

## CONDUCT OF PHILIPPINE MONETARY POLICY AND THE QUANTITATIVE CONTROL OF CREDIT

By

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In studying the conduct of monetary policy and in developing and testing supply functions of money for the Philippines, we find it necessary to divide the period of study into two: 1950 – 1960 and 1961 – 1971. There were major changes in the institutional setting, in the orientation of policy, and in the monetary control instruments employed over this period. Instead of earlier postwar years, the initial year 1950 was chosen as it was the year when the Central Bank was organized.

This paper consists of two sections. The first is a discussion of the above mentioned changes, including a sub-section on price changes. Only after dealing with the said changes does this section proceed to discuss the conduct itself of monetary policy. The other section gives money supply functions which were developed in the light of the control instruments used in the Philippines. Regressions of these functions were performed on Philippine quarterly data.

### I. Orientation of Monetary Policy Objectives

In the first period under study, the Monetary Authority (and the country as a whole) was mainly concerned with the problem of maintaining a reasonable level of international reserves. The desired level of reserves was to be maintained under a system of fixed exchange rate at the old pre-war parity of P2/\$1 and a detailed set of import and foreign exchange controls. Domestic price stability was considered to be an important condition for preserving the international value of the peso and the country's reserve position. Foreign trade control instruments were used simultaneously as industrialization instruments. The industrialization policy was of the import-substituting type. Preferential allocation and pricing of foreign exchange were granted to import-substitute industries. These, along with infant industries, were also given tax exemptions.

The absorption of the Monetary Authority with foreign exchange and import controls is probably best shown by the Central Bank memoranda and circulars issued from 1949 to 1960. Of its more than 300 memoranda and circulars, practically all were concerned with allocation, margin deposit, and payment arrangements of foreign exchange. In fact, purely quantitative control instruments were used only twice during this period, once in 1957 which revised interest rates

on deposit; the next, in 1959 which raised the reserve requirements from their first levels of 1949. Rediscount rates were first changed in 1960.

In contrast to Central Bank actions in the 1950's, decisions on quantity and allocation of credit were made later at increasing frequency. Also, a greater variety of instruments were used. A good summary impression of this change in the orientation of Central Bank policy can be obtained by reading the table of contents of the Central Bank Circulars and Memoranda, 1949-68.

Conservative monetary policy was followed partly because the condition of stable domestic prices was required for preserving the country's international reserve position and partly because of the personality of the first Central Bank Governor, Miguel Cuaderno. Reading through his memoirs, one is struck by his concern for inflation. As observed by Sue Van Atta [1], he worried about inflation at a time when the country was actually experiencing deflation. The high prices reached during the war which had prevailed in the immediate post war period seemed to have been confused for inflation. The rate of growth of money supply was practically zero from 1950 to 1955. Modest increases ranging from one to six % per year were later permitted between 1955 to 1960. One observes that the growth rate of national income and the rate of industrialization were highest during this period. GNP grew at about 7% per year and the industrial sector at a little more than 10% per year.

In the late 1950's the pre-war exchange rate of P2/\$1 was considered unrealistic. The black market rate, in fact, was P3.21/\$1.00 in 1955 and P3.81/\$1 in 1960. Devaluation, being inevitable, was gradually applied starting in 1960 and ending in 1964. By this year the exchange rate was fixed at a new rate of P4/\$1.

Thus, the start of the 1961-1970 period experienced a gradual devaluation with its consequent inflationary pressure. The inflation rate between 1963 to 1964 was the first serious one ever experienced in post-war Philippines. By this time, Governor Cuaderno had retired auguring a change in policy. Amado Castro thinks the relationship between the Monetary Authority and the executive branch of government underwent a major significant development from one of independence to one of greater accord, coordination, or submission. It is rather difficult to show evidence on the nature of the relationship of the Central Bank and the executive branch of the government. However, it is possible to show some evidence of the change in the orientation of policy.

As defined in the Three-Year Program of Economic and Social Development (1959-1962), "the task of monetary and credit policy is to provide the economy with the desired volume of money and credit to be channeled to the desired types of economic activities . . . By means of its selective credit control powers it could direct bank resources to areas of productive activities. The use of bank credit for speculative and consumption purposes should be curtailed to the lowest levels

possible. Bank credit for real estate, commercial and other non-essential activities should likewise be cut down." [4, p. 41].

Various instruments were used for selective credit control, the most important of which were preferential discount rate and privilege deficit financing, and expansion of specialized banks.

Starting from the late 1950's, public and semi-public banking system grew very fast. Specialized banks grew as fast as private commercial banks. The total number of banks grew from 116 in 1950, 226 in 1955, 380 in 1960, 726 in 1965, and 1210 in 1970. Rural banks grew from 38 in 1955 to 160 in 1960, 309 in 1965, 486 in 1970. Development banks grew more slowly so that by 1970, there were only 48 branches and 29 head offices.

If we turn to bank assets, we also find this parallel growth between commercial banks and specialized public and semi-public banks. Although there is still a big concentration of banks in Metropolitan Manila, a substantial number of specialized banks are located in provincial areas. Dispersal of rural banks is enforced since only one bank per municipality may be established.

