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CENTRAL BANKING AND CREDIT POLICIES IN THE PHILIPPINES

by

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Chapter I

CENTRAL BANKING IN UNDERDEVELOPED ECONOMY

A. The Role of Central Banking in Underdeveloped Economy

The overwhelmingly important goal of public policy in underdeveloped economy is rapid economic development. Since societies build institutions in order to further social goals, the major purpose of the central bank in underdeveloped economy should be to promote economic development. The central bank can promote development through its control over the monetary system and by its policies directed toward the expansion of the economy's financial infrastructure.

It may happen that the monetary authority is assigned a dominant position in promoting development when there is no effective planning body. In the beginning, two decades of Philippine industrialization, the Monetary Board of the Central Bank functioned as the most powerful economic group in the government. The development policy, essentially an industrialization policy of the import-substitution type, was implemented through selective credit and exchange control. Tax incentives were important supplements to the credit and exchange incentives though it should be noted that the Monetary Board has for its chairman the Secretary of Finance. This type of central banking might be made to assume too broad a role in promoting economic development. There is danger that the central bank, having a narrower set of objectives than a national planning body, would adopt policies geared to this narrow set of objectives but which have a broad allocative impact.

The view that the central bank should be a promoter of growth and development is in sharp contrast to the traditional or orthodox view of the role of the central bank. Traditionally, it has been thought that the central bank's role should be stabilization of the economy. This orthodox view of the role of the central bank is a consequence of the evolution of central banking in advanced industrialized economies, especially in the United Kingdom and the United States. In the advanced, industrialized economy stabilization of the economy is the dominant economic goal, and most central bank policies are directed toward the attainment of stability. The existence of a satisfactory long-term rate of growth, the presence of a highly-developed financial infrastrucure, and the functioning of a well-integrated money market are assumed.

Orthodox central banking will not be very effective in an economy with underdeveloped financial structure.[1] Banks tend to be concentrated in principal cities, leaving the towns and countryside unserviced by banking facilities. Stock markets and private securities markets are non-existent or small and highly speculative. Government bond markets are either totally lacking or too small for effective policy purposes. Financial intermediaries of all types are inadequate to transfer funds from savers to investors. Retardation in the growth of the financial infrastructure will cause retardation in the rate of economic development as savings will not be transferred efficiently to investors.

Therefore, it is argued here that a major task of the central bank in the less-developed economy is the conscious, deliberate development of the country's financial infrastructure. Where specific facilities are lacking, the central bank should take an active role in developing them. If banking facilities are unavailable outside of the major cities, the central bank can promote their extension of the outlying areas. If a government bond market is small or non-existent, again the central bank can faster its setting-up or expansion. Central bank policy should be designed to meet the financial needs and requirements of the particular economy in which it operates.

There exists a number of alternatives for financing economic development from which policy makers may choose. As will be seen in the example of the Philippines, each technique gives a different allocative implication; its impact is influenced among others by institutional factors. The experience of a number of developing economies seems to show that policy makers hardly considered relevant alternatives before one is adopted.[2] It seems that a technique is chosen either because it was successful in other developing countries or that it was a well-known one. The unorthodox central bank is a very handy agency to use for financing economic development, and credit control tools are easy to implement. This explains reliance on monetary rather than fiscal technique for financing development.

Due to the importance attached to promoting economic development, selective credit controls, rather than general or quantitative credit controls, were more extensively used. Chosen sectors of the economy

can be expanded or contracted as a consequence of deliberate, selective credit policy. Selective credit instruments are numerous, and various types of selective intruments have been devised to meet selective credit needs in different economies. Multiple exchange rates, differential rediscount rates, varying margin requirement for loans or letters of credit, and direct credit rationing are examples of selective instruments. These and other selective instruments have been adopted in the Philippines to promote industrialization, and in recent years, the development of the rural sector. These instruments are briefly described and analyzed in Chapter III.

B. Quantitative Monetary Instruments

The traditional quantitative instruments of monetary policy--the discount rate changes, open market operations, and varying reserve ratios--can be feasible and effective policy instruments in highly developed economies, with the likely exceptions of extreme economic circumstances such as war and severe depression.

Banks meet fluctuations in demand for loans with excess reserves and by borrowing from the central bank. They also resort to their secondary reserves which are principally in the form of government securities. These sources of reserves--the discount window, the open market for government securities, or their excess reserves--which the banks will use to meet changes in demand for credit or changes in demand deposits will naturally depend on their relative cost. The lower the discount rate, the less costly it will be to borrow from the central

bank and, therefore, the less the need to keep excess reserves. Credit is likely to be expanded with the lowering of the discount rate or with central bank purchases of government securities, and vice versa. At the same time, changes in the discount rate are regarded as indicators of contractionary or expansionary moves of the central bank in the immediate future. In general, quantitative instruments in advanced economies work through the portfolio behavior of commercial banks rather than directly through changes in the level of reserves. The one exception to this rule is the variable reserve ratios. This instrument has the draw-back that the ratios cannot feasibly be varied in a relatively small amount due to the impracticality of specifying a reserve requirement with many decimal places.

In less developed economies, traditional instruments of monetary policy may not be applied effectively or in a similar manner. The conduct of open-market operations and changes in the discount rates requires the existence of a broad and active market for government and private securities. Changes in the discount rate would only work if the interest rates on financial claims are free to fluctuate so that the reserve portfolio can respond to interest changes. With respect to open-market operations, many less-developed countries have no government bond market. Their debt policy may even prevent the development of this market as in the Philippine case.

Due to limitations imposed upon the banking system stemming from the underdeveloped nature of the money and government bond markets, instruments that directly change the level of reserves will be more

effective in comparison to instruments that work through the portfolio behavior of banks. Important econometric works on the reserve portfolio behavior of banks in the United States confirm the portfolio response of banks to relative cost of reserves. In contrast, bill and discount rates are not significant variables in explaining the behavior of reserves in the Philippines.

Paradoxically, one still finds a discussion of these instruments as traditionally applied in textbooks written for the Philippines.[3] This paper hopes to show the unique aspects of Philippine central banking and give an analysis of their allocative implications. Chapter II describes the role and structure of the Philippine Central Bank; Chapter III gives an analysis of the allocative implications of the set of credit measures adopted; and Chapter IV develops a money-supply function adapted to the monetary control instruments used in the country.

CHAPTER II

THE STRUCTURE, OBJECTIVES AND POWERS OF THE CENTRAL BANK OF THE PHILIPPINES.

The Central Bank of the Philippines was created on June 15, 1948 by the passage of Republic Act 265, the Central Bank Act, and the Central Bank began operations on January 3, 1949. The Philippine Central Bank from its very inception was a most unorthodox type of central bank, if compared to the more traditional type. It was especially designed to deal with the economic conditions of the Philippines, a relatively small, underdeveloped, export-oriented economy.

The founders of the Philippine Central Bank clearly recognized the need for a central bank which departed significantly from the the traditional model, and they recognized that a traditional type of central bank in the Philippines was likely to be very ineffectual. A keen understanding of the need for an unusual type of central bank is evident in the many writings of Miguel Guaderno, principal founder of the Philippine Central Bank and its first Governor (from 1949-1960).

> "Being thoroughly convinced of the need for a central bank in our country...I had been making a study of the best type of central bank which will be suited to the Philippine economy...in this study I found that we in the Philippines would do well to draw from the experiences of small underdeveloped countries whose economies are just like our own. I found that in countries in Latin America and even in the countries within the orbit of the British Commonwealth of Nations, a considerable departure from traditional patterns based on British and American experience has had to be made in order that the central banks could function properly and effectually."[1]

The Philippine Central Bank was patterned after the central banks of Paraguay and Guatemala.[2] The Central Bank Act vested the Central Bank with the usual traditional functions of a central bank: (a) it has sole responsibility for currency issue, (b) it holds and manages the reserves of the banking system, (c) it provides facilities as a lender of last resort in order to maintain the liquidity of the financial system, (d) it discharges banking services for the governments and for the commercial banks, and (e) it manages the country's international reserves.

Three broad policy objectives are contained in the Central Bank Act.

(a) To maintain monetary stability in the Philippines;

(b) To preserve the international value of the peso and the convertibility of the peso into other freely convertible currencies; and

(c) To promote a rising level of production, employment, and real income in the Philippines." [Sec. 2, Article 1, R.A. No. 265].

The Central Bank Act also has numerious unusual provisions, which are intended specifically to aid in the development of the Philippine economy and to protect it against adverse conditions in the international sector. The Act provides for a high degree of coordination between government policies and central bank policies by having membership on

the Monetary Board overlap with government executive positions. Central Bank regulatory control is very extensive extending to "all banking institutions", instead of to commercial banks only. Essentially all institutional financial intermediaries come under central bank control, with the exception of insurance companies, which are explicitly exempted from the Act but over which the Bank exercises persuasive influence. The Bank has extensive powers to use selective credit controls to pursue specific economic objectives. The bank is given the responsibility of developing a government securities market though its lending power to the government is severely curtailed. The Bank is empowered to create specialized lending institutions and to control the level and allocation of their credit. It has extensive powers to deal with a foreign exchange crisis. The bank can impose exchange controls and margin requirements on letters of credit, and it can alter the exchange rate with the approval of the President.

At the time when the Central Bank was established, its immediate and most pressing tasks were to assume the responsibilities of (political) independence and to assist in post-war reconstruction of the economy. There was a need to develop a new currency system, to serve the banking needs of the government, to provide liquidity to the banking system, and to manage the international reserves. Since the most immediate problem at the time was the balance of payments, the attention of the Central Bank was concentrated on controlling the flow of foreign exchange. With the passage of time, the Central Bank assumed other responsibilities, such as promoting industrialization, financing economic development, and

encouraging the growth of capital and money markets. The Central Bank Act did not explicitly envision these latter responsibilities, however, the law provides the Central Bank with very broad powers which could be utilized to promote development objectives. Furthermore, the Central Bank is so organized as to have extensive influence on the allocation of funds of public and private financial institutions.

A. Currency System

The Central Bank act established for the Philippines a modern managed currency system and the Central Bank has sole authority for currency issue. The present currency system contrasts sharply to the previous currency system known as the "Dollar-Exchange Standard".

B. The Dollar-Exchange Standard

Previous to the establishment of the Central Bank in 1949, the Philippines was on a dollar-exchange standard. This system required that the Philippine currency be backed 100 percent by foreign exchange reserves, namely United States dollars, and the exchange rate between U.S. dollars and Philippine pesos was fixed by law at ₱2 = $1. Currency, in the form of Treasury certificates, was issued by the Philippine Treasury. These certificates could be backed 100 percent by silver coins and United States dollars, but in practice they were issued against United States dollars only.[3]

The dollar-exchange system caused the volume of local currency outstanding to fluctuate in accordance with the surpluses or deficits of the international balance of payments--surpluses caused the volume of currency to expand, and deficits caused it to contract. When

surpluses were present, foreign exchange would be sold to the Treasury for peso equivalents. Money supply would increase and foreign exchange would be held by the Treasury as backing for the increased money supply. When deficits were present, pesos would be presented to the Treasury in order to purchase foreign exchange. Foreign exchange holdings of the Treasury would fall and the peso equivalents would be sterilized by the Treasury and would cease to circulate. The Philippine currency system was very rigid. Changes in the volume of currency outstanding was determined solely by conditions prevailing in the international balance of payments, and the total stock of currency outstanding at any moment of time represented the accumulated surplus in the country's balance of payments plus domestically produced gold and silver reserves. When monetary requirements of the domestic economy came into conflict with the requirements of the dollar-exchange standard, domestic considerations were sacrificed for international considerations.

