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PHILIPPINE MONETARY POLICY AND ASPECTS OF THE  
FINANCIAL MARKET: A REVIEW OF THE LITERATURE

by

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The views expressed in this study are those of the authors and  
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The literature on Philippine money and credit reflects very much the historical development of the financial market and the evolution of credit and related policies. It also reflects, the growing expertise in the field with a slowly increasing number of economists returning home from their graduate studies. Early works dealt with the very basic question of what type of monetary system suits the Philippines and what type of central bank to establish. These studies were made by invited economic missions from the United States and by Filipino central and other bankers. Among them was Miguel Cuaderno, the first governor of the Philippine Central Bank (CB). He worked closely with these missions either as chairman or as head of the Philippine panel. The missions' reports and Cuaderno's own writings showed similar perception of the problems of development finance, i.e., the need to balance coordination and independence, and to exercise restraint in monetary expansion as a source of finance for development.

As the system grew in size and in variety of institutions and assets, it also became more challenging to study. The financial market has achieved substantial growth as shown by the physical presence of larger, and greater number and more varied financial institutions. Twelve (12) commercial banks composed the system in 1946. To date almost a thousand financial offices are scattered all over the country. It also happened that more Filipino economic students were available to write on contemporary issues. Mission-type studies dominating the literature up

to the early 60s have been substantially supplemented or even replaced by empirical works. Since 1970, five monetary macro models have come out including money supply functions, three flow of funds analyses and empirical studies of sub-sectors like the money market including that for deposit substitute, rural banks, rural savings and portfolio choice. A few empirical works on inflation were also undertaken. The studies, however, suffer from lack of rigor in model building and care in the statistical analysis. Mainly secondary data from the Central Bank were used and some of the series like that on interest rate were not accurate. The studies had rather narrow focus and failed to take into account the important inter-relationship in the market. Partly for these reasons some of the findings are not conclusive or are inconsistent with each other. The studies were also very much oriented to specific policies and many have yet no empirical base. There are many areas that have not been touched such as portfolio choice, interest rate structure, intermediary behavior, market segmentation and capital flow.

The writer feels that a historical approach will be the more interesting one to use at this time. This is the first review on the country's literature. Moreover most of the studies are historical in perspective. They were written in response to the issues of the time and by available expertise.

The literature is organized into six topics -- 1) central banking; 2) development finance and market segmentation; 3) sub-sectors

securities and money market; 4) interest rate regulation and structure; 5) money supply function and price level; and 6) savings flow. Included in 6 is the very important contribution of Hooley and Moreno's (1976) analysis of the flow of funds. The section on central banking and development finance is written as a historical paper. The rest of the sections follow the more conventional review of literature.

#### 1. Central Banking

The history of the Philippine Central Bank and the evolution of its policy properly begins when the Philippines obtained its independence from the United States on July 4, 1946. World War II just ended and left the country terribly devastated. Fortunately, the Philippines had a ready system of government to adopt, patterned after the United States'. Moreover, Filipino leaders were already trained to administer such government during the Commonwealth period. Upon assuming independence, therefore, efforts of the new government concentrated on normalizing conditions and establishing institutions needed to undertake specific responsibilities. Among the first major institutions established was the Central Bank of the Philippines (CB).

The literature up to the early 60s was almost totally concerned with central banking and development finance. The 1947 Finance Commission and three other American missions wrote on the kind of central bank that suits the economy and alternative methods of financing economic develop-

ment. Governor Cuaderno wrote numerous lectures on the same topic. These were later compiled and published in his Guideposts to Economic Stability and Progress (1955). He also wrote a primer on the Philippine Central Bank (1949); and a memoir entitled Problems of Economic Development (1960). The latter recalled his experience as a Governor and his relationship with successive Presidents of the Republic from Roxas to Garcia.

The Joint Philippine-US Finance Commission organized in September 1946 by agreement of the Philippine and US Government recommended the establishment of the Central Bank. Edgar G. Crossman headed the American panel while Secretary of Finance Cuaderno headed the Philippine group. The Commission was created to study the financial and budgetary problems of the Philippine government. It was also asked to recommend specific policies governing "taxes, budget, public debt, currency and banking reform, exchange and trade problems, reconstruction and development". Among its major recommendations was the establishment of a managed monetary system under the authority of a central bank. It is to be noted that in 1937 Kemmerer wrote a volume dealing with the problems of using a gold-exchange standard. And at the outbreak of the World War II Cuaderno was sent by President Quezon to study alternative monetary systems that the country might adopt. The Commission's efforts were therefore not the first made for the transformation of the monetary standard from gold exchange to a managed system. The Commission began

its work in mid-January 1947 and submitted its report April 25 of the same year. Republic Act 265 otherwise known as the Central Bank Act was passed. By this Act in June 1948, the country shifted to a managed monetary system. The Central Bank started operating January 2, 1949 with Miguel Cuaderno as its Governor.

Cuaderno made a considerable contribution to the formation of a modern monetary system in the Philippines. He helped conceive a Central Bank that would suit the nation's needs. He nurtured it during the country's difficult period of reconstruction from the war and its first efforts at economic development. Even before the Finance Commission was formed, President Roxas assigned Cuaderno to devise a suitable charter for a central bank and suggest necessary changes in the currency system. (Cuaderno, 1949). Cuaderno then wrote and consulted central banking experts in the United States. Among them were Robert Triffin and Henry Wallich who were both with the Federal Reserve Board (Fed). Triffin had just written "Monetary and Banking Reform in Paraguay" (1946). Cuaderno also referred to the recommendation of David Grove also from the Fed for a Guatemalan-type of central bank. The central banks of these countries were development-oriented. Cuaderno deemed these to be more suitable models to Philippine needs than the Western central banks. The latter are in general more concerned with stabilization. Their powers are limited to their responsibility for stabilization.



The specific issues that concerned most Cuaderno and the missions was the degree of independence of the Bank from fiscal authority and degree of reliance on non-inflationary finance source for government expenditures. President Roxas agreed that the Philippines needed a development-oriented central bank. Such a central bank has to work more closely with the fiscal authority for the financing of development projects. The Bank has to help develop the financial system by encouraging the establishment of financial institutions, expanding the level and variety of available credit instruments or financial assets and influencing the allocation of credit to socially desirable projects or sectors. LDC's typically have more serious problems on balance of payments. Their export earnings are found to be an important constraint on capital formation. Moreover, international reserves form a much larger component of domestic money supply thus making it sensitive to changes in foreign exchange forms. For these reasons LDC central banks cannot effectively operate independently of fiscal and planning agencies. The Philippine Central Bank is thus responsible and empowered to decide on the level, cost and allocation of money and credit, foreign trade and the flow of foreign exchange. It is also expected to support government security issues, control and assist financial institutions and serve as a depository of government funds.

The Commission devoted two chapters on development financing. The first was on government borrowing; the second on the need to expand

and develop financial institutions. At that time 12 commercial banks and the Rehabilitation Finance Corporation (RFC) composed the financial system. Of the twelve banks, five (5) were branches of foreign banks and of the domestically incorporated, two were owned by the Chinese, one by American and two by the Catholic Church. The government-owned Philippine National Bank (PNB) existed then. This leaves us with only one regular indigenous private bank. The pattern of ownership of banks reflects well the colonial nature of the economy. Foreign banks serve the trading interest of the industrial foreign trade enclave.

It was anticipated that the Government will rely on sources other than taxes to finance its expenditures. These are foreign borrowing, domestic borrowing and printing money. That time the country was already receiving a large inflow of dollars but this source was not expected to continue beyond the 50s. Though the Commission was not explicitly against the use of the printing press it argued strongly for domestic borrowing as a means to increase the rate of government investment and more importantly, to help develop the securities market. It specifically recommended the extensive marketing of government securities with attractive yields and liquidity features. This, according to the Report, would help augment the small and unvaried portfolio being marketed then. The securities would become an important form of saving for the community. It advised the government to give attractive interest rates.

Apparently, the first Commission work tackled less contro-

versial issues. It mainly provided the institutional framework for the shift from a gold-exchange standard to a managed monetary system. Its recommendations on the Bank's objectives, responsibilities and powers were followed by the government when it enacted the Central Bank Law in June 1948. Concerned with the broad and fundamental issues of instituting a managed monetary system under the central bank control, it did not deal with some of the major issues like interest rate and selective credit control policies.

A second important mission, the Bell Mission of 1950 undertook a comprehensive survey of the economic conditions of the country. It set guidelines for the direction of future policies of the Philippines. The Mission's Finance panel was headed by Edward Bernstein, then head of the Economic Research Division of the International Monetary Fund (IMF). Their report focused on the dwindling war-related capital inflow of U.S. dollars. This trend had direct implications on the balance of payments and the national budget, both being very dependent on this source of funds. The Mission estimated that the existing taxation system could not be relied upon to pay for the prevailing and expected level of expenditures. Revenue to GNP ratio was a little over 5 per cent only. It was anticipated that the Bank would be pressured to lend to the government if taxation and the market for government securities remained undeveloped. Cuaderno and the American advisers cautioned the Philippines to avoid the experience of having high inflation rates. Their report

repeatedly admonished against inflationary type of financing and recommended instead, higher tax rates for income and specific commodities. It also recommended conditions for America's development aid, granted through the Philippine Council for U.S. Aid (Philcusa) one of which was the raising of corporate income tax and indirect taxes on alcohol and tobacco.<sup>1/</sup>

Cuaderno was a conservative central banker who firmly believed that stability was a pre-requisite of growth. He felt that one of the most important deterrents of economic development in underdeveloped countries was the reckless use of central bank credit. In his speech to the Third National Convention of Manufacturers and Producers, Manila Hotel, February 26, 1955 he argued that ... "In almost every case of the less developed countries which resorted to the unbridled use of central bank credit for financing economic development, the experience has been one of failure and disappointment" (1955, p. 158-159). As a general premise, he stated that "the basic legitimate source of capital funds for use in the prosecution of an investment program, whether public or private, is the saving of the community..." (Speech on Sources of Development Capital, 1955).

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<sup>1/</sup> Two Hundred Fifty million dollars (\$250 million) was granted to finance development projects over a period of five years.

Cuaderno's memoir was very insightful about problems of maintaining a balance between central bank independence and monetary-fiscal coordination. Because the central bank chosen for the Philippines was development-oriented more direct coordination of fiscal and monetary policy has to exist through the membership of the Secretary of Finance in the Monetary Board, and the membership of the CB Governor in the National Economic Council, the President's economic policy-making agency. During President Magsaysay's and the first year of President Garcia's administration, the independence of the Central Bank became an issue. National Economic Chairman Council Araneta wanted a more aggressive financial policy. Governor Cuaderno strongly resisted deficit financing. During this time his lectures concentrated on the dangers of inflationary financing. To bring home his point he referred to the advice of eminent central bankers like Bernstein of the IMF and Grove and Exter of the US Federal Reserve Board. It might be concluded that the Governor succeeded in maintaining his position against inflationary finance. In several occasions his success was accomplished by his offer of resignation. It would thus seem that given the organizational set-up of the Bank, its independence depends very much on the personality of the governor and according to Castro (1971) on his personal relation with the incumbent executive.<sup>2/</sup>

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<sup>2/</sup> Apparently, he enjoyed personal rapport with Presidents Roxas and Quirino. There was little pressure on him during their incumbency. Conflict in policies was experienced during Presidents Magsaysay and Garcia administration in which he used the threat of resignation about five times.

The success of Cuaderno's husbandry may be evidenced by the fast pace of reconstruction and fairly rapid growth rate of income and industrialization of about six (6) per cent. Moreover, inflation was practically nil in the first 10 years of development. Price level increased moderately at less than five (5) per cent during the last three years of his term. This record was exemplary in LDCs and the whole post-independence history of the Philippines. A tradition of stable price may have been established probably determining Filipinos' degree of tolerance of inflation in succeeding years. There was a strong reaction to the high inflation rate of 1974-75, and again in 1978-79.

Cuaderno seemed to be preoccupied with a deficit spending during his term to the neglect of other problems. The recommendations of the 1947 and the 1950 missions regarding the development of the securities market were not followed. The market remained undeveloped. This mainly explains the use of the CB window as the main buyer of new government issues. Cuaderno made no statement on problems of marketing securities.

There were no discussions either on the desired direction of the financial market. A program for developing rural and development banking was adopted to meet the financial requirements of priority activities such as agriculture and specific industries. Cuaderno initiated the establishment of rural banks in 1951 and the expansion of development banks in 1958. The policy followed however, may be considered

highly segmented in orientation. This continues to be used up to the present and has attracted some criticisms in the later years.

It may be argued that among Central Bank regulations, those on interest rates probably exert the most profound impact on economic and financial activities. Yet there is no explicit policy on interest rate. The foundation for the currently controversial set of interest rate regulations was laid in the 50s. Interest rates on three sets of instruments were controlled from the very beginning of central banking - saving and time deposits, loans and discounts. The rates on saving and time deposits were first set at 3 and 3-1/2 per cent in 1957. These were changed at long intervals, 4 and 5 per cent in 1964 and 5-3/4 and 6-1/2 per cent in 1966. New regulations were imposed between 1976 and 1978. The Central Bank offered no rationale for setting deposit rate ceiling or choosing these levels.

The discount rate was set as an instrument of quantitative and selective control of credit. The rates differed depending on the government's credit priorities. At first the discount rates were set according to the type of financial institution. In 1952, the rates were 2 per cent for commercial banks and 1 1/2 per cent for rural banks. These were lowered by one-half percentage points in 1954 then increased by over 100 per cent in 1957. Beginning 1959, these rates were set according to priority activities -- for agriculture loans, 4 1/2 per cent; export bills, 5 per cent and other loans 6 1/2 per cent. In 1962,

additional priority areas were added to the discount rate schedule. The discount rate was set at the very low rate of 3 per cent for loans to the National Marketing Corporation, (NAMARCO) and seven (7) preferred industries: farming, fishing, food processing, textile and drug manufacturer, cassava, and veneer and plywood industries.

The Central Bank also controlled yield on government securities. The rate on an issue was fixed up to its maturity since prices were not allowed to vary. The first public bond issue offered a fixed rate of 4 per cent which about equaled deposit rate. Subsequent issues were offered at higher rates, also approximately following the deposit rates. Beginning 1968, prices and therefore the yield on Treasury Bills were allowed to be determined by demand and supply forces.

While the discount and deposit rates were set by the Monetary Board, lending rates were set by the 1916 Usury Law. The Law set a ceiling on interest rates to be charged on secured and unsecured loans at 12 and 14 per cent respectively. According to Van Atta (1970) this Law was enacted on the basis of medieval value that "usurious" rates were sinful.

Mapa (1961) and Van Atta (1970) argued that until about mid-1960 the rates prevailing in the institutional market were low and probably less than the corresponding Central Bank ceilings. The ceiling rates were therefore ineffective and did not distort the allocation



of credit and the flow of funds. Commercial banks were observed to be in very liquid position. Excess reserves were maintained and discount privileges not used. Mapa further observed that only the PNB used the discount window until 1957. He noted that in 1957, private bank's borrowing from the CB was only 10 per cent of total CB loan to banks. The margin between the prevailing loan rate of about 8 per cent and deposit rate or discount rates of 3 to 4 per cent offered banks a wide enough profit margin. Yet, banks maintained excess reserves and borrowed minimally from the Central Bank. These observations led Mapa to argue that the low demand for funds was small at the then prevailing rates.

The institutional setting changed since the mid 60s. First, the ceiling on loan and deposit rates became effective. There is enough evidence to prove that the market rate is higher than the legal maximum. Secondly, the financial system substantially expanded in volume as well as in the variety of institutions and claims. However, public and publicly-supported banks remained dominant and continue to be important media for selective credit control. Central Bank intervention increased. There is a much larger number of regulations on interest rates, discounting privileges and portfolio. All financial institutions now fall under the direct control of the monetary authority. Ceiling rates have been imposed on interest rates on deposit substitutes and other short-term financial papers.

## 2. Development Finance and Market Segmentation

Recent literature analyzed the implications of many of these policies. But on the whole the studies consider partial impact of specific policy or set of policies and regulations. It will be helpful to view the complex impact of policies from a common analytical framework. In this section we review the literature from the viewpoint of how they affect the size and efficiency of intermediation. This framework is borrowed from Gurley and Shaw's thesis and applied to segmented markets (McKinnon).

The role of intermediation in development was analyzed by Gurley and Shaw in their volume, Money in a Theory of Finance, and other subsequent works. They show that the process of intermediation results in lower risk, greater liquidity and better allocation of credit to borrowers and portfolio mixes to surplus units. Intermediaries specialize in borrowing and lending. In the process of intermediation surpluses of different sizes of many units are channelled into a large pool of funds. This fund has a certain liquidity distribution which permits the intermediary to lend portions of it at much longer maturity than the maturity of the fund placed by individual lenders. The intermediary can diversify his portfolio. It may lend to different types of borrowers, different sizes and different maturities. It may also find it profitable to lend in different forms of credit. On the other hand the intermediary may supply a variety of claims against itself in order to

attract more funds. Risk is reduced by diversification of both liabilities and assets. The reduction in risk of the assets of intermediaries is transmitted to surplus units' claims against the issuing intermediaries. Each lender indirectly lends to the composite borrowers of the intermediary. The pooling together of numerous funds into an intermediary portfolio also permits the intermediary to guarantee its debtors greater liquidity. In general liquidity increases with the size of the market for claims. Specialization is also assumed to result in economies of scale particularly in the acquisition and use of information. All these advantages should result in lower cost of borrowing and lower risk on the portfolio holding of lenders.

Of greater importance than the above contribution of financial intermediation is the reduction in indivisibilities in portfolio and investment choices. A surplus unit can lend any amount and buy a variety of assets. A deficit unit can borrow any amount and also be able to choose better borrowing terms. Dependence on internal finance is relaxed. McKinnon gave a very simple and clear exposition of this result in his model of market segmentation. Let us take two investors facing different investment-saving choice over two time periods, 0, 1. A is dependent on internal finance, B faces a developed capital market.