The effectiveness of monetary policy was strengthened with the expansion of the banking system, consequently resulting in greater monetization of the economy and an increase in the volume of savings and investment coursed through banks and other intermediaries. The larger the banking system, the higher is the ratio of any loan proceeds redeposited and, therefore, everything else being equal, the higher the reserve multiplier. The impact on the economy of any control decision will be greater the larger the financial system. It is needless to reiterate that public and semi-public banks offer the Monetary Authority direct quantitative as well as selective power.

## CONTROL INSTRUMENTS

The list of CB circulars and memoranda shows that over the 1950-60 period, the reserve requirement and the discount rate were changed only once and these occurred in the late 1950's. Table 1 gives evidence that banks then kept substantial excess reserves. These fluctuated though, revealing a significant correlation between money supply and bank reserves.

It seemed, however, that control over the allocation of foreign exchange was of substantial impact on money supply such that there was no need to use other instruments. Inasmuch as the main economic objective then was to maintain a satisfactory level of reserves, control over foreign exchange resulted in control over money supply. When foreign deposits were frozen or when a margin on letter of credit was imposed, their equivalent peso value was likewise frozen.

Chart 1 shows how the Central Bank managed the money supply during the 1950-60 period. It is important to see the movement in the separate components of money supply – public and bank origin. There are statistics on money supply originating from the public and the private sector. Money supply originating from the public sector consists of Central Bank and other bank credit to the government. This credit may take the form of increment in holding of government securities and direct loans.

From 1961 to 1971 the Central Bank restricted the growth in money supply originating from commercial banks or the private sector. Regulations that either raised the reserve requirement or raised the discount rate were imposed in almost year to year succession except in 1966 in which the rediscount rate was lowered. As a consequence, the level of credit originating from the private sector remained constant except when it began to increase in 1971 following the devaluation in February of that year.

Money supply, however, followed an upward trend the rate of which increased tremendously by 1969 from 6 to 13% per year. The increase in money supply originated mainly from credit extended to the government.

We also observe in Table 2 that inconsistent policies were followed a number of times during this period by fiscal and monetary authorities. Several times in 1962, in 1963, in 1967, in 1968, and in 1969, monetary expansion by the banking system was restricted while credit extended to the government expanded. In the same period complementary measures were used only twice and in both cases during the period of devaluation – 1961-63 and 1970-71.

The observations on the conduct of monetary policy during the period of decontrol explains the regression results of the money supply function given in the next section. For the post control period, 1961-1971, the only significant explanatory variable in the money supply function is changes in credit to the government. In this period, the level of available reserves of commercial banks did not determine money supply. This is in contrast with the regression results for the earlier period where the level of reserves determined money supply.

## **II. Quantitative Monetary Control in the Philippines**

This section discusses how alternative money supply functions are derived for the Philippines. A money supply function relates the nominal money supply to policy controlled variables. These variables are selected from policy instruments that were actually used in the Philippines. Some instruments were used in an entirely different way, though they were called by the same terms. In this case money supply function will have a different argument from that of the money supply function in other countries. The institutional set-up is also likely to affect the impact on monetary policy and the effectiveness of the instruments used or even influence the choice of control instruments.

