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Financial Intermediation and National Savings in Developing Countries

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ECONOMIC GROWTH CENTER

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Center Discussion Paper No. 126

FINANCIAL INTERMEDIATION AND NATIONAL
SAVINGS IN DEVELOPING COUNTRIES

U Tun Wai

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Note: Center Discussion Papers are preliminary materials circulated to stimulate discussion and critical comment. References in publications to Discussion Papers should be cleared with the author to protect the tentative character of these papers.

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I. Introduction

a. Definitional and Measurement Problems

Before explaining the importance of national savings for developing countries and the manner in which the subject matter will be treated in this paper, one should first define financial intermediation and national savings. Financial intermediation is the act of collecting savings (and perhaps other funds) by financial institutions and the rechanneling of these funds to borrowers for financing investments. There are financial institutions in both the organized and unorganized sectors of money and capital markets in developing countries. For the purpose of this study, however, we shall limit the analysis to the role of financial intermediation in promoting savings in the organized markets. We do not deny the importance of financial institutions in unorganized markets but for them, the availability of data is less and, furthermore, the institutions in the unorganized sector are not always financial intermediaries. For example, pawnshops and money lenders can be considered as financial institutions because they lend money, but they do not act as intermediaries since they usually do not collect savings or borrow from other sources to finance their operations. However, financial intermediation in the unorganized sector exists in some countries such as India and Burma (mainly prewar) where special types of

^{1/} In the preparation of this paper, I have benefitted from discussions with a number of my colleagues at the International Monetary Fund and at Yale University.

indigenous bankers accept deposits from friends and customers. There may also be some financial intermediation when professional people such as notaries, lawyers, solicitors or doctors, accept money for safe keeping or for investment on behalf of clients, and relend these funds, e.g. in the Philippines, Congo (Kinshasa), and in some Latin American countries.

Since this study is limited to financial institutions in organized markets, a comparison between countries may not reveal the total effect of intermediation on savings. However, intra-countries comparisons would be valid. The coverage of financial institutions in the organized sector, includes not only the institutions which one commonly thinks of namely the central bank and the commercial banks, but also development banks, savings banks, and specialized institutions such as co-operative societies and post office savings banks. For some countries, operations of the government, insofar as the Treasury accepts deposits, should also be included. But we have been unable to do this because of lack of comparable data for time series analysis.

Although one is tempted to define savings by residents or nationals of the country as domestic savings, it would be better to call them national savings, to be consistent with the system of national income accounts. Developing countries receive financial assistance from abroad to finance domestic investment, i.e. investment made within the geographic boundaries of a developing country. Therefore, in order to maintain the identity between savings and domestic investment, total savings should be defined as the sum of national savings plus savings from abroad. Local or national savings can then be defined as the difference between income and consumption as recorded in national income accounts.

Even if one can define clearly what one means by national savings, there are difficult problems of measurement. Data on government savings are usually reliable, even though some countries such as the United States do not publish official data on government sector savings. Some economists would argue that the division of government expenditures into current and capital is rather arbitrary, especially, if the classification is meant to measure government's development effort. They would argue that some current expenditures, such as those for education and maintenance of hospitals and roads, all help to increase output. If such expenditures for development are excluded from current government expenditures, then one would arrive at figures of government saving much larger than what is normally published in national income accounts.

But a more important question than the measurement of government sector savings is that of measuring the savings of the private sector. Data for these are normally derived as a residue from the components of Gross National Expenditure and the identity between the excess of savings over investment and the current account surplus in the balance of payments. The fact that private savings data in national income accounts are not reliable has been commented upon by many economists. It has been noted that private savings derived from changes in financial assets of the private sector with financial institutions have been larger at times than private savings, exclusive of depreciation, as recorded in national accounts. Thus, for example, savings of households in Panama have been recorded as negative for all the postwar years even though their financial assets such as money and savings accounts have increased.^{1/}

^{1/} It was Professor Goldsmith who first drew my attention to such anomalies.

At times, data from field surveys have been better than those in national income accounts. Thus, for the Philippines it has been said that, "A field survey on consumer income and expenditures, known as the Philippine Statistical Survey of Households (PSSH) and conducted by the National Economic Council, estimated household saving at 737 million pesos for the year ended March 1957; this contrasts with the negative personal savings of 82 million pesos shown in the national income accounts for the calendar year 1956. Although, the PSSH appears to understate both household income and expenditures, it probably gives a better estimate of household savings than the residual estimates of the National Economic Council."^{1/} As a general rule, one can say that estimates of total private savings are likely to be less unreliable than the division between corporate savings and personal savings.

In addition to the problem of measurement is the question of how much of the recorded national savings is the result of national effort, if one were to redefine this in terms of savings by nationals of the country. Here, we are not raising the question of whether additional foreign assistance enables national savings to rise more rapidly because such assistance finances more investment leading to a more rapid rate of growth. The question is a limited one of distinguishing between savings by citizens and savings by foreign nationals and businesses operating within a country, i.e. foreigners who are conventionally defined for balance of payments and national accounts statistics as residents of the country. To the extent that such foreign nationals and business are a permanent feature of a developing country, there is no economic problem in including their savings, although there may be

^{1/} Richard W. Hooley, Savings in the Philippines 1951-1960, Institute of Economic Development and Research, University of the Philippines (Quezon City, 1963). pp. 1-2.

sociological problems. In fact, one could safely project the trend of such savings to continue as before. However, since governments of an increasing number of developing countries are nationalizing foreign investments, it may not be desirable to include these savings in national savings, especially as experience has shown that the profits, and consequently savings, of nationalized enterprises tend to decline, at least during the first few years after nationalization. Furthermore, in the past foreign investors have had more scope and opportunity to transfer savings abroad than nationally owned savings, with attended effects upon domestic wealth.

There is also another problem in the measurement of national savings, even if one decides to include savings of domiciled foreign enterprises in the definition of national savings. This arises because the identity $I-S = M-X$ (where I is investment, S is national savings, M is imports of goods and services, and X is exports of goods and services), does not mean that the import surplus is necessarily equal to the net inflow of capital from abroad. A country may have decided to utilize some of its accumulated foreign exchange reserves to finance domestic investments (or even to enlarge its consumption) and therefore, $M-X = K_f + A_f$, where K_f is the net inflow of capital from abroad and A_f is the use of foreign assets or reserves owned by the country. For such cases the actual savings would be smaller than that recorded in the national income accounts by the amount of A_f .

b. The Need to Increase National Savings

It is clear that the level of savings and investment is only one of the many ingredients which determines the rate of economic growth in developing countries.

There may be excess capacity in the industrial sector not because of a lack of effective demand, but because the industrial project was not sound and there aren't sufficient skilled workers to operate the factory or because the products are not competitive with imported products. There may be excess hydroelectric capacity or extra capacity in the transport sector because it is necessary to have lumpy investments. Or the equipment in all sectors, whether in the form of tractors or trucks, may not be utilized efficiently as it takes time for the learning process to take root. All this means is that capital investment made in the past have either a shorter life span than originally envisaged or may yield a smaller output.

The need to exercise caution in using investment-savings growth models of the Harrod Domar type has been mentioned by Professor Albert D. Hirschman who *inter-alia* said,

"Now, there is no harm in making these computations... But if one thinks that the functional relationships assumed in the model are a meaningful description of the development process, a point may be reached at which the model becomes a hindrance rather than a help in the understanding of the reality of underdeveloped countries... Moreover, "normal" productivity is often held back by shortages and bottlenecks and where their elimination may suddenly produce a considerable increase in the productivity of already invested capital."^{1/}

Professor Hla Myint, in questioning the relevance of Professor W. W. Rostow's thesis of take off into self-sustained growth for developing countries has stated, "without entering at this stage into the assumptions behind the advice to save and invest more than 10 percent of national income, it is worth noting

^{1/}Albert D. Hirschman, The Strategy of Economic Development (Yale University Press, 1958) paper bound, p. 32.

that a country's rate of economic growth depends not only on how much it can save, but also on how productively it can invest this saving... This seems to depend on a complex of less easily measurable qualitative factors such as the skills and attitudes of its people, or the efficiency and flexibility of its economic organization...^{1/}

Professor W. Arthur Lewis in emphasizing the need to accumulate capital from domestic sources has stated, "the central problem in the theory of economic growth is to understand the process by which a community is converted from being a 5 percent to a 12 percent saver--with all the changes in attitudes, in institutions and in techniques which accompany this conversion."^{2/}

From the above quotes it can be seen that it is a matter of which aspect of the determinants of growth one wishes to emphasize. While it is true that savings and investments do not by themselves bring about economic growth there is no denying that national savings are a necessary condition for financing domestic investment. National savings are a necessary condition for investment because there are limits to the amount of official foreign aid and private capital which can be secured from abroad. In fact, despite the general exhortations and recommendations made in various international reports such as those by the United Nations Conference on Trade and Development (UNCTAD) and recently by the Pearson Commission report

^{1/} Hla Myint, The Economics of the Developing Countries, (Frederick A. Praeger, New York 1965) pp. 15, 16.

^{2/} W. Arthur Lewis, Theory of Economic Growth (Harper and Row, paper edition, 1970), pp. 224, 225.

where it recommends "that each industrialized country increase its resource transfers to low-income countries to a minimum of 1 percent of its GNP as rapidly as possible and in no case later than 1975"^{1/}, it is doubtful that developing countries will get as much aid as recommended. Undoubtedly more aid will be forthcoming but in money values only. If account were to be taken for price increases, the real quantum of aid will rise less rapidly and even the target of 1 percent in relation to the GNP of developed countries is unlikely to be reached for some of the more important aid donors such as the United States.