How well the 100 percent reserve system has served colonial territories is a subject of considerable debate. There are several advantages and disadvantages of the system. Among the advantages are the following considerations: (1) The likelihood of over-issue of currency leading to injurious inflation and dissipation of foreign reserves was highly unlikely, (2) The territory had a simple, inexpensive currency-issue mechanism, where opportunities for mismanagement due to incompetence or corruption were minimal (3) The system provided a complete and absolute guarantee of convertibility of the peso into U.S. dollars at a stable exchange rate, resulting in a maximum of incentive for foreign investment. The dis-

advantages included: (1) The monetary authorities were prevented from exercising any monetary policy with the aim of affecting the domestic economy, (2) The expansion of currency in circulation required that the country become a net exporter or international creditor. To the extent that the community wished to add to its stock of currency it had to lend to the colonizing country.

The required export surplus results in a loan or sacrifice of real resources from the colony to the colonizing country. This flow of real resources is matched by a financial flow. The colony acquires hoards of foreign exchanges (non-interest bearing securities) or when provided for, the foreign exchange is invested in interest-bearing securities of the colonizing country. A currency system which causes a poor country to become a net creditor is thought now to be inappropriate since international policy is oriented toward causing capital to move from rich countries to poor countries.

The general consensus on this subject is that the 100 percent reserve standard was a fairly satisfactory monetary system in areas where it was used during the colonial period and there is no evidence that the system seriously impeded Philippine economic development. Its deflationary bias was probably offset by its attracting of foreign capital. However, it is generally agreed that this type of currency system is not appropriate for an independent country.[4]

A. The Managed Currency System

The currency system of the Philippines was totally reorganized with the passage of the Central Bank Act. The 100 percent reserve

currency system was replaced by a flexible, managed currency system. There is no required ratio between the volume of international reserves held by the Central Bank and the volume of outstanding currency or note and deposit liabilities. Therefore, all reserves of foreign exchange are freed for use in settling international accounts and their adequacy is left to the discretion of the Monetary Board. The country no longer was forced into the position of international creditor in order to affect increases in the supply of currency and for the first time it was in a position to pursue discretionary monetary policy. The volume of local outstanding currency was to be determined by domestic and international considerations.

The international value of the peso was fixed at two pesos to one United States dollar as under the previous system. The value of peso was also defined in terms of gold, unlike under the previous system, where the value of the peso was defined in terms of U.S. dollars only. Furthermore, the peso could be revalued in the event of a fundamental disequilibrium in the Philippine balance of payments. Also, a revaluation of the U.S. dollar no longer required a revaluation of the Philippine peso. Under the dollar-exchange standard, any revaluation of the dollar required a revaluation of the peso in order to maintain the ₱2 to $1 ratio. Under the managed currency system a revaluation of the dollar would change the peso-dollar exchange rate but not the value of the peso defined in terms of gold. In essence, then, the international value of the peso was defined in terms of gold independently of the value of the U.S. dollar, and the quoting of its value in terms of dollars served only for purpose of convenience. Since in the Philippines a large percentage of international trade is conducted

on a dollar basis and the dollar is used so widely as a unit of international accounting, it serves as a more convenient "denominator" than gold.

C. The Structure of the Philippine Central Bank

Monetary and credit authority is vested in the Monetary Board of the Central Bank. The Board is composed of seven members. The chief executive of the Bank bears the title of Governor of the Central Bank. He is appointed by the President of the Philippine Republic to serve a term of six years. The Secretary of Finance, Governor of the Development Bank of the Philippines, and President of the Philippine National Bank also serve on the Board. The other three members are appointed by the President of the Republic to serve six-year terms. The principal reason for placing the Secretary of Finance on the Monetary Board is to promote an effective coordination of monetary and fiscal policies.[5] The drafters of the Central Bank Act were quite concerned about conflicts of policy arising between the government and the Central Bank, and they wanted to minimize the possibilities of these two institutions working at cross purposes.[6] Therefore, the Monetary Board is not as independent of the Executive Branch of the government as in the United State of America.

The question of independence of the Central Bank is a controversial subject. There is what Nevin calls the right-wing and the left-wing view of the issue. The right wing central bankers lay heavy stress on the virtues of the independent authority of the Central Bank, while those of the left-wing view emphasize the inevitability of a high degree of "integration between monetary measures

applied by the Central Bank and the levels of income and employment for which ultimate responsibility must clearly rest with the government and cannot be devolved on any independent agency."[7] According to Nevin the balance of advantage would seem to be somewhere between the two extremes, although probably closer to the official-agency position than the independent-body position. Nevin explains the rationale for many central bankers gravitating towards the middle as arising from the increasing degree of responsibility of the government for raising the level of income and employment. One can extend the reasoning to development objectives. The overriding goal by a developing country is to raise its productive capacity and national income. Monetary stabilization is a secondary objective in many of these countries. One can probably argue that central banks in developing countries would tend to be less independent and assume a more active participation with other government agencies in promoting economic development. However, as will be seen in the chapter evaluating monetary policy and its impact, this lack of independence, especially from the executive Branch, can be misused for political purposes.

C. Scope of Central Bank Control

The Monetary Board controls not only commercial banks but all "banking institutions" defined to be entities engaged in the lending of funds obtained from the public through receipt of deposits or sale of bonds, securities, or obligations of any kind. The term "banking institutions" include most of the financial intermediaries such as "Commercial banks, savings banks, mortgage banks, trust companies,

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building and loan associations, branches and agencies in the Philippines of foreign banks and all other corporations, companies, partnerships, and associations performing banking functions in the Philippines."

"Insurance companies are exempted from the provisions of this Act but shall present to the Central Bank such information, data and report as the Monetary Board may require in order to ascertain the affects of the operations of the insurance companies on the monetary, credit and exchange situation in the Philippines. [Sec. 3 of the General Banking Act, R.A. No. 337]

The law provides for the creation of a department of supervision in the Central Bank, to supervise the operation of banking institutions. This Department is headed by the Bank Supervisor. No bank may be licensed to operate unless approved by the Monetary Board. The Central Bank has therefore both supervisory and policy power over all banking institutions. The policy powers of the Central Bank will be discussed in the next section of this Chapter.

In the course of its history in the Philippine government created by law several types of financial institutions aimed mostly at channelling savings to finance some priority projects or to service particular sectors. Foremost among these institutions are the Philippine National Bank, unibank a public commercial bank, the Development Bank of the Philippines, unibank an investment bank; two insurance companies: The Government Service Insurance System (GSIS) and the Social Security System (SSS); the rural banks, and the private development banks. The last two are quasi-public institutions which are

partially capitalized by the government. With respect to these institutions, the law provides "government-owned corporations which perform banking or credit functions are hereby declared to be instruments of the national monetary policy and, accordingly, shall coordinate their general credit policies and those of the Mohetary Board." [Art. X, Chapter IV, Central Bank Act.]

The Central Bank not only acts as the banker for the government but also as the Treasurer. Sec. 38, Article IV, Chapter VII provides that "all powers, duties, and functions vested in the Bureau of the Treasury and the Treasurer of the Philippines...shall be exercised by the Bank and are hereby transferred to the Central Bank." At the same time, the issue of securities representing obligations of the government and its political subdivision and instrumentalities, shall be made through the Central Bank, which shall act as agent of and for the account of the government...the servicing and redemption of the public debt shall also be effected through the Central Bank."

The power of the Central Bank to extend credit to the government is legally restricted to an unusual degree. The Central Bank Act stipulates that the Central Bank shall act as agent for the placing of government securities, but "the Bank shall not subscribe to the issue of said securities and shall not guarantee their placement." [Ch. V, Art. I, Sec. 122, Central Bank Act]. (This means that the government of the Philippines cannot lawfully finance budgetary deficits by selling bonds to the Central Bank.) This provision was included in the

Central Bank Act to prevent the inflationary finance of government expenditures, which had occurred in some other countries. "Advances to the government can only be made to cover seasonal gaps in revenues and expenditures and must be repaid before the end of the first quarter following the termination of the fiscal year. Their total may not exceed 15 percent of the average annual income of the borrower for the last three preceding years."[8] But as will be seen by its regulation of bank reserve portfolio, this law is easily circumvented.

This section may be concluded by stating that the Philippine Central Bank has the authority to influence the level and allocation of credit of all financial intermediaries, private or public. At the same time, it is responsible for the maintenance of international reserves and the issue, servicing and redemption of public debts. To a large extent, it also has powers to influence the level of public expenditure in its decision to change the size of public debt. The following chapters review the credit measures used and evaluate their impact on allocation of resources and over-all economic development.

D. Policy Tools of the Central Bank

The Central Bank is provided by law with two types of policy instruments--(a) quantitative controls which are intended to affect the over-all monetary and credit climate of the economy by tightening or easing the availability of credit; and (b) selective controls which have a deliberate allocative (of investment) effect." Selective credit controls have direct impact on the sector they aim to influence. However, they often have indirect effects onthe over-all availability of credit.

As stated at the beginning of this Chapter, the Central Bank Act did not provide explicitly how the third basic goal of the Central Bank, that of promoting rising levels of employment and real income, may be achieved. But subsequent banking acts of Congress established banks for economic and financial market development.

Reference is made to the following banking laws establishing various types of banks.

1. Rural Banks Act, Rep. Act. No. 720, approved June 6, 1952 provides for the creation, organization and operation of rural banks.

2. Development Bank of the Philippines (Rep. Act No. 2081, approved June 14, 1958) amending Rep. Act. No. 85 and other laws to provide facilities for intermediate and long-term credit by converting the Rehabilitation and Finance Corporation into the Development Bank of the Philippines, authorizing the said Bank to aid in the establishment of provincial and city private development banks...

3. Private Development Banks' Act (Rep. Act. No. 4093, approved June 19, 1964) aimed at encouraging "the establishment of more private development banks in order to meet the needs for capital and to meet the demands for adequate credit or medium and long-term loans for Filipino entrepreneurs".

4. Republic Act, No. 2023 gives special provisions relating to cooperative banks.

5. Philippine Veterans Bank Rep. Act No. 3518, approved June 18, 1963. 51% of its capital is to be subscribed by the Philippine Government for and in behalf of the veterans, their widows, orphans and heirs. It may grant long and short-term loans.

Some minor banks such as cottage industries banks and land banks are also created by law.

The selective instruments of the Central Bank have been used extensively to ~~influence the level and the allocation of funds of~~ the banking institutions, especially those that were established to serve particular sectors such as the development banks and the rural banks.

~~Article IX~~--to provide for the other selective credit instruments. Among the more important provisions are those governing directly the cost and availability of credit.

1. "The Monetary Board may fix the maximum rates of interest which banks may charge for different types of loans and for any other credit operations...[Sec. 109, Article VIII].

2. It may specify the maximum maturity of loans and investment the banks may make and the kind and amount of securities to be required against them.

3. It may place an upper limit on the amount or rate of increase of specific categories of loans and investment which the banks may hold.

4. The Monetary Board may also prescribe minimum ratios of capital and surplus to the volume of assets of banks.

5. In addition, the discount window has been used extensively to influence the allocation of credit. The Central Bank gives differential discounting privilege and discount rates to the various types of banking institutions.