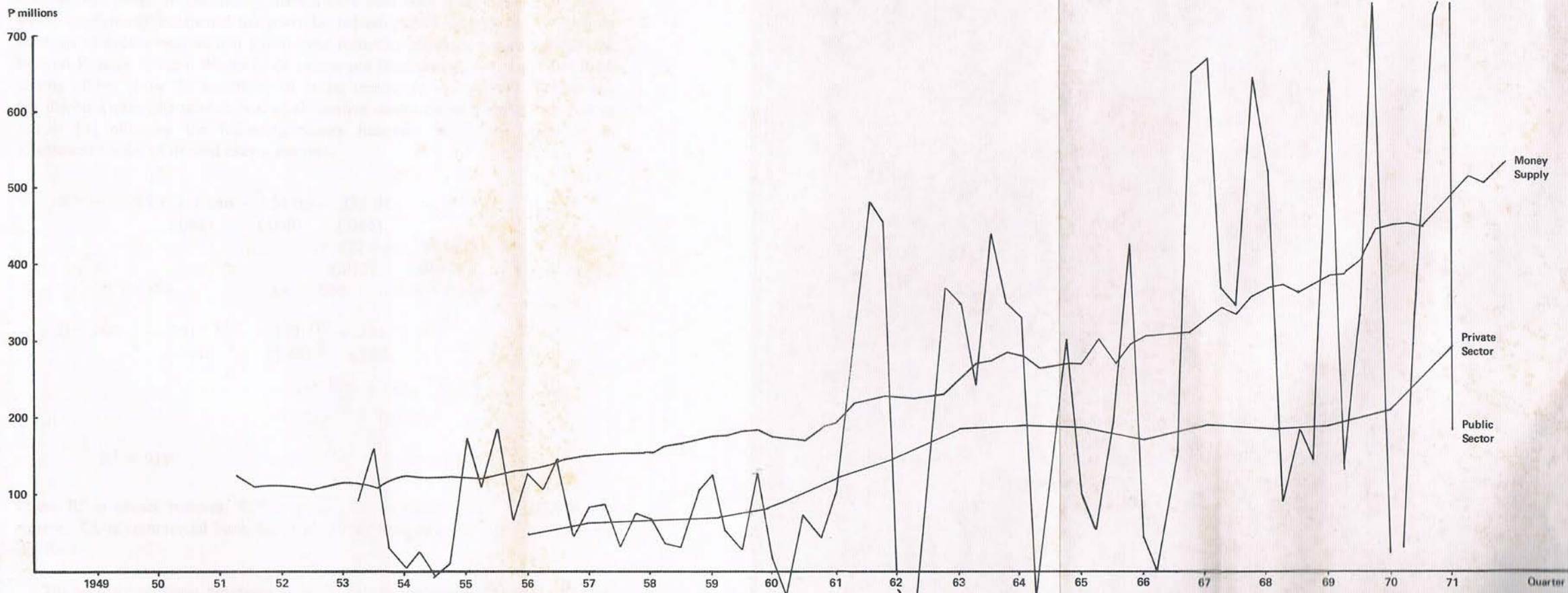


Chart I  
Quarterly Movement of Money Supply by Sectoral Source

It might be helpful to contrast the money supply function of the United States with that of the Philippines as this would demonstrate the difference in the application of the control variables. In the United States, the main control variables are changes in reserve requirement, open market operations, and changes in the discount rate. These control variables determine the supply of money indirectly; their immediate impact is on the reserve portfolio of commercial banks. Banks usually keep a desired level of excess reserves and a portfolio of secondary reserves. The discount window may be regarded as a source of reserves. Choice of the form of reserve to be used for meeting changes in demand for credit would naturally depend on the relative cost of the alternative reserve sources. Several major econometric works on the money market have been done since the middle 1960's which consistently confirmed the portfolio behavior of banks with respect to their holdings of excess reserves and government securities and their borrowing from the Federal Reserve System. Works by de Leeuw and Hendershott, Meigs and Goldfeld, among others, show the sensitivity of excess reserves to the treasury bill rate and the discount rate, the relative cost of alternative reserve forms. Hendershott and de Leeuw [3] obtained the following money functions which are based on an adjustment model of desired excess reserves.

$$\begin{aligned}
 Rf^* = & - .065 + .156 rdis - .151 rtb - .337 Rf_{-1} \\
 & \quad (.062) \quad (.050) \quad (.044) \\
 & \quad + .472 Rue - .0636 CL + 4 \\
 & \quad \quad (.053) \quad (.0137) \quad \sum_{i=1}^4 a_i S_i \\
 R^2 = & .858 \quad \quad \quad s.e. = .086 \quad \quad \quad DW = 1.870 \\
 D = & .069 \frac{1}{q} - .151 \frac{rdis}{q} + .142 \frac{rtb}{q} + .333 \frac{Rf_{-1}}{q} \\
 & \quad \quad (.061) \quad \quad \quad (.049) \quad \quad \quad (.045) \\
 & \quad \quad \quad + .539 \frac{Rue}{q} + .0661 \frac{CL}{q} + \sum_{i=1}^4 c_i \frac{S_i}{q} \\
 & \quad \quad \quad (.051) \quad \quad \quad (.0131) \\
 R^2 = & .919 \quad \quad \quad s.e. = .793 \quad \quad \quad DW = 1.875
 \end{aligned}$$

where  $Rf$  is excess reserves,  $Rf^*$  is desired excess reserves,  $Rue$  is unborrowed reserves,  $CL$  is commercial bank loans,  $rdis$  is discount rate, and  $rtb$  is the Treasury Bill Rate.

The validity of these functions depends on the instruments that the Federal Reserve System uses. Open market operations in Treasury Bills is an effective way of changing the level of reserves of banks. There is a large volume of outstanding government bonds of both long and short maturities. There is also a large volume of private securities which are substitutes for government issues. Changes in interest rates arising from open market operations will have their impact on the portfolio of close substitute reserves and financial assets, and conversely, bank portfolio of

government securities and excess reserves will be sensitive to changes in the discount rate.

The control variables used in the Philippines are quite different. A normal market for Treasury Bills and other government securities does not exist. This market is described in an earlier paper [5]. There are no day to day open market transactions. Instead, the Central Bank issues government securities at discrete time intervals. So far, most issues are of long term maturities though there has been an excess demand for short term bills as evidenced by the over-subscription of each float. Over the past five years the size of over-subscription ranged from two to five times each float. It might be argued that yield on Treasury Bill is made artificially high by rationing these bills while the yields on long term government bonds are pegged at their stated rates. These rates are below the yield on equivalent securities and are much lower than the yield on Treasury Bills (see Tables 3 and 4). It is not valid, therefore, to talk of open market operations in the Philippines and to use the Treasury Bill rate as an explanatory variable in the money supply function.