Assume A has U function reflected in the indifference curves  $U_1^A, U_2^A \dots$  and present income  $Y_0^A$ . His optimum point is  $Q_1$  at which he saves and invests  $Y_0^A - C_0^A$  and obtains future income  $C_1^A$ . At point  $Q_1$  the

time preference rate and the marginal productivity of investment are equal to  $1 + g$ .

Alternative technology requiring a larger level of investment is available. B can avail of this and choose between the two alternative techniques and between internal and/or external financing. Let us assume the alternative technique to be OB and the lending rate to be  $1 + r$  on market line, MM. B can reach a higher IC curve, use technique on OB curve and borrow  $FC_0^B$ .

Presumably the lending rate is lower given all the arguments for intermediation. As long as the borrowing rate is lower than the time preference natural of the investor, he can attain a higher level of utility by borrowing and investing more. Being on OB transformation curve allows B to obtain a much higher absolute returns to his investment. McKinnon did not consider the impact of intermediation on portfolio choice for the surplus unit. Let us take Chart 1 and assume the borrowing and lending rate are equal. A traditional household facing a productivity curve  $Y_0^A Y_1^A$  will be better off by diversifying his saving into direct investment and lending to the intermediary. The optimal points in A's case are direct investment  $Y_0^A - I_0^A$  from the tangency, of the lending-borrowing curve and  $Y_0^A Y_1^A$ , lending  $I_0^A C_0^A$  at which a higher IC is tangent to the lending-borrowing curve. People with small income, unable to borrow easily and have no entrepreneurial ability are better off lending or buying financial assets. It is important to have assets in small denomi-



nations in an LDC assuming that majority of households have small incomes. The surplus which they can lend will also be small.

These expected benefits from intermediation provide the rationale for some development finance policies that we enumerated earlier and which we will review in greater detail below. The policies as a whole have conflicting impact on intermediation leading to possible inefficiency in credit allocation and portfolio choice. They also might have lead to new forms of segmentation.

Placido Mapa's doctoral dissertation (1961) is the country's first study on development finance and has remained a major work in the area. He traced the development of each type of financial institution existing then - commercial, rural, development banks and a few specialized credit agencies of the government - giving their quantitative development from 1949 to 1959. An important segment of the financial market consisted of public and publicly-supported institutions. These were established by law to serve the economy's particular credit needs.

In 1951, the Rural Bank Act was passed providing for the establishment of rural banks all over the country. These were intended to cater to small producers in rural areas and encourage the flow of surplus funds into the banking sector. The Development Bank of the Philippines (DBP) was established in 1954 replacing the Reconstruction and Finance Corporation (RFC). The reconstruction period was practically completed

by early 1950. Financing of industry and agriculture was then the new priority of the government. The DBP was to provide credit to priority industrial activities. In 1955, the 1916 charter of the Philippine National Bank, was amended allowing this public commercial bank some investment functions. In 1958, the Law providing for the establishment of private development banks was passed. Both DBP and PNB are purely public banks. Rural banks and private development banks are private but are subsidized by the Central Bank for capitalization and funds for operation. Other specialized credit agencies like the National Development Corporation and the Agricultural Credit and Cooperative Administration were also established during this period.

The PNB and the DBP became the main financial medium through which the government directed credit allocation. Mapa observed that the commercial banks cannot solely provide credit for industrial and agricultural development. In 1954, 46 per cent of their credit went to real estate. Only 9.5 per cent were to industry and an insignificant percentage to agriculture. By 1959, credit for industry rose to 26 per cent. The increased rate of credit allocation to industry was due to the mushrooming of new banks with ownership management links to industries (Mapa, 1961, p. 126). But the bulk of funds of private investment still came from the three government and government-supported banks. Their importance in development finance continues to the present. In 70s, they granted a total credit of about 40 to 50 per cent of total

credit granted. But while interest rate ceilings were not intervening in the market, these public institutions expanded the volume of credit available to activities not financed by private commercial banks or had no access to institutional credit. Mapa then focused on the quantitative development of these institutions. A chapter each was devoted to the development of commercial, rural, development banks and other financial institutions. His thesis contains a more detailed history of financial development. Currently, the ceiling rates were found to be substantially lower than market rates. This fact profoundly influenced the level and relative cost of credit supplied by the different financial institutions. The phenomenon has also attracted a lot of interest in the 70s.

There is a long interval between Mapa's study and subsequent works dealing with financial development. Gallardo (1972) wrote a report for use by the Joint IMF-CB Banking Survey Commission entitled "The Structure of the Financial System of the Philippines, 1950-1970". A large part of the report was devoted to a discussion of Gurley and Shaw's theory of finance and Central Bank regulations on financial operations of the various types of intermediaries. Secondary data on sources and uses of funds of bank and non-bank intermediaries were presented. His point was that non-bank intermediaries form a very large segment of the market and they should therefore be under direct control of the Central Bank for more effective monetary policy. The system was shown



to grow very rapidly from 1960 to 1970 with banking institutions growing in nominal term at 50 per cent per year and non-banks at 23 per cent. He also showed that deposit liabilities were a major source of funds for commercial and thrift banks only. Rural and development banks depended on other liabilities - the former on CB accommodations; the latter on bond issue. Rural banks relied on about a third and DBP on 10 per cent of their funds from deposit liabilities. Gallardo also gave data on the allocation of credit by broad industrial sector by these financial institutions. These data are from secondary sources and are highly aggregated and so shed no new light on the allocation and other problems of development finance. His interest lies mainly in showing the relative sizes of bank and non-bank financial institutions in order to argue that monetary control should directly extend to this financial sector. In fact this recommendation was adopted by the Central Bank in 1972.

A third study on development finance recently done by the World Bank was part of its 1978 Country Report on the Philippines. This was however, more narrowly focused on the market for short-term instruments. The chapter provided another empirical description of the growth in number and size of the different types of financial institutions from 1962-71. In 1950 less than 15 commercial banks having 87 branches existed. These formed the bulk of the market as the other bank and non-bank intermediaries has not been established. Table 1 of the Report reproduced below shows the market composition in 1961 and 1972. Now a

Table 1

Structure of the Financial System, 1974  
(In millions of pesos and percent)

Types of Institution	Asset Size		Real rates of growth <sup>a</sup>			Number of Offices	
	Amount	Composition	1960-65	1965-70	1970-74	1961	1972
Central Bank	21,273.6	22.5	4.0	6.3	16.8	1	1
Banking System	54,457.9	57.4	16.4	8.8	10.9	---	---
Commercial banks	42,663.2	45.1	17.2	7.9	12.3	-208	747
Private banks	30,114.3	31.8	17.0	8.8	14.0	125	561
Government banks	12,548.9	13.3	17.5	6.3	8.6	83	181
Thrift banks	1,743.6	1.8	28.2	15.0	-2.9	---	---
Savings banks	1,236.6	1.3	25.3	14.7	-5.5	4	53
Private development banks	296.3	0.3	46.5	9.2	-0.8	12	66
Savings & loan associations	210.7	0.2	...	...	17.3	0	35
Regional unit banks (rural banks)	2,110.7	2.2	23.0	10.5	14.0	181	587
Other banks	7,940.4	8.3	10.0	10.7	7.4	---	---
Development Bank of the Philippines	6,758.0	7.1	10.0	10.7	3.4	16	30
Land Bank	1,182.4	1.2	...	...	128.0	---	---
Nonbank financial intermediaries	19,072.2	20.1	11.5	8.5	2.7	---	---
Insurance companies	9,094.8	9.6	7.0	4.7	-4.5	---	159
Government <sup>b</sup>	6,537.4	6.9	4.8	4.1	-3.0	---	2
Private	2,557.4	2.7	13.3	6.2	-8.0	---	157
Investment institutions	6,835.0	7.2	...	16.6	11.2	---	---
Finance companies	2,306.1	2.4	...	9.3	-3.5	---	86
Investment companies (mutual funds)	n.a.	n.a.	...	...	...	---	8
Other	4,528.9	4.8	...	37.1	25.8	---	---
Trust operations	1,951.5	2.1	...	23.7	18.8	---	---
Other financial intermediaries	1,190.9	1.2	-8.4	22.3	13.9	---	---
Mutual building and loan associations	24.7	...	0.0	-2.0	-14.8	---	7

Table 1- Structure of the Financial System, 1974

page 2

Credit unions	n.a.	n.a.	...	-1.9	...	---	---
Securities dealers and brokers	882.1	0.9	...	111.8	29.7	---	81
Nonstock savings and loan associations	71.2	...	...	...	-5.3	---	65
Agricultural Credit Administration	112.1	0.2	-23.3	12.0	-9.0	---	1
Pawnbrokers	100.8	0.1	...	...	...	---	---
Total	94,803.7	100.0	12.0	8.3	10.1		

... Zero or negligible.

a. Deflated by GNP deflator (1967 = 100).

b. Includes GSIS and SSS.

Source: WB Country Report on The Philippines, Priorities and Prospects for Development, Washington, D.C. 1976, Table 14.10, p. 366.

much larger variety of institutions have spread geographically. Between 1961 and 1972, new important institutions were established. The Private Development Corporation of the Philippines (PDCP), the first investment bank began to operate in 1964. This was followed shortly by Bancom and other investment companies. Savings and loan association or thrift banks did not develop until the 70s. The market, however, has remained dominated by commercial banks and government established intermediaries.

The World Bank Report considered development mainly from the quantitative viewpoint and failed to analyze the pattern of financial development. Tan (1974, 1976) speculated that the pattern may be explained partly by the selective impact of the development policy used by the Central Bank. The relative rate of growth of the intermediaries was also partly in response to the growth of demand for new forms of assets and their supply. The thrust of the financial development policy was to subsidize specialized institutions such as the rural and private development banks. These have been granted extremely favorable credit for their initial capital and to augment their loanable funds. Up to 50 per cent of their equity requirement may be obtained from the Central Bank. The discounting/loan ratio allowed them is generally higher than other banks. The discount rate charged is lower. The two public banks, DBP and PNB are used as media for financing priority activities and quantitative expansion of money supply.

While generous credit incentives are granted to these public or semi-public institutions they were more effectively covered by the legal ceiling on loan and deposit rates. Other financial institutions in contrast were more innovative in issuing instruments not legally restricted by law or Central Bank rules.

This policy on financial development has been criticized by Tsiang (1973) and Tan (1974, 1976). The credit and interest rate policy on commercial and rural banks has virtually given them opportunities for earning monopoly profits. In Tan's work she enumerated and described briefly the various forms of intervention on financial institutions. These are regulations on their establishments, portfolio ratios to be maintained and the rates of interest to be paid on deposits. The controls imposed seem not to be consistent with the objective of developing the financial market. Examples of these are: commercial and rural banks are given discounting incentives for expanding their loanable funds. At the same time they are restricted from offering deposit rates high enough to attract placement of savings in deposits. In response to these two inconsistent regulations, banks relied on discounting rather than to borrowing larger amounts from a bigger number of depositors. This is specially true of rural banks which are allowed lower discount rates than the ceilings on deposits. A second inconsistency Tan cited is the policy to expand credit while simultaneously fixing both loan and deposit rates at low levels. Excess demand for loans at the ceiling

rates then occurred. In response to excess demand private financial institutions charged effective rates higher than the ceiling rates. The differential between the effective and ceiling rates were supposed to be hidden in service charges and retention of loan proceeds in the lending banks. Public and publicly supported banks giving longer term loans on the other hand strictly followed regulations on rates. Perverse structure of interest rates therefore results. Longer term loans granted by public financial institutions are charged the legal ceiling. Shorter-term loans predominantly granted by private banks are charged higher rates. A smaller volume of funds are thus collected from surplus units at the prevailing ceiling than would have been collected in a more freely-operating market.

S.C. Tsiang discussed the monopoly-like effect of CB regulations on discounting and interest rate. The effect of the interest and discounting policy is analyzed graphically below. A supply of funds curve is assumed including intermediation cost as SS, and demand for funds DD. Ceiling rates on deposits is set at  $\bar{r}_d$  made equal to discount rate and ceiling rate for loan as  $\bar{r}_l$ . Both  $\bar{r}_d$  and  $\bar{r}_l$  are fixed lower than the equilibrium rate  $r_e$ . Demand for loans is  $L_3$  and supply is  $L_1$  at the fixed rates. If banks are allowed to borrow from the CB  $L_2 - L_1$  they are able to earn profits of  $(\bar{r}_l - \bar{r}_d) L_2$ . If on top of this they are able to price discriminate and charge selected (large) borrowers higher rates than  $\bar{r}_e$ , profits are increased. Banks can continue earning

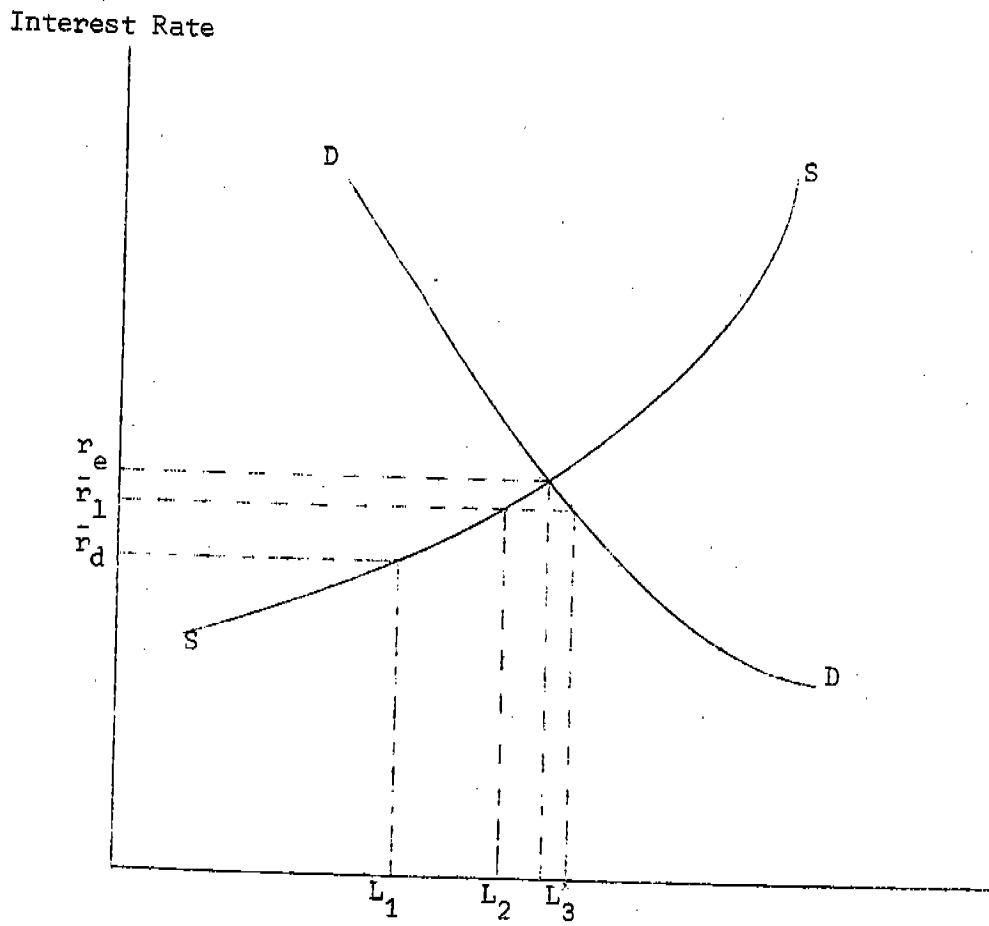


Chart 2

abnormal profits as long as CB allows them to borrow large sums at the unreasonably low rate. Monopoly power is protected by restricting entry through licensing of new banks. A related policy encourages bank merger by imposing larger equity/debt ratio for existing banks and larger initial capital for new banks.

Some rather spotty empirical support for the implications of the policies on bank behavior is given in some studies. Hooley and Moreno's flow of funds analysis for 1962-65 showed that commercial banks plowed in profits composed an extraordinarily large part of (about one-third) their total sources of funds. These banks readily discount at the Central Bank. Funds from pure intermediation, i.e., deposits, form relatively small part of their total funds. The next table, also from the World Bank Report, discloses that funds flowing to savings and time deposits decreased in relation to the total flow into short-term assets. On the other hand, Gallardo (1972) and Tan (1976) found that rural banks obtain more than 50 per cent of their loanable funds from Central Bank discount window. The slow growth in deposit sources is likely to have been due to the low effective deposit rate offered and to the low discount rates.

We may conclude that the combination of development finance strategies adopted including those on interest rate and credit incentive granted priority industries and specialized financial institutions tend to have mixed results. The financial system definitely expanded in



number as well as in size. Its geographic reach has also increased as shown by the more dispersed location of banks. Mapa, Gallardo and the World Bank studies evidenced this development well. Financial growth was partly due to the policies adopted. For this reason it might be argued that the institutional development here was essentially a supply-leading rather than demand-following as classified by Patrick (1966).

To the extent that funds have become available through intermediaries the constraints on self-financed choices of levels of investments and techniques have been reduced. Those able to borrow from the market have definitely benefited by being able to borrow to finance investments of larger scale and at a lower interest cost. The policies do not guarantee, however, efficient allocation of funds among all prospective projects. Strong arguments are brought out in the literature that credit allocation tends to be inefficient in a regime with interest rate and other control. Hardly any empirical work has been done to support these arguments. There were newspaper reports on bankruptcy of government bank-supported projects. There is evidence of over-investment or low utilization rate of subsidized industries such as sugar milling, cement, hotels, etc. Velasco (1969) found that DBP gives a heavy weight to value

collateral in its allocation criteria and not as much on productivity. D B P was also found (Vibal, 1979) to concentrate its lending on large scale projects. These give support to the arguments but more empirical work on credit allocation is needed.

