

CHAPTER –I

Introduction

1.1 Nepalese Economy: A Scenario

1.1.1 General Characteristics

Nepal is one of the least developed countries of the world having a per capita income of less than \$ 300 per annum. It extends for 500 miles along the Himalayas between $26^{\circ} 25'$ and $30^{\circ} 27'$ north latitudes and $80^{\circ} 4'$ and $88^{\circ} 12'$ east longitudes. Its northern boundary merges with the Tibet region of the People's Republic of China. On the east, it borders with the state of Sikkim and the North Bengal division of the state of West Bengal of India. It touches the Indian states of Uttar Pradesh (U.P.) and Bihar on the southern side and the state of Uttaranchal on the western side of Nepal.

Hence geographically, Nepal is a landlocked country sandwiched between two giant neighbors China and India, and has a very small economy compared with that of these two neighboring countries. Mountainous topography with the highest Himalayan range in the north bordering China compared to a strip of plain land bordering India has compelled the country to seek her access to the sea and international markets via India only. For that matter, the country is totally India-locked and her dependence on the Indian economy for a smooth supply of essential goods into the country as well as for export of primary commodities has become a persistent feature in spite of stringent measures

designed to insulate the economy from the dominance of the Indian economy (Khatiwada 1994:1-2).

Human development index below 0.50 indicates low level of development. Poverty (30.8 %) is the intrinsic problem which has come up due to traditional farming, unequal distribution of holdings and high population growth and poor development of industrial sector. It is obvious from the sluggish growth of GDP, compared to other developing countries the growth rate of GDP in 2004/05 remained 2.3 percent and in 2005/06, it again increased only by 2.3 percent, with agriculture and non-agriculture sector remaining 1.7 percent and 2.8 percent respectively. Rugged topography and landlockedness have always limited the socio economic and infrastructure development. Capital formation is the key factor, which requires very high rate of growth to increase the quality of life of the people. For the large share of resource should go for productive investment. Since investment is the function of saving, due to poor economic base saving is quite low. The saving investment gap in Nepal has ascended to two digits. It presents poor economic domestic resource generation through internal source.

The structure of the economy is still dependent on agriculture. It contributes about 40% of the GDP and engages 81% of the people. About 89% of the people live in the rural areas of the country. The diversification in the economy has not taken place leading to over concentration of economy in agriculture. Agriculture has been facing the problem of underemployment. The productivity of the agriculture sector could not be increased. The industrial sector is contributing about 10% of the GDP. The trading, construction and

services have been contributing about 50% of the GDP and these sectors are providing employment to a large section of the population.

1.1.2 Global and National Economy: A Glance

Global economy, which had suffered slowdown as a result of crisis of confidence created by non-economic events of the past, steadily recovered and grew by 4.1 percent in 2003. This was possible with the expansion in the trade of goods and services and efficient macroeconomic management during this period. Similarly, the global economy in 2004, as compared to 2003, further grew by 1.2 percent point and 5.3 percent. This growth is attributable to the adoption and thereby effective implementation of expansionary fiscal and monetary policies by the United States and the East Asian Countries.

The economic growth rate of Developing Asian Countries which was 8.6 % in 2005, according to IMF estimates, will grow by 8.2 percent in 2006 and 8.0 percent in 2007. On the regional level, the economic growth rate of emerging Asian countries has also been higher during all years in review. The growth rate of this region was 8.2 percent in 2005 and the projections for 2006 and 2007 are 7.9 percent and 7.6 percent respectively. The South Asian Economy, which grew at an increasing rate of 7.7 percent in 2003 and 7.9 percent in 2005, is estimated to grow by 7.1 percent and 6.9 percent respectively in 2006 and 2007. In India and China, the neighboring countries of Nepal, economic growth rate was 8.3 percent and 9.9 percent respectively in 2005. The economy in India in 2006 and 2007 is projected to grow at 7.3 percent and 7.0 percent respectively, whereas for China the growth rate is projected to hover around 9.5 percent and 9.0 percent respectively during the same period. At the same time Nepalese economy suffered from several

economic and non-economic factors and got very low growth rate (3.3%) in 2003, (3.8%) in 2004 and (2.7%) in 2005 in comparison to China, India, Pakistan and Bangladesh. The IMF has estimated that the growth of Nepalese economy will be increased at a constant rate by 3.0 percent in 2006 and 2007, which is the slight improvement over that of previous year (Economic Survey: 2006). A glance on economic growth rates of the World has been presented in the following table (Table 1.1).