On the other hand, even if aid were to equal 1 percent of the GNP of the industrialized countries there would still be a resource gap as LDCs have to keep raising their investment targets to narrow the gap in the standards of living between them and the developed countries. Therefore, national savings are needed if domestic investment is to be financed without much inflation and without large balance of payments deficits. Structuralists would probably argue that there is no need to have internal and external balance and that to limit the level of investment to the amount of voluntary savings would mean a growth rate much lower than the politically acceptable level. They would argue that since savings are not sufficient, it would be necessary to have inflation as a means of reallocating resources from consumers to investors and, by a price increase, bring about a higher rate of "forced" savings. This might be possible in the short run, especially with money-illusion. But in the longer run, the level of "forced savings" itself tends to fall. The arguments against financing development through inflation have been given in many articles in Staff Papers and elsewhere and need not concern us here.^{2/}

^{1/} Report of the Lester B. Pearson Commission on International Development, Partners in Development (Praeger Publishers, New York, 1969) p. 147.

^{2/} For examples, see E. M. Bernstein and I. G. Patel, "Inflation in Relation to Economic Development, Staff Papers, November 1952; U Tun Wai, "The Relation between Inflation and Economic Development", Staff Papers, October 1959; A. S. Shaalan, "The Impact of Inflation on the Composition of Private Domestic Investment", Staff Papers, July 1962, and Graeme S. Donance, "Inflation and Growth", Staff Papers, March 1966.

Another approach which implies a lessening of the need for national savings is that of neo-Keynesians to development problems.^{1/} They would argue that unemployed labor and land in developing countries enables investment to be financed by credit expansion which would cause output to expand, thus bringing about an ex poste identity of savings and investment without inflation and balance of payment deficits. Our view, however, is closer to that of Professor V.K.R.V. Rao who has said,

"Apart from the difficulties caused by the presence of disguised unemployment, the agrarian nature of the economy makes for a supply curve that, at best, is much more unelastic than that of an industrialized economy such as Keynes primarily had in mind when formulating his theory of employment... Savings [in real terms], therefore, fail to rise to equality with investment; and with deficit financing, the inflationary process sets in earlier and proceeds faster in an agrarian or underdeveloped economy as compared with an industrialized or developed economy."^{2/}

The availability of surplus labour could also mean that one does not need to increase national savings before embarking on a development program. Professor W. Arthur Lewis in his path breaking article has said,

"In our model, if surplus labour is put to capital formation and paid out of new money, prices rise, because the stream of money purchases is swollen while the output of consumer goods is for the time being constant... And, of course, as soon as the capital goods begin to yield output, consumption begins to rise. The inflationary process does not go on for ever; it comes to an end when voluntary savings increase to a level where they are equal to the inflated level of investment."^{3/}

^{1/} See for example Ashok Mathur, "On Throwing the Baby Away with the Bathwater-- An Essay in the Defense of Keynesian in Relation to the Underdeveloped Countries", Indian Economic Journal, April-June 1965 pp. 397-416.

^{2/} V.K.R.V. Rao, "Investment, Income and the Multiplier in an Underdeveloped Economy", in The Indian Economic Review, February 1952. Reprinted in A. N. Agarwala and S. P. Singh, The Economies of Underdevelopment, (Oxford University Press, 1958).

^{3/} W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labour" in The Manchester School, May 1954. Reprinted in A. N. Agarwala and S. P. Singh, The Economies of Underdevelopment, (Oxford University Press 1958).

While it is true that trying to finance investments by bank credit is less inflationary in an economy with unlimited supplies of labour than in a fully employed economy, there is still the problem that the existing labour supply may not be useable further expenditures on education. The needed land may have to be cleared and finally even small agricultural implements would have to be imported before a stream of food or other agricultural goods can be forthcoming. This could mean a serious balance of payments problem or immediate reduction in consumer imports to make room for capital imports. In other words, there is need to increase national savings. Professor Nurkse in discussing the saving potential concealed in rural underemployment has cited a number of problems which arise in drawing excess workers off existing farms to work on new investment projects, namely 1) to prevent peasants remaining on the farms from eating more 2) to be certain that decline in farm output does not occur when surplus labor is withdrawn 3) Possibility that the surplus labour working in industry may consume more than on the farms 4) possible leakage through the cost of transporting the food from the farms to places where the capital projects are established, and 5) the need to give tools to the new investment workers.^{1/} His conclusion is probably valid for some of the developing countries, i.e.

"Here we have a relationship between consumption and investment which stands midway between the classical and the Keynesian approach. In the classical model, an increase in the rate of capital formation requires a reduction in consumption. In the Keynesian world of industrial unemployment, consumption as well as investment can be expanded at the same time."^{2/}

^{1/} See Ragnar Nurkse, Problems of Capital Formation in Underdeveloped Countries (Oxford University Press, 1967) pp. 36-44.

^{2/} Ibid., p. 38.

But if one were to ask about the position of the majority of developing countries, without unlimited supplies of labour, one would have to conclude that the classical model would be more applicable.

Even for the model with unlimited supplies of labour, Professor Lewis does not advocate continuous financing of investments by bank credit. He says that

"It is not, therefore, enough that savings should increase to this extent [equal to the increased investment expenditure] for if these savings are used for additional investment the initial gap still remains. The gap is closed only if savings are hoarded, or used to buy government bonds, so that the government can now finance its investments by borrowing, instead of by creating new money."^{1/}

Finally, if there are still lingering doubts about the need to increase national savings in developing countries, all one needs to do on a pragmatic level is to study the developments plans. Every development plan of a developing country has an unfilled gap between projected investments and the amount of available foreign finance and national savings. To be sure, some of this gap may be fictitious by the inclusion of projects which are not yet ready for execution or because the LDCs are using the plan to seek more foreign aid. On the other hand, since the estimates of national savings are usually highly optimistic, the projected gap may be fairly realistic. In some plans, for example in the Kenya Development Plan, 1970-74, the table on the total supply and use of resources does not show a projected gap only because both the inflow of foreign capital (or the projected import surplus of goods and services) and the national savings have been so estimated to give equality.^{2/} As plans go, the Kenya estimate of a rise in national savings from an average of 16.8 percent of GNP in 1967 and 1968

^{1/}W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labor", The Manchester School, May 1964.

^{2/}See Kenya Development Plan, 1970-74, (Nairobi, 1969), Table 5.8, p. 159.

to 19.8 percent of GNP in 1974 is not unrealistic considering that the 1964-1965 average was 14.9 percent. However, it is clear that there is a gap and Mr. Mwai Kibaki, the Governor of the Fund and Bank for Kenya stated at the last Annual Meeting of the Board of Governors of the IMF that,

"...in order to implement our new and enlarged Development Plan it is necessary for us to borrow more substantial amounts from outside the country in order to cover the inevitable foreign exchange gap."^{1/}

A recent study by Raul Prebisch on Latin American countries has stressed the need to raise the coefficient of domestic saving from 18.3 percent in 1966-68 to 26.5 percent in 1980 in order to attain a rate of development of 8 percent by the latter year, which he considers necessary to absorb most of the increases in manpower and to prevent unemployment.^{2/} He arrives at these percentages despite the fact that his projections of net inflow of capital are based on assumptions that developed countries would increase their aid to 1 percent of GNP level, that Latin American countries will get the same share of this aid as before, and that the existing debt burden would be stretched out on two alternative paths of a 4 percent amortization with 2 percent rate of interest or a 4 percent amortization with a 6 percent rate of interest.

c. Outline and Objectives of Paper

Although the main interest of the paper is the influence of financial intermediation on national savings, we do not claim that this is the only factor

^{1/} International Monetary Fund, Summary Proceedings of the Twenty-Fifth Annual Meeting of the Board of Governors, September 1970, p. 140.

^{2/} Raul Prebisch, Change and Development-Latin America's Great Task, A report submitted to the Inter-American Development Bank (Washington D.C., July 1970) p. 109.

nor that there is a unique relation between the extent of financial intermediation and the level of national savings. Our interest in this subject has arisen because many developing countries are pushing ahead with the establishment of financial intermediaries. The development of financial institutions is considered by many governments to be a prerequisite in their effort to collect national savings. It will be recalled that in the early fifties, the United Nations ECAFE held a number of conferences on the mobilization of domestic capital with emphasis on developing financial institutions.

There are both economic and non-economic determinants of savings. Many theories of savings have been developed by economists and a brief review of their relevance to developing countries is given in the next section. However, many of the existing theories of savings do not lend themselves to policy manipulation. On the other hand, the establishment of new institutions as well as correct interest rate and proper monetary and fiscal policies can lead to a larger amount of national savings within one or two plan periods of four to five years.

In attempting to get at the truth of the determinants of savings in developing countries, we are probably faced with describing an elephant in a like manner as the six blind men of Hindustan, each of whom upon feeling the elephant had a different view. One said that the elephant was a wall having felt its sides, the second said it was similar to a tree trunk having felt its legs, the third said it was like a fan having felt its ears, the fourth said it was like a spear having felt its tusks, the fifth said that it was like a snake having felt its trunk, and the last said it was like a rope having felt its tail. Therefore, in the third section, we have outlined some ideas toward integrating existing theories of savings.

The fourth section is devoted to a statistical comparison of the evolution of national savings between countries and also for the same countries over time. Although all possible determinants are not listed we attempt to see what possible differences in economic structure, financial policies, or availability of foreign assistance, role of government, etc. could justify diverging trends. For example, does the rate of inflation act as a deterrent to savings? Do higher interest rates lead to higher savings rates?

The fifth section deals with the major financial institutions which exist in most developing countries and the role which each of them plays in collecting savings. Some of the questions tackled are the kinds of policies and measures which have been used to increase national savings.

The sixth section attempts to determine in simplified econometric models whether there is a positive influence of financial intermediation on national savings. The proxy variable used for financial intermediation is the increase in financial claims of the private sector (i.e. of businesses and households) on other domestic sectors namely financial institutions and central government, while national savings data are derived from national income accounts. This section uses other variables such as prices, interest rates and trend besides the financial intermediation proxy.

Most of the correlations are on an intra-country time-series basis with only a few intercountry comparisons. Although a comparative study is important for a better understanding of the differences between countries, government are likely to be less influenced by conclusions from cross-section country data than lessons learned from their own experience or that of a country similar to theirs.

