International Research Journal of MMC (IRJMMC)
ISSN 2717-4999 (Online) | 2717-4980 (Print)
Volume 6, Issue 4 | September 2025

An Empirical Analysis of Monetary Approach to Balance of Payments in Nepal

Bachchu Ram Ghimire[1] | Mandira Paudel[2]

[1]Faculty Member, Department of Economics,
Padma Kanya Campus, Bagbazar, Kathmandu, Nepal

[2]Pokhara Finance Limited, Manbhawan Branch, Lalitpur, Nepal
Email: mandirapaudel2071@gmail.com

Corresponding Author
Bachchu Ram Ghimire
Email: bachchughimire50@gmail.com

To Cite this article: Ghimire, B. R., & Paudel, M. (2025). An empirical analysis of monetary approach to balance of payments in Nepal. *International Research Journal of MMC, 6*(4), 155–167. https://doi.org/10.3126/irjmmc.v6i4.85467

Submitted: 31 August 2025 **Accepted:** 21 September 2025 **Published:** 30 September 2025

Abstract

This study aims to identify the economic variables that have significant impact on the Balance of Payments position in Nepal. This research further studies the applicability of the Monetary Approach to Balance of Payments (MABP) in Nepal. Time series data over the period from 1980 A.D. to 2024 A.D. has been considered in this research. The secondary data for the study has been obtained from various publications of Nepal Rastra Bank. Net Foreign Assets (NFA) has been taken as the dependent variable, as a proxy for Balance of Payments, whereas Nominal GDP, Consumer Price Index, Exchange Rate, Net Domestic Assets and Money Multiplier are taken as the independent variables. Ordinary Least Squares method has been used for data analysis by modelling a multiple regression equation. Similarly, descriptive statistics including Mean and Standard Deviation have been calculated for the variables followed by correlation and regression analysis. Augmented Dickey Fuller test was performed to ensure the stationarity of the time series data used in the model. From the regression analysis, Consumer Price Index, Net Domestic Assets and Money Multiplier were concluded to be statistically significant for determining BOP position in Nepal. Consumer Price Index has a statistically positive relationship with Net Foreign Assets, whereas Net Domestic Assets and Money Multiplier have a statistically negative relationship with Net Foreign Assets. On the contrary, Nominal GDP and Exchange Rate were found to be statistically insignificant in addressing BOP disequilibrium in the country. Hence, MABP model is still found to be relevant in the context of Nepal and monetary variables play effective role in maintaining BOP stability in Nepalese economy. This study will be helpful for the future research works on the MABP model and provide necessary recommendations to the concerned authorities including the central bank (NRB) and the government authorities.

Keywords: balance of payments, monetary approach to balance of payments, net foreign assets, consumer price index, net domestic assets, money multiplier, Nepal

1. Background

Balance of Payments (BOP) is the statistical record of all economic transactions between domestic economy and the rest of the world during a specific time (IMF, 1993; Tebrake & Sánchez-Muñoz, 2025). It offers a total summary of export of goods and services receipts, expenditure made on the imports, and transactions on capital flows as well as financial transfers (Lagoarde-Segot, 2023). Being based on the double-entry bookkeeping system, every transaction recorded under this accounting framework has both a debit and credit side and as such theoretically balanced (Chalu, 2025). In practice, however, anomalies occur, and a balancing item called errors and omissions has to be put in to resolve unrecorded or erroneously reported transactions (Cooper, 1966; Cencini, A. & Citraro, 2012). Therefore, BOP is not just a book keeping concept but an important measure of economic wellbeing and financial state of a country.

BOP has been organized to cover three major accounts namely current, capital and financial account (Murti, 2025). The current account records a net exports and imports, investment income and any transfer like remittance, pensions and grants. The capital account records non-produced non-financial assets and capital transfers including taxes, and cross-border movements of financial and non-financial assets and liabilities, e.g. loans, portfolio investment, and foreign direct investment are recorded in the financial account. In theory, the aggregate entries in these three accounts should have a nil sum as a reflection of the inflows-outflows balance (IMF, 1993).

BOP is a crucial macroeconomic indicator that gives an understanding of the competitiveness of a country, its exposure to the external environment, and the effectiveness of the policies put in place (Lorenzo et al., 2025). Excess in the BOP implies that the country gets more than it gives out; this decreases the purpose of external loans or funding. These surpluses help to build foreign exchange reserves, steady foreign exchange and enable governments to invest in areas, which vary in high priority like health, education, tourism, and infrastructure. A protracted deficit, conversely, also brings the spotlight on structural imbalances, with foreign liabilities being greater than the reception of exports and the financial flows. This eats into foreign reserves, weakens the currency and constrains long-term development projects via fiscal wiggle room (Rana, 2024). Deficits also lead to vulnerability in terms of foreign aid and foreign loans leaving economies at the mercy of foreign products and external shocks.