Table 1.1: World Economic Growth Rates (in percent)

	2003	2004	2005	Projection	
				2006	2007
World Production	4.1	5.3	4.8	4.9	4.7
Developed Economies	2.0	3.3	2.7	3.0	2.8
Major Developed Economies*	1.9	3.1	2.6	2.8	2.6
Other Developed Economies	2.5	4.6	3.7	4.1	3.7
Developing Economies	6.7	7.6	7.2	6.9	6.6
Developing Asia	8.4	8.8	8.6	8.2	8.0
Emerging European Countries	4.6	6.6	5.4	5.3	4.8
African Countries	4.6	5.5	5.2	5.7	5.5
Middle East Countries	6.6	5.4	5.9	5.7	5.4
Petroleum Product Exporting Countries**	6.9	5.7	6.2	5.8	5.5
Emerging Asia***	7.5	8.4	8.2	7.9	7.6
New Industrial Asian Economies****	3.2	5.8	4.6	5.2	4.5
Asian-4*****	5.4	5.8	5.2	5.1	5.7
China	10.0	10.1	9.9	9.5	9.0
South Asia*****	7.1	7.7	7.9	7.1	6.9
Bangladesh	5.8	5.9	5.8	6.0	6.3
India	7.2	8.1	8.3	7.3	7.0
Nepal	3.3	3.8	2.7	3.0	3.0
Pakistan	5.7	7.1	7.0	6.4	6.3

* USA, Japan, Germany, France, UK, Italy and Canada ** Bahrain, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, Syria and Yemen. *** Developing Asia, New Industrialized Asian Countries and Mongolia ****Korea, Taiwan, Hong Kong and Singapore *****Indonesia, Malaysia, the Philippines and Thailand *****Bangladesh, India, Maldives, Nepal, Pakistan and Sri Lanka

Source: - World Economic Outlook, IMF, Washington D.C. September 2005, April 2006, pp. 2, 16, 35, 43, 52, 177 and 186

1.1.3 Monetary Perspective

The monetary system of Nepal shows the dualistic nature of monetary economy. The urban is merged in organized industries, trade and service sector. The rural economy, where the majority of people languish at subsistence level without any surplus of exchange, does not show any improvement in the process of monetization.

When we look historically in the monetary system of Nepalese economy, it seems the two commercial banks viz. Nepal Bank Ltd. (1936) and the Rastriya Banijya Bank (1965) played an important role in the Nepalese money market. Though those two banks were different in origin, they are now operating under the same rule and regulation of Commercial Bank Act 1974(Sharma, 1987:53). The Nepal Rastra Bank as a central bank of country took entirely a decade since its establishment in 1956, to consolidate its power as banker's bank and to regulate operations of banking. By the same token, the Nepal Industrial Development Corporation (NIDC) was set up in 1959 with the objective of providing financial outgoing of new industries in country. The Agricultural Development Bank (ADB) was also established in 1968 with a view to financing in agricultural sector.

Gaudel (2000) has presented some propositions regarding monetary perspective of Nepalese economy which are as follows:

- i. The monetary structure of the Nepalese economy is dualistic in nature. It implies that the banking and financial intermediaries have no significant influence on unorganized rural sector vis-à-vis with the urban sector.

- ii. The economy is open and liberalized. This suggests foreign capital has been a constant source of financing savings investment gap and foreign exchange deficits.
- iii. Excessive liquidity prevails in the economy and creates price hike inflation.
- iv. Timely improvement in the interest rate structure seems to be advisable for promoting savings and investment.
- v. The aggregate demand generated by the monetary expansion in the economy has been absorbed by higher imports. This reflects the situation of instability in balance of payments.

