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MONEY SUPPLY AND ECONOMIC GROWTH OF NEPAL

-Laxman Gnawali

Abstract

This study aims to investigate the effects of money supply on economic growth of Nepal over the period 1975 to 2016,using co-integration, Vector Error Correction Model (VECM) and Causality test to make a conclusion. Augmented Dickey-Fuller (ADF) unit root test is used to measure the stationarity of variables. The model is specified with four macro variables, namely, Gross domestic Product (GDP), Narrow Money (M1), Broad Money (M2) and foreign assistant (FA). The study showed that money supply is positively significant to economic growth and foreign assistant is negatively significant to economic growth of Nepal at 1 percent level of significance. Co-integration test disports the long run association among the variables. The result reveals that, there exist unidirectional causal relationships from LM1 to LGDP, LFA to LGDP and LM2 to LM1at 5%, whereas there exists bidirectional causal relationship between LM2 and LGDP. The study suggests that to increase money supply to achieve higher and rapid economic growth of Nepal.

Keywords: Economic growth, GDP, money supply, causality, co-integration, unit root test.

Introduction

Economic growth is a long run rise in the capacity to increasingly diversified economic goods and services to its population; this growing capacity based on advancing technology and the institutional and ideological adjustment that is demand (Kuznets, 1995).Economic growth is an increase in the economy's capacity to produce total volume of goods and services during a particular time period. Gross domestic product or gross national product is generally measured to know the economy's growth situation. Sustain economic growth of a country has a positive impact on national income and level of employment, which further result in higher living standards. To achieve economic growth money supply plays vital role of a nation. Economic growth is a steady process by which the productive capacity of an economy increases overtime to bring about rising levels of national and output and income (Todaro & smith, 1990). The economic policy of the government covers the systems for setting levels of taxation, government budgets, money supply and interest rate as well as the labor market, national ownership and many

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other areas of government interventions into the economy. Fiscal policy and monetary policy are two main macroeconomic policies complementarily used by the policy maker to influence the economy. Most factors of economic policy can be divided into either fiscal policy, which deals with government actions regarding taxation and spending, or monetary policy, which deals with central banking actions regarding the money supply and interest rates. To sustain high investment, saving and economic growth in the economy, the macroeconomic environment needs to be made most conducive as reflected in the price stability, exchange rate stability and interest rate stability, financial stability (Bista, 2016).

To achieve higher and sustainable economic growth is objective of all the countries but the objective may not be fulfilled due to several factors affecting the economic growth. One of influencing factors to economic growth is money supply. Money supply and economic growth are macroeconomic policies in each country. Money supply represents the stock of money at a point of time. It can be obtained by summing up the financial assets that can perform functions of money including currency in circulation. All the countries make target to higher economic growth with price stability.

Review of Literature

Classical Monetary Theory

Classical monetary theory is not the contribution of a single economist rather it is the combined idea of classical economist viz Adam Smith, David Ricardo, JB Say, JS Mill and TR Malthus. For the entire classical economist money only is the medium of exchange and it has no store value because they consider it as a barren assets. Money is neutral and it affects the only price level. There is dichotomy between real and monetary sector. Monetary policy is effective in maintaining price stability not for economic growth (Paudyal, 2072).Classical monetary theory is based on quantity theory of money which is given as;

MV=PT

Where, M is Sock of money determined by central bank and it is exogenous variable and V is the velocity of money determined by institutional factors and people habit. It is also assume to be given in the short run. P is the price level and T is transaction of goods and services, it is also given. Since V and T are constant. There is a positive proportional relationship between money stock and price level (Bhattarai, 2072).In classical monetary theory the changes in money supply does not affect other real variable such as employment and economic growth because the classical economy is always at the full employment equilibrium and only the real factor of production like technology, labor force, raw materials etc can influence employment and economic growth.