The discount instrument also works differently. The discount rate is not changed frequently as a means of controlling the borrowing of commercial banks. We find, instead, a gradual upward trend in the discount rate which seems to correspond to the upward trend in the Central Bank controlled rates of interest — deposit rates, loan rates, government bond rates. Since a fairly wide margin is allowed between the discount rate and the loan rate, and this margin has remained fairly constant over each year, banks are quite passive with regard to changes in discount rates. The margin of allowed profit tends to make borrowing from the Central Bank very attractive. For some banks such as rural banks, the level borrowed is determined mainly by their discount privilege with the Central Bank which sets the limit and criteria. Borrowing banks have the right to discount as long as the criteria are met.

However, in the United States, discounting is not regarded as a normal source of funds. The Federal Reserve Banks exercise discretion on each individual bank application for discounting with both borrower and creditor regarding discounting as a special privilege.

A third aspect of Philippine monetary control is the predominance of government financial institutions the activities of which are more directly controlled by the Central Bank and government borrowings from the banking system. Changes in loans granted by these banks are expected to follow closely the Monetary Board's decision on credit ease or tightness, rather than in response to the more traditional control variables. Moreover, deficit financing through money creation has been extensively practised, especially, in the 1960's. In fact, money supply originating from the public sector has grown absolutely fast, relative to money originating from banks.

Almost 90% of outstanding government securities are held by banking institutions, including the Central Bank. Since a large portion (about 75% in 1970) of required reserves can be held in the form of government securities, open market operations may not necessarily result in changes in reserves. There may only be a change in reserve composition. Any increase, therefore, in outstanding government securities implies printing money, not public debts.

Given the above peculiarities of the Philippine monetary set-up and the way the instruments are used, the following money supply functions are posited:

$$DD = f\left(\frac{RA}{q}, \frac{RD}{q}, \frac{G}{q}, \frac{dr}{lr}\right) \quad (1)$$

$$M_1 = f\left(\frac{RA}{q}, \frac{RD}{q}, \frac{G}{q}, \frac{dr}{lr}\right) \quad (2)$$

where DD is demand deposit,  $M_1$  is money supply, RA is available reserve, RD is rediscounted loans or borrowing from the Central Bank, G is credit to the government by the banking system, q is the reserve requirement, dr is discount rate and lr is loan rate.

The reserve portfolio function and the money supply function tested for the United States by Hendershott and de Leeuw were also tried on Philippine data.

Quarterly data were used to test the money supply function given in equations (1) and (2). The regression results support the expected behaviour of the system. In both periods the regression coefficient of the relative cost of reserves indicated by the ratio of lending rate to discount rate RR was not significant. In the first period, 1955-1961, changes in available reserves RA was the only significant explanatory variable. The coefficients of both RR and changes in credit to the government were not significant though they had the correct sign. The regression coefficient of changes in available reserves is significant at less than 5% level. As seen in regression equations (1) - (3), the value of the regression coefficient of changes in available reserves is stable. The inclusion of other variables into the regression equation left the value of the regression coefficient constant. In the second set of regressions, changes in credit to the government proves to be the only significant explanatory variable in the money supply function. The coefficients of changes in available reserves RA and loan rate to discount rate ratio RR are not significant. Though RA has the correct sign RR has the incorrect sign.

These results are to be expected. While in the first period control of money supply was exercised along traditional lines through changes in reserves of commercial banks, in the later period changes in money supply were determined mainly by changes in the level of deficit financing through money creation and selective financing of development through the Development Bank and semi-government banks. This brings to focus not merely the selective impact of development and deficit financing but also their use as quantitative instrument.



In both sets of regression equations, the coefficients of the interest rate ratio RR are insignificant. This result is to be expected because of the existing set of interest regulations. In the first set using 1951-60 quarterly data, banks kept large excess reserves. Banks need not borrow from the Central Bank to increase credit and money supply. This could be increased within the limit permitted by the prevailing reserve requirement. Thus we find the unresponsiveness of money supply changes to the relative cost of borrowing from the Central Bank.

In the later period, specifically after 1964, banks kept zero or very little excess reserves. Normally this condition would imply bank responsiveness to the discount rate. But a compensating force was in operation. The prevailing nominal rate of interest reached and later on exceeded the Usury Law ceiling. There was probably a rationing of credit (or excess demand) at the prevailing loan rates. Since a substantial profit margin between loan rate and discount rate existed, it was profitable for banks to borrow as much as what was permitted by the Central Bank. Bank borrowing from the Central Bank was determined not so much by the relative cost of borrowing (which was always lower than the loan rate) but by what the Central Bank would lend them. We find therefore a lack of relationship between changes in money supply and discount loan rate ratio.

Using 1953-1960 data:

1.	$M = 17.197 + .201 RA$		
	(3.492)		$\frac{R^2}{.30}$
2.	$M = 16.098 + .199 RA + .015 GD$		
	(3.361)	(.155)	.29
3.	$M = 14.366 + .199 RA + .011 GD + .704 RR$		
	(3.302)	(.109)	(.173)
			.30

Using 1961-1971 data:

1.	$M = 58.947 + .082 RA$		
	(1.568)		$\frac{R^2}{.056}$
2.	$M = 7.598 + .015 RA + .206 GD$		
	(.299)	(3.247)	.253
3.	$M = 26.270 + .015 RA + .206 GD - 12.270 RR$		
	(.285)	(3.211)	(-.159)
			.254

where

M = money supply, cc + dd

D = demand deposit

RA = available reserves; reserve requirement

RR =  $\frac{\text{ave. loan rate}}{\text{basic. disc. rate}}$

GD = credit to government

RAGD = RA + GD

Figures in parentheses are t - values.