6. The Rural Bank and the Private Development Bank Acts stipulate that the Development Bank of the Philippines, with prior approval of the Central Bank, capitalize the establishment of these banks; up to 50% of paid in capital in the case of rural banks, and without restriction in the case of private development banks.

E. Management of the Foreign Exchange Reserves

The responsibility of the Central Bank to maintain the international value of the peso and its international convertibility probably warrants a separate section. Various methods of controlling the flow of foreign exchange have been tried by the Bank. Articles II and III of Chapter IV of the Central Bank Act stipulate the powers of the Bank to achieve this objective by means of foreign exchange control, deposits on letters of credit, multiple exchange rates and spot purchases or sales of foreign exchange. It has broad powers over domestic holding, production and processing of gold. Most of the methods of controlling the flow of foreign exchange are selective in nature. The allocation of foreign exchange and the multiple exchange rates were used extensively to promote industrialization. A substantial literature has been written on the industrialization policy, in particular, on the orientation of the past policy toward import-substitution.[9] On the other hand, some of the tools used to control foreign exchange have quantitative impact on the supply of money and credit. For instance, the deposit requirement and the dollar retention scheme directly reduce the money supply.

Chapter III

ALLOCATIVE EFFICIENCY OF ALTERNATIVE FINANCIAL TECHNIQUES

The development of the financial system should be considered as part of the over-all development plan. Since the financing of development is usually the first problem encountered in planning, a more serious consideration of the alternative financial techniques available need to be taken. Financial technique is defined here as the whole set of regulations and measures related to changing the level of credit and its allocation. Except for the very aggregative arguments about the pros and cons of inflationary finance versus those of taxes, development economists have skirted the issue of choice of financial technique. Recently, Professor Gurley (1) discussed three alternative techniques of financing development--inflation, fiscal and financial intermediaries. This specification of alternatives seems to be too aggregative. Inflationary finance, for instance, can be done directly or indirectly; directly, where government expenditures are financed by changes in money supply, and indirectly, where through some monetary control instruments the loanable funds of financial intermediaries are allowed to increase. These two alternative inflationary methods of financing are likely to result in different allocation and distribution of income. The same can be said between the choice of fiscal technique versus indirect inflationary technique of financing development. One technique may give a superior allocation depending on the relative efficiency of government agencies and of private financial intermediaries in allocating funds.

The literature on investment criterias, including those which take into account the presence of externalities, assume their automatic application

by the financial system or by government agencies. In many developing private enterprise economies, the choice of financial technique is a very real problem. A number of socio-political issues come into the picture. For example, the degree of corruption in government is quite likely to affect the allocation of funds obtained through direct inflationary finance or taxation. Credit subsidies coursed through private financial intermediaries will face the danger of being poorly allocated in a culture of extended family where nepotism is widely practiced. Since administrative cost and degree of efficiency of allocation are affected by socio-policial factors, these should enter as decision variables in the choice of financial technique.

This paper reviews the financial techniques used in a few countries with a focus on the technique used in the Philippines. Its aim is to show the allocative implications of each financial technique chosen. The experience of many countries, including that of Taiwan and of the Philippines shows that the measures available for increasing the rate of capital formation are not too difficult to implement. The problem encountered seems to be in the allocation of funds. The possible sources of misallocation are identified in this chapter. The paper will also describe how the whole set of credit rules and measures determines the structure of the financial system that the country develops. The author hopes to extend this study to some empirical measures of the misallocation of resources consequent to the financial technique chosen in the Philippines.

I. Credit Policy and Measures Used in the Philippines

In pursuing the goals of economic development, the Philippines has relied heavily on credit measures to stimulate investment in general and in priority sectors. The financial technique used has three major features: a) Taxation is not an important source of financing activities except in paying for elementary education and government administration; b) there was a deliberate decision to encourage the growth of the banking system which was to assume the major role in financing development; and c) the banking system has operated under a fairly extensive set of control and incentives.

The choice of financial technique was probably very much influenced by political considerations. The tax base, whether for an income tax or for a property tax, overlaps with the political base. It was not easy, therefore, to pass tax legislations that would hurt directly the political-vested interest. There was also a strong mistrust of government ability and integrity, hence the wariness to place large tax revenues in its hands. It seems that in the early part of the country's development history, government banks were not identified with other government agencies. And so banks were established as the main financing agent for the government and for the private sector.

Both selective and quantitative sets of credit measures were used extensively. Selective measures consist of incentives through relatively lower interest rates and more lenient discount privileges. Quantitative control of credit was also selective in impact because of the means through which changes in credit were implemented. The selective impact of quantitative

control was unavoidable since the financial institutions developed were highly specialized in nature.

Decisions on financial technique may be made in the form of legislation or the day-to-day action of the monetary authority. Two pieces of legislations have had pervasive influence on credit--the Usury Law of 1916 and the Central Bank Act of 1948. The Usury Law imposed a ceiling on the rate of interest on loans. The Central Bank Act of 1948 created a very powerful agency. It has supervisory power over all banking institutions. It controls not only the supply and allocation of credit but also those of foreign exchange. The power over the supply of credit gives the Central Bank effective supervisory control over banks.

The Usury Law stipulates a nominal ceiling of 14 percent on unsecured loans and 12 percent on secured loans. With respect to secured loans, all charges are to be included in the computation of the rate of interest. All other forms of credit such as purchases on installment and issue of bonds and other claims are not covered by the Law. Though there is a Truth in Lending Act for installment credit which requires full disclosure of all charges related to the purchase, there is no stipulation as to the computation of the rate of interest. (There may also exist a large unorganized market over which the Law is not enforced.) Hence the direct impact of the Usury Law is on the banking system.

This impact depends essentially on the size of loans whose equilibrium market rates are above the ceiling rates. In a freely operating market the interest rate structure will be determined by supply and demand for various

forms of credit. Both quantity supplied and quantity demanded for any form of credit will in turn depend on its liquidity and risk. Very short-term and safe loans whose equilibrium rate in the market is below the ceiling rate will not be affected by the Law. There are some evidences that would indicate that the rate of interest in the market for a large volume of credit is above the ceiling rate.[1] The more important effect of the Law, however, is how it governs the choice of various rates of interest by the Monetary Board of the Central Bank, be they deposit rate, loan rate or discount rate. In the Philippines, cheap credit policy seemed to have meant credit at rates of interest lower than the Usury ceiling rates. For this reason, the effect of the Law is felt in the major credit measures adopted by the Monetary Board.

The more important selective and quantitative measures used by the Central Bank are reviewed below. These are as follows:

1. assistance in capitalizing new banks .
2. discount window .
3. interest ceiling on deposits, interest rates on loans granted by government banks
4. reserves requirement and reserve composition .
5. debt management.

Each of these measures will be described briefly and their allocative implications as a whole will be analyzed in the following sections.

1) Assistance in Capitalizing New Banks

A significant number of banking laws have been passed since 1948. These created several types of banks; among them, rural banks, cooperative banks,

private development banks and the Veterans Bank. Other financial institutions such as the social security system were also created by law. The two largest government banks, the Philippine National Bank and the Reconstruction and Finance Corporation, now the the Development Bank of the Philippines, were established earlier. Except for the Development Bank of the Philippines and the private development banks, most of the banks created were commercial banks. The banks may be classified into public, semi-public, and private. Public banks are fully capitalized by the Central Bank, and semi-public or government-supported banks have a capital contribution from the government. The percentage contribution of the Central Bank to the initial capital of these banks is given below.

	Percent Contribution
Development Bank of the Philippines	100%
Philippine National Bank	100%
Rural Banks	50%
Private Development Banks	40%
Philippine Veterans Bank	51%
Cooperative Banks	67%
Nacida Banks (National Cottage Industries Banks)	67%

The public and semi-public banks were established for specialized functions, the sectors to which the banks cater are indicated by the name of the bank. Though the Philippine National Bank is a commercial bank, its loans like those of the Development Bank are mostly intermediate and long term. Except for the Nacida and Cooperative Banks, public and semi-public

banks are fairly large banks with branches in most provinces.

Aside from the government contribution in capitalizing banks, these banks also receive lenient discounting privilege. The rural banks have discounting privileges at rates of interest of less than half those charged to other banks. Private commercial and savings banks do not receive capital assistance but they get the same discount privileges as non-private commercial banks. Please see Table III.2.

2) The Discount Window.

In the Philippines, the discount window is a very powerful credit instrument of both quantitative and selective control. It also gives the Central Bank a strong means of supervising banks since the discount privilege may be withdrawn from "erring" banks.

Under orthodox control banking, discounting of notes is usually discretionary on the part of the monetary authority. The Monetary Board, however, has given banks the right to discount their notes up to the size of bank capital as long as they meet specific discounting regulations. There are differential discounting ratios depending on the purpose of the loans. The discount ratio is simply the ratio of Central Bank advances to commercial loans discounted. This discounting rule gives a higher reserve multiplier than the ordinary reserve multiplier.

Assuming dr to be discount ratio and rr to be the reserve requirement, an increase in reserve, X, will result in an increase in money supply, as follow. (This of course, assumes that banks do not keep excess reserves and there are no leakages in demand deposits.)

$$\Delta M = \frac{1}{rr} X + \frac{dr}{rr} X \frac{1}{rr} + \frac{dr^2}{rr} X \frac{1}{rr} \ldots$$

instead of simply $\Delta M = \frac{1}{rr} X$.

3) Interest Policy

The Monetary Board implements its cheap and selective interest policy through various measures: a) ceiling on deposit rates, b) differential interest rates for priority sectors, and c) the effective rate on government securities chosen in its debt management. Table 1 gives us the interest rates on deposit chosen by the Monetary Board over the past decade and a half. Table 2 gives the discount rate for different types of banks or by purpose of loans. We find in these two tables that the Monetary Board allows a wide margin between the loan rate and the discount and deposit rates.

4) Reserve Requirement and Reserve Composition

The Philippines follows a fractional reserves requirement and seems to have used this credit instrument frequently as evidenced by the changes in reserve requirement over the past two decades. See Table 3. This instrument was probably not so effective in changing credit until the middle of the 1960's since banks had maintained substantial excess reserves until then. Furthermore, the lenient discounting rule can easily offset the limitation on money creation of the reserve requirement. The more interesting aspect of this instrument, as used in the Philippines, is the reserve composition. A very large proportion of required reserves may be held in the form of government securities, 90 percent in 1965, 75 percent in 1970.[2] Please see Table IV.3 of the following chapter.

Since banks hold most of the outstanding government securities as part of their reserves, open market operations have very little quantitative impact on the money supply. When the Central Bank buys government securities there is no change in reserves; there is merely a change in their composition.

5) Debt Management

The responsibility for debt management also lies with the Monetary Board of which the Secretary of Finance is the Chairman. While each issue is enacted by Congress, the Monetary Board has wide discretion in its marketing. The laws do not clearly stipulate the effective rates of interest at which the bonds may be sold. The Monetary Board has, however, marketed the bonds at their stated rates (or at their par values).

