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The Impact of Personal Remittances on Household Welfare: A Case of Selected Developing Countries in Asia (1995-2013)

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Abstract

In many developing countries, remittances are becoming a significant source of income. They help in households to increase their disposable income, hence affects the household expenditure and welfare of the society. Rise in household income leads to rise in savings and household expenditure. The rise in savings is studied through Investment-Savings equilibrium (proposed by Investment-Savings Theory) whereas the rise in consumption is studied through consumption multiplier and marginal propensity to consume under Keynesian Economics setting. Present study tends to investigate the impact of personal remittances on the economic growth and household welfare of the selected Asian countries. The study is conducted on the countries namely, Pakistan, India, China and Bangladesh. A comprehensive economic literature is present on the issue. Based on the reviewed literature, it is hypothesized that increased remittances lead to rise in economic growth and the increased overall household expenditure. Time series annual data on remittances for 19 years (1995-2013), GDP and household final consumption expenditure for the selected Asian developing countries is used for estimation of the relationship. Ordinary Least Squares (OLS) regression method is applied in linear form. A set of three regression equations are estimated each for Savings-Remittances, Household Expenditure-Remittances and GDP-Remittances relationships. The results show that in all cases remittance has strong, positive and statistically significant impact on savings, GDP and household final consumption expenditure.

Key Words: Household Expenditure, Consumption, Growth, OLS

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Introduction

Personal remittances are considered as the most common form of funds being transferred by expatriates/migrants to their home countries in today's world. These remittances tend to help households increase their disposable income. Further, rise in the household income due to remittances leads to the rise in savings and household expenditure. The change in household consumption expenditure due to change in the household income is estimated here through estimation of consumption multiplier and marginal propensity to consume. Further, the change in savings, through investment-savings equilibrium theory, leads to a change in investment in the economy (Chami et al. 2003). Present study would approximate the changes in household expenditure with the change in household welfare and the growth in savings leading to higher levels of investment are approximated to the growth in economy of the remittance recipient country through standard GDP equation .

Remittances allow the developing countries in gaining disposable household income leading to higher purchasing power. A rise in inflow of remittances has been observed that indicates remittances to be a source of economic growth of developing countries. For example, in the year 2012, an estimated $401 billion were transferred by workers from different parts of world that majorly included developing countries through official channels to their home countries (Bank 2013). Another observation shows that remittances are a contribution towards the GDP of the remittance- receiving home countries. As an example, 2011 proved to have 108 countries with remittances as a contributor to the GDP by 1 percent (Bank 2013). Present study is an attempt to understand the impact of remittances on patterns of household final expenditure in selected Asian countries as well as impact on savings of households due to the international remittances.

The selected economies for the present analysis are South Asian countries of Pakistan, India, China and Bangladesh. Online data set of the World Bank is exploited for the required annual time series on the selected variables. The estimations are done using Ordinary Least Square regression method for the regression equations.

The key objectives of the study include (i) the estimation of the impact of remittances on household expenditure and savings of the country by using linear OLS regression technique. (ii) The estimation of the impact of remittances on the overall GDP and economic growth of a country. The study is novel in a sense that it focuses on the poverty and welfare of the households from the perspective of the global integration, unskilled workers and the expenditure and consumption patterns of the households in the developing countries.

Review of Related Literature

Present section is divided into two parts. In part one individual research studies on each country have been discussed and their remarks are analyzed in the context of the present study. Second part of the section is devoted to the collective and overall synthesis of the reviewed literature in the context of household final consumption expenditure-remittances-growth nexus. Remittances can be defined as the part of a migrant's income which is remitted to the country of origin in the form of goods or funds in order to support financial conditions of their families in the home country. It helps to benefit the monetary supply within the country and proves to be a substantial source of funds from the developed countries. (Maimbo & Ratha, 2005)