The paper has a summary and conclusions section to determine what financial policy guidelines can be developed from the study especially with reference to conditions under which high marginal saving ratios can be assumed by LDCs in the preparation of development plans. Following the various studies on finance by Professors Goldsmith, Gurley, and Shaw, it is now generally accepted that financial intermediation does matter in economic development. The difficult question is not whether it matters but the extent to which changes in financial intermediation can increase savings and development effort. Apart from the collection of savings, the traditional view is that financial intermediation makes for a more efficient allocation of funds for investment on the assumption that savings get channelled to more efficient entrepreneurs and managers, for financing their investments. In this paper, we are more interested in the collection of savings than in the allocative aspect of financial intermediation.

II. Relevance of Existing Theories of Savings for LDCs

In the economic literature, there are at least two broad views about the determinants of national savings. One view stems from the classical and neo-classical schools which stress interest or the rate of return on savings, and the other from Keynes and other modern economists such as Franco Modigliani and Milton Friedman who stress income.

a. Interest Rate Theories

According to the classical economists, savings is the payment of abstaining from consumption, a reward for waiting, or payment for the use of funds, etc. Therefore, a higher rate of interest will increase the amount of savings. On the other hand the demand for funds is decided by the need to finance investments.

Interest rate is determined by the equilibrium point between savings and investment.

Alfred Marshall cited both economic and non-economic factors as influencing savings. Among the economic factors, a key role is given to interest, though there may be some saving even if interest were negative. To quote him:

"We may therefore call interest the reward for waiting: not of abstinence... The greater the rate of gain from present sacrifice the greater will be the saving, but not always. So the higher the rate of interest the greater the savings as a rule, but there are exceptions to the rule."^{1/}

Knut Wicksell, though mentioning that savings depended on a number of complex motives, said, "Among the many influences affecting the accumulation of capital, the rate of interest is undoubtedly one--although even its influence is uncertain and ambiguous. Theoretically, the individual should always carry his accumulation of capital (or it may be his consumption of capital) to the point at which the present and future marginal utilities of the goods saved is equal."^{2/}

Irving Fisher said that the rate of interest is determined by six sets of equations or conditions, namely two opportunity principles (which represent investment opportunities), two impatience principles, and two market principles (supply and demand for funds and the market has to be cleared and debtors paid off). He gave many social and non-economic factors as affecting savings besides interest rates. To quote him:

^{1/} Alfred Marshall, Principles of Economics (Third Edition, Macmillan and Company, 1895) pp. 313, 315, 316.

^{2/} Knut Wicksell, Lectures on Political Economy -- Volume I General Theory Translated from Swedish by E. Classen (The Macmillan Co. New York 1935).

"...it is clear that the rate of interest is dependent upon very unstable influences, many of which have their origin deep down in the social fabric and involve considerations not strictly economic. Any causes tending to affect intelligence, foresight, self control, habits, longevity of man, family affection, and fashion will have their influence upon the rate of interest."^{1/}

The relevant question for this paper is whether the level of the interest rate or changes in interest can affect the amount of national savings in LDCs, other things remaining unchanged. The role of interest rates in the organized and unorganized money markets has been described by me in two articles prepared more than a decade ago.^{2/} While those articles did not touch upon the question of whether changes in interest rates tend to increase national savings, it was made clear that the demand and supply of loanable funds in LDCs were influenced by interest rates, though not necessarily in the exact manner as in the developed countries. To the extent that a supply of funds is similar to a supply of savings, one may conclude prima facie that since the supply of funds is influenced by interest rates, the supply of savings must also be influenced by interest rates.

There are at least five possibilities why changes in real interest rates (at constant prices) may not cause the supply of national savings to increase in LDC's. The first reason would be, if the existing market rate of interest is below the equilibrium level because of credit rationing. This is highly plausible for the organized markets of LDCs because there are many countries where interest rates are at or even below levels prevailing in the developed countries, e.g. French

^{1/} Irving Fisher, The Theory of Interest--As Determined by Impatience to Spend Income and Opportunity to Invest it (Kelley and Millman, Inc. New York 1954) p. 505.

^{2/} See U Tun Wai, "Interest Rates in the Organized Money Markets of Underdeveloped Countries" in Staff Papers, August 1956 and "Interest Rates Outside the Organized Money Markets of Underdeveloped Countries" in Staff Papers, November 1957. Although the statistics are now out of date, the broad conclusions appear to be still valid.

speaking countries in Africa, Nigeria, Ghana, India, Pakistan, Honduras, etc. Undoubtedly, in these countries more credit rationing is practiced by commercial banks in these countries than in the developed countries. Secondly, if the changes in interest rate are extremely small, savings may not increase because people are insensitive to small changes. Thirdly, even if the amount of the change in interest is large, people with very low incomes may not be able to save. The fourth reason could be the existence of a backward sloping supply curve of savings, i.e. if the income effect from higher rates outweighs the substitution effect. This is probably not applicable to LDCs because income from interest has not yet reached such a high level as to cause loanable funds to decline with higher rates of interest. A fifth possibility is that interest rate does not play a role in LDCs because of social or religious reasons. However, this is a false argument because in fact people in LDCs are also motivated by economic reasons. For example, interest continues to be charged in Muslim countries in the organized markets and, in the unorganized markets, the lender receives other favours from the borrower in lieu of interest. Close family ties may mean that loans are given without charging interest, but this is probably not of any great statistical importance in LDCs.

b. Keynesian Theory

That the amount of savings is dependent on the level of income was hinted at by Adam Smith as can be seen from the following quote:

"When the stock which a man possesses is not more than sufficient to maintain him for a few days or a few weeks, he seldom thinks of deriving any revenue from it. He consumes it as sparingly as he can and endeavours by his labour to acquire something which may supply its place before it be consumed altogether. This is the state of the great part of the labouring poor in all countries.

But when he possesses stock sufficient to maintain him for months or years, he naturally endeavors to derive a revenue from the greater part of it... His whole stock, therefore, is distinguished into two parts. That part which, he expects, is to afford him this revenue is called capital. The other is that which supplies his immediate consumption...^{1/}

However, it was John Maynard Keynes, who explicitly related savings to income through his psychological propensity to consume. Since savings are the residue from income less consumption and as consumption was supposed to increase less rapidly than income, it follows that savings should rise more than proportionately with income. Keynes listed eight main motives or objects of a subjective character which lead individuals to refrain from spending out of their incomes, namely Precaution, Foresight, Calculation, Improvement, Independence, Enterprise, Pride, and Avarice. He also listed four factors, Enterprise, Liquidity, Improvement, Prudence which motivate governments to save. But for the argument of his book, he takes as given the main background of subjective motives to saving and to consumption, respectively.^{2/}

According to Keynes, an increase in the rate of interest (assuming no change in the demand-schedule for investment) would cause the total amount actually saved to decrease even if the rise in interest causes the community to save more out of a given income. This occurs because incomes would fall by a greater amount than investment. To quote from his book regarding the difference in approach with the classical school, he said,

^{1/}Adam Smith, *The Wealth of Nations*, Book II, Chapter I on "Of the Division of stock." (The Modern Library Edition, Random House, 1937) p. 262.

^{2/}John Maynard Keynes, *The General Theory of Employment, Interest and Money* (Harcourt, Brace and World, Inc., paperback edition 1965) pp. 107-110.

"All these points of agreement can be summed up in a proposition which the classical school would accept and I should not dispute; namely, that if the level of income is assumed to be given, we can infer that the current rate of interest must lie at the point where the demand curve for capital corresponding to different rates of interest cuts the curve of the amounts saved out of the given income corresponding to different rates of interest.

But this is the point at which definite error creeps into the classical theory. If the classical school merely inferred from the above proposition that, given the demand curve for capital and the influence of changes in the rate of interest on the readiness to save out of given incomes, the level of income and the rate of interest must be uniquely correlated, there would be nothing to quarrel with. Moreover, this proposition would lead naturally to another proposition which embodies an important truth; namely that, if the rate of interest is given as well as the demand curve for capital and the influence of the rate of interest on the readiness to save out of given levels of income, the level of income must be the factor which brings the amount saved to equality with the amount invested.^{1/}

The Keynesian system, however, was developed for an industrial economy and not for an underdeveloped country. For the system to work, there has to be both unemployed capital and labor and all the other complementary factors of production. In an underdeveloped country there may be unemployed labour but not unemployed capital. Therefore, there is no question of having excessive savings and not enough effective demand. The model which fits the LDC's is the classical rather than the Keynesian model. With a large foreign trade sector, the adjustment in LDCs to interest rate policies and government deficit financing takes place through changes in the balance of payments rather than in changes in the real

^{1/} John Maynard Keynes, Ibid., pp. 178-179.

level of income.

Keynes conceded that a higher saving rate was needed for growth in full employment. As he said,

"For we have seen that, up to the point where full employment prevails, the growth of capital depends not at all on a low propensity to consume but is, on the contrary, held back by it; and only in conditions of full employment is a low propensity to consume conducive to the growth of capital."^{1/}

We can reinterpret this for the LDCs by saying that although there is unemployment of labour, there is full employment of capital. And that savings are needed to create capital. Furthermore, skilled labour is usually fully employed in LDCs.

c. Other Theories

In the early years, after Keynesian economics took hold, inductive tests found high correlations between consumption and income. In later years, as the results were less good, other variants of the influence of income on savings were developed. For example, Milton Friedman tried to establish the consumption function not in relation to current income but in relation to some concept of a permanent income. Others such as Modigliani, have emphasized that consumption is based on one's own life cycle income. In other words, savings occur only to even out temporary changes in income.

Both hypotheses are very persuasive. Even though it is difficult to know what the level of one's own or an economy's permanent income will be, it is clear that people's decisions to save are based on longer term factors rather

^{1/} Ibid., p. 372-373.

than temporary or short term influences. It is also a variant of this approach which causes people with variable incomes to save more than people with stable income. This hypothesis is less testable for LDCs than for the United States. But in any event it would be well nigh impossible for governments to count on a particular change in savings for financing a Development Plan from this hypothesis.