2.1.4Monetarism

Monetarists believe that money supply has lag effect. They argue that it takes 6 months to 2 years to show its full effect in the economy. So, they suggest the constant growth role principle of money supply, which means the central bank, should increase money supply at a constant rate, which is consistent with GDP growth, inflation and other macro economic variables. Ahuja (2011), in his book “Macroeconomics Theory and Policy”, has described that monetarist Milton

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Friedman developed neutrality theory of money. Friedman opines that consumers 'expectation of price rise gives time them to make adjustment in the future.

2.1.6 New-Classical Theory

New Classical theory is the revival of classical theory. The new classists argue that money doesn't matter in short run and long run. The new classical theory came in to existence during 1970'swhen the Keynesian and monetarist demand management polices failed to address the existing economic problem. The global economy was suffering from stagflation ie high inflation and high unemployment. During this decade industrialized countries were having GDP growth but unemployment was rising. New classists argue that the systematic demand management policy does not work when there is a rational expectation among economic agent. Producers have profit maximization objective and consumers have utility maximization objective and expectation plays a significant role in decision-making.

The monetary policy is ineffective in regulating AD when there is rational expectation. If we increase money supply without prior notice then money supply at period's' is greater then expected money supply at period't'. So there is positive effect on money supply on aggregate demand. New-classical economist say that, even during the short run, money only affect the general price level with no output effect (Paudyal, 2072)

Empirical Review

Chaudhary et. al (2012) examined to explore the long run and short run relationship of monetary policy, inflation and economic growth in Pakistan using co-integration and causality analysis during period of 1972-2010. They concluded that exchange rate significantly influences economic growth and exchange rate are causing to each other bi-directionally.
Ahmad et. al (2016) studied to explore the impact of monetary policy on economic growth of Pakistan using annual time series data 1973 to 2014. They used Augmented Gross Domestic Product, Money Supply, and Interest Rates are stationary at level while exchange rate at first difference. ARDL Co integration approach applied to distinguish the robust among the variables with specification short run and long run. They have concluded that long run association occurs among variables, money supply, inflation and exchange rate, which positively influences economic growth and interest rate negatively.

Acharya (1997), presented dissertation named " Nepal Rastra Bank and monetary policy" she had analyzed monetary policy of Nepal and draw the conclusion that, Monetary policy is closely interrelated with and by other macroeconomic policy policies. There is close interrelation between monetary and fiscal policy in developing countries and without proper evolution of money market, monetary policy cannot operate effectively.

Shrestha (2017), published an article "An Empirical Analysis of Money Supply Process in Nepal" has analyzed that Money supply is a result of complex interactions of central banks, banks and financial institutions and public. This paper has analyzed the money supply process in Nepal from two different perspectives – mainstream and Post-Keynesian. Accordingly, the paper has identified the relative contributions of different components of money stock, estimated money supply and money multiplier function, and examined the Post-Keynesian hypothesis. The

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impact of different monetary instruments on money supply has also been analyzed. Empirical findings show that disposable high-powered money is a major contributor to the change in both monetary aggregates and there is no significant structural break even after post-liberalization period. However, controllability of high-powered money is not strong. Only two-fifth of change in reserve money seems to be policy-controlled in recent years in contrast to four-fifth found by Khatiwada (1994). The contribution of NFA to RM increased from 13.0 percent in pre-liberalization period to 116.0 percent in the post- liberalization period, while the relative contribution of net credit to government has declined from almost72 percent to 17.0 percent during the same period. Moreover, growing contribution of NFA on account of the elevated level of remittance inflows in the post-liberalization period has further weakened the controllability of money supply. His findings are almost similar to findings of Sanusi (2010) in Ghana. In addition, neither CRR nor bank rate has been effective monetary policy tools so far. However, OMO is found to affect change in (disposable) high-powered money to some extent.

Thapa (2017), published an article "The Money Supply Function in Nepal " has analyzed that

Reserve money has been the dominant determinant of money supply for both M_1 and M_2. This analysis has shown that the value for M_1 multiplier has been less than one in some year of the study period. Reserve money has been more or less sole determinant of M_1. The gap between M_1 and reserve money is rather narrow. The direct monetary policy instrument which work through its impact on money multiplier, is still relevant for an effective reign over money supply in developing economy like Nepal.