There have been several studies identified in the context of positive impact of remittances on household final consumption expenditure and the growth of the developing economies. International migration from highly populous developing world to the thinly populated developed world and with aging population is ongoing due to global economic and income disparities. Another study by (Imai, Gaiha, Ali, & Kaicker, 2011) reveals that remittances have a positive impact on the GDP per capita of the Asian countries. The study was conducted during and post- financial crisis of 2008 affecting the labour market decline. There was a decline in income by 94% in Bangladesh, 82% in Indonesia and 64% in Philippines whereas there were declines in savings as well during the year of 2008. However, due to the improvements in US economy in 2009, some of the countries experienced a rise in remittances by 34% in Pakistan and 2% in Bangladesh as compared to the year of 2010. There has been a strong impact of remittances on the economic development of Bangladesh as well as contributed to welfare of the society. (Alam, Siwar, TaliIb, & Islam, 2011). A study by (Ratha, 2013) states that remittances act as both income for families as well as a form of emergency aid that allows the economy to grow and create developing society in the country. Research study by (Arif G. M., 1999) suggests that different households behave differently towards the remittances received such as a poor family would invest in acquiring productive assets including better living conditions, food, clothes etc whereas a middle class family would improve their living conditions and also ponder on investing money for saving for the future. Another study by (Muhammad & Ahmed, 2012) discusses about impact of remittances on the economic growth in Pakistan. The study shows that remittances have a major impact on macro-economic variables such as investments, imports and consumption. It studies with the Keynesian macro-econometric demand oriented equation model that estimates that economic growth has an impact from the remittances through multiplier process. Another study (Shafqat, Ahmad, & Bano, 2014) have asserted that remittances have played a strong positive role in obtaining higher levels of economic growth in short run. The study can also be reviewed as the source of comprehensive survey of studies on the subject. Similarly (Jawaid & Raza, 2012) have concluded their study on China and Korea and confirmed a short run positive and strong impact of remittances on growth of Korea but a negative impact on Chinese economy. This may be the spectacular growth observed in China since last two decades and rising demand for man power. The study (Mohanty, S. K., & Dubey, M., 2013) depicts that the households receiving remittances tend to spend less on household expenditure rather most part of the amount received is spent on health and education thus add in the capital formation of the country.

(Salahuddin, 2013) has concluded with the positive impact of remittances on the economies of the South Asian countries India, Bangladesh, Pakistan and Philippines using panel data on growth and welfare indicators.

Following paragraph presents brief synthesis on the reviewed literature and the research work conducted by authors on establishing link between remittances-welfare-savings and growth. The reviewed literature on the subject matter indicates presence of the link between remittances as a source of household income for households whose one or more members have been earning in developed countries. Some research articles and authors have taken segregated data on the heads of expenditure which are focused more while making decision on spending the total household income. Through average analysis, education, health and payments for debts have been the key heads where the Diaspora's household income is being spent. (Mohanty, S. K., & Dubey, M., 2013). Further, the cross sectional studies on the issue related with developing countries have found significant impact of remittances on household capacity to pay debt and initiated higher spending on education (Helmke 2010).

Research Methodology

The Keynesian Consumption Theory suggests that the current consumption of households is determined based on the current income level. This theory is known as the absolute-income theory of consumption stating that the current consumption is the function of the current income which can be explained through the formula

$$C = f\ (Y)$$

Whereby, C is the current consumption and Y determines the current income. (Dwivedi, 2010). (Catrinescu, Leon-Ledesma, Piracha, & Quillin, 2006) have analyzed the relationship of remittances, economic growth and the institutions which indicates that although there are no significant statistical data to understand the impact of remittances on the economic growth but the factors are in the favor of positive impact. The study discusses that the countries receiving remittances indulge in higher consumption expenditure, better living standards, better education and health, investments and savings which affects the GDP of the country and hence plays a part in establishment of economic growth of the country. The remittances directly impacts in increasing the disposable income of the country and proves to be an important source of external funding.

The prime objective of the present study is to establish empirical relationship between remittances and household welfare (approximated through final consumption expenditure and savings) and further relationship between remittances and economic growth (approximated by GDP growth). To carry on the study, a set of regression equations has been established. Ordinary Least Squares method is used to run the regressions. After reviewing various empirical and theoretical studies, the model developed to examine the impact of remittances on growth and welfare is motivated by standard GDP growth equation and Consumption function. The GDP equation is given as under:

GDP = C + I + G + (X – M). Here *C* is total consumption expenditure, *I* is gross private investment, *G* includes government spending on items that are "consumed" in the current period and *Net Exports*