BOP has increased significance in the case of a developing national like Nepal, that has a structural trade deficit, is extensively dependent on remittances and low export base (Basyal, 2011; Acharya, 2024; Nepal, 2025). Recent figures indicated by the Nepal Rastra Bank (NRB) indicates that the bop surplus was recorded at Rs. 184.99 billion during the first quarter of FY 2081/82 as compared to Rs. 101.66 billion during the comparable period of FY 2080/81. The balance of payments surplus also improved to Rs. 111.87 billion uphill of the base of Rs. 59.65 billion. Yet, these surpluses are covering latent structural issues that appear to be a reduction in net exports which is a reduction of 6.1 percent and imports, which remarkably were reduced by 4.2 percent leaving the production with a staggering trade deficit of Rs. 352.37 billion. Despite that, the positive BOP position of Nepal has been maintained mainly because of the strong growth of remittances which rose by 11.5 percent to reach Rs. 407.31 billion during the same review period. This shows that the stability of the external sector in Nepal is dependent more on the contributions of Nepali diaspora and income earned by tourism rather than on the competitiveness of exports or industrial performance.

The dependency on remittances causes the question of the BOP sustainability in the longer period (Stojanov et al., 2019). Although the remittances alleviate the trade deficit and help to improve the foreign reserves, it exposes them to risks (Ratha & Mohapatra, 2007). Overdependence on outsourcing causes the economy to be vulnerable to world shocks like recession, immigration policies and current geo-political situations (Contractor, 2021). Likewise, the low diversification level of exports, focused mainly on low-value-added products, stands in the way of resilience against foreign demand shocks. These changes highlight the need to boost the

domestic productive capacity and diversify exports of Nepal as well as policies that will curb excessive reliance on remittances and maintenance of macroeconomic stability (Karki et al., 2024). Net foreign assets (NFA) are commonly thought to be a very strong indicator of BOP positions since it is the theorem of the difference between foreign asset and the liability balance of a country (Wu, 2008). The positive NFA demonstrates resilience and macroeconomic stability and further means that economies can absorb external shocks as well as fulfill external debt payments and therefore supports investor confidence. An unhealthy NFA on the other hand subjects' economies to currency instability, currency depreciation, and the risk of financial crisis. NFA thus is a complementary indicator not only of external solvency but also an essence of sustainable macro-economic management. Stability in NFA is something fragile. Long-running NFA shortages can have the effect of devaluing the currency, worsening trade balances, and creating reliance on foreign lending (Harrigan, 2000). Meanwhile, surpluses at inordinate levels can create inflation risks because of liquidity, financial bubbles in other areas of the economy, and exposure to global financial shocks. Therefore, the policy problem here is associated with the regulation of the levels of NFA, which are neither too low nor too high to be favorable to the long-term macroeconomic stability.

The monetary approach to the balance of payments (MABP) is a theory that provides a conceptual framework to analyze these processes (Frenkel & Johnson, 2013). Firmly rooted in the classical monetary economics, the MABP assumes that BOP disequilibria or mismatch between money supply and money demand is a monetary phenomenon. Based on this paradigm, nominal GDP, consumer price index, exchange rate, net domestic assets, and money multiplier among others are extremely decisive in the BOP positions. The empirical research studies conducted in the developing economies confirm the pertinence of MABP when explaining the external balances, yet its relevance in economies possessing structural rigidities and external dependencies is debated, e.g. Nepal (Nepal et al., 2024). The research into the applicability of the MABP in Nepal is therefore not only a research contribution in itself, but has policy implications as well.

This paper attempts to empirically test the links between the major economic variables (namely, nominal GDP, consumer price index, exchange rate, net domestic assets, and money multiplier) and the balance of payments (BOP) of Nepal with net foreign assets (NFA) as a proxy. Based on the annual time series data between 1980 and 2023, the OLS method will be used and diagnostic tests that include ADF, Durbin-Watson, VIF, and the White test will help to prove the robustness. This paper investigates how the monetary approach to the BOP is still applicable in a remittance-driven economy such as Nepal and determines the determinants of external stability and provides policy recommendations that would help to maintain the macro-economy of Nepal on a sustainable path.

2. Methods

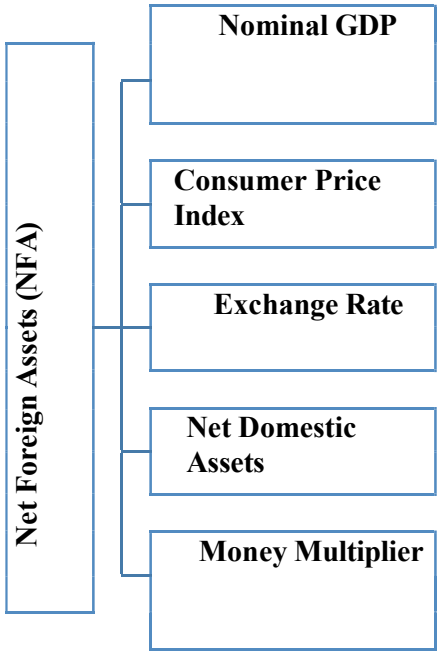
2.1. Theoretical Framework

The theoretical framework represents the structural foundation for any research study. It is derived from the existing literature works previously done on the topic of Monetary Approach to Balance of Payments (MABP) as used by Lanciaux (1990). In this study, Net Foreign Assets (NFA) is taken as the dependent variable whereas Nominal GDP (NGDP), Consumer Price Index (CPI), Exchange Rate (ER), Net Domestic Assets (NDA) and Money Multiplier (MM) are taken as the independent variables (See Figure 1).

