Establishing the Relationship between Financial Hardship and Remittance Inflow in Nepal

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Abstract

The objective of the paper is to examine how altruism motives influence the inflows of worker remittances in Nepal. Evidence suggests that flows of remittances to Nepal had increased significantly in response to the earthquake in April-May, 2015. Remittances to Nepal rose dramatically in response to the earthquake by 20.9 percent in 2015 versus 3.2 percent in 2014. There is also a correlation between the level of remittance and hardship. The paper uses inflation as an indicator of 'Financial Hardship' to analyse the role of altruistic motives as a determinant of inflow of remittances. When prices of goods and services increase in the home country, the workers send more money to support their families. The Engel-Granger cointegration test is used to assess the short-run and the long-run relationship between inflation and remittances. Inflation does not affect remittances in the short run, however, there is the long-run relationship between remittances and inflation. It is confirmed that financial hardship determines the remittance inflow in Nepal.

Keywords: *Altruism, Remittances, Inflation, Financial hardship, Nepal.*

JEL Classification: *E31, F24, I10, I12.*

Introduction

There are many villages in Nepal where the labour migration has been established as a culture of the community to go abroad for work for a while and return with some money and experience of a placement in a different geographical location (Seddon et al., 2001). Now, it is said that one in every five Nepali male is working aboard (MoF, 2010). Remittances have become a major source for the national economy. The number of remittances receiving households has reached 56 percent in the country. Moreover, the value of remittance inflow to Nepal is around one fourth of the GDP of the country for FY 2017/18 (MoF, 2019). Few empirical studies examine the reasons why migrants remit. Empirical studies have shown that remittances are motivated by a combination of altruistic, insurance, and investment motives (Rapoport & Docquier, 2006). Altruistic

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motives refer to the desire to help family members and contribution to the well-being of the home community. The motivations to remit can be explained as a combination of economic and social motivations, for example, self-interest, altruism, investment, and loan repayment among others, which determine the transfer of resources between the migrants and the household members at home (Piracha & Saraogi, 2011).

Two theoretical approaches dominate the literature on migrant-to-household remittances. The first approach is that migrants can be seen as acting altruistically, sending money, and other forms of support to increase the welfare of family members (Lillard & Willis, 1997). The second approach suggests that migrants could be viewed as engaging in a contractual arrangement with non-migrant family members. This agreement could involve the repayment of family support for the migrant's education or the promise of future inheritance of assets such as land property (Lucas & Stark, 1985; Poirine, 1997; Hoddinott, 1994).

The theory of remittances and household or family behavior suggests that individuals with a household work towards enhancing the overall welfare of all family members. The implication of the theory of remittances and household or family behavior is that individual family members are not solely motivated by self-interest, as they may choose to allocate a portion of their earnings towards the needs of other household members. The source of the altruistic behavior or the motivations of the migrants to support other family members is culturally rooted. When the family members face economic hardship, the migrants may send more money to the family members. The flow of remittances may be determined by the situation of economic hardship; for example, during the 2015 earthquake in Nepal, remittances almost doubled when migrant workers sent money home for food consumption and reconstruction (Manandhar, 2016). The literature based on household level data indicates such behavior; however, the study based on time series data is rarely found. This study is based on time series data and contributes to this issue by using inflation as a proxy for economic. Inflation can be used as a proxy for the situation of economic hardship in a country to some extent, as high inflation can make it more difficult for people to afford basic goods and services. When prices rise rapidly, the purchasing power of money decreases, and people may struggle to pay for essential items like food, housing, and healthcare. This paper thus seeks to examine the role of altruism inflows of worker's remittances in Nepal by utilizing the time series data.

The most commonly accepted motivation for remittance transfers is altruism; i.e. migrants care about the home household's well-being and remit to improve living conditions. If altruism is a motivation to remit, variables related to household well-being, for example, household consumption should enter the migrant's utility function. A change in variables affecting household well-being, for example, a decrease in the household's consumption due to a decrease in

income of the household should encourage more transfers of remittances.

The remainder of the paper is organized as follows. Next section provides review of literature related to remittances and their relationship. The third section of the paper describes the data collection and method. In this section, conceptual framework, sources of data, model specification and process of data analysis are discussed. Results and discussions are presented in the fourth section. Final section presents conclusions and relevant policy implications.