Methodology

It is based on both descriptive and analytical. The variables of the study are Gross Domestic Product, money supply and foreign assistance. Data of related variables are collected from NRB. Time series data are used to analyze the relationship between the variables. This study is based on the macroeconomic variables. Therefore, data are secondary in nature and they are collected from "A Handbook of Government Finance Statistics and Quarterly Economic Bulletin-2017" published by NRB. The collected data GDP, narrow money, broad money and foreign assistance are measured in Nepalese currency. They are expressed in Rupees in million and GDP is expressed to measure economic growth. The natural logarithm of all the variables from 1975 to 2016 has been used for the data analysis. The computer software E–views 9.5 (student version) and Microsoft Excel (2010) have been used for the analysis. The proxy of economic growth is measured in GDP. Data have sample period of 42years spanning from 1975 to 2016.

Model Specification

To establish the functional relationship between dependent variable and explanatory variables GDP, narrow money, broad money and foreign assistance is established as follows:

$GDP = f(M_1, M_2, FA)$……..(2)

Where, GDP= gross domestic product,

M_1= Narrow money supply

M_2 = Broad money

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FA= Foreign assistance

$LnGDP = B_0 + B_1 LnINF + B_2 LnMS + B_3 LnFA$…….(3)

Variable Specification

Gross Domestic Product (GDP)

Total money value of all the final goods and services calculated at current price and produced in a particular geographical territory generally during a year is called GDP.

$$GDP = \sum_{i=1}^{n} (P_i \times Q_i)$$

Where, P_i = price of i^{th} commodity and

Q_i = quantity of i^{th} quantity

Narrow Money Supply (M_1)

Money supply is defined as the total quantity of money that central monetary authority brings in the economy during a certain time period. In this paper, narrow money supply refers to

$M_1 = C + DD$

M_1= Narrow money

C= Currency held by public

DD = demand deposit held at commercial banks

Broad money (M_2)

The broad money supply is the sum of narrow money and time deposit. The time deposit consist of saving deposit, fixed deposit, call deposit and margin deposit.

$M_2 = M_1 + TD$

M_2 = Broad money

M_1 = Narrow money

DD = Time deposits including saving, fixed, call and margin deposits

Foreign Assistance (FA)

Foreign assistance is also known as foreign aid, which, refers to the resources like money, goods, machineries and manpower that is given or loaned by the government or organizations or people in the rich countries to help people in poor countries.

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Data Analysis and Result

The time series data is used to analyze the relationship between narrow money, broad money and foreign assistance with GDP. The natural logarithm of all the variables from 1975 to 2016 has been used for the data analysis. The data have sample period of 42 years spanning from 1976 to 2016 is given in appendix-1. Unit root test, co-integration test and Vector error correction model are used for the analysis of data.

Unit Root Test

The unit root test applies Augmented Dickey-Fuller method to assess that the data did not contain unit root. The method established that the data is free from unit root

One of the important assumptions before analyzing any time series data is to test whether the series is stationary or not. A stationary time series has mean and variance time invariant. Also it is noted that a non-stationary series may have a unit root.

In this study to test whether the series are stationary or not, the ADF (Augmented Dickey Fuller) test has been applied. The ADF test result has been presented in the table 1.

Table 1: ADF Test Results

Null Hypotheses:	t-Statistic	Prob.
LGDP has a unit root	-0.1902	0.9317
D(LGDP) has a unit root	-6.70	**0.000**
LM1has a unit root	-1.3056	0.6179
D(LM1) has a unit root	-5.8561	**0.000**
LM2 has a unit root	-1.3126	0.6147
D(LM2) has a unit root	-5.458	**0.000**
LFA has a unit root	-1.3828	0.5813
D(LFA) has a unit root	-5.356	**0.0001**

The ADF test results for stationary show that all the variables are non-stationary at level and the series are found to be stationary at first difference (at 0.01level of significance) confirming all the series have the order of integration to be ***I(1)***.

