

MONETARY APPROACH TO MACROECONOMIC STUDY FOR NEPAL

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The Data Base

The economic performance of Nepal is governed by many diverse factors interconnected by means of natural, human and economic forces (Sharma, 1984). Research studies are invariably confronted with questions of choice between alternative paradigms, empirical models, analytical frameworks and quantitative techniques. The most serious of all the problems in research on Nepal, however, is the lack of dependable time series data, even on such key macroeconomic variables as national consumption, savings and investment.

Momentarily, the lack of required data has been mainly due to a poor system of data reporting and time series construction. On the one hand, while the data reporting system seems to be confronted with many chances of being at its rudimentary state¹, where by series are distorted and broken, a frequent change in variable definition, on the other hand, is another common practice usually followed in compilation of data. Basically the latter is the problem in Nepal, causing information contents of various sources to be significantly different. As a result, questions are naturally posed not only on the quality of data as such, but also on the results of studies, differing in their nature and basis. From this no consistent and comparable interpretation can be obtained.²

However, of all the available data from various sources, the figures for monetary, budgetary, GDP and balance of payments accounts seem more accurate. Present study has consequently made a modest attempt to utilize such information. But still the immunization of the study from other theoretical and general type diseases may not be possible. These flaws make their presence felt in the estimation of relationships themselves, in the form of spurious correlation, multicollinearity and serial correlation. The specification bias may even cause more damaging effect on results when little scope is left for the inclusion of more variables owing to the multicollinearity problem.

In a country like Nepal market forces typically are not only disorganized, but also distorted by the government's frequent interventions. The low degree of monetization is yet another problem that may handicap the economy in its smooth operation. These all, furthermore, make model specification a difficult problem.

Given these limitations, a research study must bear with the constraints presented by the poor data, which may adversely effect the efficiency of the study. The present paper, with due consideration of these difficulties, has attempted to initiate the macroeconomic approach very cautiously so that the results obtained for an analysis of monetary phenomena in Nepal may be made more reliable and consistent.

As the work is motivated with an object of shaping monetary policy for growth and stability, we first try to build some postulates in which the study may be founded.

Mechanism of Monetary Adjustment

The monetary sector in Nepal has backward linkage with the foreign sector (Pant, 1983 and McNown, 1980) and a forward linkage with the domestic sector (Pradhan, 1977). The former implies that the degree of foreign penetration into the monetary sector through a change in source of reserve money is very strong, whereas the latter justifies changes on domestic variables such as the level of prices and aggregate demand in order to directly affect the money supply (M^S).

There are two primary causes for a direct transmission of monetary impulses: one, that the elasticity of real demand for money with respect to real GDP (gross domestic product) is unity (Pant, 1983), and second, that the organised and developed market for money and capital is so small that its working through interest rate changes, which is the keystone of Keynesian theory, is strictly limited (Sharma, 1978).

More precisely, monetary developments in Nepal are closely associated, and have a direct link, with the commodity market, as presumed by Robertson's loanable fund theory (Tsiang, 1980). However, not both, and obviously all when M^2 (currency in circulation plus demand deposit plus time and savings deposit held by public with banks) is considered, the components of money supply extend homogenous effect – technically as well as functionally – to the level of activities in this sequence.³ When the currency (C) component of M^S is mostly a demand determined variable and has a one-way causal link with income, the other component of money, the demand deposit (D_1), has a double-sided relation, or causal link, with the level of aggregate demand, namely the gross domestic product. The behaviour of savings and time

deposits differs to even a greater degree in light of the interest they earn (Schulz, 1978).

Despite the fact that money has such a decisive link in the Nepalese economy, the open border with India⁴ and excessive dependence on foreign assistance reduces the scope for the effective use of domestic policy measures of monetary adjustment for achieving goals such as internal vis-a-vis external stability (Fry, 1974, Kafle, 1980 and Shah, 1981). A dominant foreign sector, in this regard, adds fuel to the fire by mitigating further the efficacy of such policy measures.

Against this background, the method employed for a study of the Nepalese monetary sector will be considered.