The negative effects on intermediation of the interest rate policy have been recognized. The allowable deposit rates are found to be unreasonably low and therefore unattractive to savers. The analysis at the beginning of this section (Please refer to Figure 1) shows how low deposit rate in banks detracts savers from lending to them. Households are thereby encouraged to engage in low-productivity self-financed enterprises. They are also discouraged from specializing in production activities in which they have a comparative advantage.

Credit policies have implications on other aspects of intermediation. These are reviewed in the next two sections. Two segments of the market are studied - the securities market and the money market. The first is found to be a lagging sector; the latter, a rapidly growing one. It will be seen that this pattern of development is partly explained by policies.

### 3. Securities Market

Equity shares and bonds are not popular borrowing instruments. There is hardly any private bond issue and the volume of equity shares

grew very slowly compared to direct loans. Valenzona (1970) argued that firms preferred to borrow from financial institutions, especially from public or publicly supported banks such as the DBP, PNB and rural banks. The cost of borrowing from them was lower than from primary securities. Others pointed to the fact that most Philippine corporations are family corporations. These families prefer to exercise full control and have the business identified as theirs. Some would argue that floating securities is cumbersome. All these probably explain why firms hesitate to become public.

Corporation return rate is found to range very widely from about 7 per cent to 50 per cent. Many are earning about 35 per cent rates. Lending rate is much lower than corporate return rate of 14 to 19 per cent for long term loans. Lending rates were even lower before the 70s. Large corporations engaged in priority activities borrow at preferred rates from the public banks. Family profits therefore can be maximized by financing activities through bank loans instead of equities. Equities, however, are issued when the capital requirement is too large to be accommodated by banks. According to a CB regulation, banks can lend up to 10 per cent of the bank equity to any one borrower. This may be the reason why only very large corporations like those engaged in mineral or oil exploitation are largely public.

Papers on government securities are mostly criticism on policies related to deficit financing and marketing of securities.

Until 1966, only long-term securities financing specific public works projects were issued. Their prices and interest rates were fixed at instruments face values. These were sold in auction at chosen time intervals, usually weekly in the last few years. The effective rates varied depending on the auction bid prices. Long-term bonds are still issued at fixed prices and rates. Those with unreasonably low rates issued in the 50s and 60s were discarded.

Both short and long-term securities having fairly competitive rates are now available. Despite their attractiveness, they do not form an important part of the stock of securities transacted. Moreover the financial system failed to develop a secondary market for government securities. The transaction remained bilateral between bidders and the Central Bank. The latter issues and markets government securities at auction and repurchase time. *Secondary transaction takes place* between financial institutions, or the and large individual holders.

It is noteworthy that among the advices of the first three Missions to the Philippines, that on the development of the securities market was ignored. The first Mission recommended for an effective marketing of government securities to provide non-inflationary source of financing government deficits and increasing the volume and variety of issues transacted in the securities market. The Bell (1950) and Bernstein (1955) Missions pursued this recommendation. Mapa's study (1961, p. 55) mentioned that Governor Cuaderno intended to sell to the

public the first bond issue. Cuaderno did not discuss what marketing mechanics to use. Instead, he discussed the inflationary danger posed when the Central Bank purchase new issues.

No discussion was made on the criteria the Central Bank used for choosing the rates on particular issues and fixing the rate at level originally stated. The Bernstein Mission recommended offering high rate and other attractive features such as tax offset and liquidity. Floating attractive government bills was assumed to help develop the securities market as a whole by expanding its volume and lead to the development of a secondary market.

Toward the mid 1960s, a need for a market for short-term assets was felt. At about this time the money market was beginning to evolve, especially on interbank call loans. The Economic Development Foundation, (EDF) a non-profit private association of business leaders and economists organized in February, 1966 a seminar entitled "An Introduction to a Short-Term Treasury Bill Market in the Philippines". Andres Castillo, then Governor of the Central Bank; Sixto Roxas, President of Bancom; Herman Frenzel, Vice President for Sales and Trading in Government Securities Division of the Bankers Trust, N.Y., and Chester Babst, Executive Vice President of the Pacific Banking Corporation gave the lectures.

The lectures revolve around two themes -- a) the need for and the functions of a short-term securities market and b) the market's desired features to enable it to meet these needs.

Castillo began with a brief discussion of the Bank's failure to develop the securities market. He went on saying:

"For the past 17 years, since the Central Bank was organized in 1949, we have tried to develop an active government securities market in this country. We have a department in the Central Bank, the Securities Market Department, which was organized precisely to perform this job. We have tried our best to educate the public in dealing -- in the buying and selling of government bonds; but in spite of our efforts, we have not quite succeeded in reaching a desirable stage where government securities could be bought and sold as a means of monetary control. If there were securities in the past that the government saw fit to issue, we tried to market the securities as best we could and to get them accepted by the economic community at large. We have employees in the Securities Market Department who go around the country telling the people what government bonds are and encouraging them to save part of their incomes by buying 4% R & D Bonds which still form the backbone of the securities market in this country. Despite such efforts we have not been able to drum up enough enthusiasm to influence the community to invest an increasing portion of their income in government securities. Today, with interest rates soaring to unheard of levels, a 4% bond may appear unattractive as a form of saving even in rural communities and inspite of the safety feature and other guarantees it carries. And it is for this reason perhaps why only the banks and the Central Bank are the main holders of this type of government security today.

Banks have purchased them mostly, if not exclusively, for reserve purposes but not as an investment which could be counted upon to yield a return attractive to the stockholders. While we have issued almost all types of government securities which you would find in a highly developed country such as treasury bills, certificates of indebtedness, treasury notes and long-term bonds, they are merely fore-runners of what we should really trade in more actively in the years to come. Treasury bills have been issued -- for that matter, all types of government securities have been issued at fixed prices, at fixed rates of interest, and except for one issue these have been bought by buyers showing different degrees of willingness. In most cases, we have had to use persuasion, or disguised threats, to make them invest in these government securities.

But to a Central Bank, it is really the treasury bill that should form the core of open market operations. This type of security should be well-known in the financial community and should be freely traded in as a means not only of investment, but as a means of influencing money supply and the credit operations of the financial institutions in this country."

It might be instructive to list the functions of the short-term market as enumerated by Frenzel in the seminar.

- a) "Number one, we want to harness cash flow. Corporations generate hot money: 3-day money, 17-day money, 22-day money which can be put effectively to use in a short-term money market."
- b) "Second, we'd like to employ some of the excess reserves of the banks. Now, admittedly, an occasion, there is no such thing as excess reserves. However, on a Friday, there's invariably some money that could be invested over the weekend. Some only for short spans -- 15-day, 18-day, 22-day periods, but the funds are available for employment at a rate."
- c) "Third, we want to create market liquidity. We want to create an instrument which is money good on the spot, which has a free market, is quoted regularly, that each investor has ready access to."
- d) "We want to establish a key rate. In the U.S., the key rate is the 90-day bill rate. Other rates are geared to this. Of course, from a Central Bank view, the key rate is the discount rate, and private loans and other market loans are geared from that level."
- e) "Another objective of the money market is to enable the Central Bank to perform its open market operations effectively. I have taken great care to read the Central Bank Act."
- f) "What is a money market dependent upon? This would be the next logical step, and first and foremost is the fact that there should be a flow of short-term funds seeking temporary investments. These short-term funds can come from any source you want. Again, the insurance company, the corporation, the bank. I repeat the same names. They do have funds on occasion. This would give you your flow of funds."

One may conclude from his statement that Governor Castillo understood what is needed to develop a market for securities. There must

be a secondary market similar to the stock exchange and trading must be unincumbered by interest rate and other restrictions. In fact he understood that securities with a fixed yield of 4 per cent could not possibly sell when rates on other assets were higher. Yet his recommendations for establishing a secondary market was not implemented.

The succeeding governor, Alfonso Calalang also recognized the need and the desired features of a securities market. He argued as follows:

Now, what are the prerequisites of effective market operations especially in a developing country like ours? First, to my mind, would be the availability of an adequate supply and variety of securities that should be freely traded. Secondly, there must be a flexible interest rate system which should respond not only to the type of security offered but also to the availability of funds for investment. And then the securities that are traded must not be fixed in price as they are today. Except for one issue -- the 7% government bond -- all the prices were fixed in at par in the past. And even the first attempt to sell a security that should have been sold without any fixed price did not quite succeed in attaining that objective. A third requisite may be the development and growth of specialized institutions which would assume the risks of the market.

There are different procedures in open market operations. In some centers, central banks deal with private intermediaries such as dealers, discount houses or brokers. This is the case in Canada and England and the United States. Private intermediaries who deal in these securities obtain their funds through short-term loans from banks. In addition the market may also include private companies with excess funds who may wish to use them to purchase liquid but interest-yielding securities. Sometimes the Central Bank grants advances to be used in these transactions. In other cases, a sale of government securities carries a repurchase agreement by the Central Bank. Many central banks deal directly with commercial banks who become the principal agents of underwriters and securities dealers. In other countries, central



banks deal with the specialized public institutions. This holds true in Belgium where a public intermediary has been established by the Central Bank to deal in government securities. Certain features of this method might be considered in establishing an active market for government securities in the Philippines. Of course, I suppose the procedure that will be adopted will aim to develop a market by "feel" and will be directed towards determining the most fruitful and most effective means of drumming up enough interest in treasury bills and other government securities here.

He also explained in the following statements why the market did not develop.

"The market has not been developed because, usually, the government is unable or unwilling (or both) to borrow at current rates of interest. As of the end of 1965, 69 per cent of outstanding issues carried interest rates of 4% and below. It is our objective to decrease this percentage and see that these securities are sold at current market prices. Moreover, government securities are not regularly issued at, say every 90 days or every year or some other fixed period. They are issued only when the government needs additional resources to meet its obligations rather than in response to the liquidity requirements of the economy. I believe it is about time that we adopt a more sophisticated system and develop a wider and deeper securities market here so that government issues can serve not only as a means of satisfying the financial requirements of the government but also as an instrument of monetary management.

Governor Castillo stated the government considered the interest cost or debt servicing of the issues when deciding on the rates and not its potential contribution to financial development or to banking stability. It is to be noted the Monetary Board of CB directly decides on bond issue. The Governor cannot therefore divorce motives of the government from those of the CB.

The literature has not helped shed light on the marketing

problems of government securities. There is almost zero private individual holdings of government securities since most are held by financial institutions and large corporations. Financial institutions find them an attractive form of primary reserves since they earn relatively high interest rate (compared to zero rate on reserve deposits). It might be safely argued that there exist private demand for government securities which are not met because the issues are not available to them. This leads to the potential of securities as an important form of savings.

#### 4. Money Market

Activities in the money market attracted much attention in the the early 70s. Transactions in short-term interbank and large company claims increased rapidly. In one year it quadrupled (1972-73). The rate of interest fluctuated widely reaching up to about 40 per cent at times. Because of the relatively high rates offered in this market, it attracted funds from commercial and other intermediaries. The Monetary Authority became concerned that funds that otherwise would have gone into longer-term uses flowed instead into short-term assets. Evidence cited was the heavy participation of investment banks in money market activities. (Investment banks are considered to specialize in longer-term financing.) It is true funds flowed into these new forms of assets - interbank-call loans, bank acceptances and large company papers. But there is no a priori reason to say that this movement resulted in the

shortening of the maturity structure of financial assets. It is to be noted that interbank borrowing dominated the transactions. So long as they are made to fill reserve deficiencies, the effect on the supply of funds outside the money market will tend to be positive, not negative.

The state of knowledge in the Philippines about this market seems to be quite poor. The literature is very sparse and there is little written explaining the evolution of the market, what are the implications of its transactions in the saving-investment process and on intermediary portfolio, and how its borrowers and lenders behave. It is likely that this market developed as a way of diversifying lending and borrowing terms. As the financial market expands, it offers new forms of financial claims to meet the varied preferences for liquidity and riskiness of borrowers and lenders. In the Philippines money market instruments are relatively new forms of assets. It is also possible that the rapid growth in the early 70s was in response to the increasingly restrictive interest rate ceiling. The 70s, it is to be recalled, has much higher rates of inflation rendering the nominal ceiling rates untenable. This market might have been a legitimate way of evading the interest rate regulations. Until 1976 this market was not covered by the regulations. Money market transactions were conducted in a special segment of the market. There thus results price discrimination between ordinary lenders which receive the low regulated deposit rates and the large investors which are given the money market rate. There is some evidence

that private banks discriminate also among lenders. Banks are found to differ as to their (hidden) loan rates. The observed variation in rates cannot readily be interpreted as price discrimination without further study.

Irma Clemente's thesis (1975) is an important pioneering work on the money market. She provided primary data on interest rate and a portfolio of a sample of dealers. She also gave a brief history of the money market tracing its growth from 1961. Interbank call loans were the first instruments used in the market. When the banks' reserve position tightened in 1960s they resorted to trading in excess reserves. In the United States banks as a whole tried to economize on reserves by lending the excess reserves of some banks to those with deficiency. Similar transactions took place with individual and company funds. Surplus funds of certain individuals and companies were lent to those with short-term requirements. This type of transaction tends to involve large sum as individual lenders and borrowers are matched. Smaller transactions are made through the usual deposit and loans or the securities market.

Bancom pioneered in offering new instruments. Its commercial papers and bankers acceptances grew rapidly. Some dealers experienced

a doubling of trade in a year, but most showed growth rates of about 30 to 40 per cent per year. Interbank call loans dominated trading but later bankers' acceptances, repurchase agreements and other dealer papers issued by financial institutions composed 81 per cent of total transaction in 1974. Commercial papers issued by corporations and government short-term securities played a small role in this market.

Using Central Bank data, Clemente provided a good description of the monthly movement of interest rates on various instruments and their distribution from 1971-74. From a survey of 30 dealers consisting of three (3) investment houses and seventeen (17) commercial banks she described the portfolio pattern and trade turnover of the dealers. Finally, she hypothesized and fitted by regression monthly interest rate functions for each type of instrument -- interbank call loans, treasury bills and commercial papers. Money supply, consumer price index, foreign exchange reserves and stock price index were used as arguments. The first three variables were found to be significant explanatory variables of interest rate. Their coefficients, however, differed substantially. The author did not explain why there should be this variation.

The interest rate structure and their wide monthly fluctuation over the year is noteworthy. In 1971 the rate of interbank loans fluctuated between the range of 6.50 in January to 18.0 in November. In 1972 the range was 8.25 (January) and 20.0 (August) then 3.25 (September) and 12.0 (December) in 1973; 10.3 (February) and 18.0 (May) in 1974. The

fluctuation was substantial even on a day to day basis. There was a wide rate differential among the instruments transacted -- interbank call loans, treasury bills and commercial papers. A two to three percentage points differential was frequently experienced. This rose to as high as five percentage points in some months. It was alleged that the interest rate fluctuated even more widely on individual day to day transactions than was reflected in the monthly averages. On several occasions it rose to more than 40 per cent. Roxas (1977, p. 42) mentioned the rate to have reached this level. The rate could be jacked up to the penalty rate of 42 per cent on reserve deficiency imposed by the Central Bank. A bank deficient in reserves can be made to pay through the noose by the lender bank. Roxas explained the causes of this problem. First, he pointed that banks do not hold sufficient secondary reserves. He further observed the lack of any pattern of portfolio composition of reserves held by banks. Some banks hold minimal secondary reserves, others up to 50 per cent of required reserves.

Clemente (1975) gives empirical support to this argument. The bulk of money market transactions was on interbank call loans and bankers acceptances. Secondary reserves in the form of treasury bills other than government securities and commercial papers were relatively small. Part of the government securities held already forms their primary reserves. As such it cannot be counted as secondary reserves. Consequently banks tended to rely on the Central Bank and other banks to meet their reserve and unexpected credit needs.

R o x a s blames balance of payments flows as the main determinant of banks' liquidity and reserve position. He cited the liquidity squeeze in 1970, 1971, and 1974. These according to him resulted from deficits in the balance of payments. The market was considered "normal" during the last quarter of 1972 and 1973 when the country earned a surplus -- foreign exchange transactions. Another reason given was the lumpiness of withdrawals by some depositors -- the government, foreign companies and importers. Large withdrawals by a few clients can easily lead to a reserve deficiency for the depository bank. Roxas recommends a gradual build-up of commercial bank secondary reserve levels. He also suggested to allow banks to rediscount secondary reserves for a minimum of about 30 days to enable them to fill their primary reserve deficiency. Thus dependence on interbank loan is reduced. Roxas indirectly recommended the freeing of deposit rates when he mentioned that banks cannot expand deposits when they are in a tight situation brought about by the legal ceilings on these rates.

Apparently, Roxas estimated the relationship between interbank rate and excess reserves on one hand, and interbank and commercial paper rate on the other. He did not discuss the method used to obtain the relationship. But he stated that "when excess reserve position of the entire system is zero, the interbank call rates settled at between 11.6 and 12.6 per cent per annum, and for every ₱100 million that the banking systems reserve position is in deficit, the interbank call rates rise

between 1.4 and 2.2 per cent per annum" (Roxas, 1976, p. 46). He found that interbank rates were the leading rates in the money market and were closely correlated with commercial paper rates. Notably, the rates on these two papers move very closely but they fluctuated more widely than those on Treasury Bills. The very narrow secondary market of Treasury Bills may explain why their rate is more stable. Besides, transactions in these bills mostly take place when originally issued.

Speculation allegedly resulted from the interest rate movement. One big commercial bank, the Continental Bank, failed because it was over-extended in the money market activities. Genbancor, an investment bank, followed suit a few years after the Continental Bank debacle. Though no empirical work was done to support these allegations, they alarmed the Central Bank. It then requested an IMF-CBP study of the money market in 1976. The Report first provided a theoretical framework for studying money market instruments. The theory used is the portfolio choice among competing instruments, following the theory of demand for money. A very large part of the Report was devoted to theory which is very useful to Central Bank officials as well as to students of money. Their empirical analysis following the theoretical discussion is, however, very brief. The movement from 1974-76 (the years when official statistics from the Central Bank became available) of total transactions, their distribution among the instruments



transacted and their respective rates were traced. The degree of variation in rates in the Philippines and the U.S. was compared. This movement was found not to differ significantly. This conclusion needs to be qualified by the fact that the rates used were monthly averages which tended to even out the wide weekly or even daily fluctuations. They do not reflect the individual rates on cases which according to Roxas and other bankers reached 42 per cent!