Until 1966, only intermediate and long-term government bonds were issued. Table 4 gives a list of these issues and their corresponding stated rates. The rates on these bonds have been pegged at their stated values. In 1966, Congress enacted a law for issuing a short-term Treasury Bills. The law specifically provided that these were to be sold at competitive prices. Table 5 gives the effective yield on short-term government bonds, the outstanding issues and the over-subscription. It is to be noted that the interest rates on the government's long-term and intermediate bonds are lower than the yields on its short-term issues, and on corporate equities and bills. The Central Bank has to supplement its interest policy on government debts in order to have a market for them. Discussed in the preceding section is the stipulation allowing banks to hold a very large

proportion of their reserves in the form of government bonds. Only about 10 percent of these bonds are held outside the banking sector. The policy on debt management is hard to rationalize except as a more complex means of inflationary financing of government expenditures. This debt policy impedes the use of open market operation as a monetary control instrument.

So far we have described the principal measures adopted by the Central Bank in the past two decades. The over-riding objective was to stimulate investment especially in some sectors. The Bank has followed a cheap credit policy and has chosen the banking system as the medium through which increased funds are allocated to spending units. We can say that the policy was effective as far as it was able to develop the banking system. This development could be seen from the growth in number of banks and of their assets and liabilities. Please see Tables 6 and 8. We can also see the reliance on the banking system in financing investment in the ratio of loans granted to investment in the past decade. In the next section, the allocation problem involved in the financial measures will be analyzed.

II. Efficiency in the Allocation of Funds

Each particular financial technique or each whole set of credit measures adopted may be evaluated not so much in terms of how easily it is able to increase investment funds but in terms of how efficiently it allocates them. In this section we will examine how the credit measures adopted in the Philippines affect the manner in which the financial system operates. The description of the way the system operates will point to problems of allocation which seem to be inherent in the financial technique chosen. It might be useful to describe allocation under competitive conditions in order to appreciate the problem of allocation when these conditions are relaxed. Described below in an ideal situation of allocation with the

given assumptions of competitive market, namely,

1. perfect information and certainty
2. small borrowers and lenders
3. no externalities.

The market demand curve for funds would be the schedule of marginal rates of return on investment and the lenders' supply curve of funds would be the schedule of the marginal cost of funds available. The latter is upward sloping for the industry assuming an increasing marginal time preference, or the expected portfolio response of wealthholders to yield on bank claims. Included in the marginal cost of funds supplied is the cost of intermediation. In Chart 1, let us assume the ss curve as the supply of funds by savers, and the AC = MC line as the horizontal summation of the most efficient average cost of intermediation in the financial market. The sum of the two curves, SS, is the total marginal cost curve which is the sum of intermediation cost and the marginal time preference. The intersection between the demand curve for funds and the SS curve gives us the market equilibrium point. It is efficient in two ways: 1) efficient in the allocation of funds to the most productiveness and until the marginal return to the funds invested is equal to the marginal cost; and, 2) efficient in intermediation.

A fair amount has been written on the behavior of each of these variables--time preference, cost of intermediation and return to investment. Only a few words on the cost of intermediation is probably warranted here.

mi

or

rel

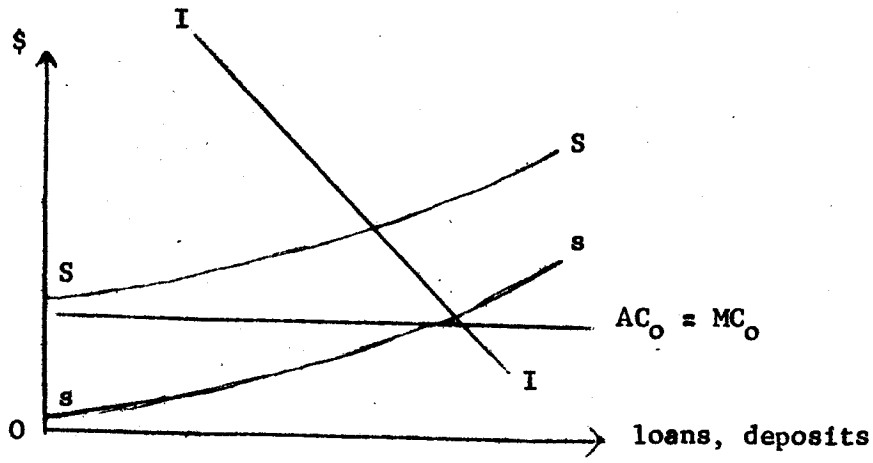

Chart 1

Since intermediaries are able to specialize in their business, the cost of channeling savings to investment through them is lower than in the unorganized market. Specialization in trade allows them to have better information on borrowers and general business conditions affecting the latters' projects. They are also able to diversify their portfolio, thus being able to reduce the risk cost. The pooling of savings of a large number of individuals permits the intermediaries to increase the liquidity of the financial asset. They are able to borrow short and lend long; to borrow and lend any size. There are also resulting economies of scale from the processing of loans and other papers. It is very likely, therefore, that the average cost curve for each firm is U-shaped and that the cost of channelling savings to investment through intermediaries will be lower than through individual saver-borrower arrangement, In very small localities where the level of saving is small, the average cost of intermediation might be higher than in the case of bilateral or individual arrangement, in such a

situation, intermediaries will not be voluntarily established.

The effects of a given set of credit measures can be easily analyzed through their effect on the supply and demand schedules. The supply curve drawn is a long-run supply curve. It has a time dimension when we are dealing with economies which have underdeveloped financial markets. We can imagine the supply curve as shifting rightward through time as more and more banks are established.

In a situation where the market is very small, direct inflationary finance may simply involve the allocation of the same level of saving which would otherwise have been channelled into the unorganize sector or hoarded. The institution through which the saving is channelled does not necessarily have to be a financial intermediary. A central planning agency could visualize the supply curve of saving in the economy and use taxation or inflationary finance to get equivalent to what would otherwise be available to a well-developed financial market. The supply curve of funds could, therefore, be drawn as the supply curve of a banking system or of a central financing agency.

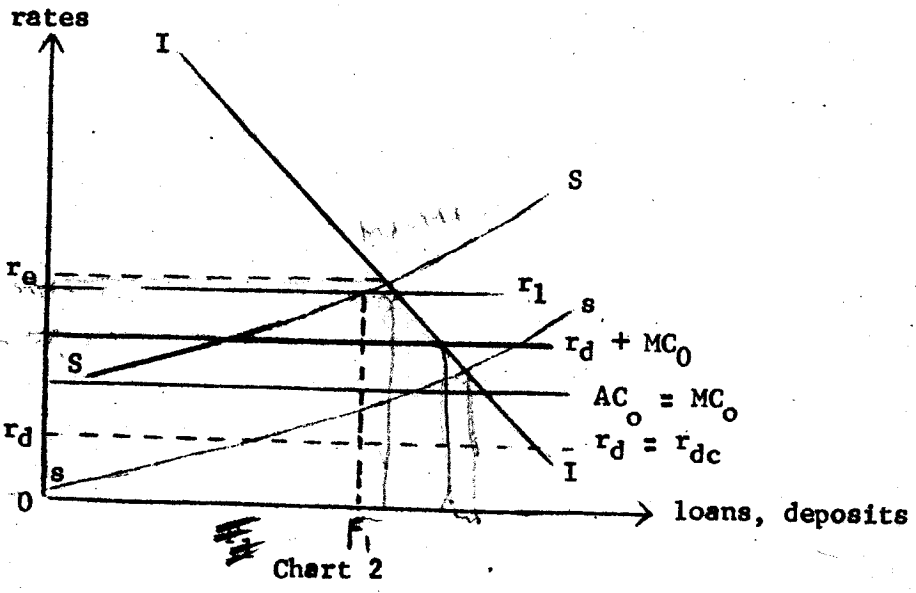

Chart 2

Chart 2 gives us the supply and demand curves under competitive conditions; these are exactly the same functions depicted in Chart 1. The equilibrium rate would have been at r_e. Let us now impose a ceiling deposit rate at r_d and a ceiling loan rate at r_l. Without the discount privilege, capital will have to be rationed at F_1, the supply of funds at deposit rate r_d. Since banks are given very lenient discount privileges the supply of funds from deposits is supplemented by money creation from the Central Bank. The new supply curve with discounting privilege is that which is traced in red at the discount rate, r_{dc}. Discounting is completely discretionary on the part of the Central Bank so that its advances to banks through the discount window may be equal to, less than, or more than the loss of deposit sources of funds as a consequence of the deposit ceiling. The point to be noted is the substitution of money creation for deposits.

There are three possible allocation problems involved in the set of policies: At the aggregate level, the level of loans is at a point where the marginal social discount rate is higher than the interest rate on loans. There is also a possible allocative problem that may arise in changing

the relative prices of factors. The third allocative problem is concerned with the efficiency of intermediation. We will discuss each of these in the following sections. The first type of allocation problem is normative in nature, whereas the second and third are positive in essence.

When investment is stimulated through a set of measures such that it exceeds that which would be made by the society voluntarily from independent individual decisions on saving, there is loss in welfare. The loss in welfare may be reduced if the government is able to change individual time preference by a campaign for economic and social development. This campaign can be regarded as an application of Sen's theory of the interdependence of individual and the social rate of saving--one might be willing to save more if everybody else is saving more. The Japanese experience may be taken as an example of the ability of a government to raise the rate of saving as part of an over-all effort at nation-building. The Japanese experience is not unique; the reduction in personal consumption to pay for war expenditure is a common historical experience. Because of the interdependence of individual and social time preference it is not clear whether and by how much there is a loss in welfare when a government forces an increase in saving. It may not be too objectionable to consider this type of allocation problem as a normative decision of the government. The government may increase the rate of saving to the extent that will be tolerated peacefully by the community.

The second allocation problem might be more serious than the first and a number of important works for the Philippines have already been done on the subject. Power, Sicat and Williamson have, in joint and independent works, described the factor proportion bias of Philippine trade and credit policies. Power and Sicat discussed comprehensively, though qualitatively, the capital-intensity bias of the policies so far adopted.[3] In a very recent article on "Capital Accumulation, Labor Absorption, Once More", Williamson estimated the user cost of capital in 19 two digit manufacturing industries and showed that these ranged from 10.8 to 33.9.[4] But so far no empirical work on the social cost of the factor bias has been done. The social cost of a policy is defined here as the output foregone from the use of scarce factors. In general, the social cost of policy which affect factor prices is determined by the production functions assumed and on initial factor prices.

The credit policy in the Philippines results in two types of distortions in the factor market. These are likely to result in a different level and composition of output and a different level of investment. Capital is made relatively cheaper than labor for all industries. Industries included in the priority list of the Central Bank receive relatively more credit subsidies than other industries. Credit subsidy is in either or both forms--a larger allocation of credit at the generally lower interest rate on loans or in lower rate of interest on credit granted.

The social cost of this type of distortion can be estimated by the same method as that used by Fishlow and David, by H.G. Johnson, and by

Birnberg and Cohen. For practical reasons, they all assume a two-sector economy, and two degrees of distortion--two different relative prices of factors for the two sectors. In our case there are as many distortions of factor prices as there are differential credit and other subsidies. The estimation procedure will have to be expanded to treat multiple distortion in various industries, including those that do not receive any form of subsidy. The empirical work will form Chapter V of this study.[5] It is to be expected that the number of industries that can be included in estimating the cost of distortion will be drastically limited by data availability.