In this study, NFA measures the foreign assets balance held by the nation's monetary authority after deduction of the foreign liabilities owed. It indicates a country's financial stability and its cushion against the imbalances caused by the external factors. NFA has been used as a proxy for Balance of payments and serves as a dependent variable. Another variable, Nominal Gross Domestic Product (NGDP), a measure of the total value of all goods and services

produced within a country over a specified period, without adjusting for inflation. It reflects the current market prices at which the goods and services are being sold. It is used as a measure of the economic output of the country. Increase in Nominal GDP represents the economic growth of the economy, and is effectively used to compare the economic size of different countries. Similarly, Consumer Price Index (CPI) measures the aggregate price level in the economy. It represents the change in price of a basket of commonly purchased goods over a period of time. There is inverse relationship between general price level and the value of money or the purchasing power of a country's residents. Likewise, Exchange Rate (ER) is defined as the value of native currency which is required to exchange equivalent amount of foreign currency. ER has a vital significance in defining the terms of trade of a nation with other economies, and ultimately the economic health of a nation. Exchange rate has major significance in determining international trade, inflation and growth of an economy. Another variable Net Domestic Assets (NDA) is a component of monetary accounts and is obtained by subtracting the domestic liabilities of the nations from its domestic assets. Net Domestic Assets is considered an important economic variable in determining the domestic credit creation in an economy, ultimately influencing the economic activities within a country. NDA, along with net foreign assets (NFA), affects the volume of money supply or liquidity in the banking system. Similarly, Money Multiplier (MM), another variable, indicates the degree of increment in money supply in response to the existing reserve base of the economy. This variable is determined by the interaction between the public, commercial banks, and the central bank. Money multiplier plays a vital role in determining the interest rates and banking sector stability in a country. Money multiplier has been obtained by dividing the value of broad money (M2) by the reserve money of the respective year.

Figure 1: *Theoretical Framework for MABP*



An increasing Nominal GDP represents expanding economic activities, which influences the current account balance of the BOP. The foreign trade balance is improved due to the enhancement in Nominal GDP and the foreign investment inflows is stimulated. These factors help in improving the NFA position. Higher level of Consumer Price Index causes

depreciation of the currency. This leads to the increment in the value of foreign liabilities in domestic currency terms, potentially decreasing the NFA. On the other hand, if the depreciation of the currency is leveraged to boost the export volume of the country, then the current account balance is stimulated positively which will positively impact the NFA. Thus, an increase in the CPI can have either a positive or a negative impact on the NFA. A lower CPI, on the contrary, contributes to currency stability and helps to strengthen NFA.

A growth in Money Multiplier suggests greater liquidity in the country. Greater liquidity leads to higher lending, potentially increasing inflation which negates the exchange rate of the country. A decline in exchange rate may deteriorate the NFA position of the country. Appreciation or a depreciation of exchange rate can have varying effects on the NFA. A depreciation in the domestic currency increases the value of foreign liabilities in local currency terms, which negatively affects the NFA. On the other hand, a currency appreciation reduces the value of foreign liabilities and increases NFA. Net Domestic Assets displays a negative relationship with the NFA since growth in NDA increases domestic credit creation. High domestic credit creation leads to higher level of import which worsens the current account balance of the BOP, and deteriorates the NFA.

2.2. Nature and Sources of Data

This study derives the secondary data of macroeconomic variables from various publications of Nepal Rastra Bank. The study uses the time series data spanning from July 1980 to July 2023. The data for Consumer Price Index (CPI) has been taken from Quarterly Economic Bulletin published by Nepal Rastra Bank (NRB). The base year considered for the CPI is year 2014/15. The value for money multiplier has been calculated by dividing the amount of broad money (M2) by the reserve money of the respective year. Broad money (M2) has been derived from the Monetary Survey published by NRB whereas the data for reserve money has been taken from the Quarterly Economic Bulletin and Monetary Survey published by NRB. Nominal GDP has been taken from the annual data of current macroeconomic situation and the values of NDA, Exchange rate and NFA have been derived from the economic bulletins of different series of NRB.

2.3. Model Specification

To obtain the correlation between the dependent and independent variables in this study, Ordinary Least Squares method (OLS) is used. LS is very commonly used in econometric analysis because they possess the best linear unbiased estimators of regression coefficients under condition of Gauss-Markov assumptions. The approach is used to identify the optimal linear association between the explanatory variables and the target variable and to make viable conclusions on the role of the interactions. In order to capture the dependent variable which is the proxy of Balance of Payments (BOP), the Net Foreign Assets (NFA) has been used in a multiple regression framework. The independent variables that were entered into this model are the Nominal Gross Domestic Product (NGDP), the Consumer Price Index (CPI), the Exchange Rate (ER), the Net Domestic Assets (NDA), and Money Multiplier (MM). The proposed regression model is as the following.

$$NFA = \alpha + \lambda_1 NGDP + \lambda_2 CPI + \lambda_3 ER + \lambda_4 NDA + \lambda_5 MM + \varepsilon \quad (i)$$

Here, NFA represents Net Foreign Assets, NGDP is Nominal Gross Domestic Product, CPI is Consumer Price Index, ER represents Exchange rate, NDA is Net Domestic Assets, MM is Money Multiplier, α represents intercept of the model and ε is a constant term.