Co-integration Test

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The unit root test using ADF test showed that all the time series data are I(1) i.e. they have 1 order of integration. In such case the series might be co-integrated and this issue must be addressed before selecting the model to be fitted. The existence of co-integration means that variables trend collectively over a long period. The condition for this test is that the trace statistic value should be larger than 0.05.For this Johansen co-integration test has been applied to check whether there exist any co-integrating term among them. The test result obtained by E- views is presented in table 2.

Table 2: Johansen Co-integration Test Results

Unrestricted Co-integration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigen value	Trace statistic	0.05 Critical value	Prob.
None	0.571302	56.42713	47.8561	0.0064
At most 1	0.350155	22.54702	29.79707	**0.2690**

Trace test indicates 1 co-integrating equation at the 0.05 level.

Unrestricted Co integration Rank Test (Maximum Eigen value)				
Hypothesized No. of CE(s)	Eigen value	Max-Eigen statistic	0.05 Critical value	Prob.
None	0.571302	33.88011	27.58434	0.0068
At most 1	0.350155	17.24083	21.13162	**0.1609**

Max-Eigen value test indicates 1 co-integrating equation at the 0.05 level

The E-views software reports two different types of test statistics viz. trace statistics and maximum Eigen value statistics. At the 0.05 level of significance both statistics reveals that there is 1 co integrating equation among the series, meaning that the existence of one error correction term (ECT). This confirms there is presence of long run equilibrium relationship between the variables. Therefore the relationship among the variables has to be investigated through vector error correction (VECM) model.

Vector Error Correction Model

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If non stationary but I (1) time series are co integrated, we can run the VECM to examine both the short run and long run dynamics of the series. The conventional ECM for co integrated series is given by,

$$\Delta Y_t = \beta_0 + \sum_{k=1}^{n} \beta_i \Delta Y_{t-i} + \sum_{k=0}^{n} \delta_i \Delta X1_{t-i} + \sum_{k=0}^{n} \gamma_i \Delta X2_{t-i} + \sum_{k=0}^{n} \phi_i \Delta X3_{t-i} + \lambda ECT_{t-1} + \mu_t \quad \text{.....(1)}$$

Where, Y_t = LGDP at time t

$X1_t$ = LM1 at time t.

$X2_t$ = LM2 at time t.

$X3_t$ = LFA at time t.

Where $\mu_t$is stochastic error term.

ECT is the error correction term and is the OLS residual from the following long run co integrating regression:

$$Y_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_t \quad \text{..... (2)}$$

and is defined as $$ECT_{t-1} = Y_{t-1} - (\beta_0 + \beta_1 X1_{t-1} + \beta_2 X2_{t-1} + \beta_3 X3_{t-1}) \text{.... (3)}$$

The error correction term (ECT) relates to the fact that last period deviation from long run equilibrium (the error) influences the short run dynamics of the dependent variable i. e. GDP in this case.

Thus, the coefficient of ECT is the speed of adjustment, because it measures the speed at which Y returns to equilibrium after a changes in the X's.

*k*is maximum lag length. Before equation (1) is estimated, the selection of *k* is very important because inclusion of too many lagged term may introduce multi co linearity issue and inclusion of fewer lagged term will lead to specification error. In this paper lag selection criteria has been adapted using E- views.

Table 3: Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	34.90193	NA	2.41e-06	-1.5847	-1.414093	-1.523497
1	225.0833	331.5983*	3.2e-06*	-10.51709	-9.663984*	-10.21100*
2	237.9748	19.83307	3.8e-10	-10.35768	-8.822086	-9.806723

3	248.9899	14.68682	5.3e-10	-10.10205	-7.833964	-9.306218

** indicates lag order selected by the criterion.*

LR: sequential modified LR test statistic (each test at 5% level) FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

The lag selection criteria using all the criteria suggest to be ***k* =1**.