## POSTWAR PRICE MOVEMENT

The Philippines experienced a fairly mild inflation in the early post-war years. In the 1960's however, two serious cases of inflation occurred, one in 1961 to 1963, another in 1969 to 1971. There is no single explanation for either case of inflation. Increases in money supply provides but a partial answer. Autonomous increases in the prices of traded goods and crop failure are major factors which contributed to the inflationary pressure.

In this section, we will trace the movement of price level and see to what extent each of these three variables - (1) increases in money supply, (2) increases in prices of traded goods, and (3) a drop in agricultural production - explain Philippine inflation.

A sizeable portion of the Philippine household budget is allotted to food. This budget is naturally affected whenever there is crop failure due to typhoon or drought consequently resulting in a substantial rise in food prices. Also since a large part of imports consists of producer goods, autonomous increases in the prices of imports are reflected in general price increases. Moreover, imports still constitute a large share of the GNP. Treadgold and Hooley discovered that shifts in crops from domestic market to foreign market had contributed to the inflationary pressure of 1961 to 1964, leading one to include rise in export prices as an explanation of inflation [6].

As we observed in the preceding sections, the government followed a conservative monetary policy in the fifties. From 1950 to 1952, money supply slowly declined and then increased in the succeeding years - 1952 to 1955 - at about two % per year, although prices declined in each of these years. Beginning in 1955, money supply was allowed to increase at much faster rates and we see, in fact, an accelerating rate of growth from 1955 to 1970 (see Table 1).

In the same table, we also observe movement in the indexes of volume of production and of import and export prices. There were abnormal changes in the value of these indexes. In 1958, 1961, 1964 and 1969, the index of volume of agricultural production dropped significantly from the previous years' average level. Import and export price indexes moved up significantly in 1957 to 1958, in 1962 to 1963, and again in 1970 to 1971. The rise in the index in the last two periods were mainly due to the devaluation of the peso. Treadgold and Hooley [6] thought that the rise in the index in 1957-1958 was due to the barter trade allowed by the Central Bank in 1958 which raised the exchange rate.

In 1956 to 1959, the rate growth of food production dropped from its early average rate of about 6% per year to 1.9% between 1956 to 1957, and to 1.0% between 1957 to 1958. Import and export prices also went up beginning in 1956 to 1959. The exchange rate rose due to the allowed barter of as much as 10% of export. In the 1961 to 1963 inflation, all three factors were again present. However, the increase in money supply and in prices of traded goods due to the devaluation of the peso must have dominated the cause of inflation. Treadgold and Hooley showed that the decline in the supply of goods for domestic consumption arising from a shift in agricultural production from crops for domestic production to crops for export helped to further raise food prices. Then, the peso value of export earnings increased. It is likely that the marginal propensity to consume from this monetary increase was larger than the marginal propensity to consume from ordinary relaxation of monetary control. Monetary increases due to the increase in the peso value of export go more to households than to business.

We see the play of identical forces in the 1969 to 1971 inflation. From 1965, money supply was allowed to increase at extremely high rates - 14 percentage points in 1965, 18 in 1966, 26 in 1967, 21 in 1968, 30 in 1969, and 44 in 1970. Except for the first period of devaluation, money supply had never been allowed to increase at these rates. In 1967 drought affected extensive areas of the Philippines and in 1969, typhoon Yoling devastated a large part of the country. The volume of agricultural production hardly increased between 1966 to 1967 and it dropped from its 1968 level of 170 to 168 in 1969. Neither did it rise between 1970 to 1971. Moreover the peso was devalued in February 1971, resulting in another fast rise in money supply. This was regardless of restrictive monetary measures used.

In the Encarnacion, et al. study [2] the following price equation was obtained:

$$P = 85.37 - .0043 Y + .0423 \quad R^2 = .99$$

$$(-7.71) \quad (18.22) \quad DW = 1.83$$

The same equation is tested but for annual differences in price and money indexes. This is done to avoid the possible auto-correlation that may be present in the time series of the variables. Furthermore, we used volume of agricultural production as an alternative to Y. Import and export prices were alternatively included as another explanatory variable.

The equation

$CPI = f(M, Y, WPIM, WPIX)$  was tested on annual changes in the indexes of consumer prices in Manila, CPIM; consumer prices in the Philippines, CPIP; money supply, M; real income, Y; wholesale prices of import, WPIM; and of exports, WPIX. Two sets of data were used - one for 1950 to 1971, the other for 1958-1971. Annual data on consumer price index for the Philippines only began in 1957 so that we tested the price equation using CPIP for the period 1958-1971.

We ran a series of regressions using all the independent variables and their alternative combinations. Those found to be insignificant and those where multicollinearity existed were eliminated. Indexes of real income and money supply seemed to be correlated as the standard errors increased with the inclusion of the income variable. We removed real income in the next regression. In all cases, export prices were found to be insignificant.

The two remaining variables found to be significant are money supply and import prices, in equation (4) and (9). Their coefficients seem to be stable over time as shown by the results of tests for the periods 1950-1971 and 1958-1971 given below.