The formulated multiple regression equation constitutes of the dependent and independent variables taken in the model. The constant term (ε) is the error term that accounts

for the variables that are not incorporated in the model. 'α' is the intercept of the model, that represents the value of NFA when all the independent variables are zero. $\lambda 1$ is the coefficient that measures the impact of Nominal GDP on NFA, $\lambda 2$ is the coefficient that measures the impact of CPI on NFA, $\lambda 3$ is the coefficient that measures the impact of Exchange rate on NFA, $\lambda 4$ is the coefficient that measures the impact of Net Domestic Assets on NFA and $\lambda 5$ is the coefficient that measures the impact of Money Multiplier on NFA.

The OLS regression model is tested using the Stata software to determine the value of the respective coefficients of the independent variables ($\lambda 1, \lambda 2 \ldots, \lambda 5$) and the intercept of the model (α). After the determination of the coefficients of the independent variables, the relationship and direction of impact of independent variables on the dependent variable can be estimated. Before running the OLS regression, first of all, the stationarity of the data needs to be ensured in case of time series data. When the time series data is considered for the model and the variables are non-stationary, then the OLS estimates might be biased or misleading. Augmented Dickey-Fuller Test has been used to check the stationarity of the data.

Similarly, Durbin-Watson Test has been used to check autocorrelation between the variables. The VIF test is performed to detect multicollinearity in the model and White test is conducted to examine the presence of heteroscedasticity in the regression model. After ensuring the major assumptions of the OLS regression, the empirical relation between the significant independent variables and the dependent variable is established and the regression model between the variables is estimated.

3. Result

3.1. Descriptive Analysis

Descriptive statistics describe the general attributes of data included in the study. The mean indicates the average value of all observations. Standard deviation measures the statistics by which the overall values deviated from the mean value. Higher value of standard deviation indicates the higher degree of fluctuation whilst lower value of standard deviation indicates lower fluctuation. The 'Min' and 'Max' represent the minimum and maximum values in the series of data (1980 A.D. to 2023 A.D.) of the particular variable (See Table 1). The fluctuations of NFA were large with a value between 1,897.6 and 1,423,277 and a mean of 305,908.7 which shows that external reserves exhibit great volatility over time. Nominal GDP (NGDP) has a constant growth path and increases all the way up to 5,348,528 surpassing a low standard deviation representing structural economic growth. In the same manner, the Consumer Price Index (CPI) rose sharply, with a mean of 52.65 and a lot of variability, indicating inflationary forces over the decades. The exchange rate (ER) experienced a lot of depreciation ranging between 12 and 130.74 and with a mean of 64.12, signifying the weakness on external fronts. The Net Domestic Assets (NDA) also experienced immense growth with considerable roller coaster effect due to growth in credit and financial development. The Money Multiplier (MM) was by contrast comparatively stable which indicated that the financial system was able to create money in a comparatively stable way despite shock effects in the macroeconomy.

Table 1: *Descriptive statistics of variables*

Variable	No. of observation	Mean	SD	Min	Max
NFA	44	305908.7	438950	1897.6	1423277
NGDP	44	1168026	1499615	23351	5348528
CPI	44	52.65	44.53	5.37	157.64

ER	44	64.12	34.40	12	130.74
NDA	44	708300.6	1205243	3053.4	4707206
MM	44	3.22	1.11	2.14	6.72

Source: *Calculation based on data from various publications of Nepal Rastra Bank*

3.2. Augmented Dickey-Fuller Test (ADF)

The Augmented Dickey-Fuller (ADF) test was conducted to examine the stationarity of the dependent and independent variables. Table 2 summarizes the results for the original series, their logarithmic transformations, and the lagged logarithmic differences. The findings from the original data indicate that all variables—Net Foreign Assets (NFA), Nominal GDP (NGDP), Consumer Price Index (CPI), Exchange Rate (ER), Net Domestic Assets (NDA), and Money Multiplier (MM)—were non-stationary, as their t-statistics exceeded the 5% critical value (-2.95) and p-values were greater than 0.05. After transforming the variables into their logarithmic form, only CPI exhibited stationarity, with a t-statistic of -3.312 and a p-value of 0.0144, while the remaining variables continued to be non-stationary. To address this limitation, the variables were further converted into their first-differenced logarithmic form (growth terms). The ADF test results for the differenced series confirmed that all variables became stationary, as their t-statistics were more negative than the 5% critical value (-2.952) and corresponding p-values were below 0.05. These results suggest that the data series are integrated of order one, I (1). Consequently, the OLS assumptions are satisfied, enabling reliable estimation of the proposed regression model using stationary growth-form variables.