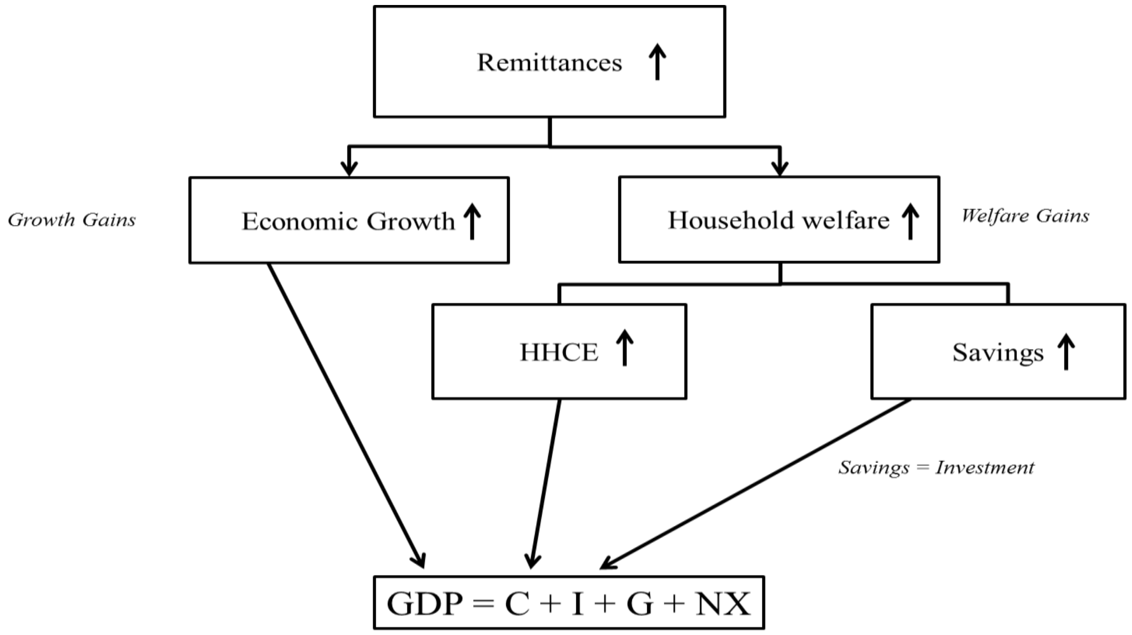

Figure 1: Schematic Diagram (FRAMEWORK)

Here it is hypothesized that there is a positive link between remittances and household and savings and economic growth of the counties. The three links have been mathematically formulated in the following way:

$$HCCE = \alpha_0 + \alpha_1 rem + \mu \qquad \text{---} \qquad (I)$$

$$S = \alpha_0 + \alpha_1 rem + \mu \qquad \text{---} \qquad (II)$$

$$GDP = \alpha_0 + \alpha_1 rem + \mu \qquad \text{---} \qquad (III)$$

Statistical Results and Interpretation

In following pages, the results of the regressions and their interpretation is presented.

Remittances and Household Final Consumption Expenditure

In case of first equation, relationship between remittances and the household expenditure in case of Pakistan, Bangladesh, India and China, the regression results are given in tables from 1 to 4.

Table 1 Summary of statistical link between Household Consumption Expenditure and Remittances for Pakistan

R square = 0.951	F-statistics = 331.356 (0.000)			
			t	Sig.
$HHCE = \alpha_0 + \alpha_1 rem + \mu$	Constant	34206.721	8.006	0.000
	Remittances	11.192	18.203	0.000
Dependent Variable: HHCE				

Table 2 Summary of statistical link between Household Consumption Expenditure and Remittances for Bangladesh

R square = 0.98	F-statistics = 838.584 (0.000)			
			t	Sig.
$HHCE = \alpha_0 + \alpha_1 rem + \mu$	Constant	23589.13	16.989	0.000
	Remittances	5.415	28.958	0.000
Dependent Variable: HHCE				

Table 3 Summary of statistical link between Household Consumption Expenditure and Remittances for China

R square = 0.907	F-statistics = 166.17 (0.000)			
			t	Sig.
$HHCE = \alpha_0 + \alpha_1 rem + \mu$	Constant	141522.863	1.309	0.208
	Remittances	67.228	12.891	0.000
Dependent Variable: HHCE				

Table 4 Summary of statistical link between Household Consumption Expenditure and Remittances for India

R square = 0.977	F-statistics = 726.755 (0.000)			
			t	Sig.
$HHCE = \alpha_0 + \alpha_1 rem + \mu$	Constant	143140.7	7.65	0.000
	Remittances	13.677	26.958	0.000
Dependent Variable: HHCE				

In all cases, the remittances have positive significant and strong impact on household final consumption expenditure. Large values of R^2 and significant p-values at less than 1% significance level that reflect the generalizability power of the estimates.

Savings and Remittances

Following tables (from 5 to 8) present the summary of second regression equation on savings and remittances for the selected countries.