The life cycle hypothesis could explain differences between countries in savings ratios, according to the structure of population and rates of growth of population, etc. But the theory does not lend itself to policy manipulation easily. Suppose that the theory was valid, would it imply that an increase in population growth would automatically raise the savings ratio because the younger part of the population is saving for its old age? Does it imply the a stable population would not increase its savings ratio?

In any event, some of the assumptions needed for the theory appear to be too restrictive for applicability to LDCs. For example, according to Albert Ando and Franco Modigliani, the assumptions are 1) The utility function is homogenous with respect to consumption at different points of time. 2) The individual neither expects to receive nor desires to leave any inheritance. 3) The consumer at any age plans to consume his total resources evenly over the remainder of his life span. 4) The rate of return on assets is constant and is expected to remain constant.^{1/}

^{1/}Albert Ando and Franco Modigliani, "The Life Cycle Hypothesis of Saving: Aggregate Implications and Texts" in American Economic Review, March 1963, pp. 56-59.

Another variant of income as determining savings was given by James S. Duesenberry^{1/} for the United States. He emphasized that it was the relative level of income between people which determines consumption (and savings) and not the absolute income. This theory was used by Ragnar Nurkse^{2/} to explain differences in saving ratios between countries and also why LDCs were finding it exceedingly difficult to save more in the face of the tempting supply of consumer goods offered by developing countries. The real question, which this approach does not answer, is why the LDCs are not then induced to work harder and earn more foreign exchange from exports so as to be able to afford the import of new consumer goods. Although he does not provide economic solutions, Professor Nurkse suggested a larger movement of savings and capital from developed countries to LDCs both in the form of gifts and loans.

A large number of studies have been undertaken in recent years to test one or more of the above theories using global country data on a cross section basis. Some relate savings to income, others to population structure, growth, etc. One example of a study of the influence of demographic conditions on savings is that by Nathaniel H. Leff^{3/} while another relating savings to income is that of H.S. Houthakker.^{4/} There is no doubt that in a cross section analysis between countries, which provides a sufficiently large sample, some good correlation results can be obtained. But the main question is whether the coefficients are such that every country which is either above or below the average in either savings-income ratios

^{1/} James S. Duesenberry, Income, Saving and the Theory of Consumer Behavior (Cambridge, Mass., 1949).

^{2/} See Ragnar Nurkse, Problems of Capital Formation in Underdeveloped Countries (Oxford University Press, 1967) pp. 56-81.

^{3/} Nathaniel H. Leff, "Dependency Rates and Savings Rates" in American Economic Review, December 1969, pp. 886-896.

^{4/} H. S. Houthakker, "On Some Determinants of Saving in Developed and Under-Developed Countries" in E.A.G. Robinson, (ed.) Problems in Economic Development-- (Macmillan & Co., Ltd., London, 1965) pp. 212-227.

or in savings-dependency ratios will move along the curve of the estimated equation. There is no doubt that these factors have a bearing on explaining differences between countries. An important question is whether other measures cannot increase the savings ratios. Secondly it is clear that it will take LDCs a long time to reach the per capita income levels of the developed countries and also to correct adverse demographic factors. We would agree with Leff that birth rates need to be reduced in most LDCs but this conclusion can be drawn from intra-country analyses and information. One also doubts whether a model of international savings behavior can be relevant to any one country.

d. Other Economic Considerations

Most economists would agree that the main economic determinants of savings are both income and interest rates. In addition to these two factors, one would expect savings and self financing by businesses, to be influenced by the opportunity for investment. Growth companies need funds more rapidly than can be provided by retained earnings, bank credit, and funds from the limited financial markets in developing countries. Savings would also be influenced by the presence or lack of price stability, confidence in the currency and the general investment climate.

Finally, there is the question of the supply of financial institutions. An interesting hypothesis was put forward by Professor Gurley^{1/} who observed that countries have different financial paths for development according to benefit and cost considerations. He said that,

"At any moment in the development process, a country will have some optimal size of its financial structure which depends on all the forces affecting marginal social benefit and cost curves of finance."^{2/}

^{1/} John Gurley, "Financial Structures in Developing Countries" in David Krivine (ed.), Fiscal and Monetary Problems in Developing States (Frederick A. Praeger, New York, 1967) pp. 99-120.

^{2/} Ibid., p. 108.

However, a financial system is only one way to mobilize savings for financing alternative investment projects. He said, that other ways of financing development were 1) Central Planning including appropriation of profits of state enterprises. 2) Fiscal technique and 3) inflation. He also felt that the financial technique may be inadequate either because too few resources have gone into it or because the resources in it are inefficiently employed. He did, however, conclude that it will generally pay a country to put more real resources in its financial structure as it climbs up the development ladder.

Since the cost of establishing financial institutions are not so great, we agree with Prof. Goldsmith, who in summing up at that conference said that the real cost of running the financial system is not critical and also that

"financial experience and technology seem to be more easily and more rapidly transferable among countries than industrial or agricultural technology, not to speak of social structure and personality characteristics"^{1/}

As between the different methods of mobilizing savings mentioned by Prof. Gurley, inflation does not assure countries a sound and steady growth. Planning may be needed but not as much as implied by him. It should also be noted that one or more methods, of financing investment projects may be used at the same time. For example, fiscal policy is a useful adjunct to financial institutions, but there may be a trade-off in the amount of savings collected by each method. Then, there is the question of whether the level of savings is determined by the availability of financial institutions or vice-versa. Since the cost of establishing financial institutions is relatively not too large in relation to future profits. We would favor having excess capacity in institutions, even if it means some misallocation of resources in the short run, rather

^{1/} Ibid., p. 385.

than that potential savers cannot find outlets for their savings.

e. Non-economic Determinants

Besides economic factors, there are sociological and political considerations which would lead countries to have different savings rates. The relative income hypothesis and the demonstration effect are partly economic and partly sociological. Adam Smith in mentioning non-economic reasons for people wishing to save has said,

"But the principle which prompts to save, is the desire of bettering our condition, a desire which, though generally calm and dispassionate, comes with us from the womb, and never leaves us till we go to the grave... An augmentation of fortune is the means by which the greater part of men propose and wish to better their conditions."^{1/}

As we have seen, other economists have also mentioned non-economic determinants.

For example Irving Fisher said,

"We are accustomed, for instance, to ascribe to the Jews a natural racial tendency to accumulate, though this characteristic is certainly reinforced by, if not entirely due to, the extraordinary influence of the Jewish tradition. Of the Scots, it would be difficult to say how much of their thrift is due to nature and how much to training handed down from father to son. The American Negro is regarded by nature a happy-go-lucky creature, but studies of Negro life in Africa indicate that under favorable conditions the Negro is self-denying, while recent experience with industrial schools have demonstrated the fact that forethought and saving can be readily fostered by training. Reckless wastefulness has been created in large part among the Negroes by tyranny and slavery."^{2/}

^{1/} Adam Smith, The Wealth of Nations, Book II Chapter 3, "On the Accumulation of Capital". (The Modern Library edition, Random House, 1937) p. 324.

^{2/} Irving Fisher, "The Theory of Interest" - As Determined by Impatience to Spend Income and Opportunity to Invest it, (Kelley and Millman Inc., New York, 1954) p. 377.

There are perhaps some differences between races but this can only be part of the so called frugality of the, Scots Jews or whatever race one wishes to single out. Undoubtedly, the ease with which man has been able to eke out a comfortable living without too much effort in the past (as in the land surplus countries) would tend to make people less thrifty. Uncertainty about the future either on a long term basis or from year to year is a powerful stimulant to higher marginal savings in good years, though not necessarily higher on average. The agriculturists, despite having lower levels of income than those with regular income in the cities save more than others because they are not sure what the next harvest will bring. However, the agricultural sector in developing countries is not able to contribute as much as in the historical past of the developed countries, not only because income levels are low but because of social and religious obligations which induce peasants to spend beyond their means.

These non-economic determinants of savings are less amenable to policy manipulation than the economic factors. However, the Indian government many years ago tried to cut down on social and religious expenditures, by the prohibition of liquor consumption by Indians and by placing limits on the number of invitees to weddings and other social occasions.

Obviously, changing social habits is a slow process, and Fisher quotes about Gladstone from Mary W. Brown's book on "The Development of Thrift"^{1/} as follows,

"But Gladstone insisted that habits were an arbitrary matter, and that the fashion of spending would be displaced by the fashion of saving as soon as opportunity and incentive were afforded and the principle of imitation had time to operate. The experience with English postal savings banks justified his prediction."^{2/}

^{1/} See 'The Development of Thrift' by Mary W. Brown, New York, Macmillan and Company, 1900.

^{2/} Irving Fisher, op. cit., p. 378.

Savings are also related to political and other risks and how hard one has to work to get profits. Those who migrate either permanently or temporarily to other countries tend to save more because of uncertainties. For example, the Indian migrants, who came to Burma and Ceylon were generally believed to have saved at higher rates than those of comparable income levels, back in India. This indicates that the Indians (and also the Chinese migrants) having come overseas at great inconvenience to themselves and to their families, felt it desirable to save a lot to make their temporary migration worthwhile. It is also known, that British Colonial servants saved a large proportion of their income not only because of their ability to do so, since the purchasing power of their salaries in the colonies was much higher than back home, but also because of such factors as risk to good health, the discomforts of living abroad, and the need for an early retirement in their home country.

III. Toward an Integrated Theory of Savings

It is quite common in economic literature for writers to rewrite someone else's theory as a special case of an extended version. In attempting to put down some preliminary thoughts on paper we have no wish to say that all the theories mentioned in the preceding sections are special cases of our presentation. It merely reflects our belief that reality cannot be explained by any one theory, and that even conflicting hypotheses may have their places in real life because people behave differently under different circumstances. Finally, although a number of economists including Keynes, Fisher, and Marshall mentioned both economic and non-economic factors in explaining or determining the level of savings, there is as yet no integrated theory.