1.1.4 A Bird's Eye view On Some Macroeconomic Variables

1.1.4.1 Gross Domestic Product (GDP)

The Gross Domestic Product, under the National Income Accounting, provides a broad view of economic development. The national income statistics reveal the basic changes in the past and suggests the trend of the future.

**Table-1.2: Average Annual Growth Rate of GDP and Population
(FY 1985/86 to 1996/97)**

Year	Nominal GDP (%)	Real GDP At 1984/85 Price (%)	Population (%)
1986-88	18.01	4.55	2.66
1989-91	16.64	5.60	2.66
1992-94	18.26	5.27	2.08
1995-97	12.07	4.45	2.07
Total Average	16.25	4.97	2.37

Sources: Statistical Pocket Book, CBS, Nepal, 1998, Economic Survey, Ministry of Finance, HMG, Nepal, 1999.

1.1.4.2 Savings and Investment

In the context of low per capita income along with pressure of the population, national consumption as a ratio of GDP has increased up to 90.5% (in FY 1997/98). This has resulted in the low level of gross domestic savings and investment in the economy.

Table-1.3: Percentage Ratio of Gross Domestic Savings and Investment to GDP (FY 1985/86 to 1996/97)

Year	Average Annual savings	As a percentage of GDP at producers Prices	Average annual investment	As a percentage of GDP	Average annual Savings gap (%)
1986-88	7.53	10.64	14.63	19.68	24.89
1989-91	18.37	9.60	19.04	20.34	21.12
1992-94	36.61	13.00	21.37	20.22	4.73
1995-97	10.30	14.20	17.12	25.96	30.06
Total Average	18.20	11.86	18.04	22.05	20.21

Source: Economic Survey, Ministry of Finance, HMG, Nepal, 1999.

The Year represents fiscal Year

1.1.4.3 Price and Inflation

In order to reflect the price situation, the National Urban Consumer Price Index (CPI) has been used. A general view of the price level, as measured by the change in consumer price index, shows on an average, a progressive escalation from 1991(1990/1991) to 2002(2001/2002).

Table-1.4: Average Consumer Price Index and Inflation (1991-2002)

Year	Average Consumer Price Index(1996=100)	Average Inflation Rate (%)
1991-1993	70.33	6.33
1994-1996	92.8	4.7
1997-1999	118.43	7.43
2000-2002	138.33	2.43

Source: NRB, Quarterly Economic Bulletin Vol.37 (No.3), Mid-April 2003, p.49

1.1.4.4 Money Supply

The total money stock comprises of narrow money and broad money. The narrow money (M1) consists of currency in circulation plus demand deposits, whereas broad money (M2) includes M1 plus time deposits or quasi money.

While reviewing the monetary situation of the economy, an attempt has been made here to evaluate the growth rate of money supply from 1991 onwards.

Table-1.5: Average Annual Growth Rate of Money Stock and Their Ratio to GDP (1991-2002)

Year	Real GDP (%) (1990=100 Price)	Narrow Money M1 (%)	Ratio M1/GDP	Broad Money M2 (%)	Ratio M2/GDP
1990-1992	5.05	16.87	3.34	17.08	3.38
1993-1995	2.83	15.13	5.35	16.23	5.74
1996-1998	4.42	9.56	2.16	14.62	3.31
1999-2001	5.27	14.22	2.69	14.64	2.78
Total Average	4.39	13.95	3.385	15.64	3.80

Source: IMF, International Financial Statistics, Various Issues (1996 & August 2002)

1.1.5 History of Monetary Policy:

Nepal has been an independent country governed by monarchy ranging from absolute monarchy to constitutional monarchy. After the Nepal-British war (1814-16) which led to the Treaty of Sugauli with British East India Company in March 1816, the country was absolutely closed for protecting itself from expanding British rule. The modern era started from 1951 following the end of Rana hereditary prime-ministerial rule in the country. From 1951 to 1965, the country hovered around the multiparty system with constitutional monarchy. In 1960, King Mahendra Bir Bikarm Shah Dev dissolved the elected parliament and the government to form a single party Panchayat System. Then, the absolute monarchy continued until 1992 when popular up rise reestablished the multiparty parliament. During those years, Nepal indulged in planned economy. The

first economic plan laid out goals for the period 1956-61. The subsequent economic plans were for 5 year period in which economic goals of the country were clearly stated. These planning dictate fiscal policies and monetary policies of the government. The planning commission and the government dictated the monetary policies of Nepal Rastra Bank (NRB), the Central Bank.