Method of Study

The model developed for this study is aggregative, partial and restrictive. Because of the non-availability of appropriate data on certain key variables like savings and investment in Nepal, we follow the so called 'Third-Way' approach to monetary analysis (Friedman, 1971) as developed by the present day proponents of 'monetarism'. Under the leadership of Milton Friedman many studies on sensitive monetary issues have been undertaken, without making a separation between nominal and real values.

Nevertheless, the present study has an additional property in its attempt to specify price identity, and it has tried to estimate the savings function in real terms (financial savings, in the absence of other indices, deflated by consumer price index) to understand behavioural relationships among variables in monetary as well as real sectors.

The proposed model examines the influence of prices in India on the demand for imports in Nepal, the link between monetary and fiscal policy, and the habit persistence in income holders. Also, the model has taken the monetary behaviour of public, banks and authorities into account, is an imprint of models⁵ for UK (Crouch, 1967) and Singapore (Wong, 1974) and bears strong affinity to models for Venezuela (Khan, 1974), Germany (Wilims, 1971) and other countries with features similar to Nepal, representing both the economic affluence and poor performance.

The study, however, assumes an equilibrium condition in markets for all the endogenous as well as exogenous variables. Specifications for most of the relationships are, nonetheless, in log linear form, the benefit of which is immense for the interpretation of coefficients. This type of specification also reduces the problem of heteroscedasticity (Walters, 1966).

For institutional or other reasons, variables like exports (X), government spending (GE), net international capital flow (official, OKN plus others, KOBPN), rate of interest (as proxied by rate on one year fixed account, r_{12}),

net transfer payments (TAN), net receipts from services (SAN), Nepal Rastra Bank (NRB: established as a central bank in 1956) credit to commercial banks (CCB), net official reserves (ORN), prices outside Nepal (IP: as proxied by Indian wholesale price index) and fiscal deficit of the government (FD) are assumed as exogenous.

More uniquely, the relative prices and foreign exchange rates have been intentionally ignored in the study. There are certain logically consistent reasons for doing it. On one hand, the economy of Nepal is not capable of influencing price ratio in the world commodity market due to its small size, primitive technology, dominant foreign sector and land locked geography, the higher import to GDP ratio (more than fifteen percent). On the other hand, the economy is kept weak in terms of efforts for trade regulations through price and exchange rate changes. These are the genuine reasons for the Nepalese economy's lack of a dynamic character.

Above all, as the economy of Nepal has to operate with limited sovereignty, there is every chance that it is much more dictated by foreign shocks and disturbances. The significance of a study on inter-sectoral relationships in this situation is some how impaired and the predictive power of a model too is undermined. This means that models for the economy as a whole in Nepal should remain incomplete, restrictive and less efficient, unless the degrees of openness is lowered enough.

Despite these limitations, a system of structural equations has been specified,⁶ and estimated empirically by applying the Ordinary Least Square technique. The application of OLS method may, of course, produce biased results; but in view of the smallness of the sample size, use of this technique is justified. Results continue to be biased even if some other more refined methods are applied (Gujarati, 1978 and Koutsoyiannis, 1978).

For estimation purpose, the study uses secondary data collected from various internal and international sources, inclusive of the NRB, CEDA, National Planning Commission, Central Bureau of Statistics, Ministry of Finance, the IMF (International Financial Statistics) and other authentic sources in the form of books and articles. Mid-July figures have remained as the basis for studying monetary variables.

Inter-sectoral Monetary Relationship: A System of Structural Equations

Earlier, it was made clear how the Nepalese economic structure differs fundamentally from those of other countries in terms of its lack of dynamic

character. In view of this and the problem of time series data, an attempt is made to propose for several structural hypotheses in this section. The verification is presented Table 1.

Flow of Money Income or Aggregate Demand (GDP)

Gross domestic product in Nepal represents the domestic level of transactions for which money is used. It is explained by money supply ($M = C + D_1$) and its own previous year's value. But since the currency component of M^S has little to do with the determination of income, it is the demand deposit component (held mostly by business and industrial undertakings) of M^S , instead of total, that should be used as an explanatory variable. When lagged value of GDP itself also appears as an explanatory variable for examining the speed of adjustment between actual and expected values, the estimating equation is

$$\log \text{GDP}_t = F_1 \left(\log \overset{(+)}{D^S}_1 - 1, \log \overset{(+)}{\text{GDP}}_{t-1} \right) \quad (4.1)$$

where t and $t-1$ refer the current and one-year lagged values respectively.