We believe that most individuals, businesses, or governments decide upon what they would like to save (albeit sometimes only indirectly after deciding upon consumption) and that the final ex post level of savings may or may not be the sum of ex ante plans depending not only upon Keynesian analysis of how total income influences total savings but also that simple decisions to save even out of a given total level of income may be influenced by other people's decisions. The decision to save by each unit in an economy is influenced by its ability, its willingness^{1/} and the opportunity to do so. We can then write each unit's savings as a function of these three factors and for the economy as a whole, it would be the sum of the individual units' savings less whatever duplication occurs, and whatever reductions would take place between ex ante and ex post savings due to changes in total income--a la' Keynes--or to other sociological factors. We can write the total savings (net) equation for the economy as

$$S = \phi (A, W, O) \quad [1]$$

where S is savings, A is ability, W is willingness, and O is opportunity. Each of the independent variables of this first equation would be functions of other economic and non-economic variables. For example, ability to save would depend on such factors as income (Y), structure of population or dependency rates, (N), and wealth (K).

^{1/}

I should like to thank Professor Ranis for suggesting that some of my earlier thoughts on ability and willingness of people to save should be expanded and developed. He, of course, bears no responsibility for the line of development outlined here.

We may denote this

$$A = \alpha (Y, N, K, \dots) \quad [2]$$

The willingness to save would depend on such factors as how much economic inducement is given to the individual through the level of interest rates (i), the stage of life that one individual is in the life cycle (L) and cultural factors such as the relative position in the class or social ladder (C). For example, it is well known that there are different savings propensities between agriculturists and urban workers, and between professionals and entrepreneurs.

We may denote this willingness equation as

$$W = \beta (i, L, C, \dots) \quad [3]$$

Finally, we come to the opportunity principle which is more closely related to the question of financial intermediation. The opportunity to save depends on such factors as the extent of financial intermediation (F) available to the saving units and on possibility of using self generated funds for financing one's own investment (I_r), or in other words the marginal efficiency of capital. It is well known that business units retain earnings in order to finance investment, as is also done by the agriculturists in the rural areas.

Thus we may denote the opportunity equation as

$$O = \lambda (F, I_r, \dots) \quad [4]$$

In all the four equations above the symbols ϕ , α , β , and λ are functional notations and not meant to be constants. If the nature of each of the functions in equations 2, 3, and 4 can be properly specified, and if one could really measure the changes in ability, willingness and opportunity to save in a given economy over time through the use of proxy variables, and also project what

changes are likely to occur within the next plan period, then one could perhaps derive an estimating equation or equations (if each of the above equations is rewritten for sectors such as households, businesses and general government) by substituting the coefficients from equations 2, 3, and 4 in equation 1. However, it is doubtful whether the present state of knowledge about developing countries would make that possible. All we can indicate now is the nature of the functions in each of the equations with some simple statistics of cross section budget surveys to indicate orders of magnitude and of signs.

First of all, let us look at equation 2 and see what sort of function α is likely to be. That ability to save depends on increases in real income i.e., money income at constant prices is self evident. The statistical data in budget surveys usually show that at low income levels, there is negative savings and that as income increases, savings rise. In Table 1, data from the budget survey for Kenya is presented, while in Table 2 the savings of farmers in Korea according to size of farms are given. It will be seen from both tables that savings rise with income. However, from the Kenya data it is apparent that income has to reach a minimum critical level before savings can begin. The lower range of Kenyan middle income workers are presumably either living off their assets brought from their villages in migrating to Nairobi or on contributions from relatives in rural areas. The Korea data confirms what one has always suspected that it is the agricultural sector which, having access to food and other necessities, is able to save even at low levels of income. An annual income for the Korean farming household of 118,000 won is equivalent to about \$400 at the official exchange rate which reflects mainly the prices of internationally traded

goods. In terms of domestic purchasing power, this level of farm income is worth much more. Although we do not have data for LDC's, studies for developed countries indicate a negative influence of wealth on savings. It should be noted that wealth could be regarded as a variable affecting not only ability to save but also the willingness to do so.

As regards the dependency relationship, it is self evident that the more dependents one has, the less one is able to save even with tax rebates and special family allowances in many white collar jobs. Here also, some evidence of this tendency is presented for Kenya in Table 3. It will be seen that mainly because of the low level of income of the group as a whole, and also because of the burden of additional dependents, positive savings are recorded only for the 1 unit household. As to be expected from these kinds of statistics, although negative savings rises sharply at first from more than 3 persons in a household they decline and remain high for sizes of households above 6 persons. The reason for this is that there is probably some correlation between income (over time) and size of family beyond 4 or 5 persons.

The next question is whether the ability to save rises proportionally with income and falls proportionately with the number of dependents, assuming no change in income. Before answering the first part of the question one has to decide how to allow for the concept of a minimum standard of living. If one says that the minimum standard of living for an individual does not change with income, then one has to conclude that the ability to save rises more than proportionately with income. But in real life we know that as a man moves up the success and social ladder, his concept of a minimum standard of living changes. We would, of course, say that this factor should be handled in his willingness to save

equation in ~~the~~ variable (C).

As regards the second part of the question about whether with additional dependents his ability will be adversely affected proportionately, it seems clear that since savings are at the margin after consumption and as expenditure on an additional child is less than on an adult, the answer would depend on the ratio of savings/total expenditure and expenditure on child/total expenditure ratios. The net result on savings will depend on these two ratios. If the saving's/expenditure ratio is .20 and the marginal child/expenditure ratio is 0.05, then with each additional child, the savings gets less more than proportionately even though the marginal child/expenditure ratio is constant because the savings will get smaller each time for example .20, .15, .10, .05, etc.

Therefore, to conclude on equation 2, we say that, normally, the ability to save rises more than proportionately with income, while the ability to save falls more than proportionately with more dependents. In other words $\frac{\partial A}{\partial Y} > 1$ and $\frac{\partial A}{\partial N} < 0$. Since most people in life tend to have more children before having rising incomes, the function may be negative in early years of a life cycle, and positive and rising in the latter years of one's life. As for the wealth effect it is clear that even if $\frac{\partial S}{\partial K}$ is negative, one's ability to save will increase with the more wealth. Therefore, $\frac{\partial A}{\partial K} > 0$ but less than 1.

The above comments apply mainly to household sector. We now have to see what the ability to save function means for the business sector and the government. For the business sector, by higher income is meant more profits and this would depend partly on business efficiency, partly on whether the unit is operating in

a growth industry or elsewhere, and partly on industrial structure and market conditions such as monopoly, economies of scale, protection from imports, etc. It is clear that ability to save would expand more than proportionately with business profits, partly because firms are constrained by their stock holders to pay out a certain dividend even when profits are low. Business units do not have dependency rates but one could imagine that all the social obligations (in developed countries) thrust upon businesses, such as contribution to charity, political party supporting, anti-pollution, etc. are a sort of dependency claims. However, these come much later in a corporate business life when Y is already rising rapidly and, therefore, can be ignored.

For governments of developing countries, the analogy with the household sector is very close on the ability to save criteria. The income of governments is government revenue and here also one would normally expect $\frac{\partial A}{\partial Y} > 1$. This may appear to be contradictory to the so called "Please effect" according to which the governments propensity to consume out of revenues may be greater than one. But this is not so because we would attribute such behavior to the effect of N. The dependency of governments manifests itself in the amount of welfare expenditures which governments feel they have to have. It also includes maintaining high wage rates comparable to those in developed countries inherited from the colonial periods. [Notable exceptions are Burma and India] It includes recruiting all returning state scholars as a matter of policy even if they cannot be usefully absorbed in government service. It includes giving jobs to party followers and workers for the ruling elite to stay in power. It also includes necessary new current expenditures on defence, police, foreign affairs, etc.

which in many African and Asian countries rose sharply after independence. Thus for the government of most newly independent and also for some of the other older developing countries $\frac{\partial A}{\partial N} < 0$.

As to where each government sector is on the ability side depends on these two factors. But it is clear that for the small African countries such as Dahomey and Niger, the $\frac{\partial A}{\partial N}$ was an important reason why France had to continue giving annual budget support for a long period after independence.

As regards the third equation on willingness, it is clear why higher interest rates would induce more willingness to save. But it is doubtful if it would increase willingness too much. We believe $\frac{\partial W}{\partial i} < 1$. As for the relationship between willingness and life cycle, the hypothesis of Professor Modigliani would perhaps be appropriate. In other words, in the early years one is not willing to save, but one does in later years. The five phases are 1) $\frac{\partial W}{\partial L} < 0$ in the beginning, 2) $\frac{\partial W}{\partial L} > 0$ but less than 1, 3) then $\frac{\partial W}{\partial L} > 1$, 4) $\frac{\partial W}{\partial L}$ less than 1, and 5) $\frac{\partial W}{\partial L}$ goes to 0 and then negative.

The relationship between willingness and the position on the social ladder or relative income which is denoted by (C) is probably stronger than even the life cycle. The reason for this belief is that the constraints on (L) are self imposed. They come from one's own decision to spend or save with reference to one's age. On the other hand, the keeping up with the Jones' and emulating expensive customs of a particular social group are very strong. In fact, one of the major causes of rural indebtedness, some of which is dead weight and unproductive, come from spending money on religious and social affairs. Thus $\frac{\partial \hat{W}}{\partial C} < 0$ and is likely to remain like this for one's whole life. Of course, there may be savings because

of rising income, etc., i.e. because of the influence of other variables. When a person is promoted from one job to another, income rises but willingness to save may be reduced more than proportionately if certain conspicuous consumption items such as better homes, better cars, better schools for children are expected to be correlated with the job.

In the attached Table 4, savings from a Mexico field budget survey are listed by groups of income and size of city. It would have been better to have had the data by occupation and income. But even so, it is clear that the relative positions of incomes have a bearing on the amounts saved. A particular income level in a large city is not the same as in a smaller city, not only because of differences in the cost of living but also because of social position. Dusenberry discovered an important economic proposition that savings is determined not by absolute income but by relative income.

In concluding for households on the willingness to save

$$W = \beta (i, L, C), \quad [2]$$

we have seen that the partial derivative is positive with respect to i always, negative with respect to (C) and that the sign changes for L . It is difficult to project the net effect of all three variables on W , but it is clear that interest rate policy will have to be used actively in order to offset the negative influence of (C) .