Table 2: *Unit Root Test*

Variable	Original Data t-statistic	Original Data p-value	Log Value t-statistic	Log Value p-value	Lag Log Value t-statistic	Lag Log Value p-value	Decision on Stationarity
NFA	1.763	0.9983	-0.722	0.8410	-5.824	0.0000	Stationary
NGDP	9.824	1.0000	-2.087	0.2496	-4.469	0.0002	Stationary
CPI	10.619	1.0000	-3.312	0.0144	-4.335	0.0004	Stationary
ER	0.637	0.9885	-2.688	0.0761	-5.201	0.0000	Stationary
NDA	9.471	1.0000	-0.596	0.8718	-6.319	0.0000	Stationary
MM	2.121	0.9988	1.206	0.9960	-8.441	0.0000	Stationary

3.3. Diagnostic Testing

Diagnostic testing was carried to determine the dependability of the regression outcomes, as well as the fact that the classical linear regression model (CLRM) assumptions were met. Durbin-Watson (DW) test was used first to determine whether the residuals were autocorrelated (Table 3). The DW statistic was 1.7599 that is near to the benchmark value of 2 implying that there is no presence of serially correlated of residuals. Second, Pearson correlation matrix was applied to determine multicollinearity by the Variance Inflation Factor (VIF). The VIF values of all the independent variables were < 10, which verifies that there was no multicollinearity. Third, White test was used to test heteroscedasticity. The chi-square statistic was not significant ($p = 0.2647$) and indicated that the variance of errors remained constant (homoscedastic). Moreover, skewness (0.4560) and kurtosis (0.4650) tests indicated that there was normality in the residuals, since both p-values were much more than 0.05.

Table 3: *Diagnostic Testing Results*

Test	Statistic / Value	p-value	Decision
Durbin-Watson (DW)	1.7599	–	No autocorrelation
Variance Inflation Factor (VIF)	1.04 – 1.60 (Mean: 1.31)	–	No multicollinearity
White Test (Heteroscedasticity)	$\chi^2 = 23.50$, df = 20	0.2647	Homoscedasticity
Skewness Test	$\chi^2 = 4.68$, df = 5	0.4560	Normal
Kurtosis Test	$\chi^2 = 0.53$, df = 1	0.4650	Normal
Total (White Test)	$\chi^2 = 28.72$, df = 26	0.3240	Normality confirmed

Generally, the diagnostic outcomes also confirm that the regression model is devoid of serial- confoundedness, multicollinearity and heteroscedasticity and the residuals observe the normal distribution. These results authenticate the quality of the regressed model thus furnishing them with a concrete ground on which they could extend their investigation further using econometric tools.

3.4. Correlation Analysis

Correlation analysis was also done in order to determine the direction and strength of relationships between the independent and dependent variables. The correlation matrix using the modeled of the variables using first-difference log on the values of the variables is presented in Table 4. The outcomes indicate that Net Foreign Assets (NFA) and three independent variables- Consumer Price Index (CPI), Net Domestic Assets (NDA), and a Money Multiplier (MM) are related significantly. In particular, CPI has a positive relationship with NFA (0.3396) at the 5 percent level of significance which can be interpreted to mean that as the price levels go higher the foreign asset holdings go up. Conversely, NDA (-0.4944) and MM (-0.4379) record negative correlations that are significant at the 1% level, or that foreign assets and increase in domestic credit expansion and monetary efficiency are inverse functions. The NFA and NGDP and NFA and ER correlations were, however, lower than the significance levels, which means no linear relationship. On balance, these findings indicate that the impact of domestic credit conditions and monetary growth on outside asset positions are stronger than that of output or exchange rate developments. Although correlation does not claim causation, these results can be used as important preliminary evidence of the interdependence between money variables and the external balances in Nepal, thus, offering preparation to the regression analysis that will be conducted next.

Table 4: *Correlation Matrix*

	Δln NFA	Δln NGDP	Δln CPI	Δln ER	Δln NDA	Δln MM
Δln NFA	1.0000					
Δln NGDP sig	0.0228 (0.8846)	1.0000				
Δln CPI sig	0.3396* (0.0259)	0.4384 (0.0033)	1.0000			
Δln ER sig	0.2160 (0.1641)	0.2761 (0.0732)	0.5312 (0.0002)	1.0000		
Δln NDA sig	-0.4944** (0.0008)	0.0203 (0.8971)	-0.0095 (0.9520)	0.0413 (0.7926)	1.0000	

Δln MM sig	-0.4379** (0.0033)	0.1517 (0.3315)	-0.0442 (0.7782)	-0.1946 (0.2111)	0.1689 (0.2790)	1.0000
Source: *Calculation based on data from various publications of Nepal Rastra Bank* **. Significance of correlation at 0.01 level						
*. Significance of correlation at 0.05 level						