Without having to make the difficult estimation of social cost discussed above, we may point to some evidences of poor allocation of capital in the Philippines. Cheap credit probably explains to a large extent the construction of incongrously elegant mansions in the often-reported Forbes Park and other surrounding "villages". An accounting of fixed assets of subsidized firms might also reveal they have higher proportion of construction cost than in other sectors. Many major office buildings in Metropolitan Manila exhibit beautiful executive suites and dining halls; a number of them even built theatres which add to the unused capacity of the Cultural Center. A more substantial waste of investment funds may be found in what are considered to be distressed industries. A not significant number of manufacturing enterprises have been reported as distressed by the Development Bank, their main creditor. In general these industries are operated below capacity.

Among those that are oftentimes mentioned in the paper are textiles, flour, cement, steel, appliance, car assembly, sugar and fertilizer industries. One could speculate whether expensive office and home construction and unused plant capacity would have been undertaken had the interest rate on loans been allowed to float to a higher level.

Premium is placed in interlocking directorate of banks and business, since credit subsidy is granted to both. A businessman can maximize his profits not just by borrowing but by lending to himself. There is premium on corruption in the allocation of credit in government banks. Furthermore, lending criterion is still essentially based on the value of collateral. These three institutional aspects of banking are likely to result in a less than efficient allocation of credit. Credit allocation will be determined, not so much by some objective criteria but by who obtains the credit.

C. Efficiency of Operation

We have seen, in Section I, bank behavior under competitive conditions. (Chart 3 gives the average and marginal cost curves of a bank firm.) (These cost curves include intermediation cost and deposit rate. The imposition of loan ceiling rate and the granting of discounting assistance.

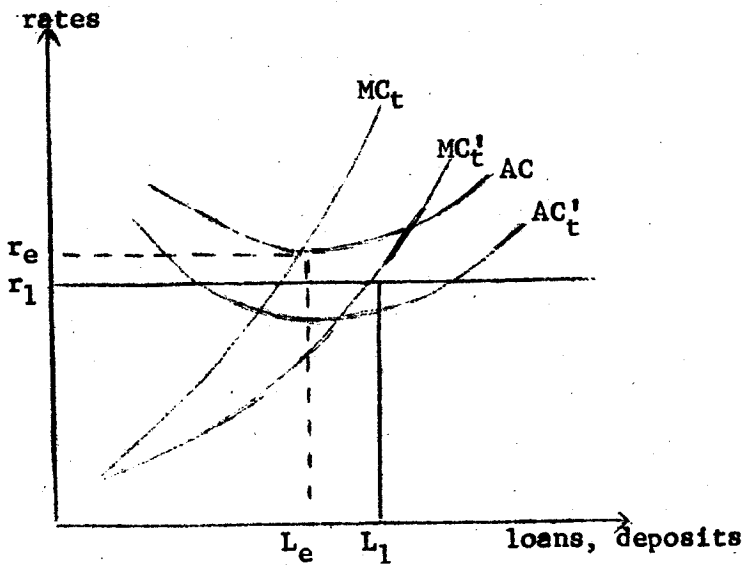

Chart 3

assistance would shift the AC_t curve downward to AC_t'. The loan demand is assumed to be horizontal at the ceiling rate r_1. Profit maximization loan level will be at L_1 where marginal cost is equal to r_1. Positive profits are earned. The loan level is not necessarily at the most efficient point of operation. Since firms do not have to compete for deposit at increasing cost because of the availability of the discounting window, profits could be maximized by a replication of the same scale of production through branch banking. In fact, branch banking, especially of rural banks, is a commonly observed phenomenon in the Philippines. It could easily give rise to monopoly power in banking. With credit subsidies coursed through banks, industrial-banking mergers, as is already observed in the Philippines, may also follow.[6]

III. Credit Policy and Measures and the Structure of the Financial System

The choice of financial technique will essentially mean the choice of the structure of the financial system. It will not only determine the

relative importance of the size of the financial institutions as Professor Gurley argues, but the structure itself of the financial system. The Philippine credit policy and measures lead to the predominance of banking institutions, especially, of government banks. Since each type of financial intermediary issues a particular set of financial assets, the composition of a country's financial assets is correspondingly determined by the policy and measures adopted. We have also seen above how the credit measures may influence the industrial organization of the banking industry.

Of the three major segments of the financial market--banking institutions, savings and loan companies, and the stock exchange--banks are the most directly affected by the Usury Law and the Monetary Authority. As lending institutions, they are directly covered by the Usury Law. The interest ceiling on deposits determines the supply of funds coming from deposits. There are also portfolio ceilings which govern their lending.

Theoretically, the Usury Law and the interest ceiling on deposits will tend to discourage the growth of the banking system relative to other types of financial institutions (which are not directly governed by them). The Usury Law does not apply to other claims such as bonds, installment credit and other commercial papers. Intermediaries which issue or handle these claims primarily will, theoretically, have an advantage over banks since they are free to issue these claims at any rate of return. If these rules were not supplemented by other credit measures, nonbank intermediaries would tend to flourish at the expense of banks as what happened in Brazil. The lenient discounting privilege and capital assistance to banks probably more than offset the negative effects of the ceiling on deposit

and loan rates though they were not adopted for this purpose.

The objectives of assisting banks are clearly stated in the various banking laws. There is an explicit policy to develop the banking system and to use it to stimulate priority industrial sectors. In contrast, there was no policy on the development of non-bank financial institutions. The disadvantages suffered by non-bank financial intermediaries from the policies are not in any way offset by any credit measure. Hence we see the small and declining use of the equity market in external finance of business. See Table 9.

At the early stage of financial development, where savers are just being introduced to financial assets, banks are probably the most acceptable financial intermediaries. The Philippines seems to be beyond the rudimentary state of financial development and has a market for more diversified financial assets. Large speculators in the stock market have succeeded in the victimizing small investors. Since 1966, the freely marketed Treasury Bill have been oversubscribed. Other facts would probably point to the existence of a market for equities and bonds. If credit policy is not changed, however, the dominance of banks will continue and the benefits from portfolio diversification will be lost.

IV. Financial Technique in Taiwan, Korea and Brazil

Taiwan and, subsequently, Korea followed similar credit policies. Interest rates on both loans and deposits were allowed to fluctuate within fairly high levels. The deposit nominal rate reaching 24 percent per year in 1953 in Taiwan, and the nominal rate on time deposit of 30 percent in 1965 in Korea. The highest real rate, also in the same year, was 20 percent. The real rate was lower than these especially in

the early period of reform because of the inflation both countries experienc then. Preferential loan rates were given to some priority sectors, in particular, to the export sector in both countries. In Korea, it is estimat that one-third of total loans were given at preferential rates in the late 1960's. Taiwan exercises strict supervisory control over the allocation of funds to investment through licensing.[7]

Clearly there are two main differences in the credit policies adopted in Taiwan, Korea and in the Philippines. As we have discussed lengthily in this paper, credit interference in the Philippines is very extensive, and the sources of misallocation of resources fairly numerous. There is a generally cheap credit policy which is extended to all spending units, including consumers, with additional preferential rates to priority borrowers. Interest on deposit is held at a very low level. The interest policy is supplemented money creation of offset the loss in funds to banks because of the low ceiling on deposit.

Taiwan and Korea followed a high interest rate policy though large credit subsidies were given to selected industries. Some supplemental meesures were adopted to compensate banks for their losses due to the inverted rate of interest on loans and deposits. The distortion is limited to the impact on total production of the preferential loan rates given to a few sectors.

Brazil's policy was a simpler case of direct inflationary finance. In analyzing the social cost of this policy, we cannot confine ourselves to the efficiency of allocation of a given fund with a given demand and

supply functions of investment funds. These functions are themselves distorted when inflation reaches a certain level and continues over a long period of time. There is a thick literature on high inflationary finance which need not be repeated here. Efficiency of the government in allocating funds to alternative projects will depend on its integrity, on available information and on its planning expertise.

Brazil has also enacted a Usury Law in 1933 which limits the interest rate on loans to 12 percent per annum. Deposit rate was held at 6 percent per annum. Without compensatory measures like those used in the Philippines the development of the banking system was impeded in Brazil. "Casas de cambio" flourished instead since these agencies were free to pay high rates of interest on the bills. The agencies competed against banks in attracting funds, though both types of intermediaries extended finance at competitive rates. The Usury Law in Brazil was easier to circumvent for there was no stipulation on what charges to include in computing the rate of interest. Effective loan rates were, therefore, very much higher than the Usury ceiling.[8]

V. Distribution of Income

The lending criterion used by banks makes credit measures biased in favor of property owners. Central Bank criteria for establishing banks are also property-based. A large proportion of loans are secured by property. The unsecured loans are usually granted to large depositors or to old clients whose initial transactions must have been secured by property.[9] Depositors, on the other hand, come from a wider cross-section of income classes. We have seen in the preceding sections that the main beneficiaries of the credit subsidies are borrowers and bankers. Borrowers come from

the wealthier classes, and the bankers are probably even more affluent than the borrowers. Depositors on the other hand are discriminated against by the artificially low rate of interest paid on their deposits.

Loans for consumer durables are disproportionately distributed in favor of the higher income classes. The average cost of residential construction in the decade of the 1960's was about ₱20,000. This type of housing is definitely beyond the reach of the lower 60 percent of income classes. The subsidized rate on these loans have regressive impact.

The regressive impact of credit policy is probably very serious. A large industrial-financial elite has developed from the system of subsidies, the most important of which are credit, exchange and tariff subsidies.

The chapter tried to give an analytical framework for evaluating the allocative impact of a financial technique or of a whole set of credit measure. The major credit measures adopted in the Philippines were reviewed and analyzed within this framework. It is hoped that this framework will be applicable to alternative financial technique adopted in other economies. Simple demand and supply functions in the financial market were used to see the impact of policy on this sector. We were able to identify sources of misallocation cost both in the financial market and in production.

Table III.1

Interest Rate on Loans and Wholesale Price Index (1955=100)

Period	(1) Weighted Median Interest Rate	(2) Proportion of Credits at 4-6% Interest Rate	(3) Proportion of Credits at 7-10% Interest Rate	(4) Proportion of Credits at 11-14% Interest Rate	Ann in W Index
1960	7.80	0.15	0.81	0.04	
1961	7.62	0.15	0.81	0.04	
1962	8.15	0.16	0.78	0.06	
1963	8.26	0.16	0.76	0.08	
1964	8.68	0.07	0.80	0.12	
1965	9.01	0.05	0.78	0.17	
1966	9.79	0.06	0.61	0.33	
1967	9.70	0.09	0.60	0.31	
1968	9.99	0.04	0.56	0.41	
1969	10.36	0.02	0.49	0.49	
1970*	10.73	0.03	0.33	0.65	

Source: Central Bank Statistical Bulletin, Vol. XXII--No. 4 Dec. 1970, Table 17 p. 53,

*June figure.