For business units, the willingness to save will be a function only of (i) and for governments it will be function of (i) and (C) only. Here again the function will be sometimes negative to (C) because some governments in LDCs do compete with one another in inviting international conferences, constructing

buildings, palaces, parks, and sending delegates on official travel, etc. Furthermore in election years, governments tend to spend considerably more than in other years.

The coefficients of the function of the fourth equation will be positive with respect to $\frac{\partial O}{\partial F}$ and $\frac{\partial O}{\partial I_r}$ but as to whether it is greater than 1 depends on whether the developing country already has an efficient financial super structure or not. If it is lacking in financial institutions then $\frac{\partial O}{\partial F} > 1$. As for I_r , if the rate of return is rising rapidly then $\frac{\partial O}{\partial I_r} > 1$, and so forth. For the fourth equation the sign should be the same for all sectors of the economy.

We now come to the first equation and see how total savings will be influenced by

$$S = \phi (A, W, O). \quad [1]$$

As for the previous equations, it is best to proceed by savings of each sector. Starting with the household sector we can say that savings will be positively related to each of the variables A (ability), W (willingness) and O (opportunity). But the ex post savings for the household sector as a whole is limited by the relationship between A, W, and O. This is not to say that A, W, and O are interdependent. But merely that for a given household the restraining factor may be A at one point of time, W at another point and O at still another point. To give examples, a low income family may have the willingness and opportunity to save, but his ability would be the constraining factor. As his income rises, his ability would increase and since his willingness and opportunity have remained unchanged, he would save according to his ability. At first $\frac{\partial S}{\partial A} < 1$, later it will equal 1 and still later it could be greater than

1. But this state of affairs does not last for long because soon the willingness begins to change, at first slowly, and later more rapidly. At the stage of say medium income levels, it is then the willingness factor which determines savings because even though $\frac{\partial S}{\partial A}$ may be rising and greater than 1 we have $\frac{\partial S}{\partial W}$ falling and perhaps being negative.

At a still later stage of rising income levels through time, we have the opportunity factor becoming a limiting factor. This is quite apparent for the rich man who has the ability and willingness but since opportunity for him, though greater than that for a poor man, does not expand as fast as his ability and willingness, it becomes the limiting factor. An example, of the opportunity variable becoming a limiting can be seen from the agricultural sector of a rich but stagnating economy. The landlord has both the ability and willingness to save, but since the opportunity to put his funds in worthwhile investments or deposit them with acceptable financial institutions does not exist, he does not increase his savings by as much as his ability or his willingness to do so. This could also apply to the tenant farmer who is earning a more than satisfactory level of income but does not save increasing amounts out of larger incomes.

To conclude this section on the household sector, it was seen above for equations 2, 3, and 4 that most of the variables which affect A , W , and O change slowly over time and are not subject to policy manipulation except income in equation [2], interest in equation [3] and financial intermediation in equation [4]. The social ladder variable (C) and life cycle (L) in equation [3] are very important for any one individual, but when one aggregates for the economy as a whole the pluses and minuses largely cancel out and thus they become 2nd.

order or 3rd. order conditions except in an economy with a rapidly growing population or with drastic changes in social structure. Thus for policy formulation, the best way to increase savings of the household sector is to increase national income as whole rapidly, have a correct interest rate policy and increase the supply of financial institutions.

Now we come to the business sector. Here also, in the light of comments already made earlier on equations 2, 3, and 4, it will be noted that the conclusions for this sector are not much different from those for the household sector. A minor difference is that the opportunity variable of increasing the supply of financial institutions may not by itself encourage business savings. Though even here, an expansion of financial intermediation could lead to increased business savings because loans cannot be obtained from banks without adequate collateral and only for a small proportion of the investment. Business savings, and investments are more easily influenced by tax policies and the likely return on investments. The governments of developing countries should, therefore, give priority to investments for infrastructive, etc., so that the marginal efficiency of private capital will increase.

When we come to the government sector, there are important differences between its savings function and that of the private sector. To begin with, the interest rate is no longer an important variable determining willingness (W) to save. But the relative position (C) in the social ladder cannot be ignored on the grounds that there is only one government and that the aggregation solution used for households would not be applicable. On the contrary, there is some active "keeping up with the Jones" going on for governments, not to mention

externally imposed minimum standards of health, education and welfare on LDC's based on the more developed countries' standards. Then again, financial institutions in the fourth equation, though important, do not play a crucial role for governments. The productivity of capital cannot be used in isolation because a government has to be concerned with social productivity and not with the productivity of the government sector alone.

Finally, even assuming that the unfavorable effects of the government sector's $\frac{\partial S}{\partial W}$ and $\frac{\partial S}{\partial O}$ are offset by the more positive effects of $\frac{\partial S}{\partial A}$ (by government raising more tax revenue and saving a greater proportion out of marginal tax revenue), it is not always clear that private sector savings would not fall by as much as the increase in government savings.

IV. Evolution of Net National Savings in Developing Countries

Some of the important questions concerning the evolution of net national savings in developing countries are: 1) Have the average net savings rates in relation to national income risen during the last twenty years? 2) Has the gap in the net savings ratios between developing and developed countries narrowed, widened or remained more or less the same? 3) Why are there such wide differences in savings performances between developing countries, which is another way of asking about the main determinants of savings.

a) Trends in Savings

Tables 5 and 6 provide data on net national savings ratio's to national income for 35 developing and 15 developed countries. The savings data in these tables are net of depreciation and include savings of the government sector.

The countries in each table have been classified according to net savings rates above 25% of national income, between 20% and 24.9%, 15% to 19.9%, 10% to 14.9%, 5% to 9.9% and savings less than 5%. The tables also provide data on interest rates, growth rates, price increases and balance of payments deficits on current account which are considered as the more important determinants of savings. Table 7 summarizes the distribution of countries according to savings ratio's and it confirms that developing countries do not save as much as developed countries. Thus, of the 15 developed countries, thirteen of them had savings rates amounting to more than 15% of national income, while of the 35 developing countries, 26 of them or about 75% of them had savings rates amounting to less than 15% of national income. Of the nine developing countries saving more than 15 percent of national income, three others are oil producing countries (Libya, Iraq and Venezuela) and three of them (Thailand, Taiwan, and Philippines) get large amounts of U.S. foreign aid and investments. It should be noted that about 50 percent of developing countries (17) cluster around the range of 10 to 14.9%. But this by itself should not be considered a poor performance because some of the high income and high growth countries such as the United States and the United Kingdom have savings rates in this same range. This fact tends to reinforce the observation made earlier that it is not only the savings rate but the manner in which the savings is utilized to finance investment and the resulting marginal productivity of capital which determine growth rates.

As for trends in the savings rates, it appears that about two-thirds of the developing countries (20)^{1/} have been successful in their efforts to raise more capital domestically, while 13 countries^{2/} appear to have gone backwards during the past two decades. The countries which seem to have performed very badly are Iraq whose savings rate fell from an average of 33.5% in 1953-54 to 17.3% in 1960-62, Mauritius which fell from 22.0% in 1953-54 to 14.0% in 1965-68, Peru from 18.4% in 1950-54 to 12.5% in 1965-67, Barbados from 16.8% in 1950-54 to 8.4% in 1960-64, and the Netherlands Antilles from 17.0% in 1957-59 to 6.3% in 1965-67.

Of the countries which have done better between the earliest and latest periods given in Table 5, generally 1950-54 and 1965-68, the ones with remarkable jumps in savings rates are Libya from 26% to 43.7%, Taiwan from 11.5% to 20.0%, Philippines from 9.0% to 15.8%, Togo from 5.0% to 14.5%, Korea from 7.5% to 12.3%, Jamaica from 5.2% to 12.0%, Panama from a negative of 0.8% to positive 10.5%, and Chile from a small 0.2% to a respectable 7.3%. High or rising interest rates in real terms were one of the main determinants of increased savings rates in Chile, Jamaica, Korea and the Philippines, while in Taiwan a more rapid growth and a lower rate of inflation also helped to increase national savings. As to expected, the same factors were not equally important or present in every success story. In the Philippines, for example,

^{1/} These are Bolivia, Brazil, Costa Rica, Chile, Guatemala, Honduras, Jamaica, Korea, Libya, Malaysia, Panama, Paraguay, Philippines, Sierra Leone, Taiwan, Togo, Thailand, Tunisia, Uruguay and Viet Nam.

^{2/} There are Barbados, Burma, Colombia, Ecuador, Guyana, Iraq, Mauritius, Netherlands Antilles, Nicaragua, Peru, South Rhodesia, Trinidad and Tobago, and Venezuela.

although the interest rate was a positive factor, the growth rate was slower and there was also a slight increase in consumer prices which normally would adversely affect savings rates. In Korea, the higher interest rates together with higher growth rates and lower rates of price increase combined together to push up the savings rates. In Chile, although the growth rates were not too much different over time there was a noticeable reduction in the rate of price increase which reinforced the positive influence of the interest rate.

Since the savings rates in 12 out of the 15 developed countries have also increased during the past two decades, it is difficult to say whether the gap between the less developed and more developed countries has narrowed or not. Although it is more difficult for the developed countries to raise their savings ratios sharply, because they are already at a higher level, there have been impressive increases in savings rates for this group of countries also. Thus Japan's saving rate has increased from 19.0% to 29.0%, Switzerland from 14.4% to 21.3%, France from 12.2% to 20.3%, Italy from 11.3% to 18.3%, and Belgium from 9.0% to 16.8%. In order to arrive at some conclusion, one has to compare the median ratios for the two groups of countries in the earliest and latest periods. From this we find that in the first period, generally of 1950-54, the median percentages were 16.4 percent and 11.5 percent for the developed and developing countries, respectively. In the 1965-68 period they were 20.0 percent and 11.9 percent. Thus, it can be concluded that the gap in savings rates between the two groups of countries has widened over time, despite the advances made in the majority of the less developed countries.

b) Observable Determinants of National Savings

In the previous sub-section, some of the data contained in Tables 5 and 6 were used to explain the performance of some of the countries with high saving rates. In this section we will analyse the effectiveness of any one determinant by itself in influencing the direction of savings. Obviously, this approach has its limitations not only because the other factors listed in the table may have been operating in the same or opposite directions, but also because other non-listed factors, such as financial intermediation, may have played an important role in changing the level of savings.