3.5. Regression Analysis

To determine the growth rate in net foreign assets (lNFA) as the dependent variable, this study uses Ordinary Least Squares (OLS) regression, guided by a theoretical framework of a Monetary Approach to the Balance of Payments (MABP), to come up with meaningful explanations associated with a country, Nepal, in terms of determining the growth rate in the net foreign assets (Table 5). This model is also viable in terms of statistical significance, since the results of the F-test, with a very large F-value (6.83) at a very low probability (0.0001), conclusively invalidates the null hypothesis that all the regression coefficients are jointly zero. This means that the sum of the explanatory capacities of the independent variables. Δln NGDP, Δln CPI, Δln ER, Δln NDA and Δln MM is highly significant in explaining the variations in in Δln NFA. The goodness-of-fit of this model is not quite exceptional, but it is substantively important in such an analysis. The R-squared of 0.4798 indicates that the information of the selected independent variables explains about 48% of the output variance in terms of the variation in Δln NFA. Since it is more reliable to work with the adjusted R-squared value, which penalizes the number of predictors, we obtain that 40.95% after correction according to the degrees of freedom, the model explains the variation. The residual unexplained variance (59) is a result of other factors that have been unaccounted in this specification and perhaps, could be externally induced shocks, fiscal policy variables, or capital flows that are not directly associated with the monetary base.

Table 5: *Regression Analysis*

Δln NFA	Coefficient	Standard Error	t- value	P>t
Δln NGDP	-0.2885	0.5455	-0.53	0.600
Δln CPI	1.9639	0.8390	2.34	0.025
Δln ER	0.0034	0.4074	0.01	0.993
Δln NDA	-0.6051	0.1690	-3.58	0.001
Δln MM	-0.9492	0.3535	-2.68	0.011
Constant	0.1607	0.0773	2.08	0.045

Source: *Calculation based on data from various publications of Nepal Rastra Bank*

A close observation of each of the coefficients shows that they are very much in favor of the propositions of the MABP. The strongest and most important is the negative impact of growth in net domestic assets (lDelta lWeak small Delta lNDA) on lDelta lNFA (beta equals minus 0.6051, p equals 0.001). It is this conclusion that is at the focal point in the MABP, which asserts that increase of domestic credits (NDA) causes equal counterbalance of abrogating foreign currency (NFA) to gain monetary equilibrium with agents conforming their actual money balances by conducting inter-nation transactions. The coefficient implies that when there is 1 increase in the domestic credit generation, a subsequent decline of 0.61 percent will occur in foreign reserves giving a direct trading-off between the domestic monetary policy and the balance external.

Moreover, that the coefficient of money multiplier (/ln MM) is negative and significant (/ln MM, 1= -0. 9492, p= 0. 011) supports this currency interpretation also. When the multiplier is increased then results in an excess supply of money when the broad money supply is increasing relative to the volume of base. The following portfolio adjustment means more expenditure on foreign assets and commodities thus decreasing NFA. The significant and positive coefficient on the inflation (Δln CPI, 1.9639, p = 0.025) can be explained similarly. An increase in the domestic prices elevates the nominal demand of money. When this demand is not met through domestic sources (NDA), then it must be accomplished through excess of balance of payments thus augmenting NFA. This forms a feedback loop in the sense that the price levels and the reserve flows are inseparable.

On the other hand, Δln NGDP and Δln ER variables were not significant (p-values of 0.600 and 0.993, respectively). The negligibility of monetary nominal GDP could be because has been collinear with other variables has and whether the effects of nominal GDP are reflected in the monetary aggregates. The insignificance of the exchange rate is a highly-significant finding, probably owing to the existence of a fixed exchange rate system in Nepal pegged to the Indian rupee. That is why the exchange rate does not play a role as an explanatory variable under such a regime since it is not an exchange variable subject to market forces.
Finally, the regression analysis gives a good empirical support to the Monetary Approach to the balance of payments when examining the case of Nepal. The findings affirm that the main factors of fluctuation in the foreign reserves of Nepal rely on solely domestic monetary mechanisms, namely: domestic credit expansion, as well as money multiplier, whereas, conventional parameters, i.e. income and the exchange rate, are of secondary importance, the latter due to the special policy mechanism of the country.

4. Discussion

As previously established by the MABP model, any change which alters the monetary equilibrium also affects the balance of payments. Any change affecting the money demand function (income, interest rate, price level) will also impact the balance of payments (McNown, 1980). Paradoxically (from the Keynesian point of view), increase in income or prices and reduction in interest rates all results to an excess demand for money and consequently balance of payments surplus. On the supply side, changes in net domestic credit which is not accompanied by equal changes in money demand will cause a corresponding balance of payments disequilibrium. This disequilibrium stimulated either by changes in demand or supply side are however temporary and self-correcting (McNown, 1980), unless the restoration to equilibrium position is offset by contradictory policies. An excess of money supply, for instance, causes BOP deficit which leads to reduction in the net foreign assets. Decrease in NFA leads to reduction in money supply, unless there is increase in domestic credit creation by concerned authorities. The balance of payments deficit will only continue if the decline in net foreign assets is counter balanced by the continuous increase in domestic credit creation.