Table 5 Summary of statistical link between Savings and Remittances for Pakistan

R square = 0.941		F-statistics = 269.144 (0.000)		
			t	Sig.
$S = \alpha_0 + \alpha_1 rem + \mu$	Constant	11263.763	9.816	0.000
	Remittances	2.709	16.406	0.000
Dependent Variable: Savings				

Table 6 Summary of statistical link between Savings and Remittances for Bangladesh

R square = 0.995		F-statistics = 3476.932 (0.000)		
			t	Sig.
$S = \alpha_0 + \alpha_1 rem + \mu$	Constant	4828.353	12.354	0.000
	Remittances	3.343	58.966	0.000
Dependent Variable: Savings				

Table 7 Summary of statistical link between Household Savings and Remittances for China

R square = 0.912		F-statistics = 166.17 (0.000)		
			t	Sig.
$S = \alpha_0 + \alpha_1 rem + \mu$	Constant	-5230.948	-0.037	0.971
	Remittances	95.557	12.884	0.000
Dependent Variable: Savings				

Table 8 Summary of statistical link between Savings and Remittances for India

R square = 0.939		F-statistics = 246.822 (0.000)		
			T	Sig.
$S = \alpha_0 + \alpha_1 rem + \mu$	Constant	30240.86	1.556	0.139
	Remittances	8.952	15.711	0.000
Dependent Variable: Savings				

In case of all countries, the remittances and savings relationship is significant and positive. This reflects that the amount sent to the home countries by the immigrants is not only spent on various household needs but some portion of the amount is saved also. The amount of saving rises as the amount sent in remittances rises.

GDP and Remittances

Following tables from 9 to 12 summarize the regression results on the remittances and GDP for all selected countries.

Table 9 Summary of statistical link between GDP and Remittances for Pakistan

R square = 0.951		F-statistics = 331.387 (0.000)		
			t	Sig.
$GDP = \alpha_0 + \alpha_1 Rem$	Constant	49349.524	9.767	0.000
	Remittances	13.237	18.204	0.000
Dependent Variable: GDP				

Table 10 Summary of statistical link between GDP and Remittances for Bangladesh

R square = 0.98		F-statistics = 830.522 (0.000)		
			T	Sig.
$GDP = \alpha_0 + \alpha_1 Rem$	Constant	29044.12	14.866	0.000
	Remittances	7.582	28.819	0.000
Dependent Variable: GDP				

Table 11 Summary of statistical link between GDP and Remittances for China

R square = 0.919		F-statistics = 192.642 (0.000)		
			t	Sig.
$GDP = \alpha_0 + \alpha_1 Rem$	Constant	94457.321	0.327	0.748
	Remittances	193.499	13.88	0.000
Dependent Variable: GDP				

Table 12 Summary of statistical link between GDP and Remittances for India

R square = 0.972		F-statistics = 617.535 (0.000)		
			t	Sig.
$GDP = \alpha_0 + \alpha_1 Rem$	Constant	185266.7	4.966	0.000
	Remittances	25.141	24.85	0.000
Dependent Variable: GDP				

Lastly, the statistical link between GDP and remittances has been estimated and results are presented in tables 9-12. The estimates of the equation in case of all four countries are positive and significant indicating a positive causal relationship between GDP and remittances. This confirms the hypothesis that the remittances received by the households in the remittance-receiving countries lead to rise in the GDP of the country in case of all four selected Asian developing countries.

Conclusion

Previous research in macroeconomics has indicated that there is positive impact of remittances on savings, household final consumption expenditure and GDP growth of developing countries. The methodologies that have been used in various papers have been simple and multiple regression techniques with variety of indicators of welfare and growth. Present research has applied three linear regression equations and OLS simple regression technique is used to estimate the parameters. In case of all equations of savings-remittances, household final consumption expenditure and remittances and GDP growth for the selected developing countries indicate positive and significant impact of remittances on all three independent variables in separate equations. Large R^2 and F-stat values with less than 1% p-values, the explanatory power of the models and the generalizability of the coefficients is remarkable. Annual time series data from online dataset of the World Bank on the selected variables has been used.

Policy Recommendations

The study has been a rigorously analytical study undertaken at macro level. Policy makers of developing countries may be encouraged to export skilled workers to the developed world. Though there may be the brain drain in short term, nevertheless, the incoming foreign capital in the developing countries tends to reduce the intensity of absolute poverty amongst households. Further, policies may be made to enhance the skill level of the unskilled workers to gain extra skill premiums on the jobs available in the developed nations. Reverse brain drain in case of saturation in the job market in the developed world and government policies conducive to the local investment may also happen in long run. the same has also been evidenced in case of India.

Future Research

It may be advised for future research that more disintegrated variables and the heads of household expenditure may be taken for estimations. This would take the researcher to the micro level analysis of the impact of remittances on the household spending patterns. The heads under which the households tend to spend their incomes may be education, health and the debt retirement. All three heads have been suggested as the most critical streams of expenditure where big chunk of the household income is spent. Further, if more disintegrated and micro-data on household expenditure is analysed, it would also help researchers and policy makers to identify the channels where the remitted income may be spent.

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