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Examining Remittances and Macroeconomic Dynamics in Nepal: Insights from Gregory-Hansen Co-integration.

By

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Abstract

This study examines the relationship between remittance inflows and its macroeconomic dynamics (inflation, exchange rate, and domestic interest rate on savings) in the presence of potential break, using annual time series data (1995–2020). The Gregory Hansen co-integration tests (presence of a single break) and the error correction model were run after the Zivot and Andrews unit root tests. The findings of the study show that when there was a major break, remittance inflows tended to have a long-term relationship, and the short-run disequilibrium was corrected to stabilize towards the long-run equilibrium with an annual rate of 60.1 percent. The breakpoint was substantial and had a long-term negative effect on remittance inflows, and the exchange rate appeared to augment with the specific break and tended to impact the remittance inflows. These results suggest that the Government of Nepal should be cautious to assess policy changes (possible structural changes) and to adopt a strategy for handling remittances precisely, not only to increase foreign reserves but also to create a valuable effect of remittance to increase production and thereby producing employment and output.

Keywords: remittance, Gregory Hansen, Zivot Andrews, long run, structural changes

JEL Classification: F24, C22, C22, O41, E32

INTRODUCTION

Remittance inflows have long been a significant source of development financing for middle- and low-income nations (the World Bank [WB], 2019). Among the top remittance-receiving nations in the world, Nepal is placed 19th (Chettri et. al, 2020). These justifications have been used in numerous remittance studies to empirically relate macroeconomic and microeconomic variables. The variables are interest rates, exchange rates, currency depreciation, labor force, GDP, poverty rate, economic growth, and inflation. Due to the ambiguous data, however, it is difficult to conclude that there is a long run relationship with a significant structural break within remittance inflow and its determinants, such as inflation, exchange rate, and interest rate (Chamlagain, 2015; Chhetri et al., 2020; Gaudel, 2007; Hasan, 2008; Maskay et al., 2020; Pant, 2017; Pokhrel, 2022). Remittances were demonstrated to have a positive effect on the balance sheets of the central bank and to be consistent with the *impossible trinity* idea, despite the lack of adequate assessments of shocks that affected inflation (Maskay et al., 2020). It was generally believed that the co-integration-based study by Engel Granger, Johansson, and ARDL did not

address any analysis of long-term relationships with the analysis of the major breakpoint analysis. Pokhrel (2022) did not represent the breakpoints and long-run relationships in the data and just looked at the macroeconomic determinants, using Johansson (1988) cointegration and the Vector Error Correction Mechanism. With the gap of the prior studies' findings in mind, however, this study has not only pinpointed a single important breakpoint but also examined whether the long-term relationships between remittance inflows and its macroeconomic determinants is significant.

To fill the gap, this study has set the main objective of identifying the primary breakpoint and examining the long-term relationship. The influx of remittances greatly raises the nation's foreign reserve. The Quarterly Economic Bulletin (QEB) published by the Nepal Rastra Bank (Nepal Rastra Bank [NRB], 2022) lists the remittance inflow as the fourth most significant source of foreign exchange earnings after exports, foreign direct investments, and state development aid. From 1995 to 2000 and from 2001 to 2020, the remittance was reasonably stable; going forward, it was projected to expand quickly. The amount of remittances received, however, was unaffected by the Covid-19 (NRB,



2022). If the exchange rate is inspected, it has been trending upward and increasing these years; from 2002–2003 to 2008–2009, it showed a downward tendency. Following 2008–2009, the price of gold and oil on the world market quickly changed, causing the exchange rate to fluctuate upward (Pokhrel, 2021; NRB, 2022). Since the 1990s, a variety of factors have had an effect on the rate of inflation. Inflation rose as a result of the blockade imposed under the reign of the then-King Birendra Shah, the financial crisis of 2007–2008, and the blockade of 2015. In terms of domestic interest rates, since the post-1990s liberalization policy's adoption, the trend of the domestic interest rate on savings has been rising. The interest rate appears to have fluctuated since liberalization: it increased until 1999–2000, decreased afterward, increased again after the 2008–2009 crisis, and then began to reduce until 2015—the year the Nepal earthquake eventually occurred (NRB, 2022; Pokhrel, 2021).