While Roxas and Clemente were concerned with the whole money market the IMF-CBP researchers focused on deposit substitutes. The study made an important clarification as to which assets/liabilities should be appropriately included as deposit substitutes. It is to be noted that inter-bank loans and deposits are transacted mainly to improve the liquidity and reserve position of banks (and other financial institutions). Deposit substitutes on one hand, and, commercial papers, non-bank repurchase agreements and banker's acceptances, on the other hand, are respectively intermediary liabilities and assets. Transactions in these result in intermediation between savers and investors.

The study gave a fairly detailed analysis of the characteristics of deposit substitutes including (a) the distribution of holding whether private, public, institutional, individual or non-financial corporation; (b) their distribution by issuing institution,

and (c) their maturity structure. Commercial banks are observed to issue the bulk of deposit substitutes. Its share increased gradually from about 50 per cent in 1973 to 62 per cent by the middle of 1976. Investment banks issued the second largest portion but their share declined from 31 per cent to 21 per cent over the same period. It is noted that thrift banks issued a negligible amount of these deposits (IMF-CBP, 1976 Report, T. 12, p. 50).

The main holders of these assets are private individuals and non-financial corporations. In 1976 a little over 80 per cent of placement came from this source in commercial banks and almost 70 per cent in quasi banks. In the latter institutions private holding showed a rising trend from 52 per cent in 1974. Transactions were in very large units - 70 per cent were in ₦1.0 million and above with 2/3 of these in ₦2.0 million or more. More than 80 per cent of the papers had maturities of 90 days or less, 16 per cent being call loans.

The data may be interpreted to show that deposit substitutes have become an attractive alternative to regular deposits. As seen from the World Bank Report (1976) their absolute growth (₦2.9 billion had overtaken ordinary deposits (₦2.0 billion) by 1972. (Please see Table 2 for the annual changes in the composition of gross financial assets.) It is to be noted that they started to be offered in 1965 only. They showed erratic movement at the beginning but on the

Table 2  
Changes in Gross Financial Assets of the Private Sector, 1951-74  
(In millions of pesos)

Year	Currency <sup>a</sup> (1)	Demand Deposits <sup>b</sup> (2)	Deposit substitutes <sup>c</sup> (3)	Total short-term assets (4)=(1)+(2)+(3)	Savings, time and other deposits <sup>d</sup> (5)	Life insurance <sup>e</sup> (6)	Government <sup>f</sup> securities <sup>f</sup> (7)	Corporate bonds <sup>g</sup> (8)
1951	-30	-93	...	-123	-1	12	4	...
1955	-9	35	...	26	123	18	24	...
1961	97	95	...	192	336	175	27	...
1962	123	90	...	213	331	175	43	6
1963	190	207	...	397	457	214	49	6
1964	-38	-63	...	-101	221	120	40	6
1965	158	84	123	365	119	279	77	74
1966	60	203	12	275	835	283	37	52
1967	213	179	39	431	843	321	94	267
1968	22	80	154	256	342	379	104	151
1969	341	439	-14	766	584	393	236	226
1970	291	76	255	622	777	442	322	-42
1971	240	365	423	1,028	913	507	145	87
1972	785	457	308	1,550	302	573	1,117	38
1973	17	1,117	2,946	4,080	1,986	698	-129	444
1974	859	912	3,224	4,995	1,901	749	1,476	-138

... Zero or negligible

- a. Defined as currency in circulation--that is, currency issue minus inactive cash. Source: Table 2, WB Country Report on The Philippines, Priorities and Prospects for Development, Washington, D.C. 1976, Table 14.4, p. 354.
- b. Demand deposits of private businesses and individuals. Source: Table 2, WB Country Report on The Philippines, Priorities and Prospects for Development, Washington, D.C. 1976, Table 14.4, p. 354.
- c. Figures for years earlier than 1971 were estimated by assuming that the importance of deposit substitutes increased gradually from 1965--the year when bills of the Bureau of Agricultural Economics were first issued--to 1971, when they accounted for 33.1 percent of total other net liabilities of the banking system. The step functions applied were 1965-67, 10 percent; 1968-69, 15 percent; 1970, 20 percent.
- d. Consists of time and savings deposits in commercial banks which are viewed as elements of quasi money; time and savings deposits in rural banks, savings banks, postal savings banks, and savings and loan associations.

whole they grew fairly rapidly over the decade 1965-1975.

We hinted at the beginning of this section that intermediation in the money market was partly a move by financial institutions to price discriminate between small and large lenders. Instead of paying a uniform rate on all deposits banks maximize profits by paying regulated rates to ordinary small depositors, borrowing from the CB part of its funds, and offering deposit substitutes to large depositors. Going to Chart 3 we assume SS and DD to be the supply of and demand for funds to all banking institutions,  $r_e$  is the equilibrium interest rate,  $\bar{r}_l$  is the ceiling on loan rate, and  $\bar{r}_d$  is the ceiling deposit rate. Let us assume further that the bank can borrow at  $S_1 S_2$  at the same rate as  $\bar{r}_d$ . . . Banks experiencing excess demand may offer a rate below  $r_e$ . Additional supply of funds are forthcoming along the SS curve from point M to O. They borrow  $S_2 S_3$ , and lend at  $r_e$ . Banks may however pay any rate below  $r_e$ . Profits will be higher when they borrow on the lower position of MO curve, that is at  $r_d$ , where the additional supply  $S_1 S'_1$  is just equal to additional loans  $S_2 S_3$ . Banks can therefore increase profits by segmenting the market into the regulated and free parts. Profits can be further increased by discriminating more finely among borrowers and lenders.

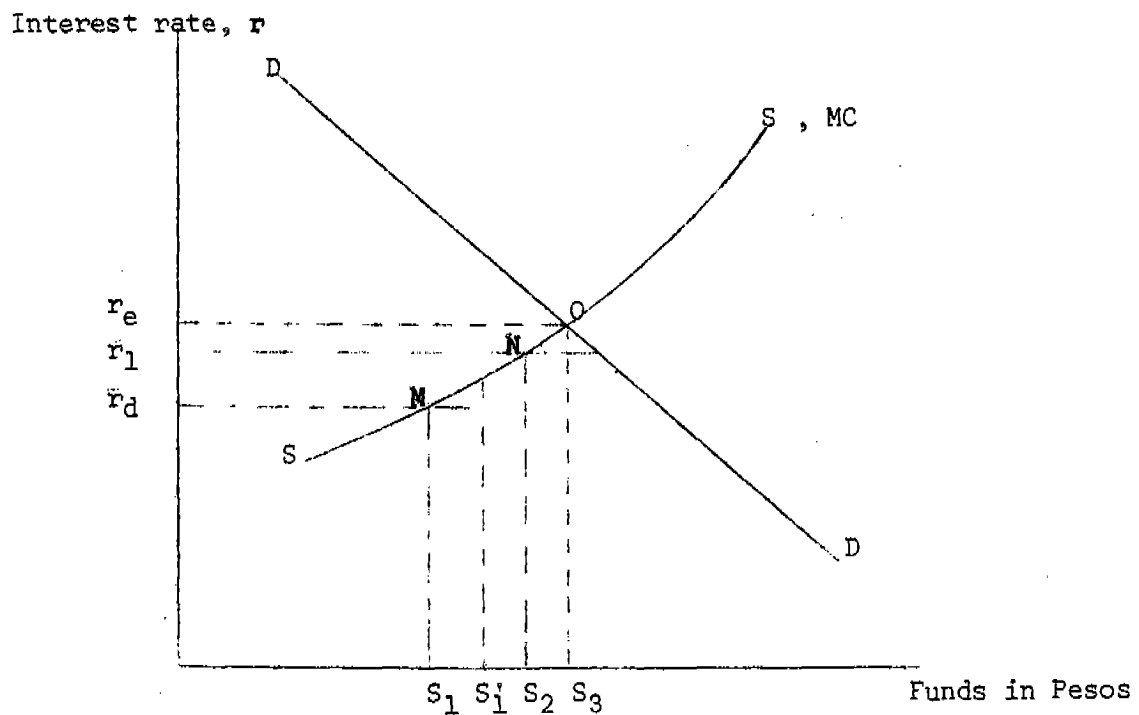


Chart 3

Following this analysis it would seem that the more interesting behaviour to study is that of the intermediaries rather than the wealth holders. Obviously the latter will prefer to hold deposit substitutes instead of savings or time deposits when there is a wide yield differential between them. The liquidity and risk of these two issues are not too different since both are liabilities of the same

institution(s) and have similar specified maturities. With regard to intermediary behaviour the following questions may be raised: To what extent do they exercise monopoly power in interest rate decisions? What is the degree of discrimination in the free market? What are their allocative impacts?

The IMF-CBP study applied a theory of portfolio choice to demand for deposit substitutes. They hypothesized and tested the following functions:

1. Demand for deposit substitutes is a function of GNP, rediscount rates and a dummy variable for time.
2. Rate on deposit substitutes is a function of GNP and real money supply.

It is not clear whether this demand function is one by wealthholders or by intermediaries. These functions are not adequately explained. There is a need for more rigorous analysis of portfolio choice by savers and by financial institution. Unfortunately there is hardly any literature on portfolio behaviour of financial institutions except for the empirical description of the sources and uses of funds such as the studies of Hooley and Moreno. (1976) and the World Bank Country Report (1976). Mentioned earlier is Velasco's study (1969) which investigated the lending criteria used by the Development Bank of the Philippines. This is a good start but it is limited to a

descriptive analysis of the lending rule used. We know so little about other banking types. How, for instance do rural banks allocate their credit; what caused the bankruptcy of a number of them; who are their main depositors. Why do not they seem to behave like commercial banks?

There are other important financial institutions that have not been studied: The Government Service Insurance System, the Social Security System, and private insurance companies. The equity and bond market has not been studied either. In this regard a model of finance choice is needed. Internal sources, direct borrowing, issue of equities or bonds are alternative means of financing. What determine the use of one or a combination of these sources? To what extent does market segmentation determine the financing choice of a firm? As we enumerated above, many fundamental questions in portfolio choice and finance decisions have yet to be analyzed.

## 5. Interest Rate

The literature on interest rate is somewhat dichotomized into highly theoretical pieces on portfolio choice and interest in short-run income and growth models, and, institutional analysis. Modern theory of portfolio choice sprung from Keynes liquidity preference. Tobin (1958, 1965) developed this into a rigorous theory of choice under uncertainty. A very rich theoretical literature followed Tobin's seminal work covering various models of interest rate expectation and yield determination, and the more recent contributions on inter-temporal decisions on saving/consumption, and portfolio. The latter are an expansion of Fisher's investment theory and Friedman and others' permanent income hypothesis in which saving and investment are decided so as to maximize utility over time. It is logical to include portfolio choice in the saving behavior since the yield on assets are expected to influence savings level itself.

Markowitz (1959) having worked along the same line as Tobin extended his analysis to more than just two assets. The main criticism of this approach is that individuals may not in fact maximize utility from a utility function whose main components are the means and variance of the rates of return of alternative portfolios, hence lacking in generality (for instance Feldstein (1969)). Samuelson (1970) referring back to an earlier article in 1967 stated that the Tobin-Markowitz analysis is rigorously applicable only where the statistical distributions are normally Gaussian or where the utility-function to be



maximized is quadratic. Nevertheless, where the risk is quite limited, he concluded that the mean-variance analysis is a very good approximation. The controversy however goes on and is a subject of continuing research (for instance see Fishburn (1977)).

The structure of assets arises from the existence of risk and uncertainty. In addition there is the effect of price changes on the expected yield of the asset money. This effect has its origin in the attempt to integrate monetary and value theory by Pakinkin (1956), Metzler (1959) and others. Earlier, Marchak (1938) following the works of Hicks (1939) formulated a general model that treated the "joint" supply and demand of money and assets to include consumption goods and their prices. Implicit in this formulation is the use of utility indifference among various possible income streams arising from possible combinations of assets and consumption. A corresponding structure of interest rate is implied in the model. Robinson (1951), commenting along the same line noted that each type of asset is a potential substitute for each other, and of money. This is the theoretical basis for the issue on substitutability or non-substitutability of money and near-monies. A sizable portion however of the empirical works here are addressed to the issue raised by Gurley and Shaw (1955, 1960) which revolves around the question of effectiveness of monetary policy with the existence of near-monies or substitutes. A

convenient survey is recently made here by Feige and Pearce (1977).

A related issue on demand for money is, what is the relevant rate of interest- the short or long-term rate of interest. Laidler (1969) and Feige and Pearce (1977) argue that if the holding of money is viewed as a part of a general portfolio decision, then the rate of return on all alternative financial assets are relevant, and that money holdings should be made to depend upon the entire spectrum of interest. The structure of asset at specific points and hence the corresponding structure of interest rates must have to be extended through time. This is actually in consonance with the emerging large body of literature on the term structure of interest rates. Among the important works are those of Culbertson (1957), Meiselman (1962), Malkiel (1966), Nelson (1972) and Dodds and Ford (1974).

The need to consider the term structure of interest rates have made it more convenient to utilize a consumption-oriented theory of demand for financial assets. This is the theory embedded in the rate of time preference and investment opportunity of Fisher. Stiglitz (1970) noting that most of the works on the portfolio approach focuses on one-period capital valuation which render the treatment of the term structure of interest difficult, used this consumption-oriented theory of demand for assets.

It is to be noted that these portfolio-saving models were written for a very well developed and relatively perfect financial market. In this market there is a large and varied stock of alternative assets that are fairly close substitutes for each other. Access to these alternatives makes meaningful the application of such neat portfolio choice constructs.

In the macro models of earlier vintage beginning with the classical full-employment model, the interest rate is determined by real flows - by the intersection of an upward sloping saving, and a downward sloping investment function. Later models have interest rate determined by both monetary and real factors.

In growth models it is shown that money and financial assets must grow such that their yield is made equal to the steady growth rate of saving and productivity of capital. This argument is based on portfolio demand for both physical and financial assets. If the supply of financial assets grows too slowly, their yield would rise relative to that on physical assets. Savers would demand more financial assets. Investment will therefore be lower than that level required by steady state condition.

These models are valuable for our general understanding of interest rate. But they have limited applicability to economies

characterized by serious market imperfections. Moreover, institutional analysis like the theory of finance of Gurley and Shaw, and Patrick's financial market segmentation of the McKinnon and other development-oriented models seem to be more useful in understanding behavior of LDC capital market and development finance. These models, however, lack a strong microformulation. The market for credit may develop from very rudimentary stages of self-financing as described by McKinnon with interpersonal lending-borrowing of Gurley and Shaw to a modern financial system. In McKinnon, a structure of rates is generated from the optima of time preference and rate of return to segmented indivisible investments. Interest rate to borrowers are expected to be higher in undeveloped compared to developed market. Costs of transaction and risks tend to be higher where lenders are small and not specialized in intermediating activity. Intermediation, as argued in section 2, results in greater specialization of activities among entrepreneurs, wage workers and intermediators. The specialization leads to lower cost of funds to borrowers and higher yield to savers. When investments are indivisible, the specialization of investing activities among the more enterprising individuals result in higher over all yield and interest rate. In the process of economic development, temporary segmentation is likely to be experienced. The economy is expected to develop in a non-uniform fashion. Some industrial sectors or areas lag behind others . The financial market grows in the same fashion. Some parts of the economy

may remain using self-finance and rudimentary lending-borrowing, while a modern financial market operates in the industrial areas. In such a segmented market, interest rate varies, with each segment generating its own rate structure. Artificial segmentation arising from government intervention similar to what was described above will produce additional reason for interest rate variation.

The Philippine literature on interest rate may be considered as rudimentary as some of its markets. It is concerned with estimating rates in certain segments of the market. Some are mainly offshoot of the debate on Central Bank policy on credit and the complex regulations on interest rates. No study has been done on the total structure of interest rates and how it is determined. Data on interest rate movements within segments of the financial market were obtained such as the interest rates of various instruments in the money market (Clemente, 1975, IMF Mission 1977); Tan's (1974) comparison of a few alternative savings forms such as savings and time deposits, Treasury Bills and Bancam Bills; and the small surveys of effective lending rate undertaken by the NEC-inter-agency team in 1971 and the Private Development Corporation of the Philippines (PDCP) in 1972. In addition, a number of studies estimated the lending rates charged by rural non-institutional creditors. A study to describe and analyze the total interest rate structure integrating past studies is badly needed. In this section, we will put

their empirical results as an attempt at integration.