Tables 8 and 9 summarize the relationship between changes in each of the determinants and the changes in savings rates. A circle indicates that the relationship is as expected while a cross indicates that the relationship is not as expected. One expects savings rates to be positively associated with higher interest rates and larger per capita growth rates and negatively associated with price increases. On the other hand, the a priori relationship between the balance of payments deficit and the savings rate is not easily apparent. As far as statistical identities are concerned, domestic investment will be financed by national savings and foreign savings, i.e. current account deficit in the balance of payments. And one could assume that national savings would be unaffected by the availability of foreign resources, increases in which will be used to finance more investment. However, an increased inflow of resources from abroad could lead to more consumption and less national savings, especially if worthwhile investment projects do not exist. Furthermore, most LDC's are seldom in internal financial equilibrium

and, consequently, the balance of payments deficit is more likely to be a reflection not of an autonomous inflow of funds from abroad but a forced draft of borrowing abroad and use of exchange reserves, etc. resulting from inappropriate domestic financial and developmental policies. Therefore, for the purpose of Tables 8 and 9 the expected relationship is that national savings rates are negatively associated with balance of payments deficits.

Since reliable data on interest rates are not available for most LDC's, the first column in Table 8 reports the relationship for only 15 out of 33 countries. In 12 LDC's, national savings rates are positively associated with interest rates and in only 3 LDCs (Burma, Colombia and Taiwan) is there a negative relationship. Burma's case needs no explaining, as at present it is not a market oriented economy, while in Colombia other factors such as more rapid price increases in recent years have prevented the savings rate from rising. In Taiwan, the apparent negative relationship is misleading because the rate of interest has fallen partly as a result of the increase in savings and loanable funds and partly because of monetary policy. Furthermore, the real level of interest rates in Taiwan is still high relative to the levels prevailing in other countries.

In the developed countries also, the interest rate relationship to national savings is as expected in 10 out of the sample of 15 countries. For most of the five countries with unexpected relationships namely Germany, Italy, Japan, New Zealand and the United States, other factors were present. In any event, one does not expect to explain national savings rates for the very advanced industrial countries with only the limited number of determinants

listed in Table 9.

The relationship of per capita growth rates to national savings rates behaves as expected for the majority of both developed and developing countries. The price relationship though valid for the LDC's is not apparent for most of the developed countries. Here one has to invoke the rule that the money-illusion is there, and hence price increases do not adversely effect savings rates, only as long as the rate of inflation is small, i.e. less than 2 or 3 percent per annum. It is also interesting to note that almost all LDCs with savings rates of about 15% and above (i.e. about a quarter of the total LDC's in the table 5) had rates of inflation of less than 3 or 4 percent per annum in recent years.

The balance of payments effect is also as expected for 22 out of the 33 LDC's. Among the countries with unexpected relationships are Costa Rica, Guatemala, Honduras, Korea, Malaysia, Philippines, and Taiwan where autonomous inflow of foreign capital and general equilibrium conditions would naturally nullify the hypothesis of negative relationship between national savings and balance of payments deficits.

C. Savings by Sectors

One is interested in the distribution of national savings between sectors such as general government, corporations, and households for a number of reasons. Firstly, there is the position of Professor Lewis who has said that "Apart from the cases where the farmers are squeezed to provide for capital formation, the main source of savings in any economy is profits, distributed or undistributed."^{1/} On the premise that very little capital

^{1/}W. Arthur Lewis, Theory of Economic Growth (Harper and Row, 1965) p. 231.

exists in LDCs to earn large capitalists profits, he concludes that government savings has to increase more than proportionately to national income through higher than average marginal rates of taxation.^{1/} But if we had data to compare profits in LDCs to the low level of income, the profit rate could be higher than in developed countries and this would enable savings rates to rise.

Secondly, even though savings data are not available between agriculture and industry, the relative importance of household savings between developing and developed countries would provide some insights to this question. Unfortunately, the data on household savings are usually the least reliable, being derived as a residual from a residual.

1. Government sector savings

Tables 10 and 11, provide information on total net national savings in developing and developed countries and the percentage distribution between the main sectors. The summary table below shows the relative importance of government sector savings during the period 1965-68 for LDCs and the DCs.

As expected, the frequency distribution of the DCs is more of a normal curve with general government in a little over half the countries collecting between 25% and 35% of total savings. In the LDCs, the countries are distributed at two extremes. The government sector in one-fifth of the countries could collect only less than 5% of total savings and another fifth were able to collect between 5% and 15%. However, in nine countries,^{2/} or

^{1/} Ibid., p. 239.

^{2/} Chile, Colombia, Ecuador, Korea, Libya, Paraguay, Sierra Leone, Togo and Venezuela.

Summary of Tables 10 & 11

General Government Net Savings, 1965-1968

<u>General Government Net Savings as % of total Savings</u>	<u>Developed Countries</u>		<u>Developing Countries</u>	
	<u>No.</u>	<u>% Distribution</u>	<u>No.</u>	<u>% Distribution</u>
Below 5.0	-	-	7	20.6
5 - 14.9	3	20.0	7	20.6
15 - 24.9	2	13.3	3	8.8
25 - 34.9	8	53.3	3	8.8
35 - 44.9	2	13.3	3	8.8
45 - 54.9	0	0	2	5.9
55 and above	0	0	9	26.5
Total	15	99.9	34	100.0

over a quarter of the LDCs, over 55 percent of total savings was collected by the government sector. The fact that these nine countries were distributed widely between high (Libya, Venezuela, Togo, and Korea), medium, and low (Paraguay and Sierra Leone) savings countries, suggests that high government savings in themselves are not sufficient to generate high savings rates.

One can also look at the government savings data in relation to national income, rather than as a changing share of total savings. If Professor Lewis' hypothesis is correct, one would expect higher government savings rates relative to national income to be associated with higher total savings rates, also relative to national income. A study of the data shows five countries (Chile, Korea, Panama, Paraguay and Tunisia) with this relationship and three countries (Colombia, Ecuador and Nicaragua) with the opposite relationship, i.e. rising

government savings rates and falling total savings rates. However, in 20 LDCs, government savings rates have declined relative to national income.

2. Savings by Corporations and Households

Savings by corporations are generally more important in the DC's than in the LDCs. However, in a number of LDC's such as the Barbados, Chile, Guatemala, Jamaica, Mauritius, Nicaragua, Peru, and South Rhodesia more than half of the total savings are generated by the corporate sector. Some of this is due to savings of foreign corporations. In other countries low corporate savings may be due to the corporate sector underestimating profits in order to pay taxes.

Many factors including the rates of taxation, opportunities for reinvestment and the general growth of profits help determine the level of savings in the corporate sector. However, according to some writers, inflation would tend to increase corporate savings more proportionately than savings by other sectors because wage lags and the inability of consumers and fixed income recipients to protect themselves bring about a shift in real income from other sectors to the corporate sector. Furthermore, since the corporate sector's propensity to save is greater than that of the other sectors, total savings is said to increase also. While this is theoretically possible, it is interesting to note that corporate savings net of depreciation allowances have been important in more countries with price stability (e.g. Barbados, Guatemala, Jamaica, Nicaragua, South Rhodesia and Mauritius) than in countries with inflation (Chile).

Another factor is whether the law allows asset revaluation and/or depreciation allowances at real replacement costs. In an inflationary context, it may turn out that the true net saving rate declines.

A comparison of changes in corporate savings as a percent of national income, between the earliest period (e.g. 1950-54) and the latest period (e.g. 1965-68), reveals that 11 countries^{1/} had higher corporate savings rates associated with higher total savings rates. On the other hand, only 7 countries^{2/} had higher corporate savings rates associated with lower total savings rates. There were another 7 countries with lower corporate savings rates in the latest period as compared to the earliest period. All this suggests that changes in corporate sector savings in LDCs have been more important than changes in government sector savings, relative to national income.

The household sector appears to be an important source in Guyana, Honduras, Netherlands Antilles, Philippines, Thailand, Trinidad and Tobago, and Uruguay with more than half of the total savings originating from this sector. Except for Uruguay, all these countries have had only very small increases in consumer prices in the last twenty years, which undoubtedly helped to inspire confidence on the part of the saving households.

Another way of looking at the savings of the households is in relation to disposable incomes. This approach has the advantage of isolating the influence of the level of taxation on the contribution of the household

^{1/} Bolivia, Chile, Guatemala, Libya, Jamaica, Korea, Panama, Paraguay, Philippines, Togo and Uruguay.

^{2/} Colombia, Honduras, Netherlands Antilles, Nicaragua, Peru, Trinidad and Tobago, and Venezuela.

sector to the national savings effort.

In tables 12 and 13 data for personal income, disposable incomes and savings of households out of disposable income have been provided. It can be noted that the burden of taxation is greater in DCs than in the LDC's. In all the 15 DC's in Table 13, except in South Africa, taxation on households was more than 10 percent of disposable income and in some countries (France, Germany, Netherlands and Sweden) it was above 20 percent. On the other hand, in all LDC's except Chile and Colombia, the rate of taxation was less than 10 percent of disposable income and in over two-thirds of them it was less than 5 percent. Despite this lower level of taxation in LDCs, the household sector saves a smaller proportion of disposable income than in the DCs because of the lower ability to save. The summary table below shows that in almost half the LDCs, households were able to save less than 5 percent of their disposable incomes while in about half of the DC's, households saved more than 12.5% of disposable income.

Despite the poorer performance of LDC's as a group when compared to the DC's, significant increases in the personal savings ratios have occurred in the last twenty years in about one-third of the countries^{1/} listed in Table 12. However, in the vast majority of LDC's personal savings ratio's have either fallen or remained basically unchanged.

^{1/}Costa Rica, Guatemala, Jamaica, Libya, Malaysia, Taiwan, Thailand, Uruguay and Vietnam.