Since 1985, Nepal has pursued the economic policies governed by the state and focused on protectionism. These policies were then followed by the implementation of structural adjustment programs (Khanal et al., 2005; Shrestha, 2022). Liberalization and democracy were restored, following the 1980s approval of the structural adjustment programs. As a result, Nepal's policy positions underwent a significant shift, and labor migration accelerated at that time as a result of the rising need for laborers in the Gulf countries (Shrestha, 2008; Shrestha, 2022).

The main concept of this study is to identify the long-run co-integration by looking at a single break in the dependent variable (the remittance inflows in Nepal from 1995 to 2020). The analysis is built on the long-run/short-run dynamics co-integration technique proposed by Gregory and Hansen (1996). This study additionally employs the Zivot and Andrews (1992) structural unit root test to locate the data's single breakpoint.

There are five chapters in this research paper. The Introduction is the first chapter, while the Review of the Literature is the second chapter. Data and method are covered in chapter three, results and discussion are covered in chapter four, and conclusions and recommendations are covered in chapter five.

Review of the Literature

Empirical Review

Gaudel (2007) conducted a study to assess the link between remittances and Nepal's economic growth and to identify factors—foreign exchange rate, real GDP, remittance inflow, and BOP—influencing remittances to Nepal, and used the OLS regression technique, correlation analysis, and hypothesis testing to determine that remittances, a main driver of foreign exchange rates. Remittances also contributed to the current account surplus in Nepal's BOP, as evidenced by the positive association and the positive relationship between remittances and economic growth.

Hasan (2008) undertook a study in Bangladesh on the macroeconomic determinants of remittances to evaluate the

model of the macroeconomic determinants with the elements—remittance inflow, local interest rate, exchange rate, and host country GDP—used Augmented Dicky Fuller (ADF) unit root test, co-integration, and the Granger Causality Test, and found a positive relationship of remittance inflows with inflation rates in Bangladesh and a negative relationship of the remittance inflows with the GDP; this study also found macroeconomic determinants of the home and host countries having a significant impact on both home and host countries.

Using OLS regression and the gravity type equation, the WB (2010) undertook research to determine the micro and macro impacts of remittances on the decision-making of the remittance-receiving families and the non-remittance-receiving households in Albania, especially to examine FDI, household consumption, remittance inflows, exports, and imports—and found that the remittance inflows significantly contributed to Albania's capital inflows and that remittance-receiving households had more decision-making power than non-remittance-receiving households regarding their income and expenditure.

Ramirez (2013) conducted an empirical study during the 1970–2010 in Mexico to assess the potential impact of remittance flows on economic and labor productivity growth, using co-integration tests with an endogenously driven level shift, the error-correction model, a modified empirical equivalent to the simple model to check both single- and two-break unit root tests, and the technique of Gregory Hansen co-integration. Ramirez found that remittances had a positive and significant, though little, impact on both economic and labor-productivity growth.

Pokhrel (2022) examined the trends of the remittance inflows, inflation rate, domestic rate of interest, and exchange rate—and also investigated the long- and short-term causal relationships between the inflation rate, domestic rate of interest, and exchange rate on the remittance inflow in Nepal. After determining whether the variables were stationary, using unit root tests (ADF and PP) of the variables, Pokhrel utilized the vector auto-regression (VAR) and Johansson co-integration techniques, and found a remittance's simple and positive trend, a favorable correlation between remittances and both inflation and currency rates, a 1.27 percent change in the domestic interest rate, a 3.36 percent change in the exchange rate, and a 1.07 percent change in the inflation rate as a result of a 1 percent change in remittance.