This is an autoregressive function which follows the distributed lag adjustment process with a geometrically declining lag coefficient of Koyck type.

Demand for Imports (IM)

In the present situation Nepal is fully dependent upon imported goods even for meeting daily needs (Poudyal, 1982). As a consequence, increase in income mainly leads to an import of goods from abroad. The side effect is a formation of public taste for foreign goods. This further means that world price is a weaker factor for explaining demand for Nepalese imports, given the prevailing situation of the country's underdevelopment. Therefore, to test all these propositions the equation that has to be fitted is

$$\log \text{IM}_t = F_2 \left(\log \overset{(+)}{\text{GDP}}_t, \log \overset{(-)}{\text{IP}}_t, \log \overset{(+)}{\text{IM}}_{t-1} \right) \quad (4.2)$$

where IP is Indian Wholesale Price Index, a proxy for world price.

This function in particular helps in deriving conclusions regarding a better response of imports (in terms of elasticity) to either of the explanatory variables and the time period for the adjustment between expected and actual values. It has got the same property as equation 4.1 in regard to the presence of adaptive expectations.

The Supply of Reserve Money⁷

There are numerous sources through which both the foreign and domestic sectors of the economy exert influences on the stock of reserve money, a

source of money supply changes. While the foreign sector has an effect through the foreign exchange reserves and official reserves, the domestic influences are extended through a claim and non-monetary liabilities of monetary authorities. But since the purpose of this study is to determine the scope of domestic policy measures for monetary regulation, the function fitted is

$$\log RM_t = F_3 \left(\log^{(+)} NFAM_t, \log^{(+)} FD_t, \log^{(+)} CCB_t \right) \quad (4.3)$$

where NFAM and FD stand for net foreign assets with monetary authorities, and fiscal deficit of the government respectively.

This is a behavioural function similar, but not exactly similar to that of Ahluwalia (1979).⁸ It observes the relative strength of the foreign and government sectors in determining the source of money stock changes. It also examines a pertinent monetary issue that whether or not the NRB, acting as a bankers' bank, is really capable of offsetting foreign and government *budgetary effects on money supply changes* and controlling money thereof.

Bank Behavior Equation

It is a well established rule that banks are unable to create money (secondary) unless they acquired more reserves in the form of primary deposits (primary money). This means that RM is essential for increasing the size of banks through changes in secondary money, a product of credit expansion by banks. If D_1^S (supply of demand deposit) is found to be a highly stable function of RM, the policy for controlling money is more effective. Consequently the function presumed is

$$\log D_{1t}^S = F_4 \left(\log^{(+)} RM_t \right) \quad (4.4)$$

where the coefficient of RM is the marginal demand deposit multiplier with respect to RM.

The choice of RM instead of the adjusted figure is based on the ground that Nepalese commercial banks have always been loaded with liquidity, and our working assumption is also that elasticity of demand for currency with respect to income is around unity.

The function, however, would be estimated for a period after 1966 when the NRB was given powers to function as a Controller of Credit, even though its establishment was long back in 1956.

Demand for Currency

Uniquely, income demand for currency in Nepal is expected to be very high. This is attributed to the underdeveloped nature of the economy. Holding that

currency is an income determined variable and is not a perfect substitute for D_1 , and also assuming that actual demand for currency is not adjusted to desired level instantaneously, the function fitted is

$$\log C_t^D = F_5 (\log GDP_t^{(+)} \log C_{t-1}^{(+)}) \quad (4.5)$$

This is a short term demand function for currency with an involvement of lag adjustment process of Koyck type. It is also an autoregressive function of the type for imports, or income, in equation 4.1.