Review of Literature

The literature analysing the determinants of remittances can be divided into two categories: microeconomic and macroeconomic determinants. Oudinet et al. (2008) stated that the main microeconomic determinants are the ones such as the characteristics of migrants, their situation relative to the home country, relative to their families, income of their family, and education level of the migrants. Macroeconomic determinants are composed of determinants such as wages in the host countries, inflation, exchange rates, and economic conditions in both home and destination countries.

Some papers examine the relationship between remittances with exchange rates and money demand in Mexico and found the existence of a bi-directional relationship between remittances and the exchange rate (Lopez et al., 2007; Vargas-Silva, 2007). Some country-specific studies have been conducted for analysing the impact of exchange rates on remittance inflows in the case of developing countries. For instance, while analysing the impact of the exchange rate on remittances, Chamon et al. (2005); and Pant and Budha (2016) found that growth in remittance inflows in Samoa and Nepal are significantly affected by the changes in the real exchange rate.

Households in migrants' origin countries use remittances for various purposes. Migrants send remittances to repay loans taken to finance education or migration. Households use remittances to support income, purchase assets, and invest in businesses. There is also evidence that remittances encourage entrepreneurial activities (Woodruff & Zenteno, 2007; Yang, 2011).

Remittances enhance household welfare through either consumption smoothing or in a sustainable way through investment (Ajaero et al., 2018; Kangmennaang et al., 2018). Besides, remittances act as insurance for recipients when they are experiencing some sort of economic shock, increasing when recipient income falls (Yang & Choi, 2007; Grigorian & Kryshko, 2019). Evidence from Bangladesh also suggests that the welfare impacts are higher for international remittances than domestic ones (Wadood & Hossain, 2017; Kamal & Rana, 2019). Remittances contribute to growth and poverty reduction (Imai, et al., 2014). In the study by Bouhga-Hagbe in 2006, it was found that there is

a link between remittances and agricultural GDP, which serves as an indicator of economic difficulty in the home country. The findings indicated that in the case of Egypt, Jordan, Morocco, Pakistan, and Tunisia, the flow of remittances was influenced significantly by altruistic motivations (Bouhga-Hagbe, 2006). However, Nepal's evidence is different. Remittance-receiving households do not invest in capital goods and inputs to improve agriculture productivity in Nepal (Tuladhar et al., 2014).

Altruism or solidarity motives can a priori be expected to be an important factor in workers' decisions to remit as many workers partly send money home to support their families. Some of the empirical studies find that remittances tend to increase as a result of natural disasters (Bettin et al., 2017). Disasters should generate increased remittances if they are motivated by altruism. Flows of remittances to Nepal had increased significantly in response to the earthquake in April-May 2015. Remittances to Nepal rose dramatically in response to the earthquake, by 20.9 percent in 2015 versus 3.2 percent in 2014. Also, many migrant workers returned to take care of their families, as the average number of returns at the airport jumped five times to around 4,000 per day (Ratha et al., 2016).

Figure 1: Association between Remittance Levels and Disasters in Nepal
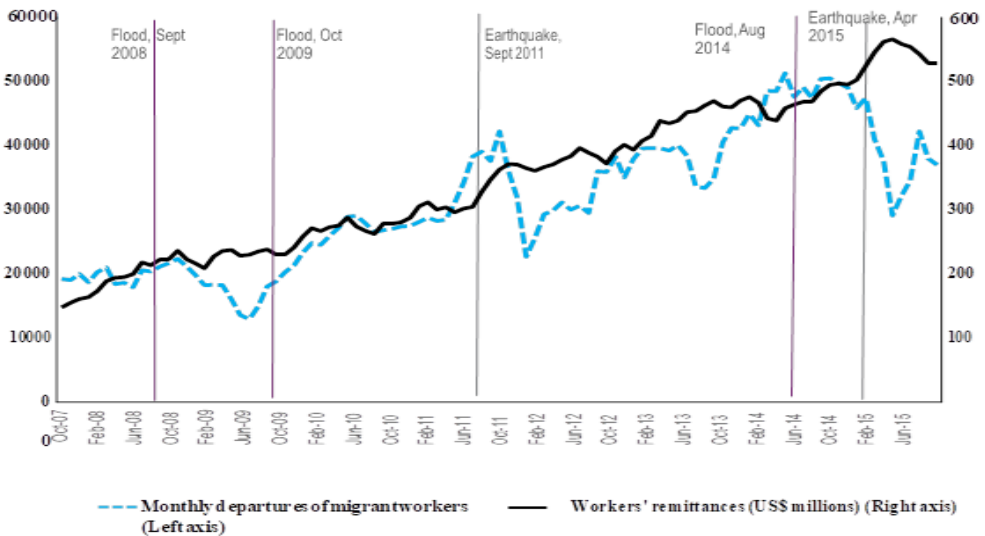
Source: Ratha et al., 2016.

