign Direct Investment

TOT = Terms of Trade

LFPR = Labor Force Participation

ε = Error Term

Results and Discussions:

Unit Root Test:

In this study stationarity or non-stationarity of the variables is checking by applying the unit root test. ADF test has an important assumption which is, the error term are independently and identically distributed. Phillips and Perron use nonparametric statistical methods to take care of the serial correlation in the error terms without

adding lagged difference terms. Since the asymptotic distribution of the PP test is the same as the ADF test statistic (Gujarati, 2004).

Table 1: Unit Root Test

VARIABLES		LEVEL		FIRST DIFFERENCE	
		T-Statistic	Probability	T-Statistic	Probability
GDP	ADF	-0.74485	0.9595	-3.97905	0.0216
REM	ADF	-1.8848	0.6355	-8.15941	0.0000
EXPO	ADF	-1.66922	0.739	-6.33144	0.0001
DI	ADF	1.568658	1.0000	-5.78756	0.0003
FDI	ADF	-1.62748	0.7568	-4.31608	0.0102
TOT	ADF	-0.76339	0.9578	-4.53112	0.0062
LFPR	ADF	-3.48109	0.0001	-	-

Source: Software E-Views 0.9

Findings of the above table show that all the variables of the model are not stationary at the same level. Some variables are stationary at level, but only one variable is at first difference.

Table 2: Bound Test:

F- Statistics	5.282217	6
Significance	I0 Bound	I1 Bound
10%	1.75	2.87
5%	2.04	3.24
2.50%	2.32	3.59
1%	2.66	4.05

Source: Software E-Views 0.9

The ARDL bounds testing approach to co-integration can be used to examine long run connection between the variables, if variables have mixed order of integration i.e. I(1) or I(0) or I(1)/I(1). The findings of this values show that the upper and lower values of bound less than the value of F-Statistic therefore there is exist long run relationship among variables.

Table 3: Results of Error correction model for short run dynamics

VARIABLE	COEFFICIENT	STD. ERROR	T- STATISTIC	PROB.
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REM(-1)	0.202552	0.138519	1.462266	0.1578
EXPO(-1)	-0.3342	0.166279	-2.00988	0.0569
TOT(-1)	-0.031123	0.060775	-0.5121	0.6137
DI(-1)	-0.158291	0.247716	-0.639	0.5294
FDI(-1)	0.053514	0.03203	1.670762	0.1089
LFPR(-1)	0.442627	0.332973	1.329318	0.1974
GDP(-1)	0.131137	0.300339	0.436629	0.6666
R-SQUARED	0.269719	Durbin-Watson stat		1.79293
ADJUSTED R-SQUARED	0.070552			

Source: Software E-Views 0.9

Table: 3 show the results about the short run dynamic relationship and the set of short run coefficients in the vector error correction model. Error correction model (ECM) affiliated with the changes in GDP to the changes in other variables and the disturbance term of lagged periods.

Table 4: Co-integrating Form and short run Form

CO-INTEGRATING FORM				
VARIABLE	Coefficient	Std. Error	t-Statistic	Prob.
D(REM)	0.286276	0.072548	3.946022	0.0007
D(EXPO)	-0.18334	0.107198	-1.71029	0.1013
D(TOT)	0.002937	0.004552	0.64531	0.5254
D(DI)	0.601927	0.102959	5.846276	0
D(FDI)	-0.0292	0.020939	-1.3944	0.1771
D(LFPR)	0.673614	0.160728	4.191007	0.0004
COINTEQ(-1)	-0.80179	0.125983	-6.36428	0
COINTEQ = (GDP) - (0.3570*REM -0.2287*EXPO + 0.0037*TOT + 0.7507*DI -0.0364*FDI + 0.8401*LFPR)				

Source: Software E-Views 0.9

The results of the table 4 showed the conduct of the variables in the short run. The value of the ECM error correction model remains between 0 and -1 and is statistically significant at significance level of 1%. This shows that error correction procedure contacts monotonically to the equilibrium path comparatively quickly. The coefficient of lagged error term is proportionate to -0.80 and its level of significance confirms that co-integration connection exists between the variables.

Table 5: Long Run Coefficients

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.

REM	0.357044	0.07128	5.009018	0.0001
EXPO	-0.22866	0.127658	-1.79121	0.087
TOT	0.003664	0.005619	0.652052	0.5211
DI	0.750726	0.059538	12.60916	0
FDI	-0.03642	0.026879	-1.35478	0.1892
LFPR	0.840135	0.146132	5.749163	0

Source: Software E-Views 0.9

The current study is used GDP as dependent variable and Remittances (REM), Export (EXPO), Terms of Trade (TOT), Domestic investment (DI), Foreign direct investment (FDI), and Labor force participation rate (LFPR) are used as independent variables. Findings of the table showed long run co-integration relationship among the variables.

The P-value of REM is 0.0001 and its coefficient is 0.357044. REM is significant and has positive impact on the GDP that shows as the remittances of the country increases by one percent then the increase of 0.35 percent occurs in the GDP in the long run. Other variables such as EXPO, TOT, LFPR and DI are significant which means, these variables have positive impact on the GDP in the long run of the economy of Philippines. But FDI is significant but has negative impact on the GDP that shows as the FDI of the country increases by one percent then the decrease of 0.03 percent occurs in the GDP.

Conclusion and Recommendations:

The study examined about the effect of workers' remittances on economic growth in Philippines. The study used GDP as dependent variable and Remittances (REM), Export (EXPO), Terms of Trade (TOT), Domestic Investment (DI), Foreign Direct Investment (FDI), and Labor force participation rate (LFPR) are used as independent variables. Findings showed long run co-integration relationship among the variables. REM is significant and has positive impact on the GDP. While EXPO, TOT, LFPR and DI are significant which means, these variables have positive impact on the GDP in the long run of the economy of Philippines. For the development of remittances the Government should place different institutes for the awareness of remittances to the local people. Also the Government should provide bank facilities to the workers working in foreign countries so that it would be easy for them to send money to their home country.

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