Demand for Financial Savings

Financial savings in Nepal may be approximated by interest bearing assets like savings (SD) and time (TD) deposits for the reason that the banking sector has assumed a predominant place in the financial structure. The propensity to save, however, is determined by an increase in income in real terms owing to the subsistence nature of economy. At the same time, since income effect on consumption is expected to be very high when prices are rising fast, it is not possible to save more of income even if the reward for savings is sufficiently high unless income in real terms increases faster. To take all these factors into account, the function is specified as

$$\log (D_{2t}^D/P_t) = F_6 (\log GDP_t^{(+)}/P_t), \log r_{12t}^{(+)} \quad (4.6)$$

This equation takes financial savings in real terms on account of the fact that the saving is a sacrifice of real consumption. It is also consistent with the NRB policy for resource mobilization with which the growing deficit in government budget and the investment requirement of the economy could be easily met.

One of the important features of this function is that it holds the view that the variation in income, the rate of interest and prices are helpful in regulating investment demand in the long term, for banks have the unique feature that they always borrow for lending purpose. Given that r_{12} is a policy variable, the best means to control investment demand is to control the money market, the equilibrium condition which determines the level of prices.

In addition to these behavioral equations a few more identities are required to help close the system of equations.

$$NFAM_t = X_t - IM_t + SAN_t + TAN_t + KOBPN_t + OKN_t + ORN_t \quad (4.7)$$

$$M_{1t} = C_t + D_{1t} \quad (4.8)$$

$$P_t = M_1/(M_1/P)_t \cdot 100 \quad (4.9)$$

While equation 4.7 depicts the degree of openness of Nepalese economy, equation 4.8 measures narrowly defined money supply. Equation 4.9 explains prices in Nepal determined at an equilibrium level where supply of money is

equated with the demand for it. Prices in this equation are expressed, however, in terms of nominal (equilibrium) quantity of money divided by real quantity times one hundred (for a detailed account see *Ahluwalia, 1979*). It also assumes that money is simply a means of exchange.

Pooling all the equations and arranging them in some order provides a model of the Nepalese monetary sector, which may, in a sense of arrangement, be recursive⁹.

$$\log \text{GDP}_t = F_1 (\log D_{1t}^S, \log \text{GDP}_{t-1}) \quad (4.1)$$

$$\log \text{IM}_t = F_2 (\log \text{GDP}_t; \log \text{IP}_t, \log \text{IM}_{t-1}) \quad (4.2)$$

$$\log \text{RM}_t = F_3 (\log \text{NFAM}_t, \log \text{FD}_t, \log \text{CCB}_t) \quad (4.3)$$

$$\log D_{1t}^S = F_4 (\log \text{RM}_t) \quad (4.4)$$

$$\log C_t^D = F_5 (\log \text{GDP}_t, \log C_{t-1}^D) \quad (4.5)$$

$$\log (D_{2t}^D/P_t) = F_6 (\log (\text{GDP}_t/P_t), \log r_{12t}) \quad (4.6)$$

$$\text{NFAM}_t = X_t - \text{IM}_t + \text{SAN}_t + \text{TAN}_t + \text{KOBPN}_t + \text{OKN}_t + \text{ORN}_t \quad (4.7)$$

$$M_{1t} = C_t + D_{1t} \quad (4.8)$$

$$P_1 = M_{1t}/(M_1/P_t \cdot 100) \quad (4.9)$$

The system is complete in that the nine endogenous variables are equal to the number of equations. The predetermined and exogenous variables in the system are fourteen.

In this system, while the final target of monetary policy is the level of income and price stability, the intermediate targets may be the equilibrium stock of RM, D_1 , C and D_2 . The RM may play a crucial role in the system by linking the domestic and foreign sectors. When changes in domestic stock of money are brought about by a change in RM through the regulation of exogenously determined policy variables, say, the FD and the CCB, the impact on RM of the foreign sector is realized through the IM function, which in itself is endogenously determined by the level of income.

The predetermined and non-policy exogenous variables in the system are: D_{1t-1}^S , GDP_{t-1} , IP_t , IM_{t-1} , X_t , SAN_t , TAN_t , KOBPN_t , ORN_t and OKN_t . The purpose for specifying D_2 as an endogenous variable is to observe the effect of interest, income and price changes on interest bearing assets which, in turn, affect the level of income through the investment channel (implicit postulate of the model). This channel, however, is developed to the assumption that banks pay the rate of interest to their deposit holders in expectation of more returns from loans and investment.