There is also a correlation between remittance levels and disasters. A positive role of remittances is in preparing households against natural disasters (Mohapatra et al., 2012). Natural disasters indicate the hardship of the household. The link between hardship and remittance flows to developing countries is still relatively unexplored in the literature at the aggregate level. This paper, therefore, uses

inflation as aggregate level hardship because this can lead to financial hardship for households, particularly those on fixed or low incomes. Inflation can indeed be used as a proxy for economic hardship, as it can reflect the rising costs of goods and services that households need to purchase (Parkin & Laidler, 1975). When inflation increases, the purchasing power of households decreases, and they may have to spend more of their income to maintain the same standard of living. Shrestha and Chaudhary (2012) found that a 10 percent rise in food prices is likely to increase overall poverty in Nepal by 4 percent points in Nepal. It clearly indicates that inflation represents financial hardship of the households in Nepal. Koirala (2010) found that a rise in inflation leads to decrease in real balance and hence increase in welfare loss in Nepal. The time series data of inflation indicates welfare cost of the economy of Nepal. Evidence suggests that inflation can be a good proxy of financial hardship for households.

Data and Method

This paper uses a simple framework focusing on the role of altruism to determine the flow of remittances in the country. Providing financial assistance to another in a situation of 'Hardship' indicates altruism. The study uses inflation as an indicator of 'Financial Hardship' to analyse the role of altruistic motives as determinants of these flows. A trend variable is used to capture the effects of other potential motives to remit. Time series data on remittances and inflation were collected from Quarterly Economic Bulletin (NRB, 2019). The researcher is aware of the limitation of the remittance data for the given time.

Conceptual Framework

A conceptual framework that is presented in the figure 2 provides a roadmap for conducting the study and developing paper. The paper uses the concept of altruism that refers to a selfless concern for the well-being of others, which may motivate individuals to transfer money to their families. When migrants perceive that their families and communities are facing hardship, they may feel a greater sense of obligation or responsibility to provide financial support. This can motivate them to send larger amounts of remittances or to send them more frequently. It is possible that a higher degree of hardship in the migrant's home country can lead to a higher flow of remittances. It outlines the concepts and relationships among variables and provides a structure for organizing the research questions and hypotheses.

Figure 2: Conceptual Framework
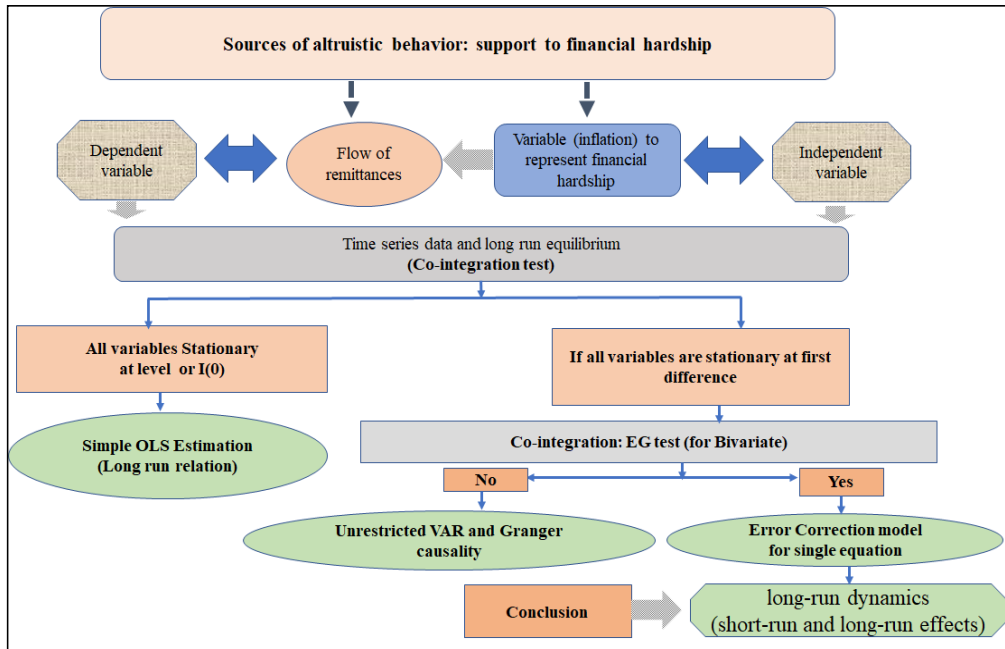
Source: Author developed.