Research Gap

This study has attempted to also fill the gap left by the other studies, proving its unique contribution by using the single breakpoint co-integration and structural break unit-root tests not before investigated in case of the remittance inflow and macroeconomic dynamics in Nepal. No other research in Nepal has employed the methods used in this one to examine the link between the influx of remittances to Nepal and its macroeconomic drivers.

Data and Method Theoretical Underpin, Empirical Model, and Data

Keynes (1929) initially raised the transfer problem that

transfers may have a large impact on receiving economies, and the problem served as the theoretical foundation for the remittance inflow. The current debate by Djajic (1998) suggested that the possible effects of capital inflows on welfare seemed ambiguous and highly reliant on the characteristics of both the sending and receiving countries. Rapport et al. (2005) laid the theory relating to the influx of remittances, which was different from the pure-Keynesian stance in one of its first models that aims at capturing the short-run macroeconomic effects of foreign transfers. According to the model—used under the assumptions of sticky prices and stable exchange rates to understand the interest rate, consumption, and investment variables—any demand-side shock had a disproportionate impact on the level of output at the country's level. Choudhri and Hakura (2006) used the Mundell-Flemming model to investigate the short-term effects of remittance on an open market with final prices and a single composite good and used the Salter-Swan Corden-Dornbusch paradigm to explain the relationship between remittances and inflation—to comprehend the theoretical relationship between capital inflows (in our case, remittances), the price level, and the real exchange rate in developing nations—and predicted that a boost in remittances might cause local prices to rise, leading to an appreciation of the real exchange rate.

Rapport et al. (2005) and Pokhrel (2022) utilized the theoretical underpinnings of Keynesianism and Mundell and Flemming in their study paper, and built their theories around a framework, incorporating both short-run and then long-run dynamics. The authors' theoretical model assumed that, depending on whether used for consumption or investment, remittances put a considerable impact on the long-term success of recipient countries: As consumption increases generally as a result of remittance inflows, the purchasing power and demand capacity rise, accelerating inflation rate; however, the use of remittances in investment tends to make a positive impact on the economy, raising its self-sufficiency. Equation 1 shows that the remittance can theoretically be calculated in this way:

$$RIN = (PRICE, FEXC, CPU, CON, INV)$$

Remittance inflow is denoted by *RIN*, *PRICE* denotes inflation, *FEXC* denotes a fixed exchange rate, *CPU* is the cost of money per unit (interest rate), *CON* denotes consumption, and *INV* denotes an investment.

Empirical Model

This study, as well as Pokhrel (2022), replicated Hasan's (2008) and Panta's (2010) models—which used remittance as a dependent variable and exchange rate, interest rate, inflation rate, and host nations' GDP as independent variables, and found a strong correlation between the host countries' GDP and remittance inflows to Nepal—through a slight modification. Only three independent variables—domestic rate of interest, inflation rate, and exchange rate—were utilized in this analysis instead of the variable GDP of host nations that Hasan (2008) had included. In contrast to Pokhrel's, Hasan's and Panta's models, this study did not include the GDP of the top five host nations as an independent

variable, the host nations from where the remittance inflows to Nepal, because the inclusion of the GDP created the problem of perfect multi-collinearity between variables—and showed a comparable trend—and also because this would produce irrelevant findings. Disregarding the host nations' GDP as an independent variable, therefore, this study as shown by Equation 2 included remittance inflows as a dependent variable but domestic rate of interest, inflation rate, and exchange rate as independent variables—the variables that are major focus of the study model. Remittance inflow has had a major impact on migration and the wage rate of the home country, according to Sakka and Nabb (1999) and the Asian Development Bank [ADB] (2014) reports. However, this study excludes the effect of migration and wage rate as key factors of the study and instead concentrates on the model reference of Hasan (2008) which is represented in the equation 2.

$$\log RIN = \phi_1(\log EXR) + \phi_2(\log ITR) + \phi_3(\log IFR) + \mu_t \quad (2)$$

RIN denotes remittance inflows; *EXR*, nominal exchange rate; *ITR*, savings interest rate; and *IFR*, inflation rate. The use of natural log of variables apparently reduces the number of outliers in the data (if any). ϕ_1 is the coefficient of *EXR*; ϕ_2 , the coefficient of *ITR*; ϕ_3 , the coefficient of *IFR*; and μ_t , the disturbance term.