Table III.2

Schedule of Changes in Central Bank Rediscount Rates to Commercial Banks
1949 to present (Dec. 7, 1970)

Circular, MAAB or M. B. Resolution		RATES (PERCENT)					
			Preferential Rate				
No.	Date	Basic Rate (1)	Agricultural Crop Loan (2)	Agricultural Packing Credits & Export Bill (3)	Agricultural Papers (4)	Industrial Papers (5)	Export Financing (6)
M.B. Res. #164	1949 - Aug. 4	1.50	-	-	-	-	-
M.B. Res. #317	Dec. 29	3.00	-	-	-	-	-
M.B. Res. #491	1952 - Aug. 7	2.00	-	-	-	-	-
M.B. Res. # 75	1954 - Jan. 19	1.50	-	-	-	-	
M.B. Res. #378	1957 - Apr. 1	2.00	-	-	-	-	
M.B. Res. #1226	Aug. 29	4.50	-	-	-	-	
MAAB	1959 - Feb. 5	6.50	4.50	5.50	-	-	
MAAB	1960 - June 7	6.00	4.50	5.00	-	-	
MAAB	Sept. 8	5.75	4.50	5.00	4.50	4.50	
MAAB	Nov. 21	5.00	4.00	4.00	4.00	4.00	
M.B. Res. #719	1961 - May 5	5.00	3.00	3.00	3.00	3.00	
MAAB	1962 - Jan. 8	6.00	6.00	6.00	6.00	6.00	
M.B. Res. #985	Aug. 21	6.00	3.00	3.00	3.00	3.00	
M.B. Res. #121	1966 - Jan. 10	4.75	3.00	3.00	3.00	3.00	
Cir. No. 242	1967 - June 23	6.00	-	-	-	-	
Cir. No. 256	1968 - Feb. 27	7.50	-	-	-	-	
MAAB	1969 - Apr. 16	8.00	-	-	-	-	
Cir. No. 276	1969 to - June 71....	8.00	-	-	-	-	

NOTE: From 1949 to February 2, 1959, there was no preferential rate granted by the Central Bank other than

Table III.3

Reserve Requirements on Demand, Saving, Time and Foreign Deposits
January 1949 to August 1970

Effective Date	Demand	Savings	Time	Foreign
1949--January	18	5	5	10
1959--February	19	5	5	10
March	20	5	5	10
April	21	5	5	10
1960--September	19	5	5	10
November	18	5	5	10
December	17	5	5	10
1961--January	16	5	5	10
May	15	5	5	10
1962--January	19	5	5	10
1963--August	19	6	6	10
1965--May	10	10	10	10
1966--January	10	8	5 & 6[a]	10
1967--June	11	8	8	10
July	12	8 1/2	8 1/2	10
August	13	9	9	10
September	14	9 1/2	9 1/2	10
October	15	10	10	10
November	16	12	12	10
December	16	14	14	10
1968--January	16	16	16	10
1970--February	17	17	17	10
March	13	18	18	10
May	18 1/2	18 1/2	18 1/2	10
June	19	19	19	10
July	19 1/2	19 1/2	19 1/2	10
August	20	20	20	10

Source: Central Bank Statistical Bulletin, Dec. 1970, p. 4.

Table III.4

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

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

Source: Annual Reports, Securities Market Department, C.B.

Table III.5

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

End of the Month Rate	TREASURY BILLS 49	91	182	273	Bancom Rate
1966					
3		6.8			
6		6.5			
9		6.5	1.7		
12					
1967					
3		5.6	6.9		
6		6.9	6.8		12.6
9		6.1	7.2		11.0
12		6.4	7.8		11.7
1968					
3		6.6	7.3		
6		6.4	8.9		13.6
9		6.2	8.4		14.4
12		6.7	7.3		13.8
1969					
3		7.6	7.1		13.9
6		7.7	11.3		14.8
9		8.8	11.3		13.6
12		8.1	6.9	7.9	12.5
1970					
3	9.9	11.8	12.6	12.9	14.0
6	14.1	14.2	14.9	15.7	16.2
9	10.3	11.2	11.8	11.9	15.9
12	12.9	14.3	14.7	14.8	15.7

Source: Philippine Financial Statistics, Central Bank, 1970.

Table III.6

Assets and Liabilities of Banking Institut
1950, 1960, 1970 (in Millions of Pesos

	Assets	Cash Checks and other Cash Sums	Due from Central Bank	Due From Other Banks	Loans & Discounts	Overdrafts	CLA and Unmatured Export Bills
1950	1,334.4	52.3	200.8	200.8	473.5	185.6	71.8
1960	3,109.2	83.5	174.0	159.9	1,568.7	511.7	266.7
1970	18,609.2	687.1	1,252.1	508.6	9,802.3	1,161.6	1,621.9
% of Distribution							
1950	100.0	3.9	15.0	15.0	35.5	13.9	5.4
1960	100.0	2.7	5.6	5.1	50.5	16.4	8.6
1970	100.0	4.7	6.7	2.7	52.7	6.2	8.7

	Total Liabilities	Demand Deposits	Savings Deposit	Deposit	Due to Banks	Managers Checks	Dividends Payable	Bills Payable
1950	1,335.4	566.9	255.4	40.1	86.7	6.5	.1	10.(
1960	3,109.2	775.8	797.6	244.4	43.8	20.9	.2	134.1
1970	18,609.2	2,465.7	4,768.3	1,560.5	642.8	144.9	-	2,451.3
% of Distribution								
1950	100.0	42.5	19.1	3.0	6.5	.5	-	.8
1960	100.0	25.0	25.7	7.8	1.4	.8	-	4.3
-1970	100.0	13.3	25.6	8.4	3.5	.8	-	13.2

Source: Central Bank of the Philippines Statistical Bulletin, Dec. 1970, Tables 47-52. The 1
were obtained directly from unpublished financial statements of the Development Bank
development banks was not in effect then and the data are from this bank only. All c
are classified as banking institutions.

Table III.7

Distribution of Assets and Loans
by Type of Banks, 1960, 1969

Total Assets

	1960 (In Million Pesos)	% Distribution	1969 (In Million Pesos)	% Distribution
Private commercial banks	1,499.2	48	8,294.3	52
Private Savings banks	71.6	2	576.2	4
Rural Banks	76.3	3	499.2	3
Development Banks	624.5	20	2,833.8	18
Philippine National Bank	837.6	27	4,041.8	25
Total	₱3,109.2	100	₱15,958.9	100

Total Loans Granted

	1960 (In Million Pesos)	% Distribution	1969 (In Million Pesos)	% Distribution
Private Commercial Banks	2,331.5	74	13,973.2	83
Private Savings Banks	25.0	1	105.7	1
Rural Banks	139.2	4	421.9	3
Development Banks	154.6	5	598.7	4
Philippine National Bank	517.6	16	1,704.0	10
Total	₱3,167.9	100	₱16,803.5	100

Source: Table III.5; unpublished financial statements of Philippine National Bank; and Central Bank Statistical Bulletin, Dec. 1970. Table 16, 27, 38, 41 for loans granted.

Table III.8

Number of Banks, by Type: 1950-1969

Year	All Banks	Commercial Banks	Development Banks	Savings Bank	Rural Banks
1950	116	108	4	3	--
1951	123	114	4	4	--
1952	128	118	5	4	--
1953	175	134	6	16	18
1954	200	138	8	27	26
1955	226	140	9	38	38
1956	251	126	11	38	75
1957	290	130	11	42	106
1958	308	133	12	42	120
1959	331	137	16	42	135
1960	380	155	21	43	160
1961	437	220	30)	5	181
1962	520	249	36	10	224
1963	608	301	40	14	252
1964	663	338	42	15	283
1965		368		24	309
1966		447		29	338
1967		508		35	369
1968		583		39	411
1969		606		48	446-July

Source: Central Bank Annual Report. Annual series.

Table III.9

Financing of Gross Domestic Investment, 1960-69
(In Million of Pesos)

.+	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Internal Financing										
Corporate	929	993	1425	1718	2033	2139	2391	3077	3444	3796
Residential	-1482	-	-	-36	-157	-509	-1474	-2486	-3261	-
External Financing										
Capital Market	273	377	345	437	450	490	587	628	758	731
Long-term Loans-a/	1600	1812	1850	1393	1419	1452	1708	2442	2517	2855
Government Investments-b/	78	-	-	79	56	66	74	104	134	122
Foreign Capital Inflow	342	301	302	176	625	1020	1719	2210	2714	-
Gross Domestic Capital Formation	1740	2688	3082	3767	4426	4658	5005	5975	6306	6307
				Per Centage Distribution						
Internal Financing										
Corporate	53.4	36.9	46.2	45.6	45.9	45.9	47.8	51.5	54.6	60.2
Residual	-82.2	-	-	-1.0	-3.6	-10.9	-29.5	-41.6	-51.7	-
External Financing										
Capital Market	15.7	14.0	11.2	11.6	10.2	10.5	11.7	10.5	12.0	11.6
Long-term Loan-a/	92.0	67.4	60.0	37.0	32.1	31.2	34.1	40.9	39.9	45.3
Government Investments-b/	4.5	-	-	2.1	1.3	1.4	1.5	1.7	2.1	1.9
Foreign Capital Inflow	19.6	11.1	9.8	4.7	14.2	21.9	34.3	37.0	43.0	-
Gross Domestic Capital Formation										

a/ Long-term Loans are assumed to all go into investment.

b/ Total Investment Outlay

SOURCES: Central Bank Statistical Bulletin, Dec. 1970
"National Income Accounts," Statistical Reporter (NEC)
GAO Annual Report Series 1960-1969
Central Bank Annual Report Series 1960-1969

CHAPTER IV

QUANTITATIVE MONETARY CONTROL IN THE PHILIPPINES

In this Chapter, alternative money supply functions are derived for the Philippines. A money supply function relates the nominal money supply to policy controlled variables. These variables are selected from policy instruments that were actually used in the Philippines. The way each instrument works would depend, to a large extent, on the structure of the financial market and on other credit measures that are already in use. Since the instruments are used in an entirely different way (though they are called by the same terms), the money supply function will have a different argument from that of the money supply function in other countries. The institutional setup in which they are applied is also likely to affect their impact. The preceding Chapter described some of the more important credit measures that the Philippine Central Bank has adopted. The relevant quantitative measures are identified for this Chapter. It might be helpful to contrast the money supply function of the United States with that of the Philippines for this will demonstrate the difference in the application of the control variables.

In the United States, the main control variables are changes in reserve requirement, open market operations and changes in discount rate. These control variables determine the supply of money indirectly; their immediate impact is on the reserve portfolio of commercial banks. Banks usually keep a desired level of excess reserves and a portfolio of secondary reserves. The discount window may also be regarded as a source of reserves. The choice of the form of reserve to be used to meet

changes in demand for credit would naturally depend on the relative cost of the alternative reserve sources. Several major econometric works on the money market have been done since the middle 1960's which consistently confirmed the portfolio behavior of banks with respect to their holdings of excess reserves and of government securities, and their borrowing from the Federal Reserve System. Works by de Leeuw, Meigs, Goldfeld, and Hendershott, see reference, among others, show the sensitivity of excess reserves to the treasury bill rate and the discount rate, the relative cost of alternative reserve forms. Hendershott obtained the following money functions which are based on an adjustment model of desired excess reserves.[1]

$$\Delta Rf = \underset{}{-.065} + \underset{(.062)}{.156}\, rdis - \underset{(.050)}{.151}\, rtb - \underset{(.044)}{.337}\, Rf_{-1} + \underset{(.053)}{.472}\Delta Rue - \underset{(.0137)}{.0636}\Delta CL + \sum_{i=1}^{4} a_i S_i$$

$$R^2 = .858 \qquad s.e. = .086 \qquad DW = 1.870$$

$$\Delta D = \underset{}{.069}\,\frac{1}{q} - \underset{(.061)}{.151}\,\frac{rdis}{q} + \underset{(0.49)}{.142}\,\frac{rtb}{q} + \underset{(.045)}{.333}\,\frac{Rf_{-1}}{q} + \underset{(.051)}{.539}\,\frac{\Delta Rue}{q} + \underset{(.0131)}{.0661}\,\frac{\Delta CL}{q} + \sum_{i=1}^{4} c_i \frac{S_i}{q}$$

$$R^2 = .919 \qquad s.e. = .793 \qquad DW = 1.875$$

where Rf is excess reserves, Rf* is desired excess reserves, Rue is unborrowed reserves, CL are commercial bank loans, r-is is discount rate, and r+b is the Treasury Bill rate.