Model Specification

The study uses inflation as a proxy indicator of 'Financial Hardship' to analyse the role of altruistic motives as determinants of the inflow of remittance. So, when the rate of inflation increase, 'Financial Hardship' for the people also increases. Therefore, an increase in inflation is likely to make farmers worse off as shown in equation (1). The variable 'Remittances' is the logarithm of the yearly dollar value of the flow of remittances received by the home country.

$$y_t = \alpha + \beta x_t + \varepsilon_t \dots\dots\dots\dots\dots\dots\dots (1)$$

Where,

y_t = Remittances,

$x_.$ = Inflation,

α = Constant term,

β = Coefficient or estimating parameters,

ε_t = error term,

Time series data may have some kind of relationship with its previous values. The autoregressive (AR) character of the time series model indicates that the present value of any variable is determined by its past value and some adjustment factors. Such adjustment factors are estimated from the relation of the current value with past values.

Most of the macroeconomic variables are non-stationary series. If the time series is non-stationary, it is said to have a unit root. The problem with non-stationary or trended data is that the standard OLS regression procedures can easily lead to incorrect conclusions. It can be shown that in these cases, the norm is to get very high values of R^2 (sometimes even higher than 0.95) and very high values of t-ratios (sometimes even greater than 4) while the variables used in the analysis have no interrelationships. A spurious regression usually has a very high R^2 and t-statistics that appear to provide significant estimates, but the results may have no economic meaning at all.

Granger and Newbold (1974) proposed the following rule of thumb for detecting spurious regressions: if $R^2 > $ DW statistic (a high degree of autocorrelation) or if $R^2 = 1$, then the regression 'must' be spurious. Therefore, the first step is to detect spurious regressions. For this purpose, OLS regression has been run and R^2 has been compared with DW to detect spurious regressions. If spurious regressions are found, a unit root test is carried out. The procedure for testing for the unit-root test as depicted in figure 3 is carried out.

Figure 3: Procedure for Testing for Unit-root Tests
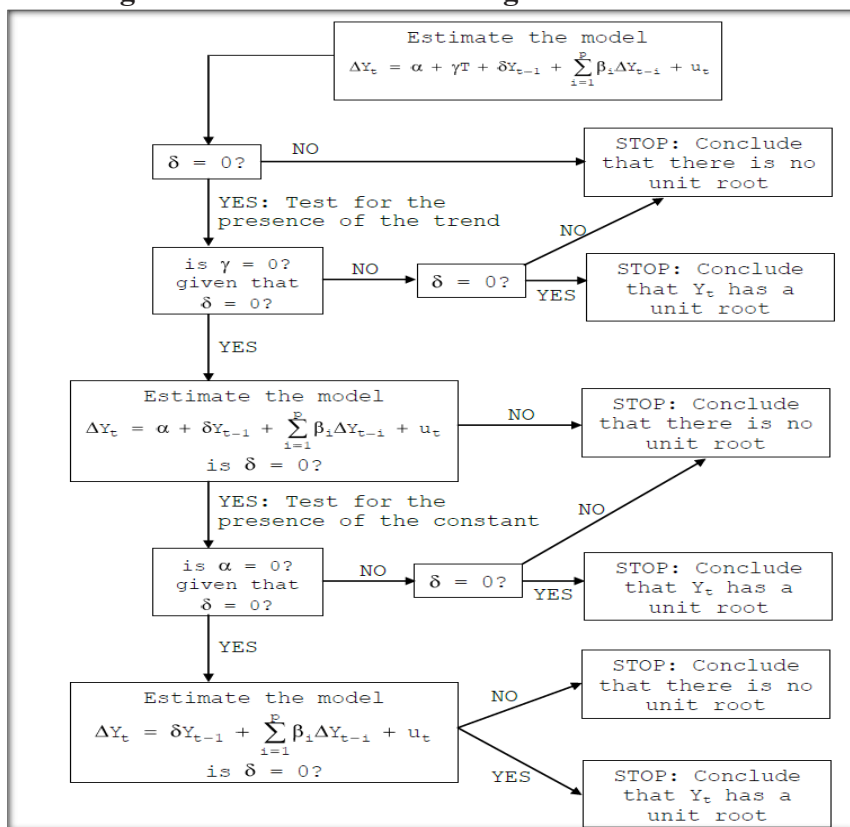
Source: Enders, 1995.