#### A. The Interest Rate Structure

Any study of interest rate structure in the Philippines must start with the Central Bank regulations. The Central Bank seems to pursue a low interest rate policy but no clear statement has been made to this effect. What it has clearly pursued is the development of specialized institutions by granting them credit incentives. Up to the mid 80s interest rates on loans seemed to be below the Usury Law ceiling of 12 and 14 per cent for secured and unsecured loans. The deposit rates, rediscounting and government bond rates up to 1960 cannot be considered to be below the market rate. The regulated rates became untenable from the mid 60s to the present as demand for credit increased and inflation rate rendered the regulated real rates negative. The Central Bank responded to these events by a gradual upward adjustment in nominal rates as seen in Table 4. The adjustments seem to be modest compromises to disequilibrium in the market. The Central Bank response also took the form of increasing the coverage of its regulation. The contrast is best shown by comparing the extent of regulation during the Cuaderno era and presently. In the first era, monetary control was mainly quantitative though selective credit incentive was given to a few priority sectors. These incentives might not have had a substantial impact as the market rate then prevailing was relatively low. Between 1976 and 1978 a longer

Table 3

Annual Average Nominal and Real Interest Rates for Selected Assets, 1956-74  
(In percent)

Year	Savings Deposits		Time Deposits		Government securities <sup>a</sup>		Deposit substitutes <sup>c</sup>	
	Nominal	Real <sup>b</sup>	Nominal	Real <sup>b</sup>	Nominal	Real <sup>b</sup>	Nominal	Real <sup>b</sup>
1956	2.00	0.60	2.25	0.80	4.69	3.25	n.a.	n.a.
1957	2.25	-1.70	2.75	-1.20	5.65	1.59	n.a.	n.a.
1958	2.25	0.10	3.25	1.00	4.83	2.57	n.a.	n.a.
1959	2.25	-0.20	3.25	0.80	6.06	3.58	n.a.	n.a.
1960	3.00	-2.10	3.50	-1.60	7.38	2.07	n.a.	n.a.
1961	3.00	-0.10	3.75	0.60	3.06	-0.40	n.a.	n.a.
1962	3.00	-3.90	2.75	-3.20	3.40	-3.54	n.a.	n.a.
1963	3.50	-4.70	4.25	-4.00	5.54	-2.82	n.a.	n.a.
1964	3.50	-1.10	4.50	-0.10	5.45	0.81	n.a.	n.a.
1965	4.50	0.60	6.25	2.30	8.89	4.80	n.a.	n.a.
1966	5.75	0.10	6.25	0.50	6.69	0.94	n.a.	n.a.
1967	5.75	0.10	6.25	0.50	8.25	2.41	n.a.	n.a.
1968	5.75	0.40	6.25	0.90	9.63	4.11	n.a.	n.a.
1969	5.85	-0.10	6.50	0.60	6.32	0.40	n.a.	n.a.
1970	6.00	-7.40	7.00	-6.60	12.17	-2.03	n.a.	n.a.
1971	6.00	-7.70	7.00	-6.80	12.03	-2.51	13.30	-1.31
1972	6.00	-2.80	7.00	-1.90	13.49	4.02	13.90	4.40
1973	6.00	-7.00	7.25	-5.90	15.05	0.92	9.40	4.03
1974	6.25	-20.40	10.00	17.60	16.54	-12.72	31.80	-1.27

n.a.: Not available

- a. Yields on government securities (which are tax free) have been recalculated on a before-tax basis (at a tax rate of 35 percent) to be comparable with the rest, which are fully taxable.
- b. Deflated by the rate of increase of the GNP deflator (1967 = 100.0). Interest rates shown are the average rates on new issues.
- c. Weighted average of all maturities.

Sources: WB Country Report on The Philippines, Priorities and Prospects for Development, Washington, D.C., 1976, Table 14.6, p. 358.





## Table 4 - Regulated Rates of Interest

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- 
- 1/ for rural banks which have been in operation for more than 2 years
- 2/ for rural banks which have been in operation for not more than 2 years as of the date of the loan application
- 3/ 2.0% service charge
- 4/ 4.0% for production, importation and distribution of rice and corn  
5 <sup>3</sup>/<sub>4</sub>% secured borrowings by eligible credit instruments 7 <sup>1</sup>/<sub>2</sub>%  
on borrowing based on all other credit instruments
- 5/ rural banks operating for not more than 2 years; 3% for other eligible papers
- 6/ rural banks operating for more than 2 years; 6% p.a. for other eligible papers.
- a/ in operation for net more than 3 years
- b/ in operation for more than 3 years but not more than 5 years
- c/ in operation for more than 5 years

list of interest rate regulations was made covering deposit, deposit substitutes, other money market instruments and loans according to maturity. In addition, there is a differential discount rates by institution and activity.

Studies show that financial institutions innovated to take advantage of the regulations or to evade them. From 1966, deposit substitutes and other money market instruments began to be offered at freely determined rates. Banks also clamored for the issuance of treasury bills to replace or supplement the long-term bonds whose rates were becoming unattractive. Banking institutions allegedly evaded the Usury Law ceiling. The small surveys of the National Economic Council (NEC, 1971) and the Private Development Corporation of the Philippines (PDCP, 1972) of some financial institutions showed that the effective rates charged on loans were substantially higher than the legal ceiling. Tables on interest rates from various studies are reproduced below in order to obtain a partial structure of interest rate. These are from the papers of NEC (1971), Barrios (1973), Clemente (1975), WB (1976), IMF (1977) and Vibal (1979). In 1971-72 when the Central Bank reported rates of about 12-14 per cent for commercial banks, their effective rate was between 14 and 29 per cent. Presently, commercial and other banks are allowed by law to charge 19 per cent on long-term loans. Public or publicly supported banks are allowed 2 per cent service fees which

effectively raises the Usury Law ceiling from 14 to 16 per cent. Borrowing from the money market is limited to a ceiling of 17 per cent, 35 per cent of which is collected as tax since 1978. The net nominal yield to lenders is 11 per cent. This yield is compared with the ceilings on deposit rates in commercial and thrift banks of between 7.5 and 12 per cent.

The studies when put together give us a partial structure of interest rate in the regulated and unregulated parts of the market. The structure obtained is quite peculiar. The real rate on many lending instruments -- savings and time deposits, and government bonds are oftentimes negative. Rates among substitute instruments whether borrowing or lending varied widely. The regulated rates are changed at long intervals of time as seen in Table 4. They do not adjust to price movement so when inflation rates rose in the 70s the real rate declined to negative figures. On the other hand, the rate in the unregulated market fluctuated widely above the legal rates. This segment was relatively small making it more vulnerable to general movements in money supply and reserve positions of banks. Clemente's (1975) and Roxas' (1977) studies show that the market is very sensitive to movements in relative rates of competing instruments. The leading rate in the money market seems to be the interbank call loan rate. This in turn is determined by the reserve position of banks. Unfortunately,

Clemente's money market rate function did not use reserve position as an argument in her interest rate function. She used money supply instead. Roxas did not give the basis of his conclusion in the cross-elasticity of interest rates of competing instruments - the money market. Dompom and Cruz (1979) give the following results of their money market study. Quarterly data on weighted average interest rates were taken from the Central Bank Statistical Bulletin and Bancom Development Corporation Reports. Their result may be compared to Clemente's equation given in Section 4.

Dompom and Cruz have the following regression result:

$$\text{MMR} = 22.462 - .195 \text{ CPI} - .23 \text{ ER} \quad R^2 = .70$$

(3.074)      (-2.89)

where

- MMR = average interest on money market instruments
- MS = money supply
- SPI = stock price index (Manila)
- CPI = consumer price index (Manila)
- ER = excess reserves

Table 5

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 $\frac{1}{2}$
NAWASA Bonds	40	4 - 5 $\frac{1}{2}$
ACCFA Notes	2	2
"    "	5	2
"    "	5	3
"    "	2	3
"    "	5	3
Treasury Notes	5	2
"    "	3	5 $\frac{1}{2}$
R.P. External loan Bond		6 $\frac{1}{2}$
NIA (National Irrigation Adm.)		4
Treasury Notes	5	5
"    "	4	5 $\frac{1}{2}$
"    "	4	6
Certificate of Indebtedness	1 $\frac{1}{2}$	2
PW & ED Bonds		7
NAWASA Bonds		7 $\frac{1}{2}$
NPC Bonds (non-supported)		7
NAWASA		7 $\frac{1}{4}$
R.P. Replacement Bonds		2
"    "    "    "		4
NIA Bonds		8
Land Bank Capital Bonds		7
Treasury Notes	5	10 $\frac{3}{4}$
"    "	5	11 $\frac{3}{4}$

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

Table 6

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

End of the Month Rate	T R E A S U R Y B I L L S				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			
	12	6.5	.7		
1967	1	6.5	.7		
	2	6.2	.5		
	3	6.0	.3		
	4	5.6	.9		
	5	5.6	.9		
	6	6.4	.7		10.9
	7	6.9	.8		12.6
	8	6.8	7.2		12.4
	9	6.5	7.7		11.3
	10	6.1	7.2		11.0
	11	6.2	7.3		11.4
	12	6.5	7.8		11.7
1968	1	6.4	7.8		11.7
	2	6.8	7.2		11.1
	3	6.9	7.5		
	4	6.6	7.3		
	5	6.9	7.3		
	6	6.1	7.5		13.7
	7	6.4	8.9		13.6
	8	6.1	8.3		13.9
	9	6.9	8.2		13.9
	10	6.2	8.4		14.4
	11	6.6	7.5		13.9
	12	6.7	7.4		13.4
		6.7	7.3		13.8

Table 6

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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	10.2	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	14.2	14.7	14.8	15.7

Source: Tan, E. A. "Conduct of Monetary Policy and the Quantitative Control of Credit." Quezon City: University of the Philippines, School of Economics-Institute of Economic Development and Research (JPSE-IEDR) Discussion Paper No. 73-8, 1973.

Table 7

## Comparative Money Market Interest Rates

	Interbank Call-Loan Rates	91-Day Treasury Bills (Primary Market)	Prime Commercial Papers
1971			
January	6.50	13.60	11.44
February	11.50	12.91	11.62
March	9.25	12.64	9.00
April	7.00	10.37	10.12
May	13.12	11.55	13.00
June	12.25	12.31	13.12
July	13.25	11.55	12.50
August	10.50	11.58	14.25
September	13.00	11.73	13.38
October	14.00	11.60	14.00
November	18.00	12.26	15.75
December	13.50	11.07	14.00
1972			
January	8.25	11.62	10.12
February	8.25	11.12	10.00
March	9.75	11.06	13.25
April	13.50	10.97	13.62
May	19.00	11.70	19.88
June	14.50	12.36	19.20
July	15.75	12.73	15.00
August	20.00	12.66	19.50
September	10.50	12.61	10.75
October	13.50	12.59	16.00
November	14.50	12.04	10.50
December	9.25	11.66	14.00
1973			
January	8.50	11.31	12.00
February	7.25	10.61	9.00
March	7.00	9.94	9.25
April	8.75	9.99	11.75
May	7.75	10.16	9.64
June	3.75	9.67	7.62
July	3.75	10.03	7.00
August	4.75	9.43	7.12
September	3.25	7.84	6.50
October	8.00	5.92	7.50
November	9.00	8.19	8.62
December	12.00	9.74	14.00



Table 7

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1974

January	13.63	10.06	14.36
February	10.26	10.03	16.66
March	14.38	9.90	14.75
April	12.85	10.12	14.73
May	17.97	10.42	16.05
June	15.40	10.12	16.71
July	11.13	10.09	14.50
August	12.99	9.96	15.71
September	12.14	10.14	16.02
October	13.05	9.76	16.19
November	17.78	9.98	17.10
December	16.53	10.03	20.84

Notes: Interbank and commercial paper rates for 1971-1973 are averages of high and low quotations; 1974 rates are weighted averages.

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Source: Clemente, I. "A Study of the Money Market in the Philippines", 1975, U.P.S.E., Table 13, pp. 79-82.

Table 8

	Statutory Rates Percent Per Annum	Effective Rates Percent Per Annum
Commercial banks	9.14	12.18-16.78
Rural banks	12-14	15-18
Development banks	12	15
Investment banks	9-12	13-15
Government financed institutions	9-12	14-16
Insurance firms	12-14	28-32
Consumer finance	12-14	45-60
Unregulated markets	12-14	60-400
Commercial paper*	9.75-11.75	
Government securities*		
Short-term bills	10-14	16-18
Medium-term notes	7-10	
Long-term bonds	7	

Source: NEC, Philippine "Report of the Inter-Agency Committee on the Study of Interest Rates," Table 1, p. 17.

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\*If the paper or bond is sold at less than par value, the effective rate will be higher than the stated rates. For example a bond with par value of ₱100 and stated rate of 10% if sold at say ₱90 will have an effective rate of  $\frac{₱10}{₱90} = 11.1\%$ .

Table 9

1972 Effective Lending Rates for Secured Loans  
of 5 Financial Institutions, in %

Institution	Effective Rate Charged
A	28.80% p.a.
B	24.28% p.a.
C	17.92% - 28.80% p.a
D	13.63
D	13.40% p.a.
E	13.63% - 13.66% p.a
Weighted Average	26.70% or 27%

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Source: Barrios, Victor S. "The Evolution of Philippine Interest Rate Policy," Table II, p. 71.

B. Effect of Interest Rate Regulations on Credit Allocation and Saving Behavior

Theoretically, interest rate influences saving behavior. The significance of the effect and its sign however depends on the relative strength of income and substitution between present and future consumption. The empirical evidence of interest rate-saving relation has been generally unclear.

Taking into account an apparent successful high interest policy adopted in Taiwan and Korea in the late 1950s and the 1960s respectively, Sicat (1969) pointed out that these experiences may be taken as a lesson for a possible change in the Philippine interest rate policy. There was a drastic increase in financial savings in Korea in response to the large increase in the ceiling rate to 30 per cent. In the Philippines the rapid growth in deposit substitute can be reasonably interpreted as a response to the relatively high rates on this issue. This segment also grew rapidly in the past ten years in Thailand which has a similar repressive interest rate policy as the Philippines. In contrast it showed slow growth in high interest rate countries such as Korea and Taiwan (Khatkate and Villanueva, 1978). They have an implicit suggestion to raise the rate paid on both time and savings deposit.

In a comparative study of saving behavior in Asian countries, Williamson (1975) concluded that higher interest rates are associated,

with lower real saving. He suggested an explanation based on the observation that saving and investment decisions are highly interdependent in the Asian household sector. He further noted that interest rates appear to influence the short-run saving decision more than the long-run decision. This interdependence of household saving and investment decisions was also noted by Hooley and Moreno(1976)in their study of financial flows in the Philippines:

"We take the position that the sharp bifurcation between producing and consuming activities does not reflect reality in the Philippine society where households often engage in array of productive activities from farming to small commercial handicraft activities... In the traditional household, consumption and production decisions are interdependent and saving and investment activities are best viewed from the stand-point of total portfolio approach, which considers the assets (and equity) of the households as the pivot of the households total wealth accumulation activities."

Rene Encarnación (1979) further took issue with the ILO Report and empirically investigated for Korea the contention that an increase in interest rates leads to higher levels of saving and investment. In a number of regressions of saving on interest rates, income and other variables, the income variable coefficient was found to be consistently highly significant. The interest rate variable coefficient on the other hand was generally insignificant (p. 16). He further noted that the interest rate reform in Korea cannot be taken in isolation because it was merely one element in a broad package of

policies. He suggested that despite the high nominal rates adopted during the start of the reform, sizeable loans were given at preferential rates. Moreover, a large inflow of cheap credit from foreign sources was evident. He further observed the high growth of the Korean economy when it launched its first economic development plan in 1962. He argued that , all the above forces have contributed to the growth of savings.

Mejia (1979) in a neo-Keynesian growth model framework analyzed the influence of the Philippine financial system on four key growth parameters. They are: the saving rate, capital-labor ratio, labor productivity and the growth rate of income. She used a three-equation model consisting of a saving, interest rate (both nominal and real), and a capital-labor ratio functions. Private saving was fitted on a two-stage regression function using the predicted value of interest rate as explanatory variables. Interest rate was a function of money supply. Income and the expected rate of inflation were calculated through an adaptive expectation model. The nominal interest rate used was a weighted average of interest rate on loan granted by commercial and savings banks. Specially transacted loans at the rate below 4.5 per cent were excluded to minimize a downward bias in the interest rate. Central Bank data on nominal interest rate and money supply were used. The National Income Account of the National Development Authority (NDA) was the source of income and saving data. For income, gross domestic

product in constant 1972 prices was used. Income less direct and indirect taxes, plus transfer payment gave estimates of the disposable income. Total private savings composed of household and corporate savings was deflated by the GNP implicit price index (1972=100). She found a negative and significant correlation between saving and the nominal rate of interest. When the real rate of interest was used, the coefficient was negative and insignificant. The income coefficient was consistently positive and highly significant.

This brief inquiry into the saving-interest relation indicates a preponderance of evidences suggesting a weak relationship between these two economic variables. The clearer, and to the writers' opinion, the more important, relationship to be expected is interest rate and the institutionalization of saving through their placement in financial assets.

Emery (1970) in a comparative study of Southeast Asian financial institutions observed that the mobilization of savings appears to have been discouraged by the relatively low ceilings on deposit rates. It was likewise noted that the Philippines was unable to mobilize its full potential in the mobilization of capital funds (pp.384; 480). Tan (1974, 1976) stressed that the unattractive rates on saving and time deposits, the most familiar financial saving instruments discourage intermediation and reduce the flow of funds to banks, especially rural.

and development banks. As already pointed out in other sectors pegging these rates at low levels discriminates against low-income household having no access to the more sophisticated money market instruments. We may repeat here the arguments against below market rate loan ceiling. It is very likely, considering the culture of the Philippines that credit is rationed based on personal rather than economic criteria (Tan, 1974). Borrowers would tend to go first to public and publicly supported private institutions charging the regulated rates. As more loan applications are submitted to these banks, processing cost per application approved increases since more papers are processed. The red tape delays follow-ups of loan applications making it more costly to borrowers from distant places. The cost per peso of loans therefore rises for the smaller loan. Furthermore, these banks follow the banking practice requiring relatively riskless collateral, mostly real estate, for loans. These facts lead to the discrimination in cost and availability of credit against small distant borrowers (NEC 1971, ILO 1974, Tan 1974, Velasco 1969, Cruz 1975). On the other hand, the regulated market where the going rate can be almost double that of the regulated sector seems to cater to a special set of clients - the large businesses in the cities. The unregulated credit instruments for instance available in Metro Manila financial institutions are not accessible to the average borrowers.

Though there seems to be a consensus that the allocation of



low-cost credit is inequitable, very little empirical evidence supports the conclusions. Vibal presented the loan size distribution of DBP loans showing that less than 10 per cent of total loans went to the loans of less than ₱5,000. He also found that until 1970, the bulk of PNB loans went to the sugar industry mostly for milling and refining equipment (up to 90 per cent until 1970). The loan does not definitely go to the wage-farmers in the sugar industry. Studies are being conducted on the allocation of rural bank credit. Rural banks have not in general, attracted savings deposit. Instead they relied on the Central Bank discount window as a regular source of funds. Repayment rates in these banks were found rather low.