Zivot Andrews Unit Root Tests

The Zivot and Andrews (1992) unit root tests included a gap in the data; Adeleye et al. (2021) addressed the problem associated with uncertain the break period. The Zivot-Andrews unit-root test approach has the advantage of endogenously recognizing the breakpoint rather than relying on the visual assessment of the series of data, according to earlier research on this test by

Perron (1989). The various models¹ were evaluated, based on the intercept, trend, and regime forms, and the intercept shift with slope-based model.

Gregory Hansen Co-integration tests and ECM

According to Pesaran et al. (2001), the outcome of utilizing the bounds-testing method would be merely inconsistent (as cited in Adeleye et al., 2021). To analyze the method in a different way, the Gregory and Hansen (1996) co-integration approach is specifically designed for co-integration testing where controlling for structural breaks is used. The authors modified the approach of Engle and Granger (1987), which tests the null hypothesis of no co-integration against an alternative of co-integration with a single break in an unknown date based on extensions of the conventional *ADF*, *Z_a*, and *Z_t* test statistics. The authors created three models as a result to account for the potential for structural breaks in the co-integrating relationship. To analyze the dynamic adjustment of the per capita GDP and to express the long- and short-run linkages, the ARDL Error Correction Model was

¹ See Adeleye et al. (2021) and Zivot and Andrews (1992) for further information.

used after taking into consideration the Gregory Hansen co-integration tests with a significant break. The ARDL-ECM, which is based on the model by Adeleye et al. (2021), is used when the break is certain, as is represented by Equation 3:

$$\Delta RIN_t = a_0 - \gamma(RIN_{t-1} - \theta X' - \vartheta D - \phi D \times X') + b_0 RIN_t + \sum_{j=1}^{k-1} b_j X'_{j,t-i} + \omega D + \lambda D \times X' + \sum_{i=1}^{p-1} c_{0i} \Delta RIN_{t-i} + \sum_{i=0}^{p-1} \sum_{j=1}^{k-1} c_{ji} \Delta X'_{j,t-i} + \mu_t \quad (3)$$

where Δ = difference operator; $\gamma = 1 - \sum^p$ = the speed of adjustment coefficient (γ should be negative and statistically significant), and it states how it converges to long run equilibrium from the short-run disequilibrium); θ, ϑ, ϕ = the long-run coefficients; X' = a vector representing the collection of explanatory variables; D = the dummy variable used to represent the endogenous break point; p and k = the ideal lag length determined by the Bayesian Information Criteria (BIC).

After the Zivot-Andrew's test and Gregory-Hansen test, the residual diagnostic tests were tested and stability of the long-run model was assessed, using the Cumulative Sum of Squares (CUSUM) sum of squares tests after it has been developed with a break.

Data

For the years 1995–2020, annual time-series data for Nepal were included in the data collection under the headings of remittance inflow, inflation, currency rate, and domestic rate of interest. The data was derived from the Quarterly Economic Bulletin (NRB, 2022). This study's data covered the past 25 years (1995–2020) just before Covid-19 and after the economic liberalization of Nepal.

Results and Discussions

Results

It was important to run the unit-root tests to determine whether the variables were stationary. Because the conventional unit root test tends to have low power and rejects the null hypothesis even though it does not always imply that the series has no unit root. The Augmented Dicky Fuller (1979) test with no break—and the Zivot and Andrews (1992) test for a significant break (endogenous)—were evaluated (Adeleye et al., 2021; Perman & Bryne, 2006). Adeleye et al. (2021) emphasized that rather than only using the data for the unit root test, the Zivot and Andrews unit root test is actually intended to assess whether the data is stationary with a break. Table 1 shows the results of the ADF and ZA tests:

Table 1
Results of ADF and ZA Test

	ADF	ZA	Remarks	Break Date
	t-stat	t-stat		
RIN_t	-2.17	-6.88*	I(0)	2000
ΔRIN	-9.98*	-	-	-

t				
EXR_t	-0.65	-3.37	I(1)	2003
ΔEXR	-4.89*	-6.47*		2007
t				
ITR_t	-1.99	-3.59	I(1)	2011
ΔITR_t	-3.79*	-5.75*		2013
IFR_t	-2.33	-3.46	I(1)	2005
ΔIFR_t	-5.46*	-6.44*		2001

Note. ADF = Augmented Dicky Fuller Test; ZA = Zivot Andrews Unit Root Test (one break); lag length on the basis of Schwarz Information Criterion (SIC). *, **, *** denotes significance level at 1%, 5%, and 10% respectively. Δ represents first difference.

The ADF tests show that all variables are difference stationary. However, the ADF test is unable to provide information on stationarity and break points. As a result, this test may be biased because it does not consider the location of the break caused by significant economic events or policy changes. The outcomes of the Zivot and Andrews unit root tests are dissimilar from those of the ADF tests. All the variables pass the Zivot Andrews test as difference stationary, with the exception of the remittance itself, which is I(0) and has a substantial breakpoint in 2000. This breakpoint might be due to the Nepalese government's 1998 and 1999 introduction of three significant foreign employment-related laws that had an impact on remittance inflows in 2000. Zivot and Andrews unit root test shows how the Foreign Employment Act (1998), National Labor Policy (1999), and Foreign Employment Rules (1999) had an impact on the remittance inflow on the precise break date (Adhikari, 2021; Centre for Study of Labor and Mobility, 2022; Nepal Law Commission, 2022). Similar breaks occurred in the exchange rate in 2003 and 2007. In 2003, the nominal exchange rate of Nepal increased in relation to the US dollar as a result of the USD's decline on the world market (NRB, 2003). Due to increased inflation from 2006, the Nepali rupee lost value versus the USD in 2007 (NRB, 2006). Similarly, domestic interest rates (on savings) underwent a break in 2011 before becoming stationary in 2013. The 2011 increase in interest rates was due to the continuing annual inflation rate of 9.6% (NRB, 2012). Likewise, there was a break in inflation in 2005. Additionally, the rise in petroleum product prices, the lag effect of the Value Added Tax (VAT) rate revision in 2005, the insufficient supply as a result of both severe weather conditions and the deteriorating law and order situation all helped to push inflationary pressure in 2006 to a level of 8 percent (NRB, 2007).

According to Clemente et al. (1998), it is prudent to account for a single break to no break when the single break is statistically significant, and two breaks must be considered when the second break is statistically significant (as cited in Adeleye et al., 2021). As the dependent variable in this study is statistically significant after one break, we only took one

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break for further analysis. The Gregory and Hansen (1996) co-integration was employed, following the unit root tests. The null hypothesis (H_0 : There is no co-integration between the variables with a break) was set at the 5 percent level of significance. Table 2 shows Gregory and Hansen test results.

Table 2

Results of Gregory Hansen Cointegration

Test	Intercept (1)	Break Date	Intercept shift with Trend (2)	Break Date	Intercept shift with Slope (3)	Break Date
ADF Stat	-7.76*	2005	-3.36	2016	-6.22*	2009
Z_t Stat	-8.32*	2005	-10.45*	2000	-8.14*	2005
Z_a Stat	-32.69	2005	-35.35	2000	-33.14	2005

Note. * denotes significance level at 1 percent.