Therefore, in econometrics, the stationarity of a time series is examined by conducting a unit root test. Applying appropriate methodology for the time series data is the most crucial part of the time series analysis as the wrong specification of the model or using the wrong method provides biased and unreliable estimates. It is necessary to examine whether the given series namely remittances and inflation contain unit roots or not.

It requires specifying whether we want to test for a unit root in the level, first difference, or second difference of the series. This option helps to determine the number of unit roots in the series. The choice of the model is very important since the distribution of the test statistic under the null hypothesis differs among these three cases. Finally, it is required to specify the number of lagged dependent variables to be included in the model – or the number of augmented terms – to correct for the presence of serial correlation.

Engel-Granger Co-integration Test

The first test of cointegration was proposed by Engle and Granger (1987). This explicitly posts how two non-stationary data series can be cointegrated. It is interesting to measure the relationship between remittances and inflation. In other words, the inflation of Nepal determines the flow of remittances. Again, equation (1) can be written as,

$$y_t = \alpha + \beta x_t + \varepsilon_t \quad \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots (1)$$

Where, y_t= remittances, x_t= inflation, ε_t= error term
By taking residual,

$$\widehat{\varepsilon_t} = y_t - \hat{\alpha} - \hat{\beta} x_t \quad \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots (2)$$

If $\widehat{\varepsilon_t} \sim I(0)$, then the variables y_t and x_t are said to be co-integrated.

The procedure of the Engel-Granger co-integration test goes into two steps:
a. Estimate equation 1 through OLS, and obtain the residual series.
b. Test the stationarity property of the residual series.

If the residual series is stationary at the level, then it may conclude that the variables are co-integrated. There exists a long-run relationship between remittances and inflation. Therefore, this regression will not be spurious. If the remittances and inflation non-stationary series move together through time then we conclude that they are co-integrated. If the variables do not co-integrated, we usually face the problems of spurious regression and econometric work becomes almost meaningless.

Economically saying, two variables will be co-integrated if they have a long-run (equilibrium) relationship between them. If there is a long-run equilibrium, it is necessary to measure the long-run dynamics of the model. Co-integration implies that the data are connected through an Error Correction Model (ECM). The concepts of co-integration and the error correction mechanism are very closely related. The Error Correction Model is important in time series analysis because it allows us to better understand long-run dynamics. When the two variables like remittances and inflation are co-integrated, the Error Correction Model incorporates not only short-run but also long-run effects.

Error Correction Model

If remittances (y_t) and inflation (x_t) are integrated, the relationship between remittances (y_t) and inflation (x_t) in an ECM can be written as -

$$\Delta y_t = \alpha_0 + \beta_1 \Delta x_t + \pi \widehat{\mu_{t-1}} + \varepsilon_t \cdots\cdots\cdots\cdots (3)$$

Equation (3) includes both long-run and short-run information. In this model, coefficient 'β_1' is the impact multiplier (short-run effect) that measures the immediate impact of a change in inflation to the change in remittance. Equation (3) emphasizes the basic approach of the co-integration and error correction model (ECM) that reflects the long-run equilibrium relationships of variables. It includes a short-run dynamic adjustment mechanism that describes how variables adjust when they are out of equilibrium. It uses adjustment coefficients to measure the forces that push the relationship toward long-run equilibrium.

Results

As illustrated in the figure 4, we can say that the percent of remittance to GDP was around 10 percent during 2000/01. It gradually increased and during the recession of 2007/08, the percent declined slightly. Then again, it increased up to around 30 percent during 2015/16 and again decreased to around 26 percent during 2016/17. Workers' remittances aggregated Rs.47 billion in 2001 and went up to Rs.100 billion in 2006/7. In 2016/17, remittances stood at Rs.695 billion. The figure 4 shows that the workers' remittance has an increasing trend till 2016/17 that did not have a negative impact even in the financial crisis of 2007/08. Remittances also affect the liquidity in their banking systems, therefore, it indirectly influence the conduct of monetary policy. The figure shows that the remittance has been increasing exponentially with some ups and downs in the short-run trend. The ups and downs signify the presence of a cyclical component in the remittance.