An added complication to credit rationing is the possible variation in transaction cost. An attempt to estimate transactions cost in lending was made by Saito and Villanueva (1978). Their work follows from a novel view of transactions cost as capturing not just the administrative cost of processing loans but of the risk of default by the borrower. The larger the risk, the greater must be the resources put to be able to collect adequate information. It must be pointed out that certain risks to the lender cannot be reduced to zero by adequate information. There may be inherent uncertainty about the outcome of a project or any activity. Such risks cannot therefore be reflected in transactions cost. Nevertheless their findings are as expected. Transaction cost is

higher the smaller the loan. Transaction cost is found to range from 1.8 for large scale to 7.3 for small loans. Also of great interest is their observation that there is significant variation in transaction cost among financial intermediaries that cannot be explained by their size. They compared transactions cost of administration and default risk for small and large loans issued by rural banks, private development banks, the Development Bank of the Philippines, the Private Development Corporation of the Philippines (an investment bank) and commercial banks. Transaction cost is from 5 to 7 per cent for small loans, a fairly high cost to be added into the interest rate on loans. The study pointed to the serious implication of this for the development of small scale activities.\*

The paradoxical nature of the pattern of development of the financial market may be discussed to close this section. It grew rapidly but it also assumed artificial segmentation within and among institutions. The modern sector has usually a well developed financial system where savers are able to hold their wealth in alternative financial assets. The rural and informal urban sectors on the other hand still save in the form of physical assets and currency hoarding or borrow from

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\* The writers are as yet unable to obtain permission to quote the paper and so refrain from giving more detailed review of its interesting results.

individuals. The policy to spread banking offices in the countryside, resulted in an increase in financial assets relative to total transactions (GNP) or investment as shown by Hooley and Moreno (1976). In fact, the finance ratio in the Philippines is not too different from that of the U.S. and Japan. Their study also obtained direct evidence on the increase in household financial asset holdings. Studies on rural credit show that increasingly more credit for rice production was obtained from financial institutions. In farms, however, only a small part of saving (about 2.5 per cent) was placed in financial assets, the rest in physical. Most savings and investment took place simultaneously in the form of livestock and equipment (TBAC-BRF 1979). Despite this encouraging picture the growth rate of the financial system as a whole is not very satisfactory. Artificial segmentation developed as a consequence of detailed regulations particularly those on interest rate and discounting.

## 6. Money Supply Function

The literature on money supply functions have long been expanded from the text-book principle of simple reserve multiplier to models which include demand for credit by spending units and portfolio choice of banks (Meigs, 1962, Dewald, 1963). The observed stock of money, or money supply is the result of the interplay of supply and demand for credit in the commercial banking system. In order to appreciate the development of the literature, the simple reserve multiplier is given and revisions of the supply function are shown to be relaxation of the assumptions implicit in the multiplier principle.

The reserve multiplier principle applies in a system of managed currency based on fractional reserves. Assume there is a reserve requirement,  $rr$ , on demand deposits,  $DD$ ,  $0 < rr < 1$ . This means a commercial bank is allowed to lend  $(1 - rr)$  of its demand deposits. Under the assumptions that a) banks keep zero excess reserves; b) they lend the maximum allowed; and c) the borrowers redeposit the total loan proceeds, banks create money to the extent of  $\frac{1}{rr}$  of its reserves.\* The maximum loan/deposits,  $DD$ , that banks can

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\* Assume an initial deposit of  $D_0$ . Banks lend  $(1-rr) D_0$ . When its loan is redeposited we get  $\Delta D = (1-rr)D_0$  which again is lent and redeposited. Thus the initial deposit of  $D_0$  generates  $\Delta$ money supply =  $\frac{D_0}{(rr)}$ .

maintain is  $DD = \frac{1}{rr} R$ . Its reserves,  $R$  is equal to  $rrDD$  and  $\frac{1}{rr}$  is the multiplier.  $R$  is the monetary base consisting of currency and primary reserves (deposits with the CB and cash in vault).

Tobin (1967) was one of the first to question the extent of money creating power of commercial banks. He argued that how much banks lend (and therefore the credit created out of a given level of reserves) depends on variables determining demand for funds by spending units. Interest rate and level of economic activity, among others, enter in the demand function.

Works on portfolio behavior of banks argue that the ability of banks to expand credit is beyond that warranted by available primary reserves. Or that banks may lend less than this so that they instead keep excess reserves. Banks keep secondary reserves of highly liquid assets - treasury bills and other prime papers. Moreover they can borrow from their CB in tight credit situation or as a move to achieve an optimal portfolio. How much of each reserve asset is held depends on their relative rates. How much they lend also depends on loan rate relative to the rates on these assets. A fairly large literature developed in the West especially since the 60s on portfolio behavior of banks including on reserve portfolio. These have direct implication on money supply. A number of papers have excess reserve functions, some look at portfolio adjustments by banks in tight and easy situation.

A related question that generated some of the models was the effectiveness of monetary policy when banks are able to tap secondary reserves.

Finally, Brunner (1964 ) pointed to possible leakages in the lending-redeposit process. The greater the proportion of loans not redeposited, the smaller the reserve multiplier. This argument particularly relevant in LDC situation where the demand deposit habit is not widespread. Observed supply of money is thus the result of lending, redepositing and portfolio behavior of the different decision units involved in the intermediation process. Countries may differ in deposit habits and in central bank regulations determining allowable forms of reserves, their relative cost and those restricting intermediation. Restrictive regulations are found to be common in not a few LDCs (McKinnon, 1973, Bhatia and Khatkate, 1975). Restriction on lending rates as we have seen, gives rise to excess demand for loans. In such a case money supply function becomes mainly determined by supply of funds.

The literature on Philippine money supply applies some of the basic elements of the above models. The studies, however, suffer from inadequate model specification particularly of the role of interest rate. Part of the reason is that this has not been accurately measured. Because of the legal ceiling on loan and deposit rates, no accurate reporting of these variables has been done. The reported rates were

thus found not very useful and not to give inconclusive results. In this review we started with trend analysis.

Money supply was allowed to grow at fairly high rates with some years exhibiting growth rates as high as 20 per cent. Money movement from external origin composed a very large portion of total movement. Of the money supply coming from domestic sources, credit to the public sector assumed a large proportion. Zialcita (1970) traced the movement from 1949 to 1969 and decomposed it by origin. He found that until 1953 the external sector through surpluses in the balance of payments contributed to the growth of money supply. The public sector contributed irregularly to the increases. Its contribution was not predominant in the beginning. The relative contribution of these sectors shifted after 1955-57. The external sector suffered from negative balances, thus drawing the pesos out of the country. Central bank credit to the government assumed a dominant and increasing role in the upward movement especially from the mid 60s. In the 70s it contributed a larger portion of the increases in money supply than the two other sources. Zialcita's table is reproduced below.

Subsequent works by Encarnación and Castro, (1972) and Tan (1974) developed money supply functions suited to the Philippine setting. Without explaining in detail the hypothesis tested Encarnación and Castro built an econometric model of money supply consisting of the

Table 10

Factors Responsible for Movement in Money of  
Internal Origin, 1950-1969  
(Percentage Distribution)

Item	1950-53	1954-57	1958-61	1962-65	1966-69
Money of Internal Origin	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
A. By end-user					
1. Government	<u>49.2</u>	<u>58.1</u>	<u>47.2</u>	<u>38.9</u>	<u>56.9</u>
a. National	36.3	34.6	21.2	13.9	13.0
b. Local	12.9	23.5	26.0	25.0	43.9
2. Private Sector	50.8	41.9	52.8	61.1	43.1
B. By source					
1. Central Bank	53.0	59.3	52.5	50.9	47.8
2. Commercial Banking System	47.0	40.7	47.5	49.1	52.2

Source: Zialcita, E. P. "Money Supply Movements in the Philippines", PEJ,  
2nd Semester, Vol. IX, No. 2, p. 190.



following five (5) structural equations and one (1) identity (pp. 215-217).

$$1. \quad Z_b = 288.90 + 0.3862 L_{cb-1} + 0.3837 B_{g-1} + 0.3657 F_{-1}$$

(2.83)                      (11.39)                      (3.03)

$$\bar{R}^2 = .987, s = 73.46, D.W. = 1.536$$

$$2. \quad Z_m = 1004.39 + 1.4284 Z_b - 70.200 R_r$$

(64.57)                      (-8.46)

$$\bar{R}^2 = .995, s = 62.96, D.W. = 1.554$$

$$Z = 1038.13 + 1.3756 Z_b - 70.564 R_r$$

(53.39)                      (-7.30)

$$3. \quad Z_c = 122.03 + 0.4127 Z_m$$

(70.07)

$$\bar{R}^2 = .996, s = 24.17, D.W. = 1.595$$

$$4. \quad L_{bp}^a = 333.90 + 5.6784 Z_a - 246.231 R_r + 416.439 R_b$$

(6.04)                      (-3.53)                      (2.42)

$$\bar{R}^2 = .980, s = 301.87, D.W. = 1.117$$

$$5. \quad L_{cb}^a = -953.784 - 32.4540 R_d + 68.5993 R_r + 0.2116 L_{bp}^a$$

(-2.33)                      (-2.33)                      (6.51)                      (15.21)

$$\bar{R}^2 = .996, s = 77.60, D.W. = 1.402 (1952-69)$$

$$6. \quad Z_a = Z_b - Z_c$$

$Z_c$  = currency in circulation, average of end-of-month figures over the year.

$F$  = International reserve.

$Z_m$  = stock of money, equal to  $Z_c$  plus private demand deposits.

$Z_b$  = monetary base, equal to  $Z_c$  plus  $Z_a$ .

$Z_a$  = available reserves of the commercial banking system, average of beginning and end of year figures.

$B_g$  = internal debt outstanding of the government, end of the year.

$R_r$  = ratio of required reserves to total deposits in the commercial banking system, average of beginning and end of year figures, in percentage units.

$R_d$  = Central Bank rediscount rate, average over the year, in percentage units.

$R_b$  = weighted average of interest rates charged by banks,<sup>1</sup> in percentage units.

$L_{bp}^a$  = private domestic credits of the commercial banking system, average of beginning and end of year figures.

$L_{cb}$  = Central Bank loans and advances to the commercial banking system, average of beginning and end of year figures.

Following traditional functions, money supply is determined

by the monetary base consisting of available reserves and reserve requirement. But monetary base,  $Z_b$ , is determined by foreign reserves,  $F$ , and CB credit to commercial banks,  $L_{cb}$ , and the government debt,  $B_g$ . The authors did not explain why the variable,  $B_g$ , was used in the monetary base equation. Their reason was probably because most government issues are bought by the Central Bank or by commercial banks to be part of their primary reserves. This transaction amounts to an

indirect lending of CB to the government since reserves deposits of banks are used to buy government issues. The expansionary impact of government security purchases by financial intermediaries depend on the proportion that can be used as primary reserves. Banks would tend to hold the maximum allowed as primary reserves given that the yield on alternative reserve assets is zero. The level of outstanding debts approximates therefore the amount of Central Bank lending to the government.

The monetary base equation shows the almost equal influence of government and commercial bank borrowing from the Central Bank in expanding money supply. This is to be expected since Central Bank loan to banks and to the government will have the same expansionary impact on money supply. The discounting equation  $L_{cb}$  cannot be taken conclusively yet. Alternative hypotheses and specifications for discounting need to be developed and tested to capture more fully the way this window is used in the Philippines. The discount window has been used as a regular source of funds by both public banking institutions and private commercial banks. The amount banks can borrow depends on what discounting/loans ratio is allowed by the Central Bank. A schedule of such ratios is used for various activities ranked in terms of generosity. This in turn depends on the priority of the period. The discount rate also varies with the priority given. Nevertheless,

the window is a generous and cheap source of funds for the three public or semi-public banks and the private commercial banks. The margin between loan and discount rates even for non-priority loans has been very large. Currently legal loan rate ranges from 14 per cent to about 20 per cent, depending on security and maturity. Rediscount rate ranges from 4.5 per cent for priority loans in rural and other government banks to 8.0 per cent for regular commercial loans. The highest rate still gives a wide margin to loan rates. For these reasons Tan (1974) questioned whether it was meaningful to hypothesize a function such as equation (5). An alternative is to simply take CB loans to banks as an exogenous variable like loans to the government. The assumption here is that banks tend to borrow to the limit allowed. And, such borrowing is not sensitive to the loan and discount rates. She posits the function given below and tested it on two sets of quarterly data: 1953 to 1960 and 1961 to 1970. The breaking up of the series was done to see whether a change in the coefficients is evident as monetary policy became more lax on government borrowing. She obtained the following:

1. (1953-1960)

$$M = 14.4 + .199 R + .011 B + .704 \frac{R_L}{R_D}$$

(3.302)      (.109) <sup>g</sup>      (.173)

$$R^2 = .30$$

where  $r$  is the relative rates of various assets and  $x$  are other variables that determine bank lending and secondary sources of funds. Money supply basically depends on available reserves and currency  $Z_b$ , and how much lending and borrowing the system transact given the monetary base and reserve requirement. Bank liability includes the deposits of government funds, these being determined by government debts,  $B_g$ . Foreign reserves are also part of bank liability. The equation therefore includes redundant independent variables or at least strongly interdependent ones.

Without building a model of the money supply generation process they posited a reserve multiplier equation

$$Z = f(A, c, t, z)$$

where  $c$  is the ratio of currency to demand deposits,  $t$  is the ratio of time deposits to demand deposits, and  $x$  is my interpretation of other parameters they mentioned as indicating other leakages from the loans-demand deposits process. Both equations were tested on each of the 10 Asian countries including Japan and Burma. The significant variables differed as expected, and so with the value of the coefficients. For the Philippines, they found

$$Z = 994 - .146 F + .186 B_g + 1.032 CL$$

(.160)    (.336)    (.099)

$$R^2 = .885$$

(The values in the parentheses are the standard errors.)

It is interesting to see that the quarterly results differed from those of the annual. It is hard to believe that neither foreign reserves or government debts is an insignificant explanatory variable of money supply. This contrasts with Encarnación/Castro's model. The multiplier equation for the Philippines gives better results.

$$Z = 1530 + .929 A - 11.195 c + 3.45 t$$

$$(.106) \quad (2.780) \quad (.923)$$

$$R^2 = .968$$

All the coefficients are significant and of the right sign -- positive for the reserve level A, negative for c and positive for t. Ordinarily, the coefficient for time deposit/demand deposit ratio is expected to be negative. In a developing financial system, however, the increase in time deposits relative to total money supply (and therefore to demand deposits) may indicate the institutionalization of savings. This tends to contribute to the total loanable funds of banks instead of weakening of the multiplier. The results of the two equations tested are more consistent with those of Tan's work. The comparison of results among countries did not give a thorough explanation why the

countries behaved differently.

We may conclude this section by pointing to the problems of specification and measurement of interest rates found in the supply functions developed and tested in the Philippines. Future work should consider stock adjustment so that the short-run and long-run impact of exogenous variable is distinguished. This might clarify the seemingly conflicting results from quarterly and annual series.

## 7. Inflation

Several studies have identified a number of factors affecting post-war price movements in the Philippines. Depending on the period covered and theoretical framework used, some factors were seen to have exerted a stronger influence than others on the rate of inflation. Though most of the studies considered the demand pull through monetary expansion, they placed greater weight on shifts in domestic supply of goods, particularly food, in explaining inflation. Cost push factors were not deemed relevant here except for the cost push in imported factors resulting from devaluation, and the oil crisis in 1973 and later years. Otherwise wage increases were determined, with a lag, by inflation rate. The studies might be grouped into those explaining long-run trends in prices and those explaining big spurts in prices such as the 1964-65 and the 1973-75 inflation. In explaining the long-run movement of general price level, the authors used a quantity theory framework wherein price changes are taken to be a function of changes in demand and output. In the studies of specific inflationary experiences a structural approach was used. The inflation rate is decomposed to find out which groups of items contributed most to inflation. The causes of the price increase in the major components contributing to inflation were then traced to shifts in demand or in the supply affecting the sector.



It is useful to note that price movements since the immediate post-war period is somewhat J-shaped as shown in Table 11 below.

Table 11  
Consumer Price Index and Money Supply Index  
1949-1978 (1972=100)

<u>Years</u>	<u>CPI</u>	<u>Money Supply Index</u>
1949	43.7	16.01
1950	42.5	19.00
1951	42.8	17.94
1952	41.9	18.52
1953	41.1	18.93
1954	39.6	18.97
1955	39.7	20.67
1956	40.2	23.19
1957	41.7	24.73
1958	42.5	26.90
1959	43.5	28.52
1960	45.9	29.30
1961	47.0	34.30
1962	50.1	38.72
1963	54.4	45.67
1964	56.8	44.42
1965	59.2	47.41
1966	62.4	52.11
1967	66.5	58.47
1968	69.8	61.55
1969	73.0	73.48
1970	83.4	72.60
1971	93.7	80.05
1972	100.0	100.0
1973	116.5	112.33
1974	156.3	139.23
1975	166.9	159.44
1976	182.3	186.64
1977	200.4	203.18 (as of June, 1977)
1978	216.4 (as of August, 1978)	

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Bank  
Source: Central Statistical Bulletin

The consumer price index in 1946 was almost 10 times the 1938 level. Then prices started declining as domestic supply of consumer goods, largely from imports increased. This downward trend continued up to the mid 50s, then it gradually moved up. An acceleration of the rate from the mid 60s to the present is evident. The consumer price index rose by 23 per cent between 1965 and 1969, by 60 per cent from 1969 to 1973, and then by 72 per cent between 1973 and 1977. The index rose at less than half the 1965-78 rate in the first two decades after independence especially during the Cuaderno era.