According to NEPAL RASTRA BANK SAMACHAR (2006) published by Nepal Rastra Bank (Central Bank of Nepal), the NRB conducted its monetary policy depending on the "money-multiplier theory." Therefore, the monetary policy of NRB has been targeting M1 monetary aggregate based on the money multiplier and the reserve requirement. Since the NRB has more control over reserve requirement, it mainly manipulated the reserve to achieve the desired level of the monetary aggregate. This implies that NRB is implicitly assuming that the multiplier is stable over time.

The major determinants of money supply being the size of monetary base and the components that determines the money multipliers, such as income level, deposit rate, various interest rate, liquidity preferences of the people, the theory suggests that the NRB's policy has been a steady growth money supply which is reflected in the publication, the Periodic Economic Planning, of the planning commission and the Economic Review published by NRB. According to Thapa (1997), the highest growth was recorded in 1960, and the lowest growth was recorded in 1971. In 1960, the M1 and M2 monetary aggregates grew by 40.9% and reserve money (monetary base) grew by 48.8%. In 1971, the growth of M1 was 3.9% while reserve money declined by almost 1%.

1.2 Objectives Of The Study

The present study has tried to test empirically the issue using a hybrid of methods of Invariance Proposition of Rational Expectations for least developed country (LDC) in South Asia, namely Nepal. The results will be of interest as LDCs are not as much monetized as Developed Countries. Recently, LDCs have emphasized on monetary policies to curb inflation, and to have stable and sound economic growth. Therefore, the purpose of this study is to investigate empirically the effects of anticipated and unanticipated monetary policies on real output for Nepal.

The main purpose of the present study is to analyze the relationship between output level and money supply in the line of Rational Expectations Proposition in Nepal. For this purpose several Econometric tests have to be examined. In the event of such relationship being present, we seek to see how far and to what extent the variation in output is related to changes in anticipated and unanticipated part of money supply.

1.2.1 Conceptual Background of the Rational Expectations Hypothesis

The policy effectiveness has been a continuing debate in macroeconomics between the Classical and the Keynesians. The introduction of the rational expectation hypothesis in macroeconomics elevated the debate by differentiating policies into anticipated and unanticipated. The rational expectation hypothesis suggests that economic agents use all available information to form the future expectation. Therefore, any expected policy change will not have any impact on real macro-variables as the economic agents fully incorporate the information into their expectation formation. The policy implication of this hypothesis is that the change in policy should be a surprise to have a real impact in

the economy. However, there are disagreements among economists over the policy implications of the rational expectations macro models.

There are two competing hypotheses. One model, so called the neutrality theory, developed by Lucas (1972), and Sargent and Wallace (1975) often referred to as LSW proposition, stated that the anticipated monetary shocks would have no effect on real economic variables neither in short run nor in long run; whereas unanticipated monetary shocks should have profound impact on real economic variables. The alternate model developed by Fischer (1977) and Phelps and Taylor (1977), established that due to the rigidities in the wage contracts, anticipated monetary policies, at least in the short run, have strong impact on real economic variables, which is often termed as non-neutrality of monetary policies. This contest between these hypotheses bred tremendous theoretical and empirical literature. The empirical literature has been indecisive, some supported LSW proposition while others advocated for non-neutrality theory. For example, Barro (1977), Barro and Rush (1980), Attfield et al. (1981), Canarella and Garston (1983), Chen and Steindl (1987), Marashdeh (1993) found empirical support for LSW proposition while Gordon (1982), Mishkin (1982a, b), McGee and Stasiak (1985), Choudhary and Parai (1991) supported the non-neutrality theory.