Figure 4: Flow of Remittances

Ratio of remittances and GDP
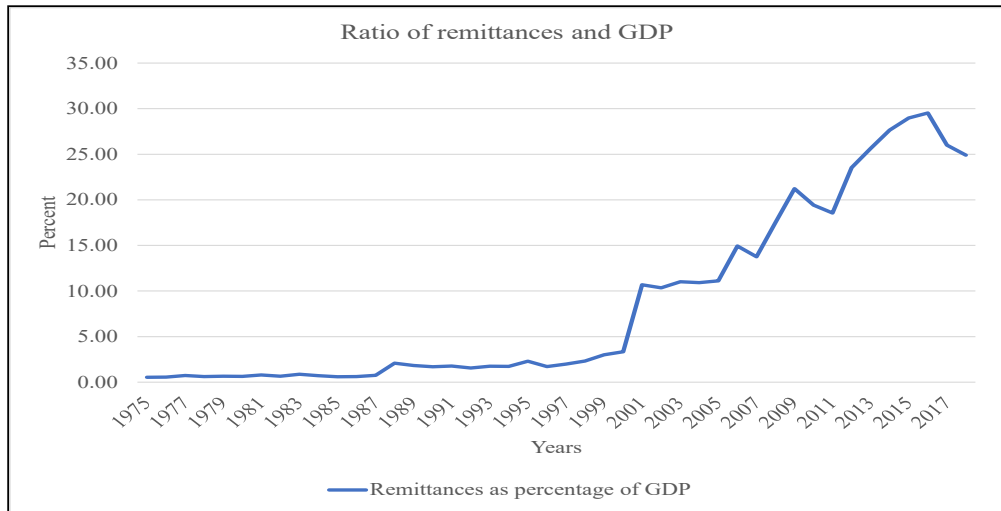
Sources: NRB, 2019.

Establishing the Relationship Step by Step

The Engle-Granger two-step method is adopted to examine whether a co-integrating relation exists between inflation and the flow of remittances. The Engle-Granger method involves the following steps. The long-run relationships can be estimated through OLS. The residual-based unit root test is used to examine whether the residuals are stationary or not. If they are stationary, then the series are co-integrated. If the residuals are not-stationary, there is no co-integration. The first step involves determining whether a set of data contain unit roots in the individual time series. Unit root tests are used to determine whether time series exhibit mean-reverting behaviour by showing their order of integration. A pair of time series like remittances and inflation are I (1) variables, now co-integration techniques can be used to model their long-run relationship.

The overall regression is statistically significant (F-test) and can be used for a meaningful explanation of the relationship between remittances and inflation as shown in figure 1. It was assigned to log both variables[2]. Inflation has a positive and significant influence on the flow of remittances. The coefficient of determination R^2 with a value of 0.9494 implies that approximately 95 percent of the change in remittances is explained by inflation. The results indicate that remittances and the consumer price index have an association with expected signs. However, as

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[2]There is a debate on whether to use a log in price index or not. The index can be negative; log cannot be defined in such a case. Taking a log is to linearize the trend of a consumer price index. The index doesn't have any negative value in the given set. Log, therefore, is to make log-linear for the price index.

shown in the table, the value of R^2 > D-W indicates spurious regression. The results suggest that data cannot be used to investigate relationships between the variables because of spurious regression, OLS estimates become invalid. Before working with the bivariate model, it requires to test the variables for unit root.

Table 1: Liner Relationship between Remittances and CPI

Sources	SS	d. f.	MS	No. of Obs.	= 44
Model	386.1746	1	386.1746	F(1, 42) Prob. > F	= 1388.98 = 0.0000
Residual	11.6771	42	0.2780	R-squared	= 0.9706
Total	397.8517	43	9.2524	Adj. R-Squared Root MSE	= 0.9700 = 0.5273
Log of Remittance	**Coef.**	**Std. Err.**	**t**	**p > |t|**	**[95 % Conf. Interval]**
Log of Consumer Price Index	2.8708	0.0770	37.27	0.000	2.7153	3.0262
Constant	- 0.1031	0.2559	- 0.40	0.689	- 0.6195	0.4134

Source: Author's estimation.