Using maximum lag length of 1 the estimated VECM model is presented in the table 4.

Table 4: Estimation of VECM Parameters (Long Run Dynamics)

1 co integrating Equation (1) log likelihood 230.8185

Normalized Co integrating Coefficients. Standard errors in ( ) and t –statistic in [ ].

LGDP	LM1	LM2	LFA
1.00000	**-0.917082**	-0.068383	**0.096169**
	(0.17603)	(0.14529)	(0.04014)
	[**-5.20979**]	[-0.47066]	[**2.39599**]

Table 4 Shows that 1% increase in narrow money, broad money is associated with 0.91%, 0.06% and 0.96% increase LGDP while 1% change in FA is found be associated with 0.096% decrease in LGDP.

Table 5 :(Short Run Dynamics)

Dependent Variable: D(LGDP)				
	Coefficient	Std. Error	t-Statistic	Prob.
CointEq1	-0.025533	-0.17613	1.449673537	**0.04863**
D(LGDP(-1))	0.014574	-0.18382	0.079284082	**0.001**
D(LM1(-1))	0.042189	-0.26401	0.159800765	**0.0324**
D(LM2(-1))	0.169227	-0.27862	-0.607375637	0.2568

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D(LFA(-1))	-0.117578	-0.07799	-1.507603539	**0.0497**
C	0.086144	-0.04021	-2.142352649	**0.0394**

Table 6: **Summary Statistics**

R-squared	**0.214732**	Mean dependent var	0.1215
Adjusted R-squared	**0.18545**	S.D. dependent var	0.063193
S.E. of regression	0.0636	Akaike info criterion	-2.53244
Sum squared residual	0.1378	Schwarz criterion	-2.2791
Log likelihood	56.64881	Hannan-Quinn criteria	-2.4408
F-statistic	0.881293	Durbin-Watson stat	**1.9984**
Prob(F-statistic)	**0.001**		

From the above E – views output if the corresponding coefficients are plugged in into the VECM model presented in equation (1), the equation will be given by;

$\Delta LGDP_t = 0.086144 + 0.014574\Delta LGDP_{t-1} + 0.042189\Delta LM1_{t-1} + 0.169227\Delta LM2_{t-1} - 0.117578\Delta LFA_{t-1} - 0.025533ECT_{t-1}$

Where, $ECT_{t-1} = (1.0000LGDP_{t-1} - 0.917082LM1_{t-1} - 0.068383LM2_{t-1} + 0.096169LFA_{t-1} - 2.932)$

From the Johansen Normalization equation, the coefficients clearly indicate that in the long run, LM1 has a positive impact on LGDP while LFA has negative impact on LGDP and both macroeconomic variables are statistically significant at 1% level of significance. The Normalized equation reveals that LM2 also has a positive impact on LGDP, but is statistically insignificant. (It is noted that in the interpretation of Johansen Normalized coefficients, the signs are reversed in long run).

In fact, in the long run, 1% change in LM_1 is associated with 0.91% increase in LGDP while 1% change in LFA is found be associated with 0.096% decrease in LGDP.

From the VECM, the coefficient of ECT, known as speed of adjustment, is found to be -0.025533 (p – value, 0.04) and is statistically significant at 5% meaning that in the previous year's deviation or departure from long run equilibrium is corrected in the current year with an adjustment speed of 2.5 percent. For the short run dynamics, the model suggest that 1 % change in LM_1 is associated with 0.04 % increase in LGDP, which is statistically significant at 5%,

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likewise 1% change in LFA is associated with 0.11% decrease in LGDP in the short run, which is also found to be significant at 5% level of significance. Even though the VECM shows LM_2 has positive impact on LGDP but is statistically not significant.

7.3Diagnostics Tests of the Model:

For the robustness, efficiency and reliability, the above fitted VECM model must undergo through diagnostic tests.