Most of these empirical studies have been on developed countries. There are handful of studies on oil producing countries and Asian countries. Beladi and Samanta (1988, on India), Choudary and Parai (1991, on Latin American countries), and Marashdeh (1993, on Malaysia) did empirical test on the hypotheses. Beladi and Samanta (1988), Choudary and Parai (1991) found evidence for non-neutrality while Marashdeh (1993) found mixed result, but mainly supporting LSW proposition. Most of empirical studies tested the

hypotheses on anticipated and unanticipated monetary shocks. However, Cover (1992) distinguished between unanticipated positive and negative shocks. He found that negative money supply shocks affect output.

1.2.2 Two Main Tests of Hypotheses

Since the work has been focused on Rational Expectations Proposition, we have to quantify the notions of anticipated and unanticipated part of money supply. Once this is done, there are two tests to be conducted:

- i. Testing whether anticipated money does not matter.
- ii. Testing whether unanticipated money matters.

Both these propositions have to be tested separately as the presence of one does not necessarily imply the absence of the other, i.e. non-neutrality of monetary policy does not imply that the agents are non-rational.

1.2.3 Study of Causality

Besides these, the present study endeavors to identify the causal relationship between output level and money supply using Granger Causality test. Finally, the study concentrates to investigate the structural changes in the relationship between output level and money supply. For this purpose, the crucial task is to examine if the relationship is stable over the period of study. If not, the period of study, may consist of several sub-periods embodying structural changes. We seek to identify such sub-periods where structural changes have occurred in such relationship. We then seek to examine, under

different sub-periods, the relation between output variation and variation in different parts (anticipated and unanticipated) of money supply.

The objectives of the present study have been summarized as follows:

- i. To assess the applicability of the policy ineffectiveness theorem in Nepalese economy.
- ii. To identify the effectiveness of monetary policies to influence the output level in Nepalese context.
- iii. To analyze the nature of the time series data whether they are stationary or not.
- iv. To explore whether there is cointegrating relationships between the variables.
- v. To investigate whether there is causal relationships between the variables.
- vi. To examine the structural changes in the relationship between output level and money supply in Nepal.

1.3 The Plan Of The Study

The present work has accordingly been divided into the following chapters:

Chapter II presents the literature survey. In this chapter conclusion and findings of several works related to the present study have been reviewed. The conceptual background of several relevant literatures has also been reviewed in this chapter.

Chapter III deals with source and nature of the data, methodological issues and period of the study. The introductions of some econometric methods, which are applied in the present study, have also been mentioned in this chapter.

Chapter- IV is devoted to study of testing for stationarity of Macroeconomic variables which are used in the present work. In order to test the stationarity of the log – transformed series as well as first differences of these series; Augmented Dickey Fuller, Phillips-Perron, DF-GLS (ERS), KPSS, ERS Point- Optimal and Ng-Perron modified unit root tests have been applied. Stationarity of the variables have also been checked on the basis of correlogram (ACF & PACF) and nature of line graphs of these series.

In Chapter- V, Unrestricted Vector Auto regression (UVAR) model, Cointegration and Vector Error Correction Modeling of the series have been presented. For this purpose CRDW, Engle-Granger (1987) and Johansen (1988) method of cointegration have been used. Conventional Granger Causality test is also subject for the study.

Chapter –VI estimates the anticipated and unanticipated parts of money supply. ARIMA structures of the series have been applied for this purpose. This chapter is also

devoted to study the relationship of output variation with the anticipated and unanticipated parts of money supply over the period (1959-2003).

Chapter –VII identifies several sub-periods in which structural changes in output – money supply relations have occurred. The structural changes have been identified on the basis Chow breakpoint test. It also presents the relationship between output level and money supply (anticipated and unanticipated parts) over the different sub- periods.

In Chapter-VIII, observations in different chapters have been presented for review along with a discussion on public policy implications of the findings.