The null hypothesis for a unit test is that the variable under analysis has a unit root to justify the existence of a unit root in each series of the ADF test on the levels, first differences, and second differences of the variables have been employed and the test results are presented in Table 2. The result shows that all series have unit roots in their levels (ADF statistics are less than critical values, so the null hypothesis of unit root cannot be rejected), but no unit root in the first difference of both series. In other words, the result indicates that two variables are non-stationary at the level, and become stationary at the first difference, I (1).

Table 2: Unit Root in the First Difference of Both Series

Dickey-Fuller Test for Unit Root		Number of Observation	= 42	
		------------- Interpolated Dickey-Fuller ------------		
	Test Statistic	1 % Critical Value	5 % Critical Value	10 % Critical Value
Z (t)	- 7.355	- 3.634	- 2.952	- 2.610
MacKinnon approximate p-value for Z (t) = 0.0000				
Dickey-Fuller Test for Unit Root		**Number of Observation** = 42		
		------------- Interpolated Dickey-Fuller ------------		
	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	- 4.923	- 3.634	- 2.952	- 2.610
MacKinnon approximate p-value for Z(t) = 0.0000				

Source: Author's estimation.

It could be said that all the series are integrated of order one, that is I (1). The two series may share a long-run relationship. After finding that the given variables are cointegrated of the first order, now Engle-Granger cointegration test can be safely used for detecting the existence of a long-run relationship.

Testing for Co-integration

Since all the variables are stationary at level one, we need to employ a cointegration test to check the long-run relationships of the variables. Tables 3 and 4 show the estimated results of OLS and the results of the residual-based test. It is clear from the results that we cannot reject co-integration (e. i. long-run relation) between the flow of remittances and inflation. From the residual-based unit root test was performed on the residuals and presented. It can be seen that the test statistic (- 2.010) is less than the 5 percent critical value (-1.950). The null hypothesis of no cointegration is rejected and the alternative hypothesis, that is there is cointegration, is accepted. This result, therefore, indicates evidence of a long-term relationship between remittances and Inflation.

Table 3: Relationship between Remittances and Inflation

Sources	SS	d. f.	MS		No. of Observation	=	44
Model	386.1746	1	386.1746		F(1, 42)	=	1388.98
					Prob. > F	=	0.0000
Residual	11.6771	42	0.2780		R-squared	=	0.9706
					Adj. R-Squared	=	0.9700
Total	397.8517	43	9.2524		Root MSE	=	0.5273
Log of Remittance	**Coef.**	**Std. Err.**	**t**	**p > |t|**	**[95 % Conf. Interval]**		
Log of CPI	2.8708	0.0770	37.27	0.000	2.7153		3.0262
Constant	- 0.1031	0.2559	- 0.40	0.689	- 0.6195		0.4134

Source: Author's estimation.

Table 4: The Unit Root of Residuals

Dickey-Fuller Test for Unit Root		Number of Observation	=	43
		----------- Interpolated Dickey-Fuller -------		
	Test Statistic	**1% Critical Value**	**5% Critical Value**	**10% Critical Value**
Z(t)	- 2.010	- 2.631	- 1.950	- 1.607

Source: Author's estimation.

As suggested in table-5, the Engle-Granger Co-integration test result confirms the presence of a long-run equilibrium relationship between remittances and inflation. A new method has been developed to conduct tests for co-integration proposed by Engle and Granger (1987), reporting test statistics plus critical values calculated by MacKinnon (1990, 2010). It also estimates an Error Correction Mechanism (ECM) model using the two-step procedure proposed by Engle and Granger (1987). As given in the table, the first two rows of the table indicate that series are non-stationary at levels. The middle part of the table indicates a linear relationship between remittances and inflation. It covers the Engle-Granger long-run co-integrating results of the coefficients of the equation. Here, coefficients are in natural logarithm form. Thus, we need to take the estimates as elasticities, and the long-run elasticity coefficient of remittances and inflation

is found to be 2.87. It is positive but more than one (1). As given in the table, D 'egresid' is the first-step residuals. The coefficient is negative and is significant at a 5 percent level. It confirms that there is a long-run equilibrium between remittances and inflation. The table suggests that individually two variables are stationary, however, when they are integrated, it is found non-stationary.