1950-71	R <sup>2</sup>	DW	
CPIM = -1.186 + .442 M (4.12)	.46	1.77	(1)
CPIM = -3.827 + .291 M + .578 Y (1.36) (.82)	.48	1.75	(2)
CPIM = -2.176 + .201 M + .183 Y + .422 WPIM (1.15) (.31) (3.34)	.68	1.72	(3)
CPIM = -1.344 + .245 M + .431 WPIM (2.42) (3.57)	.68	1.68	(4)
CPIM = 1.245 + .589 WPIM (5.21)	.58	.94	(5)
1958-1971			
CPIP = -.808 + .447 M (2.54)	.35	1.45	(6)
CPIP = -2.311 + .303 M + .468 Y (.78) (.42)	.36	1.43	(7)
CPIP = 2.131 + .434 M - .863 Y + .620 WPIM (1.25) (-.73) (2.02)	.54	1.48	(8)
CPIP = -.674 + .225 M + .494 WPIM (1.16) (1.98)	.52	1.64	(9)
CPIP = 2.556 + .661 WPIM (3.21)	.46	1.47	(10)

Equation (4) shows that a one % change in the indexes of money supply and import price would result in about .7% change in consumer price index. We may say that both demand-pull and cost-push forces were present in postwar Philippine inflation. Their regression coefficients are significant at less than 5%.

The results differ from those obtained by Encarnacion et al. both in the value and significance of the coefficients of money and income. These differences may be explained in part by the trend factor present if income, money and prices are correlated.

### III. Concluding Remarks

In the study, the conduct of quantitative monetary policy over the last two decades was investigated. There was a change in the objective of policy from that of maintaining stable prices and a level of international reserve under a fixed exchange rate to one for economic development.

The restrictions of the Anti-Usury Law began to be felt in the later period when the market rate seemed to be above the interest ceiling. The two decades could also be distinguished as a period of control and decontrol of foreign exchange. An investigation of the policies and the control instruments used lead us to further divide the period into precontrol (1953-60) and decontrol (1961-71).

Money supply functions were derived on the basis of the institutional set-up and the working of the control variables used. The results were as expected, given the restrictions on various rates of interest and the working of the control instruments. During 1953-60, changes in available reserves of banks were the only significant explanatory variable of changes in money supply. During the later period, with the government relying extensively on deficit financing, changes in government debts were the significant explanatory variable. In both periods, the coefficients of the interest rate variable were not significant. These results seem to agree with our analysis of the implications of the workings of monetary policy. It is shown that a money supply function must be derived for each institutional setting.

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**Table 1**  
**Quarterly Averages Of Money Supply, Demand Deposits, Reserves And**  
**Credit To The Government, In Million Pesos**

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Money	Demand	Total	Borrowed	Credit to	RAGD	Loan Rate
		Supply	Deposits	Reserves	Reserves	the government	(3) + (5)	Discount Rate
1953	1	1196	568	785	244	803	1588	3.12
	2	1185	570	810	172	902	1712	3.14
	3	1152	549	795	61	1068	1863	3.18
	4	1202	556	864	67	1099	1963	3.18
54	1	1233	569	910	114	1113	2023	4.45
	2	1215	572	951	22	1143	2094	4.49
	3	1209	568	888	47	1149	2037	4.50
	4	1219	557	873	277	1165	2038	4.45
55	1	1216	554	817	211	1341	2158	4.22
	2	1213	565	827	127	1453	2281	4.25
	3	1230	594	923	86	1645	2569	4.27
	4	1297	629	952	140	1717	2669	4.26
56	1	1360	681	1042	208	1839	2882	4.23
	2	1399	707	1031	451	1948	2979	4.23
	3	1434	750	1130	776	2092	3222	4.24
	4	1479	775	1221	572	2138	3359	4.21
57	1	1541	820	1321	475	2222	3544	4.20
	2	1571	834	1206	510	2309	3516	3.15
	3	1548	820	1124	392	2340	3465	1.73
	4	1587	826	1227	252	2420	3647	1.44
58	1	1585	827	1301	441	2496	3797	1.40
	2	1620	853	1503	321	2533	4036	1.46
	3	1643	876	1685	247	2568	4253	1.46
	4	1704	906	1789	456	2669	4458	1.46
59	1	1789	969	1803	478	2795	4599	1.59
	2	1791	979	1534	479	7899	4383	1.57
	3	1811	1005	1527	495	2877	4404	1.23
	4	1840	975	1453	642	3003	4456	1.40
60	1	1797	924	1354	663	3027	4381	1.57
	2	1792	920	1260	631	2998	4259	1.54
	3	1783	924	1343	432	3074	4417	1.53
	4	1858	918	1476	439	3115	4591	1.58