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

The control variables used in the Philippines are quite different. A normal market for Treasury Bills and other government securities does not exist. This market is described in the preceding Chapter. There are no day to day open market transactions. Instead, the Central Bank markets government securities at discrete time intervals. (Congress gives the Central Bank the responsibility to market government issues which are legislated for special purposes). So far, most issues are of longer term maturities though there has been an excess demand for short term bills as evidenced by the over-subscription of each float. The size of over-subscription ranged from two times to five times each float over

the past five years.[2] It might be argued that yield on Treasury Bill is made artificially high by rationing these bills while the yields on longer term government bonds are pegged at their stated rates. These rates are below the yield on equivalent securities[3] and much lower than the yield on Treasury Bills. Please see Tables 3 and 4 of Chapter III. It is not valid, therefore, to talk of open maket operations in the Philippines, and to use the Treasury Bill rate as an explanatory variable in the money supply function.

The discount instrument also works differently. The discount rate is not changed frequently as a means of controlling the borrowing of commercial banks. We find, instead, a gradual upward trend in the discount rate which seems to correspond to the upward trend in all nominal rates of interest--deposit rates, loan rates, government bond rates. Since a fairly wide margin is allowed between the discount rate and the loan rate, and this margin has remained fairly constant over time, banks are quite passive with regards to changes in discount rates. The margin of profit allowed tends to make the demand for borrowing from the Central Bank infinitely elastic. In this case, the level borrowed is determined mainly by what the Central Bank decides to lend to the banking system. This should not be confused with the right of banks to discount as discussed in Chapter III. The rules of discounting and the speed in which loans are discounted remain the prerogative of the Central Bank.

A third aspect of Philippine monetary control is the predominance of government financial institutions whose activities are more directly controlled by the Central Bank. Changes in loans granted by these banks are expected to follow closely the Monetary Board's decision on credit ease or tightness, rather than in response to the more traditional control variables. Hence we may expect that changes in money supply will be directly determined partly by changes in bank lending.

Almost 90 percent of outstanding government securities are held by banking institutions, including the Central Bank. Since a large portion (about 75% in 1970) of required reserves can be held in the form of government securities, open market operations may not necessarily result in changes in reserves. There may only be a change in reserve composition. The expansionary effect of any increase in outstanding government debts would result mainly from deficit financing, not from changes in reserve composition. Given the above pecularities of the Philippine monetary set-up and the way the instruments are used, the following money supply functions are posited:

$$\Delta DD = f\left(\Delta \frac{R}{q}, \Delta \frac{RD}{q}, \Delta \frac{CL}{q}, \Delta \frac{G}{q}\right) \qquad (1)$$

$$\Delta M_1 = f\left(\Delta \frac{R}{q}, \Delta \frac{RD}{q}, \Delta \frac{CL}{q}, \Delta \frac{G}{q}\right) \qquad (2)$$

where DD is demand deposit, M_1 is money supply, R is reserve, RD is rediscounted loans or borrowing from the Central Bank, CL is total loans granted by banking institutions, G is current government disbursements and q is the reserve requirement.

The reserve portfolio function and the money supply function tested for the United States by Hendershott and de Leeuw are also tried on Philippine data. Two sets of data were used, monthly and quarterly. The results are given in Table IV.1.

In the first set of equations using monthly data, 1.a and 1.b, only unborrowed reserves give consistently significant coefficients and which have the expected sign. The coefficients of the other three independent variables--discount rate, excess reserves, lagged one month, and bank loans--either have the wrong signs or are not significant. In the excess reserve function, the coefficient of the discount rate is significant at 15 percent level and has the correct sign. Changes in bank loans are not a significant explanatory variable in either the demand for excess reserves or in the supply of money function.

In the regressions using quarterly data the discount rate is not found to be a significant explanatory variable in either excess reserve equation or money supply functions. As in the first set of equations, unborrowed reserves explained consistently well the behavior of excess reserves and the supply of money. Changes in bank loans determined significantly changes in excess reserves but they failed to explain changes in demand deposits. A comparison of equations 1.a. and 2.a, would seem to indicate a faster adjustment of excess reserves to desired level as shown by the better results obtained by using monthly data over those obtained from quarterty data. However, changes in the supply of money seem to take a longer time to respond to changes in reserves as implied by the better results obtained in the money supply function using

Table IV.1

One Stage Regression Equations on Demand for Excess Reserves and Supply of Money Functions

Monthly Changes, January 1961- June 1971	R^2	DW
$\Delta RE = 11.090 + 41.029\ rdis - .333\ RE_{-1} + .172\ \Delta RU + .033\ \Delta CL$	.35	2.08
(2.12) (1.58) (-4.84) (5.14) (1.17)		
23.6 78.81 .27 -2.25		
$\Delta DD = -7.437 + .012 \frac{rdis}{q} + .066 \frac{RE}{q}_{-1} + .017\ \Delta \frac{RU}{q} + .006\ \Delta \frac{CL}{q} +$.	.05	2.44
(.56) (1.86) (.529) (1.72) (.75)		
.26 .23 -.004 .03		
Quarterly changes, January 1961-June 1971		
$\Delta RE = -4.836 - 16.212\ rdis + .251\ RE_{-1} + .235\ \Delta RU - .174\ \Delta CL$	.73	2.27
(-651) (-.48) (2.28) (4.56) (-4.57)		
.73 -4.51 .23 2.80		
$\Delta DD = -10.357 + .009\ rdis + .118\ \Delta \frac{RE}{q}_{-1} + .041\ \frac{\Delta RU}{q} + .007\ \Delta CL$	.50	2.21
(.483) (.907) (3.48) (2.48) (.58)		
.32 .91 -.02 .04		

RE is excess reserves, DD is demand deposits, rdis is rediscount rate, RU is unborrowed reserves and CL is total bank loans, q is the reserve requirement.

The figures in parenthesis are the t-statistics and those below them are the elasticities at the mean.

quarterly data.

These results are to be compared to the money supply function adapted to monetary control instruments used in the Philippines.

Alternative forms of reserves--excess reserves, unborrowed reserves and total available reserves--were each used as an explanatory variable in the money supply function. The test of equations (1) and (2) are given in Table IV.2 below. We find that among these forms of reserves, total available reserves gave the best results. In all cases, the coefficient of the rediscount rate was not significant. Neither was the coefficient of commercial loans significant. The latter regression results refute our hypothesis that government banks' lending are directly controlled by the Monetary Board. It would seem that the Monetary Board exercises the same type of control over government banks as over private banks.

Government expenditures are a significant explanatory variable of money supply. The strong but negative relationship between changes in money supply and changes in government expenditures can probably be explained by the close cooperation between fiscal and monetary authorities. It might be speculated that when large government disbursements are anticipated, they are deliberately counter-acted by a reduction in money supply. This fact could be viewed as a lack of accord between fiscal and monetary authorities but in a situation where strong political pressure for deficit financing is often times exerted, compensatory monetary policy becomes an important stabilization strategy.

Table IV.2

One Stage Regression Equations on Supply of Money Functions

Quarterly					R^2	D.W.
$\Delta DD = 42.992 + .137 \frac{\Delta RA}{q} + .002 \frac{\Delta RD}{q} - 13.319\ rdis - .079 \frac{\Delta G}{q}$					.55	1.61
(3.59)	(5.20)	(.105)	(.207)	(-3.24)		
	.086	-.002	.04	-.07		
$\Delta DD = 47.837 + .126 \frac{\Delta RE}{q} - .002 \frac{\Delta RD}{q} - 3.188\ rdis - .084 \frac{\Delta G}{q}$					.40	1.61
(3.46)	(3.59)	(-.09)	(-.04)	(-2.97)		
	-.05	-.003	-.01	-.07		
$\Delta M = 78.627 + .189 \frac{\Delta Rq}{q} + .039 \frac{\Delta RD}{q} - 73.951\ rdis - .123 \frac{\Delta G}{q}$					.42	1.69
(3.80)	(1.14)	(1.03)	(-.664)	(-2.93)		
	.07	.02	-.13	-.06		
$\Delta M = 85.183 + .171 \frac{\Delta RE}{q} + .032 \frac{\Delta RD}{q} - 59.370\ rdis - .130 \frac{\Delta G}{q}$					.30	1.74
(3.71)	(2.94)	(.77)	(-.49)	(-2.77)		
	-.04	.02	-.10			

DD is demand deposits, RE is excess reserves, M is currency and demand deposits RA is available reserves, RD is rediscounted loans on borrowing from the Central Bank, G is government current disbursements, rdis is the rediscount rate, q is the reserve requirement.

The figures in parenthesis are the t-statistics and those below them are the elasticities at the mean.

B. Impact of Quantitative Monetary Policy on the Economy

Neither the Keynesian nor the Fisherian model applies well to the Philippine economy. In the Keynesian model, changes in money supply has a direct impact on the rate of interest through disturbances created in the desired portfolio of assets of wealth holder. The wealth holders adjusts his portfolio to the change in the supply of one asset, money. The real impact on the economy depends on the interest elasticity of expenditures. In the Fisherian model, changes in money supply directly affect expenditures. Changes in the level of expenditures, in turn, determine the new price levels and the rate of interest. In the Philippines, however, there are interest regulations which prevent interest rates to fluctuate freely. Changes in money supply are more directly felt in changes in expenditures. How much these, in turn, result in changes in real income would depend on the nature of unemployment. It is expected that though there is substantial unemployment of resources, changes in the level of expenditures would be partly reflected in changes in price level.

A recently developed macro-economic model of the Philippines shows quite well the impact of monetary policy in real income and the price level. The basic model is given in equations (3) to (5) below. These constitute a simultaneous system of equations in Y,N, and P, given exogeneous values of K, W, Z.

$$Y = \underset{}{-2443.5} + \underset{(4.18)}{.9590N} + \underset{(4.39)}{.1994K} \qquad R^2 = .99 \qquad (3)$$

$$N = \underset{}{4112.8} + \underset{(16.62)}{.5877Y} + \underset{(2.29)}{13.11P} \underset{(-4.46)}{-2.561W} \qquad R^2 = .99 \qquad (4)$$

$$P = \underset{}{85.37} - \underset{(-7.71)}{.0043Y} + \underset{(18.22)}{.0423Z} \qquad R^2 = .99 \qquad (5)$$

Y = GNP at 1955 prices, in million of pesos.

N = average of the May and October employment survey figures, in thousands.

P = implicit price index for GNP, $P_{1955} = 100$.

K = capital stock at 1955 prices at beginning of year, in million pesos.

W = annual money wage rate.

Z = average of end-of-month money supply, October to September.

The figures in parenthesis are the t values.