The empirical findings of this research study conclude that Consumer Price Index, Net Domestic Assets and Money Multiplier are the effective variables in determining the fluctuations in NFA. This is consistent with the MABP model which states that BOP disequilibrium is caused by the disparity between the money demand growth and growth in domestic credit or money supply. The variables ‘Net Domestic Assets’ and ‘Money Multiplier’ affect the growth of money supply in the economy whereas the variable ‘Consumer Price Index’ is connected with the money demand function. In their study, Khatiwada (1976) established an inverse relationship between the net domestic credit and the NFA position of the country, based on the study of MABP from 1965 A.D. to 1990 A.D. He also found a negative relationship of money multiplier with the NFA position of Nepal.

Price level was found to have a positive influence on the NFA position in the context of Nepal. Similar results have been derived from this research study as well which shows that the significant variables in determining NFA position in Nepal has not differed so much over time.

Further, McNown (1980) established the negative relationship between the net domestic credit and foreign assets reserve in the country. Likewise, Malla (1994) also concluded a strong and negative relationship between the changes in net domestic credit creation and changes in the net foreign assets. Net Domestic Assets, linked with net domestic credit creation, has thus remained one of the most influential and persistent policy variable that holds an inverse relation with the change in the net foreign assets reserves. In that line, Mainaly (1981) found domestic credit creation and income to be significant in determining the NFA position in Nepal while exchange rate was found to be an ineffective policy variable. Shah (1993) found the change in gross domestic product, money multiplier, net domestic assets and inflation rate to be significant variables in addressing the BOP disequilibrium in the country. The empirical findings of this research study also found the exchange rate to be insignificant variable, however the change in income or nominal GDP was also found to be ineffectual.

Continuing the story, Sunar (2003) discovered a minimal negative relationship between Nepal's GDP and its foreign assets reserves. Similarly, he established negative relation of money multiplier and net domestic assets with the NFA position based on his data between the periods 1983 A.D. to 2001 A.D. Karki (2007) assessed Nepal's BOP position for the years 1965 A.D. to 2005 A.D. and found the impact of income on the changes in NFA position to be insignificant. He found a positive relation of growth rate of domestic price level with the Net Foreign Assets. The money multiplier was concluded to be highly significant variable in determining the net foreign assets reserve in the country. Consistent with the findings of Sunar (2003) and Karki (2007), minimal negative relationship between Nepal's nominal GDP and foreign assets reserves was established by this research study, however the relation was found to be insignificant. Likewise, price level was found to be positively significant, and net domestic assets and money multiplier were found to be negatively significant with the NFA position by this study as well.

In their study, Khand (2010) also found the growth rate of income to be insignificant in estimating the net foreign assets in Nepal, whereas the growth rate in domestic prices was found to be positively significant. Based on these empirical findings, the change in Nominal GDP, thus, is not significant for correcting the BOP disequilibrium in the context of Nepalese economy. Chhetri (2020) found CPI and Net Domestic Credit to be significant variables in determining the NFA position in Nepal and concluded that the role of monetary variables in maintaining BOP equilibrium in Nepal is imperative. On the basis of the empirical findings, Consumer Price Index, Net Domestic Assets and Money Multiplier are, thus, important policy variables in addressing the BOP disequilibrium in the context of Nepalese economy and the role of monetary variables is substantial for maintaining the BOP equilibrium in Nepal.

5. Conclusion

This paper is conclusive in showing that monetary variables played a dominant role in dictating the balance of payments (BOP) in Nepal therefore pointing strongly to both empirical and theoretical evidence that there was indeed some truth and heed in the Monetary Approach to the balance of payments (MABP). The analysis has found that net domestic assets (NDA) that in a manner of proxy measures domestic credit creation, have an overwhelming negative effect on net foreign assets (NFA), confirming the primary trade-off underpinning the MABP framework. Moreover, it was established that CPI and MM are critical policy variables, where the CPI has a positive relationship with NFA and MM

negatively with NFA. Import demand and portfolio adjustments channels which have been found to have direct repercussions to the BOP as a result of inflation and domestic liquidity conditions. In turn, keeping the BOP in balance requires active policymaker attention by restraining domestic credit growth, managing the liquidity of the banking sector as a way of stabilizing the money multiplier and enacting an inflation targeting system to anchor price expectations. The findings confirm that the monetary policy is an important instrument of external sector balance in Nepal and that future studies can include fiscal aspects and enhancing the economic databases to fine tune this aspect of the macro politics.