Summary of Tables 12 & 13

Savings of Households as Percent of Disposable Income, 1965-68

<u>Savings as % of Disposable Income</u>	<u>Developed Countries</u>		<u>Developing Countries</u>	
	<u>No.</u>	<u>% Distribution</u>	<u>No.</u>	<u>% Distribution</u>
Less than 5%	0	0.0	14	46.7
5 - 7.49	2	14.3	4	13.3
7.5 - 9.99	1	7.1	4	13.3
10.0 - 12.49	4	28.6	3	10.0
12.5 - 14.99	3	21.4	0	0.0
15.0 - 17.49	3	21.4	2	6.7
17.5 and over	<u>1</u>	<u>7.1</u>	<u>3</u>	<u>10.0</u>
Total	14	99.9	30	100.0

V. Financial Intermediation^{1/}

Economists working on problems of developing countries are interested in the question of financial intermediation partly because it has been observed that the economic growth of more advanced countries was accompanied by an increase in financial super structure. A natural question, therefore, is whether the present LDC's should try to develop their financial structures to promote more rapid economic growth or should they leave it to market forces to react in future when there is an increased demand for these financial

^{1/} In the preparation of this section, I have benefitted from discussions with and comments from Mr. Richard Goode of the International Monetary Fund, and Professors Raymond Goldsmith, Hugh Patrick, and Henry Wallich of Yale University. Professor Patrick gave helpful comments on other parts of the paper as well.

institutions?

A related question is the type of financial intermediation which should be developed to finance investments. It has been noted by Professor Goldsmith that DCs, especially the United States, financed investments in railroads and other industries through direct issuance of bonds to the investing public. In later years, indirect investments namely re-investment of funds collected by banks, and other financial intermediaries became more important. In the majority of LDC's, investment is still predominantly self financed, either out of undistributed profits or purchase of shares in family and private concerns. The small proportion of investment which is market financed is carried out through indirect means rather than through new stock issues and bond issues on the stock markets. While many LDC's are encouraging the establishment of stock exchanges to encourage direct finance of investments, it can be questioned whether it is necessary for LDC's to go the same route as the DCs instead of taking a short cut by leaving it to specialized banks, mutual funds and even government lending funds to finance private investment indirectly.

The kind of financial super structure that should be built by the LDC's depends, partly on the opportunity cost of setting up a particular financial institution and, partly on the benefits which would be derived from increased savings and a better allocation of funds for financing investments. The latter point is dependent on the kind of financial instruments which potential savers would like to purchase, keeping in mind profitability, confidence or safety, and liquidity of these assets.

a. Role of Financial Institutions in the Saving Process

In sub-section (d) 'Other Economic Consideration' of section II 'Relevance of Existing Theories of Savings for LDC's, reference has already been made to Professor Gurley's suggestion that besides financial intermediation, there are other ways of financing development, including the fiscal technique and inflation. Policy makers in many of the post war independent countries in Africa and Asia usually view the financing of investment by bank credit as synonymous with financial intermediation, without distinguishing whether the source of banking funds is central bank rediscounts or the government printing currency on the one hand and financial savings on the other hand.

A similar view is also held by some economists, mainly of the structuralist school, who feel that deficit financing can increase real incomes through forced savings financing investments. They would argue that inflation helps to redistribute income from sectors with low savings rates to sectors with higher savings rates. Business men have access to bank loans, and if they need more funds to make investment, the banking system should provide it. On the other hand, economists who believe that inflation does not add any additional resources to finance investments have argued that the capacity of the banking system to finance development is limited by the willingness of individuals to increase financial savings. This in turn is a function of the relative importance of existing financial assets such as money and quasi-money. Mr. J. J. Polak by using money-income ratios to project likely increases in financial savings, and by taking into account the desirability of the banking system to satisfy a country's need to increase its reserves of

gold and foreign exchange and to provide adequate financing of inventories, has concluded that the banking system's role in financing of fixed investment must be quite small.^{1/} While this is probably true, historically, it does not necessarily follow that financial savings cannot increase markedly in future with correct interest rate and other appropriate financial policies. Under such conditions, it may be more efficient to encourage commercial banks to make term loans rather than to have funds channelled through other kinds of institutions, such as the stock market, for example.

Apart from whether financial savings collected by the banking system are likely to be small in future, as implied by Mr. Polak, there is the question of the mechanism and role played by financial institutions in the savings-investment process. There are three major ways in which efficient financial intermediation helps the development process. Firstly by the collection of additional savings, secondly by the allocative function, and thirdly by redistributing the benefits of larger returns on capital investments. If a developing country does not have adequate financial intermediation, then farmers and others living in rural areas do not have much opportunity to choose between different forms of saving. They could either save in the form of currency or they could hoard gold or other consumer goods, either as a means of protection against inflation or to be certain of

^{1/} See Jacques J. Polak, "The Capacity of the Banking System to Finance Development", Paper presented to the 5th Meeting of Technicians of Central Banks of the American Continent, Bogotà 1957. Published in Proceedings of Meeting, Volume II, pp. 169-81. (Also reprinted by Economic Development Institute of the International Bank for Reconstruction and Development).

obtaining the consumer goods when needed. However, the stocking of commodities by a large section of the consuming public without adequate storage facilities can be very wasteful, as for example in India where harvested crops are eaten by rodents.^{1/} Therefore, the introduction of a well functioning financial intermediation system and the development of money and capital markets enable the farmer to earn interest on his financial savings and broadens his choice between interest bearing financial claims, e.g. savings certificates, post office savings deposits, government bonds or insurance policies and physical assets.

The development of an efficient financial intermediation system is even more necessary for the collection of savings from salaried workers in urban areas. Whereas farmers and small businessmen may have outlets for directly investing their savings for improving their farms or enterprises, the salaried workers do not have comparable opportunities for investment. To the extent that the rate of return on financial claims is greater than holding physical assets, the potential small saver will be induced to increase not only his supply of financial savings but also the total supply. The supply of savings is sometimes also increased because financial intermediaries provide the holder of the financial claim with more safety and marketability than if the saver had directly lent to the borrower. In this way the financial intermediaries perform a useful role between the lender of funds and the final user. In other words, the widening of saving opportunities and a more preferred

^{1/} Professor Hugh Patrick uses this point to stress the need for financial intermediation.

package of yield, risk and liquidity could increase the saving rate.

Secondly, an efficient financial intermediation system not only improves the collection of savings, but it is able to select more rationally between competing uses of the funds. As investment decisions become more complex, this allocative function of savings, mortgage, and development banks is increasing in importance. Even for the developed countries, it has been said that "on the one hand, the social origin of savers is changing. Saving is becoming a mass phenomenon and the new categories of savers begin by using the most simple instrument, i.e. deposits. On the other hand, the financial system is adapting itself to this change by offering more remunerative investments which, at the same time, still have the feature of simplicity and liquidity which the general public looks for"^{1/}

Thirdly, the social distribution of savings achieves a redistribution of wealth because the people who did not receive any return on savings, when it was in the form of goods or currency, are now able to share in the return on investments by obtaining interest or dividends, if the funds are invested with mutual funds.

b. Policies and Measures to Increase Financial Savings

Generally speaking, any policy which would increase total savings would also help to increase financial savings, except in socialist economies.

^{1/} Organization for Economic Cooperation and Development, Committee for Invisible Transactions, Capital Markets Study--General Report (Paris, 1967), p. 105

A report of the International Chamber of Commerce^{1/} cites five pre-requisites for the elimination of obstacles to increasing savings in LDC's. 1) An increase in income level, 2) the stabilization of the currency, 3) betterment of the savings climate, 4) improvement of the investment climate, and 5) provision of the necessary legal framework, giving recognition and protection of private property.

In some countries such as Burma, Ghana, and Nigeria where marketing boards or export taxes have been an important source of large public sector savings, the governments may feel that the need to stimulate private sector savings is not as urgent as in other developing countries. Nevertheless, government savings in these countries have fluctuated with the prices of the agricultural commodities in question^{2/} and--judging by the poor investment performance of at least two countries, Burma and Ghana,--the old adage of "easy come easy go" may have had an influence on the choice of unproductive government projects. During the six year-period 1959/60 to 1964/65, the surplus on current account of marketing boards in Burma financed from one-third to one-half of government sector investments, which themselves averaged about 10 percent of Gross Domestic Product; current budget surpluses provided about only 20 percent of the funds needed and the balance was financed by foreign loans.^{3/}

^{1/} International Chamber of Commerce, Commission on International Investments and Economic Development, Mobilization of Domestic Savings in Developing Countries (Paris, 1967), pp. 9, 10.

^{2/} For example, see Gerald K. Helleiner, "The Fiscal Role of the Marketing Boards in Nigerian Economic Development, 1947-61" in The Economic Journal, September, 1964.

^{3/} See Ministry of National Planning, Annual Economic Surveys of Burma, 1960-1964.

One way of approaching the problem of increasing financial savings is to relate it to the demand for and supply of financial instruments. Potential savers are those who will be demanding financial instruments, and it is the financial intermediaries and governments, mainly, and to a lesser extent business enterprises who will be supplying financial instruments.

The supply of currency, government bonds and treasury bills are fairly elastic in LDC's because governments are invariably calling upon central banks to finance their development expenditures and government securities are usually available on tap. The supply of savings accounts or other certificates of ownership deposits are available without limit from savings banks and commercial banks in areas where they operate. The supply of stocks and bonds issued by business enterprises, however, is more limited, determined in part by possibilities for investment, in part by the willingness of the entrepreneurs to share the profits of worthwhile ventures with the public at large, and in part by how easily they can secure other sources of finance, for example, loans for banks.

On the demand side of financial instruments, the biggest constraint is that of the budget and to a lesser extent, considerations of knowledge, availability, profitability, liquidity, safety and protection against such uncertainties as inflation, nationalization, etc. An exception to this rule is perhaps the demand for currency as a financial instrument which is dictated as much by considerations of liquidity and inflation as by budget considerations. But even here, it is only persons with more than a certain minimum level of income who would be willing to save in the form of high