#### A. Food Price Changes and Other Causes of Inflationary Spurts

Treadgold (1969) was one of the first to write on Philippine inflation. He was not satisfied with the aggregate nature of either quantity of Keynesian theory in explaining price behavior. He pointed out that food price movements accounted for a large part of over-all price level movements. And, a broad positive association existed between movements in the absolute and relative price of food and movements in the over-all price level. He used a structuralist framework arguing that even in the absence of general excess demand, inflation may occur if the processes of economic and population growth are such as to cause the demand for food to rise more rapidly than supply. The same argument was used to explain the fall in price from 1950 to 1955. Food supply was observed to increase more rapidly than

demand.

Treadgold placed an important role on farm response to the relative prices of domestically consumed and exports goods to explain the pre-1955 price decline and the 1955-1965 inflation. For the pre-1955 price decline, he noted that the shifts in relative prices resulting from the inflation after the war accelerated the recovery in food production. The 1946 absolute food prices were between five and six times higher than in 1941. Export prices on the other hand, were only three to four times higher than in 1941. He argued these price signals directed agricultural production towards domestic food crops (p. 184).

For the 1955-1965 period, food supply lagged behind growing demand. Despite the fact that food prices rose absolutely and relatively to the prices of non-agricultural non-food products, it did not rise relative to the price of export crops. Consequently, food supply did not grow fast enough. Other reasons were cited: slow rate of technical progress in the agricultural sector; increasing scarcity and diminishing quality of land; additional U.S. sugar quota and the agricultural land reform bill of 1963 which produced uncertainty over ownership of agricultural land. Its effect was expected to be worse on domestic food production.

Earlier, Clunies-Ross (1966) also studied the 1962-64

inflation. He focused on the extremely large and almost exclusive contribution of food price increases to the total rise in the price index -- 25.4 of the total 29.1 points rise. A remarkably low increase in the prices of non-food items was observed. According to Clunies-Ross the fast growth of output in manufacturing, transportation and construction accounted for this. He argued, however, that the rapid rise in food prices could not be due only to supply factors. Indeed, demand increased as a consequence of the rise in money income of exporters following the devaluation. There was some debate on the accuracy of upward and adjustment of industrial production Ross made to explain the slow price movement in this sector. Nevertheless, growth rate of non-agricultural output was about twice that of food even without Clunies-Ross' adjustments.

Following Treadgold's approach in his study of the 1960 inflation, Bautista first decomposed the rise in consumer price index into major components: food, clothing, housing, and light and water and miscellaneous items. His table is reproduced below.

In all three periods, food price increases contributed more than half of the total increase of the consumer price index. Focusing on the 1972-74 inflation he pointed out four causes: bad weather, devaluation, oil crisis, and increase in money supply. The weather during this period was exceptionally bad. The floods brought by Typhoon Yoling did not only destroy producible farm capital but also

Table 12

## DECOMPOSING THE CONSUMER PRICE INFLATION

	No. of points rise, CPI for Manila	Percentage Contribution
1955-1969		
All Items	45.7	100.0
Food	59.0	60.6
Clothing	40.6	5.0
Housing	30.7	15.2
Fuel, light and water	28.4	2.5
Miscellaneous	26.5	16.7
1969-1973		
All Items	70.6	100.0
Food	94.4	58.1
Clothing	108.6	8.1
Housing	38.6	11.4
Fuel, light and water	76.1	4.0
Miscellaneous	48.7	18.4
1973-1974		
All Items	64.4	100.0
Food	83.7	56.5
Clothing	99.8	8.1
Housing	14.1	4.6
Fuel, light and water	176.9	10.3
Miscellaneous	49.3	20.5

Source: Bautista, Romeo, "Inflation in the Philippines" in J. Encarnación, et al., Philippine Economic Problems in Perspective, University of the Philippines School of Economics, Quezon City, 1976.

silt the soil in Central Luzon. The recovery was therefore slow. Besides, 1972 to early 1973 was also a good period in the world market for primary products. Prices of sugar, copra and rice were abnormally high. Furthermore the peso was devalued in early 1970 by almost 50 per cent. Consequently output was probably drawn into exports thus reducing further domestic supply. Money supply from external origin increased and no compensatory reduction from other sources was undertaken. In late 1973 the oil price was doubled, and redoubled in the early part of 1974.

The analysis of these factors was somewhat uneven. Bautista gave the supply side a lot of weight. Nevertheless no empirical evidence was provided to show changes in domestic supply of goods, especially resulting from the bad weather and following the devaluation and world shortages. In analyzing the possible impact of increases in demand, he compared growth rates of prices and money supply over 5-year intervals from 1955-60 to 1969-73. He found no clear positive relation in the growth rates. The effect of money supply increases on prices cannot be made yet on the basis of the data and method used. The author focused on estimating the impact of the oil price hike on the cost of production using the 1969 input-output table. The study estimated an impact of about 22 percentage points in the rise in the consumer price index. This means a contribution of about two-thirds of the 35 per cent rise in the CPI 1973-74. Using the same input-output technique as

Bautista's, Mijares (1971) estimated the effect of the 1970 devaluation on the CPI to be as much as 12 per cent.

It is to be noted that the 1969-74 inflation was caused by a rare coincidence of several factors: bad weather, devaluation and the oil crisis. At the same time money supply was allowed to grow very rapidly. Only extreme pessimists will expect the same occurrence. In fact, the past months' experience already indicates that only OPEC's new price is causing the 1979 inflationary pressure. The weather has been kind and there is an excess supply of rice. And unlike in 1973-75, the Central Bank is following a tight credit policy. Yet the inflation rate observed as of the writing of this paper is 21 per cent.

#### B. Long-Run Price Movement

Some of the studies of long-run price behavior were part of the structural analysis of particular inflationary experience. Clunies-Ross (1966) and Treadgold (1969) both included in their work an investigation of the price trend. Later Encarnación et. al. (1972) and Tan (1974) fitted their own price functions.

The price equation of Encarnación et. al. was part of their macro model of the Philippines on 1950 to 1969 annual series. The structural price equation which best compares with earlier works gives

the following results:

$$P = 85.37 - .0043 Y + .0423 Z \quad R^2 = .94$$

$$\quad \quad \quad (-7.71) \quad (18.22) \quad \quad \quad DW = 1.99$$

where Y is real GNP and Z is money supply.

Instead of regressing absolute prices on absolute levels of money supply, Clunies-Ross used first differences. He showed that for 1955 to 1965 data, the relation was not significant with  $R^2$  only .06. He cautioned against interpreting high correlation in the serially correlated variables. This gave him reason to stress the structural causes of the 1962-64 inflation. All studies had both supply of money and goods as the explanatory variables of price. Treadgold fitted his function to annual data for the period 1946-65, using real GNP as his supply variable. He found that the variance of these variables accounted for much of the variance in prices. He also observed that velocity of money, V, was not constant during this period. Though he noted this, no adjustments for changing V was made. Encarnación and Tan's works also failed to consider changes in velocity. According to Hooley (1965) V rose more than twice between 1948 and 1963. Most of the increase occurred in the 1960s. Hooley argued that tight money situation and high interest rates caused the increase in the value of V. Such rise tends to offset the impact of restrictive monetary policy. Over time V



rose from about 4 in the 50s to about 8 in the 70s. This may be partly explained by the growth of the financial system.

In the light of other results, it seems that such simple specifications of the long-run functions as in Treadgodd, Encarnación et. al., and Tan give at best a rough relationship of money supply and prices. The coefficients cannot be interpreted, however, as a good measure of the monetary impact on prices. Furthermore, domestic supply of consumption of goods rather than GNP should be used. The effect of the external sector likewise has to be considered. Some of these failings are overcome in a subsequent paper by Otani. Otani (1975) developed a short-run flow model which explains price adjustment toward a long-run equilibrium. Short-run equilibrium can be viewed as a temporary state which the system must pass through in the process of achieving a long-run equilibrium. In effect such a short-run equilibrium may well be a disequilibrium state in terms of the long-run equilibrium position. Both the flow and stock demand are equal to the supplies in the latter.

There are three equations describing the adjustment processes from short-run flow equilibrium towards the long-run equilibrium. These consisted of a real cash balance stock adjustment, price adjustment and import equations. These are as follows:

$$1) \Delta \log \left( \frac{M^*}{P} \right)_t = -4.77 + 1.21 \log Y_t - 0.29 P_t^e - 0.83 \log \left( \frac{M^*}{P} \right)_{t-1}$$

(4.01)
(-2.73)
(-3.94)

$$R^2 = .34 \quad D.W. = 1.05$$

$$2) \Delta \log Pd_t = -0.004 + 0.21 (\log Y_t - \log \bar{Y}_t) + 0.32 P_t^e + 0.62$$

(1.00)
(6.69)
(6.25)

$$R^2 = 0.77 \quad D.W. = 1.97$$

$$3) \Delta \log Z_t = -4.27 + 0.99 \log Y_t + 0.61 \log \left( \frac{Pd}{P_Z} \right)_t - 0.68 \log Z_{t-1}$$

(3.51)
(.78)
(3.69)

$$R^2 = 0.42 \quad D.W. = 1.54$$

Notationally,

$M^*$  = average stock of nominal money;

$P$  = the general price level;

$Y$  = level of real income;

$P_t^e$  = expected rate of inflation;

$$\Delta \log \left( \frac{M^*}{P} \right)_t = d \left[ \log \left( \frac{M^*}{P} \right)_t^d - \log \left( \frac{M^*}{P} \right)_{t-1} \right]$$

$d$  = adjustment coefficient lying between zero and unity in the equation.

$\bar{Y}$  = the "normal" level of output, which is increasing at constant rate;

$\bar{Z}$  = volume of imports;

$P_d$  = the price of domestically produced and consumed goods;

$P_x$  = the domestic price of exports;

$P_z$  = the domestic price of imports;

The estimated equations trace quite well the major swings in the real cash balances, domestic prices and inputs. To see how well the model as a whole traces actual movements in the economy, a simulation exercise was carried out by making use of the reduced form of the structural equations.

Unlike other results in earlier papers, the immediate impact of credit expansion on prices is found to be rather small, a 10% increase in domestic credit lead to a 0.5 per cent rise in the general prices level and a 0.7 per cent increase in the prices of domestic goods. The author argued this weak impact reflects rigidity in the economy or a high price elasticity of short-run supply of goods. The elasticity was estimated at about 5 (the reciprocal of the estimated coefficient  $b_3$  of equation (2) above. In the short-run purely external factors explained most of the upward pressure on prices while credit expansion exerted a relatively weak effect on the same. The impact of money supply on inflation is felt more in the longer run. It is to be noted that its impact on growth of output is found to be nil. Solving for the longer-run impact multipliers, Otani obtained the following:

Table 13

PHILIPPINES: FACTORS AFFECTING INFLATION  
(In per cent)

Observed rate of inflation <sup>1/</sup>	Percentage change in observed rate of inflation due to:				Unexplained changes in observed inflation
	External <sup>2/</sup> factors <sup>2/</sup>	Lagged endogenous variables <sup>3/</sup>	Domestic factors <sup>4/</sup>		
1960	4.8	72.9	-129.2	-20.8	177.1
1961	4.7	59.6	55.3	23.4	-38.3
1962	2.0	255.0	130.0	-10.0	-275.0
1963	8.4	50.0	-29.8	8.3	71.4
1964	6.8	11.8	110.3	--	-22.1
1965	2.5	40.0	180.0	-24.0	-96.0
1966	5.7	21.1	28.1	-1.8	52.6
1967	2.3	--	278.3	17.4	-195.7
1968	1.4	-42.9	157.1	-21.4	7.1
1969	1.7	94.1	117.6	--	-111.8
1970	21.8	81.7	--	-1.5	19.8
1971	18.2	42.5	68.3	-1.8	-9.0
1972	12.4	33.6	64.7	--	1.7
1973	18.1	84.3	40.4	--	-24.7
1974	52.1				
1975	9.4				

Source: Ichiro Otani, "Inflation in an Open Economy--A Case Study of the Philippines," IMF, Staff Papers, Vol. XXII, No. 3 (November 1975).

- <sup>1/</sup> In terms of wholesale price index of domestically produced and consumed goods.  
<sup>2/</sup> External factors are export and import prices and volume of exports.  
<sup>3/</sup> The pressure on prices of the economy slowly adjusting to changes during previous periods.  
<sup>4/</sup> Domestic factors: trend value of real GDP and domestic credit of the banking system.

The papers bring us a long way to understanding causes of post-war inflation in the Philippines and to some extent the process of inflation. Otani's paper reconciles in a way the seemingly conflicting conclusions about the impact of monetary expansion on prices made by Clunies-Ross, Bautista, Encarnación and Tan. The conflict arises because short-run adjustment to changes in exogenous variables and their long-run impact were not distinguished. Both in the long-run and the short-run, external factors such as changes in export and import prices were found to exert the strongest effect on domestic prices. In contrast, the effect of money supply was felt in the longer-run mainly, and only weakly in the short-run. It is to be noted that it has no long-run impact on output. An equally important conclusion from the studies is the very heavy inflationary pressure exerted by domestic food supply, especially in high inflation periods. It seems that the pressure of domestic food supply has been increasing in this decade. Future works on inflation should, therefore, not neglect the supply side. There is danger that future researches may focus exclusively on the more obvious causes, particularly the oil crisis.

#### 8. Savings in the Philippines and in the Rural Sector

The literature on savings in the Philippines spans only a little over a decade. It evolves from works aimed at estimation to testing of savings function. The most recent works include an investigation of saving behaviour and portfolio choice in the agricultural

sector. This review traces the historical progress of the literature. The section is divided into two -- a) estimation of savings aimed at providing an independent estimate that would corroborate the figures given in national income accounts; and b) savings functions including rural savings.

a. Estimation of Savings Rate

Early calculations of national income accounts did not independently estimate consumption. GNP was obtained from value added of various sectors. Data on sectoral incomes came from different sources. Among them were the Securities and Exchange Commission, Bureau of Agricultural Economics and the Government Auditing Office. Independent estimates of investment, depreciation, taxes and government expenditures were made. Consumption was taken as a residual of GNP. The method was used until 1965 hence, no independent estimate of consumption and savings was made. It turned out that during these years estimated personal saving was negative. Since consumption was calculated as a residual, any error in any of the expenditure components or in the total is absorbed by the residual. Hooley (1963) contended that investment was understated leading to the overstatement of consumption. In an attempt to correct this possible error, Hooley undertook a major estimation work leading to his 1963 monograph, Savings in the Philippines: 1951-1960.

Hooley estimated saving as equal to the change in net worth for households, corporations and government. In this case saving includes capital gains or losses. Net worth consists of physical and financial assets net of liabilities. Corporate and government savings were obtained from their balance sheet statement. These needed adjustments to get a uniform industry classification and comparable accounting especially of depreciation. For households, data on their financial assets were mainly reconstructed from Central Bank reports taking into account holdings. Physical assets were obtained from the same source for construction and consumer durables in the national income account. These in principle was the method of estimation used. For each group of spending units separate data sources were used. Careful and tedious work was involved in getting the estimates.

The saving rate obtained differed significantly from that of the national accounts using residual method. It was positive and reasonably high. Moreover, Hooley found that the saving rate accelerated from 11 per cent in 1958 to 17 per cent in 1962 and households contributed almost two-thirds to total savings. In the same study, he also tried the income approach using the "disappearance" method. The results and that from the National Income Accounts are presented below.

Following Hooley's work the NEDA had the national accounts reestimated in 1967 with independent estimates for consumption.

Table 14

Comparative Estimates of Savings 1951-1960 (at current prices, in million pesos)

	Hooley Hooley				Old NEC OSCAS					
	Household(A)	Household(B)	Corporate	Government	Personal	Corporate	Government	Personal	Corporate	Government
1951	-	-	192.3	69.9	(121)	110	138	212	110	87
1952	-	-	197.2	217.4	(243)	185	185	120	185	145
1953	644.4	690.5	202.6	109.5	117	192	116	314	192	82
1954	580.8	606.7	246.2	(5.7)	114	157	158	249	157	112
1955	519.6	578.7	291.0	165.9	(263)	217	148	44	217	135
1956	786.9	718.4	426.3	112.2	82	276	176	265	233	215
1957	936.3	910.1	427.3	212.7	212r	254r	200r	277	216	205
1958	850.3	910.1	524.7	205.0	15p	315p	199p	543	225	132
1959	995.7	1,134.8	551.5	191.3	(14)	353	231	775	350	155
1960	975.5	1,141.4	524.7	384.4	120	298	197	709	280	227

A = Savings as net changes in household assets

B = Savings as income less consumption expenditures (excludes expenditures on consumer durables)

r = revised

p = preliminary

Source: Hooley, R.W. "Savings in the Philippines, 1951-1960", Quezon City : UPSE-IEDR, 1963.

"An Analysis of the National Income Accounts of the Philippines for the years 1957 and 1958,"  
The Statistical Reporter III, No. 2 (April, 1959), p. 11."An Analysis of the National Income of the Philippines for CY 1959-1961," The Statistical Reporter,  
VI, No. 2 (April, 1962), p. 10."The National Accounts of the Philippines CY 1946-1967," The Statistical Reporter, XIII, No. 1  
(January-March, 1969), p. 4.



The data base was tremendously improved since the 50s and early 60s so the new series gives a more reliable set of accounts. Pre-1965 estimates were revised to give a comparative series for all post-war years.