The Estimate

When hypotheses as built earlier were tested with Nepalese data for different periods, they were found logically consistent, supporting our arguments for macroeconomic adjustment in the monetary sector in Nepal. Results are given in table 1.

Almost all the coefficients of independent variables, except that of IP_t in the import demand function, have been found significant at levels below ten percent. R^2 s and R^2 (s = Squares) too are satisfactory and show a high variation in the dependent variable explained by the model. This implies that model's fit is as good as expected.

The D-W statistic also does not show a serious problem of autocorrelation in error terms. Even though some of the D-Ws do not lie within the acceptance region, they fall into the indecision region.

Estimate for an aggregate demand function exhibits that the long-term elasticity of GDP with respect to the one-year lagged value of demand deposit is 0.71, and the speed of adjustment between the actual and expected values of GDP is forty-one percent within the same year.

Similarly, the regression result for the import function shows that Nepal has a high elasticity of imports with respect to income. Speed of adjustment between actual and expected values of imports is fifty percent within a year.

The world price as proxied by the Indian wholesale price to explain imports in Nepal has remained weaker compared to the income variable, although it carries the expected sign. This strongly supports our hypothesis that the prevailing compulsion for imports is such that prices in the world market have only a little to do with regulation of imports in Nepal.

The result for RM function makes clear of the fact that the role of external sources of money supply compared to domestic sources in Nepal is still dominant. The elasticity of RM with respect to NFAM is 0.49. However, in terms of significance, domestic sources too are equally competent. Both of the coefficients for FD and CCB demonstrate that responses of RM to the growing fiscal deficit of the government and commercial banks' borrowing from the central bank are so high as to conclude for a greater possibility of effective monetary regulations.

The last argument for monetary policy prescription may further be supplemented with an estimate of D_1^S function. When the constant elasticity of D_1^S with respect to RM is equal to unity, the R^2 is as high as 0.99. This result, of course, strongly supports our previous argument that long-term income elasticity of demand for currency in Nepal should be around unity for which excess supply of RM results in holding bank assets.

The estimate of C^D function also reveals that it is realistic to expect for such a unitary income elasticity coefficient. It is 1.3, which is approximately unity.

Finally, the estimate of the D_2^D/P function holds clearly that financial savings in real terms in Nepal is highly responsive to variations in income, also in real terms, and the reward for savings, namely the rate of interest paid on deposits. This leads to an important generalization that monetary policy working through interest rate, income and price changes in Nepal may be used to tackle the resource gap problem and regulate the aggregate demand, including investment spending.

Conclusion

Since the previous year's money (i.e., one component) determines this year's level of income, which in turn affects the demand for demand deposit in this year, market equilibrium for demand deposit is automatically established, with an interval of time. Therefore, given the demand for currency as a stable and unitary function of income, any attempt for controlling demand deposit through the regulation of RM reshuffles the operation of the Nepali economy as a whole, including imports and financial savings.

Paradoxically, since the size of the foreign sector in Nepal is as big (not less than twenty percent of GDP, because only $\text{trade} - X + \text{IM} - \text{to GDP}$ ratio is something near twenty percent) as to yield a volatile effect for the domestic economy, the situation is not as simple as to conclude on the policy matter just cited. In the main, the foreign sector in Nepal is used to transmit the consequences of the foreign origin to the domestic economy through the monetary sector, the ultimate pressure and the feedback effect of which would be on the foreign exchange reserves held by the monetary authorities. Therefore, a reliable use of monetary policy in Nepal, under this situation, is certainly questioned.

For the above reasons, it may be held that a scientific credit or monetary planning in Nepal for realizing ultimate policy goals, including internal vis-a-vis external stability, can be initiated only when the economy is fully prepared for internal regulations. In this regard, a phased programme for self-reliance and a firm policy for import substitution/restriction is essential. More than that, a strict regulation on the freedom of movement of people and goods from Big India into Small Nepal is required.