References

1. Acharya, S. (2024). Impact of Trade, Remittance and BOP on the Economic Growth of Nepal: An Autoregressive Distributed Lagged (ARDL) Bound Testing Model. *Khwopa Journal*, *6*(2), 61-73.
2. Basyal, T. R. (2011). Nepal's economic growth in the context of absorption, trade imbalance and the fixed exchange rate. *Banking Journal*, *1*(1), 1-12.
3. Cencini, A., & Citraro, M. (2012). World monetary disorders: the mystery of the 'missing surplus' and of the 'missing capital outflow'. In *Modern Monetary Macroeconomics* (pp. 261-292). Edward Elgar Publishing.
4. Chalu, H. (2025). Double entry bookkeeping: Its philosophical and mathematical underpinnings. *Business Management Review*, *28*(1).
5. Chhetri, R. (2020). *Monetary variables and balance of payments equilibrium in Nepal*. Economic Journal of Nepal, 43(2), 55–72.
6. Contractor, F. J. (2021). The world economy will need even more globalization in the post-pandemic 2021 decade. *Journal of international business studies*, *53*(1), 156.
7. Cooper, R. N. (1966). The balance of payments in review. *Journal of Political Economy*, *74*(4), 379-395.
8. Frenkel, J., & Johnson, H. (2013). *The monetary approach to the balance of payments*. Routledge.
9. Harrigan, J., Younger, S., Aryeetey, E., Harrigan, J., & Nissanke, M. (2000). Aid, debt and growth. *Economic Reforms in Ghana: The miracle and the mirage*, 374.
10. International Monetary Fund. (1993). *Balance of payments manual* (5th ed.). IMF.
11. Karki, D. (2007). *Determinants of balance of payments in Nepal: An empirical analysis*. Nepal Rastra Bank Economic Review, 19(1), 45–64.
12. Karki, D., Dahal, R. K., Bhattarai, G., Ghimire, B., & Bastola, S. (2024). The role of remittances in building economic resilience in Nepal: A Keynesian analysis. *Journal of Logistics, Informatics and Service Science*, *11*(7), 411-428.
13. Khand, S. (2010). *Macroeconomic variables and external sector stability in Nepal*. Journal of Development Studies, 12(3), 89–110.
14. Khatiwada, Y. R. (1976). *Monetary approach to balance of payments in Nepal (1965–1990)*. Economic Review of Nepal, 5(2), 15–32.
15. Lagoarde-Segot, T. (2023). Trade, Capital Flows and the Balance of Payments. In *Ecological Money and Finance: Exploring Sustainable Monetary and Financial Systems* (pp. 225-260). Cham: Springer International Publishing.
16. Lanciaux, B. (1990). An institutional analysis of the monetary approach to the balance of payments. *Journal of economic issues*, *24*(2), 433-441.
17. Lorenzo, M., Mariano, M. A., Estioco, M. C., Abante, M. V., & Vigonte, F. (2025, February 18). *Exploring the balance of payments: A key indicator of economic performance, global interdependence, and trade dynamics*. SSRN. https://doi.org/10.2139/ssrn.5162571
18. Mainaly, R. (1981). *Monetary policy and external balance in Nepal*. NRB Occasional

Paper Series, 2(4), 17–36.
19. Malla, S. (1994). *Domestic credit, money supply, and balance of payments in Nepal*. The Nepalese Economic Journal, 18(1), 23–41.
20. McNown, R. (1980). The monetary approach to the balance of payments: A case study of developing countries. *Journal of Development Economics, 7*(1), 45–68. https://doi.org/10.1016/0304-3878(80)90020-1
21. Murti, N. (2025). Balance of Payment (BOP) and its Implications on Indian Economy. *Met Srujan*, *1*(1), 133-147.
22. Nepal Rastra Bank. (Various years). *Current macroeconomic situation*. Kathmandu: NRB.
23. Nepal Rastra Bank. (Various years). *Monetary survey*. Kathmandu: NRB.
24. Nepal Rastra Bank. (Various years). *Quarterly economic bulletin*. Kathmandu: NRB.
25. Nepal, P., Khanal, S., & Dhakal, H. C. (2024). Balance of Payment and its Determinants. *Interdisciplinary Journal of Management and Social Sciences*, *5*(2), 165-176.
26. Nepal, P., Khanal, S., & Dhakal, H. C. (2024). Balance of Payment and its Determinants. *Interdisciplinary Journal of Management and Social Sciences*, *5*(2), 165-176.
27. Rana, M. (2024). Navigating post-pandemic challenges: Bangladesh faces BoP deficit and rising inflation. *International Journal of Research in Management*, *6*(1), 370-376.
28. Ratha, D., & Mohapatra, S. (2007). Increasing the macroeconomic impact of remittances on development. *World Bank*, *3*(1), 178-192.
29. Shah, B. (1993). *Macroeconomic determinants of balance of payments disequilibrium in Nepal*. Economic Review of Nepal, 7(2), 33–48.
30. Stojanov, R., Němec, D., & Žídek, L. (2019). Evaluation of the long-term stability and impact of remittances and development aid on sustainable economic growth in developing countries. *Sustainability*, *11*(6), 1538.
31. Sunar, D. (2003). *Income, monetary policy, and balance of payments: Evidence from Nepal (1983–2001)*. The Nepal Journal of Economic Studies, 9(1), 72–95.
32. Tebrake, J., & Sánchez-Muñoz, C. (2025). of Balance of Payments Statistics. *Measuring International Economics: 100 Years Balance of Payments in Germany*, 109.
33. Wu, Y. (2008). A macroeconomic analysis of foreign assets and foreign liabilities. *Journal of Economics and Finance*, *32*(2), 119-135.