Hooley, in collaboration with Moreno, pursued this work in a very important study of flow of funds for 1950-1962. The flow of funds for each spending sector -- households, government and corporations was studied. The flow of receipts and disbursements into current and capital expenses was also traced. The estimated flows provide a number of interesting information: saving and the portfolio chosen classified according to financial and physical categories and the outlay for the different production factors like payroll, intermediate goods, taxes, interest and depreciation. These were obtained from a survey asking for both statements of operation and balance sheet. Saving was estimated as the change in net worth. The trend of saving and portfolio holdings particularly of financial assets was analyzed. They were also able to give the industrial structure of manufacturing and banking sectors. Among their major findings are as follows:

a) The manufacturing sector had a high concentration ratio, two (2) per cent of firms owned 60 per cent of assets and 10 per cent controlled 90 per cent of assets.

b) Financial claims grew rapidly in absolute terms, and in relations to GNP i.e., from ₱500 million to ₱3.5 billion from 1949 to

1962, and from 10 to 30 per cent of GNP over the same period. This rapid growth implied an increasing proportion of investment being financed through financial institutions. The increase in financial assets reflected increased holding of currency, demand and other deposits.

c) The upward trend in household saving rate observed in Hooley's earlier study continued: it rose from 11 per cent in 1958 to 17 per cent in 1962. The government on the other hand, was found to be a very low saver. Its saving rate declined from 13 per cent in 1958 to 9 per cent in 1962. Its contribution to saving was then minimal during this period since its revenue accounted to less than 10 per cent of GNP. Corporate saving rate, especially of financial institutions, was also high -- 64 per cent in 1958 and 69 per cent in 1962.

d) Though financial assets were rapidly growing they found that commercial banks relied on plowed-in profits for almost one-third of their loanable funds. This ratio was extremely high compared with other countries. Accordingly, this reflected the failure of commercial banks to channel more savings into the banking system. Moreover, most of the financial growth originated from commercial banks.

It was also found that the payroll's share in the expense flows for corporation was low compared with other economies. Besides,

it declined from about 25 per cent in 1957 between 10 and 12 per cent in 1962. Prior to 1957, it was about 20 per cent. For the household sector, wages and salaries constituted less than half of total income most of them from entrepreneurships.

Finally, the possible impact of financial intermediation on capital expenditures was estimated arguing that availability of credit tended to encourage capital expenditures. They found that both income and financial variables exerted a significant influence in explaining investment in fixed capital. Changes in inventory was apparently the only capital component that responded to income for both corporate and household sector.

More recent data on the flow of funds were generated. Moreno and Vasquez (1977) extended the corporate flow of savings to 1975. Supertichoso (1979) reported on the 1974-76 flow of saving for each of the three sectors - households, government and corporate - produced by NCSO. The 1974 NCSO flow of funds data were studied by the IMF-CBP survey team in 1977. Lastly, TBAC-BRF (Technical Board for Agricultural Credit and the Business Research Foundation) used flow of saving data in their work on the saving of farm families. So far a rather brief analysis in the form of reports was done on the NCSO data. None was done by Moreno and Vasquez. The IMF-CBP 1977 Report devoted only a page of analysis of the 1974 NCSO data. Despite this shortcoming,

the new set of data built important links to the 1958-62 findings. It provides future researches with a very rich data base for work on saving and portfolio choice and related areas.

Saving rate stabilized at the 1962 level. For 1974-76, Supertichoso estimated saving rate to be between 15 and 18 per cent (compared to the Hooley-Moreno rate of 17 per cent for 1962). The share of households went down however, to the 45 and 51 per cent range. In 1974-1975, government saving rate doubled the 1958-62 rate but it dropped back to the previous level in 1976. The relative share of corporate saving went up so also with the non-bank financial institutions relative to the total financial share. This rise coincided with the active transactions in the money market during the early part of the 70s. Supertichoso reported that net income of non-bank institutions rose from ₱20 million in 1975 to ₱660 million in 1976. In 1974, net income was only ₱112 million. These wide fluctuations might have been due to the wide movement of interest rates in which these institutions were engaged in.

The financial system as a whole received large inflows of external funds, ₱2.2 Billion in 1974, ₱6.2 Billion in 1975, and ₱5.8 Billion in 1976. Supertichoso argued that this large inflow had a positive effect in the purchases of government securities by financial institutions. We may argue off-hand that the decision to buy government

securities was only partly determined by supply of funds. Relative yield on alternative assets has to be considered in any demand for assets. Households, on the other hand, moved away from securities to physical assets. Their security holdings then dropped from ₱6 million in 1974 to ₱1.8 million in 1976.

Supertichoso's conclusions on the flow of savings were based on a not so careful and detailed analysis of the flows between sectors - spending as well as financial. Despite this weakness, the NCSO made an invaluable contribution to produce this rich set of data. They are a challenge to future researchers.

Turning now to the farm sector TBAC-BRF looked into the distributional aspects of saving. Reproduced below is their table giving the distribution of asset and saving rate by income classes. Surprisingly, land and its improvements did not constitute a large proportion of total assets. Livestock and equipment predominated while financial assets were relatively small. Dissaving of farm families occur for income groups below ₱1,500 per year. This differs from the dissaving among much higher income groups for the whole Philippines. While rural families borrow to increase their assets, it is not certain that they got funds from rural banks. Rural banks had low and declining loan/deposit ratio. The authors interpreted this to mean that funds were drawn (in deposits) from rural banks to other users,

Table 15

## Percentage Distribution of Asset Acquisition by Source and By Income Group

117

	All Household	Below P500	P501- :1,000	P1001- :1500	P1,501- :2,000	P2,001- :2,500	P2,501- :3,000	P3,001- :3,500	P3,501- :4,000	P4,001- :4,500	P4,501- :5,000	P5,001- :10,000	P10001- :15,001	P15001- :20,000	P20001 and over
1. Land Acquisition	11.7	(1.8)	(3.3)	(10.5)	3.5	(1.1)	(3.5)	(0.5)	(0.6)	(0.7)	(0.3)	5.5	9.3	61.5	22.8
2. Land Infrastructure	2.3	1.8	9.8	10.8	10.5	1.1	15.1	0.5	0.6	0.7	0.3	1.4	1.9	6.8	0.2
3. Machinery & Implements	19.7	2.0	19.7	29.5	4.5	14.4	12.0	6.4	13.4	3.5	3.8	17.2	26.8	47.3	17.6
4. Buildings & Structures	17.3	8.8	52.5	71.4	8.2	24.6	8.9	10.5	4.0	2.9	10.8	12.5	0.3	7.7	35.3
5. Livestock & Poultry	28.8	17.9	93.4	82.9	28.0	55.0	77.9	41.2	60.1	12.4	34.8	32.7	19.2	51.5	4.1
6. Inventory	14.7	(77.3)	(122.9)	(2.4)	38.9	3.0	6.4	23.1	15.8	61.0	59.7	10.9	23.9	38.8	9.1
7. Major Consumer Durables	14.5	8.1	45.9	22.9	10.2	9.1	17.4	3.6	25.3	22.0	2.0	18.5	11.8	16.9	8.2
8. Financial Assets	(9.0)	(59.5)	(195.1)	(94.3)	2.5	(6.1)	(34.1)	15.2	(18.6)	(1.7)	(11.2)	1.4	6.8	(130.4)	2.6
Total	100%	(100%)	(100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Increase (Decrease) in Liabilities as % to Total Asset; Acquisition	36.8	178%	402%	225%	49%	34%	60%	70%	38%	34%	45%	35%	9%	(31%)	4%

Source: Technical Board for Agriculture Credit Business Research Foundation. "Effectiveness of Financial Institutions and Cooperatives to Mobilize Savings in the Rural Areas." Quezon City, 1979. (mimeo)

possibly the urban sector. Encarnación (1964) made the same observation earlier.

A lot more work can be done on saving and portfolio choice. The papers on flow of funds provided us with important insights into this joint decision of household and business but some questions have been left for future work. We know very little of the saving and portfolio behavior of low income families, of families with uncertain agricultural income; whether and how these families differ in this behavior from their urban counterpart. There is moreover, no clear evidence as to the effect of interest rate and intermediation on the said behavior. We analyzed earlier the positive implications of having an unhampered intermediation. From this we see the importance of studying saving and portfolio decisions as a joint decision. The data should be able to provide empirical support to models of financial market segmentation. What determines reliance on self-finance? Are self-financed firms generally the small and/or the less profitable?

The other studies on saving are not directly relevant to the field of monetary economics. For this reason they are merely included in the bibliography for use by future researchers..

Concluding Remarks

The financial market grew very rapidly from a very small and unvaried base when the Philippines established a managed currency system in 1948. It took on a pattern of development which showed evidence of artificial segmentation. Segmentation resulted from the way financial institutions responded to policy and as a direct consequence of regulations. The growth of the money market for instance was a response to the regulation of interest rates on bank loans and deposits. In 1976, money market rates and denominations were also regulated as a response of the Central Bank to the rapid growth of transactions and high yield offered. There is informal evidence the regulation resulted in further segmentation in this market. A two-tiered interest rate is currently observed. Very large placements tend to be paid higher rates than smaller ones. These deposits get around the regulation on minimal placement of ₱200,000 by their artificial pooling into trust funds. The 35 per cent tax on money market liability is gotten around by direct borrowing



and lending arranged by the intermediary bank. While this segment of the market has been growing rapidly, intermediation among small depositors and borrowers has slackened.

A number of papers evaluated such policies, especially those regulating interest rates, money market denominations, discounting and marketing of government securities. These papers were mainly expository in nature though some empirical support for the arguments have been given. In our view they form an adequate set of work that provides a strong basis for changing policy toward deregulation and freeing of the market. There is strong argument for deregulation of interest rates and discontinuance of the large credit incentives given to inefficient financial institutions such as some government-supported banks and to the highly successful large commercial banks. The removal of the infant industry protection given to rural and development banks is likely to make them more competitive in attracting funds and more efficient in lending them. Deregulation of interest rates and granting of generous discounting privileges to private commercial banks would have similar results. It will also tend to prevent price discrimination among borrowers and lenders as is practiced now.

In spite of the strong arguments brought out against the present system of extensive control, there seems to be no consensus about the issue of freeing the market. The monetary authority has increasingly

become oriented toward control as shown by the rapid growth of regulations from the relatively free market regime of the 50s. It is to the banking system's interest to preserve the status quo. In this way they can continue to obtain subsidized funds from private as well as inflationary sources. The segment of the financial system that does not obtain subsidy, say the bond and equity market or the small thrift institutions, are too small a group to be able to initiate changes. It is probably for these reasons that the system of control has been retained and expanded. At the same time it might be argued that the monetary authority has a segmented view of financial intermediation. It imposes regulations on each part of the market one at a time without considering that financial claims, whether viewed as assets or as liabilities by the transactors, are substitutes. As substitutes, regulations affecting the supply or the yield of one instrument affect the rest.

Given this institutional climate and orientation recent foreign missions that have been invited to review policy seemed to have joined the band-wagon of Philippine central and private bankers. We refer in particular to the 1972 and 1977 IMF-CBP survey teams and the 1976 World Bank Country Report. The 1972 IMF-CBP team came out with very significant policy recommendations many of which were immediately enacted into law. Their report contains a total of 99 (!) recommendations for policy changes. A short rationale is given for

each recommendation. Here we will focus on what we consider to be the more important recommended changes, namely:

1. Expand the coverage of CB regulations to all financial intermediaries while at the same time applying uniform regulations to each set of similar instruments, whether or not they are issued by banks or non-bank intermediaries. This allows the CB to apply to all financial intermediaries and instruments reserve requirements and interest rate ceiling.

2. The Usury Law was repealed giving the monetary authority the power to set the interest rate ceiling on all claims.

3. Ownership of banks is encouraged to be diffused. At the same time branch, instead of unit banking, is encouraged. A supplementary regulation to achieve this objective is the requirement to increase banking equity. Diffusion of ownership is to be accomplished by prohibiting relatives up to 3rd degree of consanguinity to own more than 20 per cent of a bank equity. Preemptive rights over DBP contribution to rural bank capital is not to be given to "affluent" owners of said banks.

Other recommendations such as greater independence for CB from the executive branch of the government, new limit to government borrowing from CB, and new debt-equity ratios are deemed of less significance to efficiency of intermediation.

Moreover, the survey team recommended that because of the success of the money market in drawing funds, it should give incentives to longer-term competing instruments. Thus the CB came up with a new schedule of time deposit rates starting from 7.5 per cent for 60-day time deposits to no ceiling for more than two-year maturity. It is difficult to

expect the long-term market can be developed by regulations, and of the type used here.

The repeal of the Usury Law was a very important achievement. It should allow for a more rational policy on interest rate. The recent interest regulations were however anything but a move toward a relaxation of the structure of rates. The average nominal rates were raised rather substantially. The structure of rates became more rigid as it was tied to the maturity of the instrument. Moreover, the margin between deposit and loan rates remained wide. There is the question whether the  $1/2$  percentage rate differential given for 60-day maturity differential adequately compensates for the illiquidity and risk in this lengthening of the asset. The circulars stipulating these rates did not give a rationale for the rates chosen.

We cannot disagree with the recommendation of the survey team for the CB to treat money market instruments of similar nature and maturity or riskiness uniformly. In the same vein it is not clear why a money market instrument, say a post-dated check or a deposit substitute should be treated differently from a regular deposit. It seems inconsistent that special recommendations on money market is made together with this on uniform treatment.

The literature is unsettled about the need to regulate all financial institutions. The debate originated with Gurley and Shaw in which they argue that non-bank financial intermediaries are also able

to increase the level of credit beyond their deposit liabilities. For this reason they should be regulated like commercial banks. Other economists respond to this by pointing to the strong substitutability of financial instruments. Policy affecting one form of financial assets would have repercussions on others. Thus it is sufficient to limit control to the principal segment of the market, i.e., commercial banks. It is felt that this debate is not very important to us. The significance of the recommendation of the IMF is that it encourages the Central Bank to expand its already widespread system of control. In fact the additional regulations that ensued as a consequence of this recommendation added additional complexity to intermediation and possibly to more artificial segmentation.

The third recommendation which may have very serious implications especially in the long-run is that on merger. It is well known that the financial market includes horizontally integrated commercial banks and investment houses. Merger would encourage formation of oligopolies. A substantial number of banks merged in the last two or three years. The pattern of merging is for a large foreign bank or a large domestic bank to merge with smaller ones. We are thus following a policy opposite that of anti-trust in other countries (U.S., India). Financial oligopolies will not have as serious implications under a relatively free market system. In the case where the government

grants substantial/credit subsidy and have extensive other regulations, the imperfections in the market are likely to be seriously exacerbated. The full implications of this policy is not analyzed here but it can be expected that it will have serious negative impact on the efficiency of intermediation and equity.

A related policy that is currently contemplated is universal banking. This has to be placed in the context of the upward trend of oligopoly formation and system of regulations. It is not likely that universal banking will favor the smaller than the bigger banks. If the latter expand faster as a consequence, the trend toward oligopoly will hasten.

Turning back to the literature, the more recent papers included empirical works - a few on money supply function and inflation and several on saving. The results sometimes supported, but sometimes contradicted each other. This was true for the money supply and inflation hypotheses tested. More rigor seems needed in model building paying particular attention to correct specifications of the hypotheses taking account of the institutional setting. Future econometric work should attempt at obtaining a more accurate measure of interest rates. Models of money supply have to consider the conduct of quantitative as well as selective monetary control tools to be able to identify relevant explanatory variables and specify the model correctly. Appropriate lags in the relationship has not been worked out in past works. There

is need to correct for this. It is also hoped that larger models will be built in the future.

There is no literature addressed directly to the structure of interest rate. The information provided came from rather disparate sources. These were papers dealing with different topics such as the World Bank Country Report studies on credit to farmers, money market activities, etc. The rates differed very widely and no maturity pattern is discernible. The real rates on popular savings forms were oftentimes negative and those determined more freely in the market were very much higher. These data give us neither complete rate structure nor an adequate time series. This topic begs many researchable questions. Basic among these is providing estimates of the interest rate structure. Except for Clemente's and the NEC data, the information on rates reported here was from secondary sources. It is to be noted that some of the data were not even consistent with each other. Clemente's money market rates differed from those reported by the World Bank.

A second basic question is how the regulated and unregulated rates interact with each other. There were a few attempts to develop demand for asset functions. These still lack rigor. The empirical results are not conclusive. But we cannot have conclusive results unless reliable information on interest rate is available. It will be important to find the interest elasticity of portfolio demand by savers of

different characteristics. Flow of funds data will be useful for this study. We have, however, mostly sporadic series, such as the Hooley-Moreno 1962-65 and the NCSO 1974-76 statistics. It may be suggested that the recent NCSO work become a continuing regular annual effort at obtaining flow of funds.

A distribution study similar to that done by TBAC-BRF on its flow of saving using existing data may be feasible. It should show the movement of funds from rural to urban areas and should also give light to the saving-portfolio decisions of rural and urban households and firms.

No work has been done on credit allocation and the finance cost borne by different types of borrowers in the financial market. Such work should be integrated with the cost of finance and means of financing of spending units that have no access to the institutionalized market. These studies would help us understand the extent of segmentation and its implications on efficiency and equity. There is the related question of the relative cost of financing through equity and bond issue. Are the transaction costs of borrowing through these issues higher than through financing intermediary loans?

There has been no work on portfolio behavior of financial intermediaries. Reserve and other portfolio selection may be researched



by itself or as part of a money supply model. It should explain in a rigorous fashion observed composition of assets and liabilities of banks and non-bank institutions.

Professor Patrick of Yale University, a recent visitor to Manila is intrigued by the extreme dynamism of the financial sector. He notes very rapid growth of the market as a whole but especially of certain segments. There is the money market of course. Notable is the apparent success of a few large banks. He also notes the merging of a number of them and the phenomenal growth of a few merged institutions such as PISO. A related observation is the apparent vertical integration of some of large finance-industrial conglomerates. The question arises as to what the allocative impact may be of conglomerate banking in the Philippine context. The answer will differ depending on the degree of imperfections in both goods and credit market. Under perfect conditions it may give rise to greater efficiency; under imperfect conditions it will tend to result in greater inefficiency.

This review came to focus on policy issues facing the Philippine financial system. This focus was inevitable as many of the papers were addressed to policy with a number being critical of the conduct of monetary affairs by the Central Bank. It is hoped that research in the future will take on the nature of positive economics. We are aware that our conclusions sound prescriptive. We apologize we are not able to change them.

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