7.3.1Goodness of Fit:

To test whether the fitted model is overall significant or not, the common test for goodness of fit includes R2. The result in table no. 4 shows 21.4% of the variation in LNGDP is explained by the variation in independent variables. The spurious result has been avoided as DW statistic (1.99) > R2 (0.214). P –value of F-statistic (0.001) also confirms the overall fit of the model.

7.4 Diagnostic Tests:

The goodness of fit is the preliminary test for overall significance of the model. Diagnostic tests are an internal scanning and further rigorous investigation about the health of the model.

7.4.1 Coefficient Diagnostic Test:

Coefficient diagnostic test are used to check whether the estimated coefficients are robust or not. In this paper Wald test is used to diagnose the coefficients. The result of Wald test has been presented in the table 5.

Table 6: Wald Test Result

Wald Test			
Test Statistic	Value	df	Probability
F-statistic	25.02407	(6, 34)	0.000
Chi-square	150.1444	6	0.000

Null Hypothesis: C(1) = C(2) = C(3) = C(4) = C(5) = C(6) = 0

The probability of Chi – square is 0.000< 0.01, it can be concluded that the estimated coefficients are statistically significant at 1% level of significance.

7.4.2 Residual Diagnostic Test:

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The residual diagnostic test is one of the most important tests for the robustness of the model. Presence of autocorrelation among the residuals violates the assumption and thereby causing non-reliability of the fitted model. Therefore it is mandatory to test whether the residuals are serially correlated or not. In this case the serial correlation Lagrange Multiplier (LM) test is applied for the residual diagnostic. The result of LM test is presented in table 6.

Table 8: Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
Null Hypothesis : No serial correlation at up to 1 lag			
F-statistic	0.019537	Prob. F(1,33)	0.8897
Obs*R-squared	0.023667	Prob. Chi-Square(1)	0.8777

Since, the prob. value of Chi- Square (1) is 0.8777 > 0.05, the null hypothesis can't be rejected. Thereby, concluding the absence of autocorrelation among the residuals.

7.5Causality Test:

According to Engle and Granger (1987), if the variables are I(1) individually and they co integrated then there exists unidirectional or bidirectional causality between them. In this case the variables under study are I(1) and also Johansen co integration reveals presence of co integration . In such cases, there may be some causal relationship among the variables. This paper indents to test whether there exists causality among the macroeconomic variables. The result obtained from E-views is presented in table 7.

Table 9: Engle and Granger Test Result

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
LM1 does not Granger Cause LGDP	41	6.01775	**0.0189**	Unidirectional causal relationship from LM_1 to LGDP
LGDP does not Granger Cause LM_1		3.69525	0.0621	
LM2 does not Granger Cause LGDP	41	5.08734	**0.0299**	Bidirectional causal relationship
LGDP does not Granger Cause LM_2		7.29507	**0.0103**	

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LFA does not Granger Cause LGDP	41	9.36161	**0.0041**	Unidirectional from LFA to LGDP
LGDP does not Granger Cause LFA		2.96253	0.0933	
LM_2 does not Granger Cause LM_1	41	6.36373	**0.016**	Unidirectional from LM2 to LM1
LM_1 does not Granger Cause LM_2		0.53129	0.4705	
LFA does not Granger Cause LM_1	41	3.07162	0.0877	No causal relationship
LM_1 does not Granger Cause LFA		2.90298	0.0966	
LFA does not Granger Cause LM_2	41	1.76818	0.1915	No causal relationship
LM_2 does not Granger Cause LFA		3.48655	0.0696	

The result reveals that, there exist unidirectional causal relationships from LM_1 to LGDP and LFA to LGDP at 5%, whereas there exists bidirectional causal relationship between LM_2 and LGDP. Also it can be observed that there is unidirectional causal relation moving from LM_2 to LM_1. No causal relation is running between LFA and LM_1 & between LFA and LM_2.