**Table 1 (cont'd)**  
**Quarterly Averages Of Money Supply, Demand Deposits, Reserves And  
 Credit To The Government**

	(1) Money Supply	(2) Demand Deposits	(3) Total Reserves	(4) Borrowed Reserve	(5) Credit to the government	(6) RAGD (3) + (5)	(7) Loan Rate Discount Rate (%)
1	1915	976	1665	536	3229	4894	1.57
2	1994	1031	1636	988	3503	5139	1.56
3	2025	1069	1829	1716	3985	5815	1.57
4	2164	1126	1898	2036	4434	6332	1.56
1	2138	1135	1736	1392	4411	6148	1.35
2	2187	1170	2046	1114	4327	6374	1.36
3	2212	1173	2099	863	4454	6554	1.38
4	2383	1246	2293	886	4827	7120	1.38
1	2556	1399	2402	1145	5176	7578	1.48
2	2673	1450	2344	1377	5418	7762	1.31
3	2741	1515	2524	1273	5662	8187	1.38
4	2853	1534	2642	1088	6115	8758	1.39
1	2813	1535	2419	1287	6462	8881	1.44
2	2637	1414	2303	1914	6402	8705	1.46
3	2649	1416	2376	2034	6571	8948	1.46
4	2761	1479	2435	2173	6874	931	1.47
1	2776	1515	1852	2212	6988	8841	1.48
2	3082	1467	3701	4693	7041	10742	1.46
3	2758	1453	4145	4641	7216	11361	1.52
4	2950	1501	4037	5335	7636	11673	1.84
1	3011	1571	4017	5061	7688	11705	2.07
2	3085	1624	4096	5250	7678	11774	2.05
3	3126	1724	4473	5620	7822	12295	2.08
4	3242	1760	4747	6079	8474	13221	2.07
1	3365	1860	5286	5743	9135	14421	2.08
2	3407	1887	4545	6027	9501	14097	2.02
3	3398	1883	4793	6463	9848	14642	1.64
4	3607	1910	4568	6572	10497	15066	1.60



**Table 1 (cont'd)**  
**Quarterly Averages Of Money Supply, Demand Deposits, Reserves And  
 Credit To The Government**

		(1) Money Supply	(2) Demand Deposits	(3) Total Reserves	(4) Borrowed Reserves	(5) Credit to the government	(6) RAGD (3) + (5)	(7) Loan Rate Discount Rate
1968	1	3697	2016	5853	7444	11028	16882	1.47
	2	3768	2067	5644	8091	11118	16762	1.34
	3	3596	1883	5417	8649	11303	16721	1.34
	4	3737	1999	5743	8415	11456	17200	1.34
69	1	3813	2134	6923	8189	12116	18539	1.34
	2	3928	2206	6423	8568	12243	18666	1.32
	3	4014	2262	6748	8766	12591	19340	1.30
	4	4545	2524	7773	8605	13484	21257	1.32
70	1	4592	2669	8998	8716	13913	22911	1.29
	2	4579	2550	6752	6597	13935	20688	1.35
	3	4535	2486	7269	5809	13962	21231	1.42
	4	4764	2972	7732	5615	14730	22463	1.41
71	1	4995	2606	8102	5853	16419	24522	1.42
	2	5196	2779	8171	5670	16618	24789	1.43
	3	5126	2729	8055	5233	16741	24797	1.47
	4	5348	2758	7555	5005	17317	24872	

Source: *CB Statistical Bulletin*, various issues.

**Table 2**  
**Excess And Available Reserves Of**  
**Commercial Banks, In Million Pesos**

YEAR	EXCESS RESERVES	TOTAL AVAILABLE RESERVE	RATIO OF EXCESS TO TOTAL RESERVES
1950	128.6	244.3	0.52
51	19.3	116.0	0.16
52	39.7	147.5	0.26
53	34.3	147.8	0.23
54	48.1	165.8	0.29
55	51.7	188.5	0.27
56	72.7	234.3	0.31
57	41.5	201.9	0.20
58	155.0	324.7	0.47
59	43.3	296.5	0.14
60	53.9	251.1	0.21
61	80.9	310.2	0.26
62	91.0	404.6	0.22
63	62.9	459.9	0.13
64	65.4	449.6	0.14
65	63.9	465.4	0.13
66	129.4	506.6	0.25
67	90.9	855.8	0.10
68	78.6	1040.5	0.07
69	185.6	1295.4	0.14
70	263.7	1373.4	0.19

Source: *Central Bank Statistical Bulletin*, 1971.

Table 3

List of Bonds Issued  
Their Maturities and Interest Rate  
1965 - 1970

Bond Issue	Maturity in Years	Interest Rate (%)
PW & ED Bonds	30	4
NPC Bonds	30	4 - 5 1/2
NAWASA Bonds	40	4 - 5 1/2
ACCFA Notes	2	2
" "	5	2
" "	5	3
" "	2	3
" "	5	3
Treasury Notes	5	2
" "	3	5
R.P. External loan Bond		6 1/2
NIA (National Irrigation Adm.)		4
Treasury Notes	5	5
" "	4	5 1/2
" "	4	6
Certificate of Indebtedness	1 1/2	2
PW & ED Bonds		7
NAWASA Bonds		7 1/2
NPC Bonds (non-supported)		7
NAWASA		7 1/4
R.P. Replacement Bonds		2
" " "		4
NIA Bonds		8
Land Bank Capital Bonds		7
Treasury Notes	5	10 3/4
" "	5	11 3/4

Source: *Annual Reports*, Securities Market Department, Central Bank of the Philippines.