Table 1: Regression Coefficients of Independent Variables

S.No.	Period Covered	Form of Estimate	Dependent variable	Independent Variables	Intercept	SEE	F-Value	R ²	R ²	D-W	Durbin's h
1.	1965-80	log linear	GDP _t	D_{t-1}^S GDP _{t-1}	0.87	0.035	198.8	0.966	0.968	2.42	-1.47
				0.294 0.584	(2.09)**						
				(1.97)** (2.84)*							
2.	1965-80	log linear	IM _t	GDP _t IP _t IM _{t-1}	-1.57	0.083	50.13	0.915	0.926	2.58	-2.007
				1.377 -0.761 0.558	(-2.85)*						
				(2.06)** (-0.98) (2.72)*							
3.	1965-80	log linear	RM _t	NFAM _t FD _t CCB _t	0.559	0.049	122.34	0.963	0.968	1.70	-
				0.492 0.238 0.105	(4.27)*						
				(5.12)* (3.6)* (5.43)*							
4.	1969-82	log linear	D_{1t}^S	RM _t	0.682	0.033	858.69	-	0.986	1.595	-
				1.117	(8.38)						
				(29.3)*							
5.	1965-80	log linear	C_t^D	GDP _t C_{t-1}^D	-0.534	0.028	563.94	0.987	0.988	2.30	-1.190
				0.345 0.734	(-1.04)*						
				(1.38)*** (3.39)*							
6.	1964-80	log linear	$D_{2t/Pt}^D$	GDP _{t/Pt} r _{12t}	-12.28	0.16	57.97	0.885	0.892	1.27	-
				4.41 1.20	(-2.58)**						
				(2.47)** (3.2)*							

Note: t-values below coefficients in parentheses

* Significant at 0.01 level

** Significant at 0.10 level and

*** Significant at 0.15 level.

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Notes

1. Chances of over and under reporting of data are more in the context of the low literacy percentage (expected to be below thirty percent) among respondents and the higher inefficiency in administration.
2. For a detailed account of this rudimentary nature of the data system and its possible implication for consistent research see Barkay, 1982 and Sharma, 1984.
3. For a theoretical discussion, see Smith, 1975 and Crouch, 1967.
4. Because the border is open, Indian inflation enters Nepal without restriction. The Nepal Rastra Bank admits this fact in the following statement: "Steady increase in the Indian wholesale price index..... installed a considerable pressure on domestic price level this year" (NRB. 1979/80 P.24).
5. This paper draws on these models for the reason that the nature of the **economy of Nepal resembles that of these countries to the extent of openness** (with a dominant foreign sector, only trade accounting for around twenty percent of GDP in Nepal) and smallness features. This type of small vis-a-vis strong open economy is rarely found in neighbouring countries.
6. The study while specifying equations preconceives that either demand for or the supply of the variables in the equation adjusts to its market situation. For this reason, it may appear that some of the variables like demand deposits (D_1) and the currency (C) held by the public are dealt with from the two different market sides, supply and demand. This differential treatment of D_1 and C is necessary for policy analysis in that it may help in visualizing the possibility of the regulation of bank behaviour through policy instruments, say, the changes in autonomous sources of reserve money (RM). On the other hand, the C component of money supply, although is a 'primary money', is presumed here mainly as a reflection of public behaviour which in Nepal is expected to be governed primarily by the level of income.
7. Since the economy of Nepal is open, it is quite logical to regard balance of payments (BP_S), RM and M^S , as the endogenously determined variables.
8. The functional form of the Ahluwalia equation is $DMB=F(DF, FR_{t-1})$, where DMB, DF and FR stand for change in base money, government fiscal deficit and foreign assets reserves with Reserve Bank of India respectively.
9. The system is recursive under the assumption that "transformed equations are themselves, in fact, original equations whose contemporary and past disturbances can be assumed not to be correlated" (Crouch, 1967, P. 410).