Conclusion

The ADF test results for stationary show that all the variables are non-stationary at level and the series are found to be stationary at first difference (at 0.01level of significance). At the 0.05 level of significance both statistics reveals that there is 1 co-integrating equation among the series, meaning that the existence of one error correction term (ECT). This confirms there is presence of long run equilibrium relationship between the variables in the long run, 1% change in LM_1 is associated with 0.91% increase in LGDP while 1% change in LFA is found be associated with 0.096% decrease in LGDP.

From the VECM, the coefficient of ECT, known as speed of adjustment, is found to be -0.025533 (p – value, 0.04) and is statistically significant at 5% meaning that in the previous year's deviation or departure from long run equilibrium is corrected in the current year with an adjustment speed of 2.5 percent.

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For the short run dynamics, the model suggest that 1 % change in LM_1 is associated with 0.04 % increase in LGDP, which is statistically significant at 5%, likewise % change in LFA is associated with 0.11% decrease in LGDP in the short run, which is also found to be significant at 5% level of significance. Even though the VECM shows LM_2 has positive impact on LGDP but is statistically insignificant.

This study mainly reveals that, there exist unidirectional causal relationships from LM_1 to LGDP and LFA to LGDP at 5%, whereas there exists bidirectional causal relationship between LM_2 and LGDP. Also it can be observed that there is unidirectional causal relation moving from LM_2 to LM_1. No causal relation is running between LFA and LM_1& between LFA and LM_2. The study recommends that monetary authority (NRB) should implement policies that increase the flow of money and direct it to those sectors with higher propensity to contribute to national economic productivity.

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Appendix -1

(*Rs in millions*)

Year	FA	GDP	M1	M2
1975	386.8	16601	1337.7	2064.4
1976	505.7	17394	1452.5	2524
1977	556.9	17280.3	1852.9	3223
1978	848.4	19727	2060.6	3772.1
1979	996.4	26128	2504.9	4511.4
1980	1340.5	23351	2830.4	5285.3
1981	1562.2	27307	3207.8	6307.7
1982	1723.2	30988	3611.5	7458
1983	2075.9	33821	4348.9	9222.4
1984	2547.5	39290	4931.5	10455.2

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1985	2678.3	46587	5480	12296.6
1986	3674	55734.3	7029.3	15159
1987	3990.9	63864.5	8120.2	17498.2
1988	5892.6	76906.1	9596.6	21422.6
1989	7347	89269.6	11775.4	26605.1
1990	7935	103415.8	14223	31552.4
1991	8421.5	120370.3	16283.6	37712.5
1992	8460.7	149487.1	19457.7	45670.5
1993	10714.2	171473.9	23833	58322.5
1994	11557.2	199272	28510.4	69777.1
1995	11249.4	219175	32985.4	80984.7
1996	14289	248913	36498	92652.2
1997	15031.9	280513	38460.3	103720.6
1998	16457.1	300845	45163.8	126462.6
1999	16189	342036	51062.5	152800.2
2000	17523.9	379488	60979.7	168120.8
2001	18797.5	441518.5	70577	214454.2
2002	14384.8	459442.6	77156.2	223988.3
2003	15885.6	492230.8	83754.1	245911.2
2004	18912.4	536749.1	93973.7	277310.1
2005	23657.3	589411.7	100205.8	300440
2006	22041.8	654084.1	114388.8	347421.8
2007	25854.3	727827	113060.8	346824.2
2008	29300.6	815658.2	126888.6	395518.2

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2009	36351.7	988272	154343.9	495377.1
2010	49769.4	1192774	196459.3	630521.2
2011	57997.8	1366953	218159.3	719599.1
2012	51893.4	1527344	222351.4	921320.1
2013	47198.9	1695011	263705.7	1130302
2014	60204.6	1964540	301590.2	1315376.3
2015	63705.6	2120470	354830.4	1565967.2
2016	125691.1	2248691	424744.6	1877801.5

Source: Nepal Rastra Bank (2017)