The model for intercept shifts with slope was investigated. The break date for 2005 was chosen because both the Z_t stat and ADF stat became significant (Gregory & Hansen, 1996). After close inspection, it was discovered that the model with intercept shift and intercept shift with slope included 2005 as a break date, while the model with intercept shift and trend included 2000 as a break date. Because the ADF stat and Z_t stat became significant at the 1 percent level of significance, both models (intercept shift and intercept shift with slope) had long-run co-integration. The Gregory and Hansen co-integration test used a single break period; hence, a single break date had to be selected to examine error correction mechanism. In this case, ARDL-ECM was performed with dependent variables on the independent variables, independent variables interacting with the given break dummy, and the dummy variable. A Dummy variable was set on an after-the-break period (2005). After ARDL-ECM analysis, the break period in 2005 (intercept shift with slope) gained significance. Since 2005, the pressure on the general level of prices has been mounted by the rise in Nepali prices brought on by the global rise in the price of petroleum products, an increase in gas prices following the then His Majesty of Government of Nepal's approval of the sale and distribution of liquefied petroleum gas to the private sector, and an increase in VAT from 10 percent to 13 percent (NRB, 2005). This particular event in 2005 resulted in the break over the macroeconomic determinants of remittance. It can be inferred from an examination of the economic developments and the proposed economic policies for the year 2005 that the break date is important when applying for the ARDL-ECM following Gregory Hansen co-integration. For each variable, the proper lags were chosen prior to ARDL-ECM (Table 3). On the basis of the Bayesian Information Criterion, lags were chosen (Adeleye et al., 2021).

Table 3

Lag Order Selection for ARDL-ECM

Lags Tested	Schwartz Bayesian Information Criterion (SBIC) #s			
	RIN	ITR	IFR	EXR
1	-2.287*	-1.974*	-0.5240*	-4.228*
2	-2.174	-1.856	-0.3851	-4.096
3	-2.038	-1.753	-0.2475	-3.956

Note: * denotes the least value amongst the tested lags ARDL (1,1,1,1,0,0,0). #lags selected with "varsoc" command in STATA.

\$AIC (Akaike Information Criterion) and SBIC laid same results.

Least of the SBIC for all the variables were selected as the optimal lags. Table 4 shows the ARDL-error correction.

Table 4

ARDL-ECM Results

Variables	Long run		Short Run	
	Coeff.	t-stat	Coeff.	t-stat
Adjustment parameter (RIN)	-0.61*	-4.53	-	-
Constant parameter	-	-	9.59*	4.39
EXR × Dummy	6.57**	2.47	-	-
Break Dummy	-12.59**	-2.40	-	-

No serial correlation (BPG-Serial Correlation test- Chi Square – 1.81, p-value- 0.18). No Heteroscedasticity (IM-test Cameron and Trivedi-Chi Square – 25, p-value- 0.4). Residuals exhibit normality (Jarque-Bera test- Chi Square- 0.81, p-value- 0.43).

Note. *, **, *** denotes significance level at 1%, 5%, and 10% respectively. Coeff. = Coefficient.

A dummy was built, using the numbers 0 (for years prior to 2005), and 1 after the break in the year 2005 was identified (from 2005 onwards). Statistics shows that the adjustment parameter was significant (negative and modulus of it is less than 1). It took 1.64 years (or roughly 1 year and 8 months) to converge into the long-run equilibrium because the distortions to remittance inflow in the event of a substantial break were adjusted with 61 percentage points every year (converging towards a stable long run equilibrium). When there was a break, remittance inflow increased the exchange rate because the home currency depreciated, according to the break dummy's positive and strong long-term reaction to the exchange rate. This result closely was consistent with the result of Pokhrel (2022). Another noteworthy finding was that the breakpoint (year 2005) became statistically significant at the 5% level, suggesting that there was a break and that the break had a negative influence on remittance inflow. The

constant was statistically significant and positive, but no significant connections were found in the short run.

The residual diagnostic and stability tests were run to evaluate the robustness of the model, and they revealed that the model became stable and unbiased, as shown in Table 4, of the residual diagnostic and stability tests results (shown in Figure 1). The robustness was only evaluated by residual and diagnostic tests in this study because it did not employ the variable whose one of the proxy variables would be remittance inflow, and the other one would have been empirically defined. The CUSUM sum of squares test was eventually carried after the ARDL-ECM, as shown in Figure 1.