References

- Ahluwalia, Isher J. 1979. "An Analysis of Price and Output Behaviour in the Indian Economy: 1951-73", *Journal of Development Economics*. Vol. 6, pp. 363-90.
- Barkay, Richard M. 1982. "National Accounting with Limited Data: Lessons from Nepal", *Review of Income and wealth*, Series 28, No. 3, September, pp. 305-23.
- Blaikie, Piers John, Cameron and David, Seddon, 1982. *Nepal in Crisis: Growth and Stagnation at the Periphery*. Delhi: Oxford University Press.
- Bolt, David, 1967. *Gurkhas*. London: Weidenfeld and Nicolson
- Crouch, R.L. 1967. "A Model of the United Kingdom's Monetary Sector", *Econometrica*, Vol 35, Nos 3-4, Jul-Oct, pp. 398-418
- Friedman, Milton. 1971. "A Monetary Theory of Nominal Income" in G. Clayton, J.C. Gilbert and R. Sedgwick (eds), *Monetary Theory and Monetary Policy in the 1970s*. Oxford University Press.
- Fry, Maxwell J. 1974. *Resource Mobilization and Financial Development in Nepal* Kathmandu: CEDA and Nepal Rastra Bank.
- Gujarati, D. 1978. *Basic Econometrics* Macmillan.
- ILO – ARTEP. 1982. *Employment and Basic Needs in Nepal* (A Priliminary Analysis of Problems and Policies).
- Kafle, Prafulla K. 1980. "Foreign Trade and Regional Co-operation." In Mahesh Banskota and Nirmal K. Bista (eds), *Nepal's Economy – An Overview*. Kathmandu: CEDA.
- Khan, Mohsin S. 1974. "Experiments with a Monetary Model for the Venezuelan Economy." *IMF Staff Papers*. Vol XXII, No. 2, July, pp. 389-413.
- Koutsoyiannis, A. 1978. *Theory of Econometrics*. McGraw – Hill: Kogakusha.

- McNown, Robert. 1980. "International Constrains on Macroeconomic Policies in Nepal, 1957-78." *Economic Journal of Nepal*, Vol III, No. 1, Jan-Mar., pp 37-48.
- Nepal Rastra Bank. 1979-80. *Annual Economic Report* (Kathmandu: NRB).
- Pant, Raghav D. 1983. *Interest Rate Policy of Nepal*. A Study Sponsored by the Institute for Development Studies and International Development Research Centre. Ottawa: Canada.
- Poudyal, Sriram. 1982. *Foreign Aid in Nepal*. Kathmandu: CEDA.
- Pradhan, Bijaya Bahadur. 1977. "Monetary Policy and price situation in Nepal." In Bhawani Dhungana and Narendra Kayastha (eds), *Studies on Prices: Nepal*. Kathmandu: CEDA.
- Reynolds, Leoyd G. 1983. "the Spread of Economic Growth to the Third World: 1950-1980." *Journal of Economic Literature*, vol XXI, No. 3, September, pp 941-80.
- Schulz, Johann. 1978. "Aspects of a Realistic Interest Rate Policy in Nepal." Mimeo Nepal Rastra Bank.
- Shah, Sukhadev. 1981. "Developing an Economy: Nepal's Experience." *Nepalese Economic Journal*, Vol 3, No. 1, April, pp 1-27.
- Sharma, Gunanidhi. 1978. "How Much Does Money Really Matter?" *Economic Monthly*, Jan. - Feb., pp 38-43.
- _____ 1984. "Monetary Control Techniques in Nepal". Unpublished Ph. D. Dissertation. Jaipur: University of Rajasthan.
- Smith, Warren L. 1975. "A Neokeynesian View of Monetary Policy." In William E. Gibson and George G. Kaufman (eds), *Monetary Economics: Readings of Current Issues* (New Delhi: Tata McGraw Hill).
- Tsiang, S.C. 1980. "Keynes' finance Demand for Liquidity, Robertson's Loanable Fund Theory, and Friedman's. Monetarism." *Quarterly Journal of Economics*, Vol XCIV, No. 3, May, pp. 467-91.

Walters A.A., 1966 "Monetary Multipliers in the UK, 1880-1962." *Oxford Economic Papers* (New Series), Vol 18, No. 3. pp 271-83.

Wilims, Manfred. 1971. "Controlling Money in an Open Economy: the German Case." *Review*, FRB of St. Louis, Vol 53, No. 4, April, pp. 10-27.

Wong, K.P. 1974. "A Monthly Model of Singapore's Monetary sector." *Malayan Economic Review*, Vol XIX, No.1, April, pp. 46-64.