Given the above model, the reduced form equations are given below.

$$Y = 5249.6 + .4066K - 5.009W + 1.084Z \quad (6)$$

$$N = 8021.9 + .2161K - 5.223W + 1.130Z \quad (7)$$

$$P = 62.849 + .0017K - .0215W + .0376Z \quad (8)$$

The impact of monetary policy on real income, employment and price level may be inferred from the coefficients of money supply in the above equations. "A ₱100 million increase in the money supply raises output by ₱108 million and employment by 113 thousand, but it also increases the price level by about 4 index points."[4] Equation (6) is interesting, in the sense that it reflects an aspect of underdevelopment. A reduction in the level of income produces some inflationary pressure. Not infrequently, crop failure due to bad climate conditions produced inflationary pressure. The draught in 1969 to 1970, and the successive typhoons in 1971 partly explain the inflation in the last two years. Increases in money supply have averaged about ₱100 million per year except during the years immediately following the 1962 devaluation and during the last two presidential

election years. It might be said that except for these years, quantitative monetary policy has been fairly conservative. To some extent, the first Governor of the Central Bank established a conservative monetary policy.[5] He was almost obsessed with countering inflationary policy even during years when prices were going down. In the first few years of central banking in the Philippines which coincided with post-war reconstruction, prices were high in comparison to the pre-war levels but there was no inflationary pressure. This conservative tradition might be breaking down as shown by the much larger increases in money supply in recent years. But this statement is still highly speculative.

We described in this Chapter, some important features of monetary control instruments that were used in the Philippines. It is seen that mainly because of the interest regulations, including the interest policy on government debts, the traditional tools of policy which work through the portfolio behavior of banks are not applicable here. Instead, instruments that directly determine the level of reserves are used. These are changes in reserve requirement and changes in bank borrowing from the Central Bank. Money supply is determined by available reserves and by borrowed reserves. The cost of alternative sources of reserves-discount rate and treasury bill rate are not significant explanatory variables of money supply.

The impact of quantitative monetary policy is described through the relevant equations from a macro-economic model of the Philippines. It is to be noted that the money supply functions given are based on monthly and quarterly data but the equations in the macro model use annual data. Most of the income and expenditure variables are available only in annual series.

The major concern of quantitative monetary policy is stabilization, whereas that of selected credit and exchange policy is economic development. It is reasonable to state that until about 1968 the conduct of quantitative monetary policy had been quite conservative.[6] We chose the cut-off period of 1968 when very large increases in money supply are observed. Except for the strong inflationary pressure experienced during the period of devaluation in 1962-63, the rate of inflation ranged between -5.3 to 13.1 from 1949 to 1968. The recent inflation from 1969 to 1971 is partly due to the devaluation in 1971, the crop failure from 1969-1971, and inflationary finance of the 1970 elections. It is hard to say whether all three forces will occur simultaneously again.

Table IV.3

Commercial Bank Reserves, Holding of Government Securities and Borrowing from the Central Bank 1950-1970
(in Millions of Pesos)

	(1) Total Reserves	(2) Required Reserves	(3) Excess Reserves	(4) Central Bank Loans and Advances to Commercial Banks	(5) Holding of Govt. Securities	Proportion To Total Reserves (3)/(1)	(4)/(1)	(5)/(1
1950	244	116	129	10	-	.53	.04	
1	116	97	19	42	-	.16	.36	
2	148	108	40	46	-	.27	.31	
3	148	114	34	19	-	.23	.13	
4	166	118	48	63	-	.29	.38	
5	189	137	52	13	-	.28	.07	
6	234	162	73	96	-	.31	.41	
7	202	160	42	81	101	.40	.40	.50
8	325	170	155	102	90	.48	.31	.28
9	297	253	43	135	85	.14	.45	.29
1960	251	197	54	81	106	.22	.32	.42
1	310	229	81	328	412	.26	1.06	1.33
2	405	314	91	187	345	.22	.16	.85
3	460	397	63	218	429	.14	.47	.93
4	450	384	65	417	379	.14	.93	.84
5	465	402	64	514	451	.14	1.11	.97
6	507	377	127	629	644	.25	1.24	1.27
7	856	765	91	1,147	873	.11	1.34	1.02
8	1,041	962	79	1,345	955	.08	1.29	1.29
9	1,295	1,110	186	1,444	1,398	.14	1.12	1.08
1970	1,639	1,516	123	921	1,141	.08	.56	.70

Source: T. 4, p. 31, T. 7, p. 37, T. 84, p. 251, Central Bank Statistical Bulletin, Dec. 1970.

Footnotes for Chapter I:

[1] The financial infrastructure includes (a) the currency system, (b) the central bank, (c) the commercial banking system, (d) other financial intermediaries, such as savings banks, development banks and insurance companies and (e) the direct securities market, which includes the stock exchange and a government bond market.

[2] See Korean, Philippine, Brazil and other Latin American financial policies.

[3] Miranda, Gregorios, Essentials of Money, Credit, and Banking, R.M. Gaicier Publishing House, Manila, 1967; R. Hooley, article on monetary policy in the Philippines in Sicat, et. al., Economics and Development, University of the Philippines Press.

Footnotes for Chapter II:

[1] Cuaderno, Miguel, Guideposts to Economic Stability and Progress, Central Bank of the Philippines, 1955, p. 168.

[2] Cuaderno, Sr. M., Central Bank of the Philippines (A Monograph), Central Bank of the Philippines, Manila, June 1949, p. 5-6.

[3] Grove, David and Exter, John, "The Philippine Central Bank Act", Federal Reserve Bulletin, Vol. 34, August 1948, p. 938.

Footnotes to Chapter II continued:

[4] Nevin, Edward, Capital Funds in Underdeveloped Economies, MacMillan, London, 1961, p. 8-13; Grove, David and Exter, John, op.cit., p. 940-941; Drake, P. J., Financial Development in Malaya and Singapore, Australian National University Press, 1969, p. 54-63.

[5] Grove, David L. and Exter, John, op.cit., p. 940-941.

[6] Cuaderno, Sr. Miguel, Problems of Economic Development (The Philippines--A Case Study), 1960, p. 11-12.

[7] Nevin, op.cit., p. 7.

[8] Cuaderno, Sr. M., Central Bank of the Philippines, p. 76.

[9] A. A. Castro, "Import Substitution and Export Promotion," IEDR Discussion Paper No. 69-10; and J. J. Power and G. P. Sicat, "Industrialization in the Philippines" IEDR Discussion Paper No. 70-11.

Footnote for Chapter III:

[1] An unpublished study of the Inter-Agency Committee on the Study of Interest Rate, transmitted to the National Economic Council on March 12, 1971 gives the following rates of interest:

	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	60-400
Unregulated markets		
Commercial paper*	9.75-11.75	
Government securities:*		
Short-term bills	10-14	16-18
Medium-term notes	7-10	
Long-term bonds	7	

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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 rater. 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 $\frac{₱10}{₱90} = 11.1\%$

Source: see p. 17 of the study.

These rates are based on a selected sample of banks. Due to the Usury Law, it is not feasible to calculate the effective rate of interest on loans. We could infer from some market rates, though, that the equilibrium interest rates are higher than ceiling rates. For instance, market determined bill rates averaged about 14 percent in 1971. This could be compared to deposit rate of about 6 percent in the same year, and to the Usury ceiling.

It should be noted that the figures on loan rate given above reflect only one form of circumvention of the Usury Law. Interest loans is usually collected when the loan is released rather than at maturity, The effective rate, r_e would be equal to the stated rate, $r_s/(1-r_s)$.

Footnotes to Chapter III continued:

[2] Circulars Number 163 in 1964, 215 in 1965, 253 in 1967 and 297 1970 allows 32%, 90%, 50% and 75%, respectively of reserves to be held in cash and government bonds.

[3] Their studies on trade and credit policies and the resulting factor bias are summarized in their book, Power, Sicat and Mo Huan Hsing, The Philippines and Taiwan, Oxford University Press, 1971.

[4] Williamson, J.G., Quarterly Journal of Economics, 85, No. 1, February, 1971, Table II, p. 52.

[5] Chapters I-IV were written while the author was a visiting fellow Yale University. Unfortunately, time and data constraints did not permit the completion of the empirical work suggested in the Chapter. This part of the study will be continued in the Philippines.

[6] The Office of Monetary Board Member Cesar Zalamea is currently studying monopoly and bank-business interlocking directorate. Evidence points to presence of interlocking directorate between banks and business.

[7] Please see the studies of A. Chandavarkar, "Some Aspects of Interest Rate Policies in Less Developed Economies: The Experience of Selected Asian Countries," IMF Staff Papers, Vol. XVIII; and Kanesa-Thasan, "Stabilizing an Economy--A Study of the Republic of Korea", IMF Staff Papers, Vol. XVI.

[8] Please see the paper of Simonsen, M.H., "Inflation of Brazil, University of California Press, Berkeley and Los Angeles, 1969, p. 133-161.

Footnotes to Chapter III continued:

[9] See Table 19, p. 55 of Central Bank Statistical Bulletin, 1971. The proportion of secured loans granted by commercial banks ranged from 18 percent in 1960 to 38 percent in 1969. There is a definite upward trend in the proportion of secured loans to total loans. In a masters thesis submitted to the Department of Economics, University of the Philippines, Virgilio Velasco showed that the main lending criterion of the Development Bank of the Philippines is the value of collateral. This could be said of rural banks also.

Footnotes for Chapter IV:

[1] P.H. Hendershott and De Leeuw, Frank, "Free Reserves, Interest Rates, and Deposits, A Synthesis," The Journal of Finance, 1971, pp.599-613.

Their basic equations are as follows:

$$\Delta Rf = \lambda(Rf^* - Rf_{-1}) + \alpha_1 \Delta Rue - \alpha_2 \Delta CL. \qquad (1.1)$$

$$Rf^* = \beta_1 + \beta_2 rdis - \beta_2 rdis - \beta_3 rtb \qquad (1.2)$$

Employing the basic reserve identity

$$Ru \equiv Rf + Rr = Rf + qD \qquad (1.4)$$

$$\Delta Ru \; \Delta Rf + q\Delta D + D_{-1} \Delta q \qquad (1.4)$$

$$\Delta Rue \equiv Ru - D_{-1}\Delta q \equiv Rf + q\Delta D \qquad (1.5)$$

where Ru is total reserves, Rr is required reserves, q is reserve requirement and D is demand deposits.

The variable Rue is the sum of Ru and reserves liberated by changes in required reserves $-D_{-1}\Delta q$.

Footnotes for Chapter IV continued:

The deposit change equation is to be derived from above as

$$\Delta D = -\lambda\beta_1 \frac{1}{q} - \lambda\beta_2 \frac{rdis}{q} + \lambda\beta_3 \frac{Rf_{-1}}{} + (1-\alpha_1)\frac{\Delta Rue}{q} + \alpha_1 \frac{\Delta CL}{q}.$$

[2] Treasury Bills were first issued in 1966. 16%, 13% and 31% of outstanding debts were short-term or of less than one year maturities in 1950, 1960, 1970, respectively. Central Bank Statistical Bulletin, 1971, T. 86, p. 253.

[3] Yield on bonds underwritten by Private Development Corporation and the Bancom Corporation. The two largest investment companies in the Philippines averaged about 12% per year. See their Annual Reports.

[4] Encarnacion, J., Mariano, R., and Bautista, R., "A Macro-Economic Model of the Philippines, 1950-1969," University of the Philippines, IEDR Discussion Paper No. 71-11, 1971.

[5] Cuaderno, Sr., Miguel, Problems of Economic Development (The Philippines--A Case Study), 1960, p. 11-12.

[6] There were only two years when the wholesale price index increased by more than 10 index points from 1909 to 1968. A number of years showed active changes in the price index.

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