Table 4

End of the Month Average Yield on Treasury Bills  
and Bancom Bills, 1966-1970

End of the Month Rate	TREASURY BILLS				Bancom Rate
	49	91	182	273	
1966	1				
	2				
	3				
	4				
	5		6.9		
	6		6.8		
	7		6.7		
	8		6.7		
	9		6.5		
	10		6.4		
	11		6.5	.7	
	12		6.5	.7	
1967	1		6.2	.5	
	2		6.0	.3	
	3		5.6	.9	
	4		5.6	.9	
	5		6.4	.7	10.9
	6		6.9	.8	12.6
	7		6.8	7.2	12.4
	8		6.5	7.7	11.3
	9		6.1	7.2	11.0
	10		6.2	7.3	11.4
	11		6.5	7.8	11.7
	12		6.4	7.8	11.7
1968	1		6.8	7.2	11.1
	2		6.9	7.5	
	3		6.6	7.3	
	4		6.9	7.3	
	5		6.1	7.5	13.7
	6		6.4	8.9	13.6
	7		6.1	8.3	13.9
	8		6.9	8.2	13.9
	9		6.2	8.4	14.4
	10		6.6	7.5	13.9
	11		6.7	7.4	13.4
	12		6.7	7.3	13.8

Table 4 (Continued)

End of the Month	Rate	TREASURY BILLS				Bancom Rat
		49	91	182	273	
1969	1		6.9	7.6		13.2
	2		7.0	7.6		13.9
	3		7.6	7.1		13.9
	4		7.4	7.7		14.3
	5		7.6	7.6		13.9
	6		7.7	11.3		14.8
	7		7.1	11.4		14.9
	8		7.6	11.5		14.6
	9		8.8	11.3		13.6
	10		8.3	11.0	9.6	12.9
	11		8.2	11.2	8.9	12.2
	12		8.1	6.9	7.9	12.5
1970	1		6.6	8.4	8.7	11.6
	2		7.6	9.1	9.1	12.7
	3	9.9	11.8	12.6	12.9	14.0
	4	12.0	13.1	13.6	13.8	14.4
	5	13.0	13.3	13.9	14.6	15.2
	6	14.1	14.2	14.9	15.7	16.2
	7	14.9	15.6	16.4	16.7	16.2
	8	13.6	13.2	14.4	14.8	
	9	10.3	11.2	11.8	11.9	15.9
	10	10.5	11.2	12.8	12.7	15.8
	11	12.5	13.2	13.7	14.4	15.8
	12	12.9	14.3	14.7	14.8	15.7

Source: *Philippine Financial Statistics*, Central Bank of the Philippines.

**Table 5**  
**Indexes Of Prices, Money Supply, Volume Of Production And Real Income**  
**1950-1971**

	CPIP	CPIM	WPIA	WPIL	WPIM	WPIX	M	VA	Y
49		101.6	110.5	115.1	84.4	112.1	88.6	59.8	62.3
50		104.7	106.6	105.4	102.5	122.9	92.1	64.4	67.7
51		113.4	118.7	115.9	128.9	126.7	97.7	73.8	73.5
52		106.1	108.9	108.9	114.4	100.8	92.8	79.4	79.5
53		102.5	108.6	106.8	108.5	123.5	95.5	85.2	86.2
54		101.0	102.6	101.4	105.2	108.5	98.4	94.0	93.4
55		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
56		102.7	103.1	102.0	108.0	104.3	114.4	106.1	107.2
57	100.0	104.5	107.6	106.1	114.6	109.2	126.0	110.2	113.4
58	102.5	108.0	111.2	108.5	119.2	120.8	132.2	110.9	117.7
59	100.6	107.0	112.7	106.7	129.9	136.6	145.9	117.5	136.5
60	105.6	111.5	117.4	111.8	137.4	133.0	145.9	120.8	127.5
61	110.3	113.2	123.2	117.4	144.5	138.1	163.3	120.6	135.9
62	113.6	119.8	129.4	119.6	158.2	167.1	180.0	129.8	144.2
63	122.6	126.5	142.0	130.1	167.8	200.0	218.3	134.8	154.8
64	133.5	136.9	148.6	139.2	169.4	194.2	219.1	136.5	158.7
65	137.6	140.4	151.9	142.8	170.2	199.6	233.3	140.4	167.4
66	144.5	149.1	158.5	151.2	172.3	197.7	251.5	152.1	177.4
67	153.0	157.6	165.9	158.4	173.5	216.2	277.9	155.4	188.2
68	154.1	158.1	170.7	161.2	174.6	243.0	298.5	169.8	199.9
69	156.7	160.4	171.9	163.3	178.2	233.3	328.8	168.4	212.4
70	180.7	188.2	205.4	190.5	220.9	304.8	372.6	178.7	235.4
71	222.4	224.0	237.7	226.1	245.6	321.3	416.9	178.7	250.6

Source: Central Bank Statistical Bulletin, 1971 except for real income which are from Phil. Statistical Reporter — 1949-66 1968 1969 Series 1971 Series  
1967 1969-71 1970 Series 1972 Series

The Money supply series are annual averages.