Table 5: Engle-Granger Test for Co-integration

Engle-Granger Test for Co-integration		N (1st step) = 44 N (test) = 43			
	Test Statistic	1 % Critical Value	5 % Critical Value	10 % Critical Value	
Z (t)	- 2.010	- 4.163	- 3.482	- 3.145	
Critical Values from MacKinnon (1990, 2010)					
Engle-Granger 1st- step Regression					
Log of Remittance	**Coef.**	**Std. Err.**	**t**	**p > |t|**	***[95 % conf. Interval]***
Log of CPI	2.8708	0.0770	37.27	0.000	2.7153	3.0262
Constant	- 0.1031	0.2559	- 0.40	0.689	- 0.6195	0.4134
Engle-Granger Test Regression					
D. egresid (Residual)	**Coef.**	**Std. Err.**	**t**	**p > |t|**	***[95% Conf. Interval]***
L1.	- 0.1641	0.0816	- 2.01	0.051	- 0.3288	0.0007

Source: Author's estimation.

Since the residuals of least squared estimation are stationary at level; I(1) confirms the cointegration between explained and explanatory variables. Now it is possible to estimate the error correction model to explore the short-term dynamics regression and the adjustment speed to long-run equilibrium.

Estimating the Error Correction Mechanism (ECM)

The model of the ECM provides the short-run and long-run movements, as well as the error correction term, which proxies the speed of adjustment. ECM is based on the assumption that two or more time series exhibit an equilibrium relation that determines both short-run and long-run behaviour. It, therefore, models both short-run and long-run relations jointly. It can be estimated that short-run changes in inflation have a positive and statistically significant impact on short-run changes in remittances. This suggests that inflation affects remittances in the short term.

Table 6: Engle-Granger 2-Step ECM Estimation

Engle-Granger 2 - step ECM Estimation					N (1st step)	=	44
					N (2nd step)	=	42
Engle-Granger 2nd Step ECM							
D. Log of Remittance	Coef.	Std. Err.	t	p > |t|	*[95% Conf. Interval]*		
D. egresid (Residual)							
L1.	- 0.2105	0.0832	- 2.53	0.016	- 0.3787		- 0.0422
Log of CPI							
LD.	- 0.7533	1.1716	0.64	0.524	- 3.1231		1.6164
Constant	0.2705	0.1008	2.68	0.011	0.0667		0.4744

Source: Author's estimation.

The coefficient of inflation measures the short-term effect of inflation on remittances. It has a negative sign and is not statistically significant. The coefficient of residual (i.e. - 0.21045) should be negative in a sign for the series to converge to long-run equilibrium. Negative and statistically significant the coefficient is regarded as a piece of convincing evidence and confirmation for the existence of co-integration found in the co-integrating regression. It is observed that short-run changes in inflation do not affect remittances. This suggests that inflation does not affect remittances in the short term. The results show that the coefficient value for the ECM is - 0.21045 and it's significant at a 5 percent level. The equilibrium adjustment coefficient (- 0.21045) enters with a correct sign (negative). This suggests that remittances and inflation series converge to long-run equilibrium and deviations from this equilibrium relationship as a result of shocks will be corrected over time. It is indicating that the speed of adjustment to equilibrium is slow. It follows that about 21 percent of the deviation from the equilibrium path is corrected per annum. The ECM results, therefore, confirm the long-run relationship between remittances and inflation observed from the residuals of the equation.

The linkage between remittances and the consumer price index is especially important for the Nepalese economy. This means that inflation disproportionately affects the low-income group because they don't have enough income to keep up with rising prices. Migrated labour remits the amount of money to their home. At the same time, it is believed that remittances have contributed to reducing poverty. It is important to determine the role of remittances in the economy.

Conclusions

This paper seeks to find out the role of altruism to determine the flow of remittances in the country. Inflation is used as a proxy for 'Hardship' for the people. An increase in inflation is interpreted as an increase in hardship for the family. When prices of goods and services increase in the home country, the workers send more money to support their families. The results indicate a linear relationship between remittances and inflation. The Engle-Granger method is

used to analyse the co-integration between remittances and inflation. The result suggests the long-run relationship between two variables of interest. Now it is also estimated the error correction model to explore the short-term dynamics regression and the adjustment speed to long-run equilibrium. The result suggests that inflation does not affect remittances in the short term.

This suggests that remittances and inflation series converge to long-run equilibrium. Deviations from this equilibrium relationship as a result of shocks will be corrected over time. Inflation does not affect remittances in the short term. It is indicating that the speed of adjustment to equilibrium is slow. It follows that about 21 percent of the deviation from the equilibrium path is corrected per annum.

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