Figure 1
CUSUM Sum of Squared Residuals Test for Stability

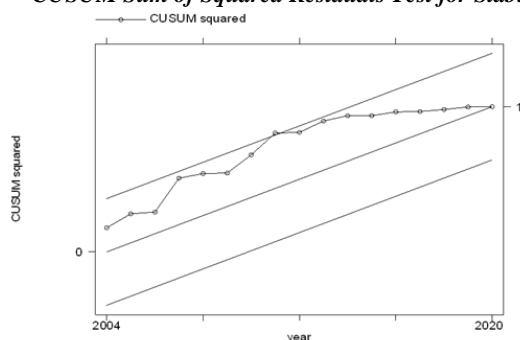


Figure 1 displays CUSUM test under the boundary of 5% level of significance after incorporating the significant breakpoint of the year 2005.

Conclusions and Discussion

This study has attempted to investigate the long-term relationship of remittance inflows with its macroeconomic determinants (from 1995-2020) in the presence of a single break, using the Gregory Hansen co-integration technique, followed by the error correction mechanism, which also signifies a structural break in the economic system.

The findings of the study's objectives were that (1) remittance inflows had a potential long-run association when a single break period (the year 2005) was considered, (2) the short-run disequilibrium was converging towards equilibrium with the speed of adjustment of 60.1%, meaning that it took 1.66 years to finally converge into the short-run equilibrium, (3) the exchange rate, when augmented with the break date, significantly impacted the remittance inflows; hence, the exchange rate was affected by the break, thereby impacting the remittance inflows, and (4) the break year (2005) seemed significant and negatively impacted the remittance inflows. These findings have brought this study to the conclusions that the structural break of the year 2005 seems significant to cause a negative impact on Nepal's remittance inflows. Therefore, it seems necessary for the policymakers to be cautious about assessing the potential structural breaks and its impact on remittance inflows and exchange rates, examining its impacts on the Nepalese economy, and drafting policy accordingly to orient the variables (remittance inflow and exchange rate) towards a right direction so that the impact of

these variables on the economy at the time of the break may not derail the economy.

This study's findings are somewhat in line with those of Hasan (2008) and Pokhrel (2022), although those prior two studies looked only at long-term co-integration, without examining the break points.

As regards a new contribution, this study seems to have also bridged a methodological gap—by employing econometric tools, such as single breakpoint co-integration and structural break unit-root tests—and a geographic gap left by the other studies, not only by pinpointing a single important breakpoint of the year 2005 but also by examining whether the long-term, significant relationships exist between remittance inflows and its macroeconomic determinants.

Finally, the government should be cautious enough to assess a policy change (potential structural change) and adopt a strategy to handle remittances precisely, not only as a means of boosting foreign reserves but also as a means of creating the effect of remittance on increasing the production, employment, and output of the nation.

Implications for Practices

In terms of the policy implications of this study's findings, the structural break denotes a change in policy for that specific period of time. Therefore, it appears that a policy change tends to have a significant impact on the remittance inflows. When there is a structural break, the relationship between the remittance inflows and its macroeconomic determinants appears to have major long-term macroeconomic effects.

Limitations and Future Directions

This study's finding has examined only single break-related effects on the remittance inflows—the single breakpoint that was not studied previously—but not examined the effects of multiple breakpoints (related to the Maki and Kao co-integration) on the remittance inflows. The data is limited (till 2020) because the post COVID 19 pandemic analysis is yet to be done in this study. The data used in this study is limited. Future studies could incorporate a comprehensive data and micro variables and can opt for the micro-econometric analysis as well.

Conflict of Interest

This study does not involve any conflict of interest. As the principal author, and the two secondary authors, none of us has any financial, personal or professional interest that could be perceived as having prejudiced the conduct, analysis or reporting in this study in any way. All authors have contributed to the work and agree to the publication of the content of this paper. All possible areas of conflict, in relation to partnerships/affiliations resulting from the study have been declared in accordance with ethical research practices.

Disclaimer: The views expressed in this paper are purely theoretical and does not reflect the official stance of the institutions where the writers work.

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