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FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH  
IN UNDERDEVELOPED COUNTRIES

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## FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH IN UNDERDEVELOPED COUNTRIES\*

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An observed characteristic of the process of economic development over time, in a market-oriented economy using the price mechanism to allocate resources, is an increase in the number and variety of financial institutions and a substantial rise in the proportion not only of money but also of the total of all financial assets relative to GNP and to tangible wealth.<sup>1</sup> However, the causal nature of this relationship between financial development and economic growth has not been fully explored either theoretically or empirically.

### Demand-Following and Supply-Leading Phenomena

Typical statements indicate that the financial system somehow accommodates—or, to the extent that it malfunctions, it restricts—growth of real per capita output. For example,

it seems to be the case that where enterprise leads finance follows. The same impulses within an economy which set enterprise on foot make owners of wealth venturesome, and when a strong impulse to invest is fettered by lack of finance, devices are invented to release it... and habits and institutions are developed

Such an approach places emphasis on the demand side for financial services; as the economy grows it generates additional and new demands for these services, which bring about a supply response in the growth of the financial system. In this view, the lack of financial institutions in underdeveloped countries is simply an indication of the lack of demand for their services.

We may term as "demand-following" the phenomenon in which the creation of modern financial institutions, their financial assets and liabilities, and related financial services is in response to the demand for these services by investors and savers in the real economy. In this case, the evolutionary development of the financial system is a continuing consequence of the pervasive, sweeping process of economic development. The emerging financial system is shaped both by changes in objective opportunities—the economic environment, the institu-

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\* This paper has benefitted from comments by Richard Parter, Donald Mead, Lester Chandler, and the participants in the Conference on Banking in the Early States of Industrialization held at Bellagio, August 1964.

1. See, for example, the work of Raymond Goldsmith, particularly his *Financial Intermediaries in the American Economy since 1900* (Princeton: Princeton University Press, 1958); and "Financial Structure and Economic Growth in Advanced Countries," in Moses Abramovitz, ed., *Capital Formation and Economic Growth* (Princeton: Princeton University Press, 1955). For an empirical treatment for Japan see David J. Ott, "The Financial Development of Japan, 1878-1958," *Journal of Political Economy*, LXIX, No. 2 (April 1961).

2. Joan Robinson, "The Generalization of the General Theory," in *The Rate of Interest and Other Essays* (London: MacMillan, 1952), pp. 86-87.

tional framework—and by changes in subjective responses—individual motivations, attitudes, tastes, preferences.

The nature of the demand for financial services depends upon the growth of real output and upon the commercialization and monetization of agriculture and other traditional subsistence sectors. The more rapid the growth rate of real national income, the greater will be the demand by enterprises for external funds (the saving of others) and therefore financial intermediation, since under most circumstances firms will be less able to finance expansion from internally generated depreciation allowances and retained profits. (The proportion of external funds in the total source of enterprise funds will rise.) For the same reason, with a given aggregate growth rate, the greater the variance in the growth rates among different sectors or industries, the greater will be the need for financial intermediation to transfer saving to fast-growing industries from slow-growing industries and from individuals. The financial system can thus support and sustain the leading sectors in the process of growth.

The demand-following supply response of the growing financial system is presumed to come about more or less automatically. It is assumed that the supply of entrepreneurship in the financial sector is highly elastic relative to the growing opportunities for profit from provision of financial services, so that the number and diversity of types of financial institutions expands sufficiently; and a favorable legal, institutional, and economic environment exists. The government's attitudes, economic goals, and economic policies, as well as the size and rate of increase of the government debt, are of course important influences in any economy on the nature of the economic environment. As a consequence of real economic growth, financial markets develop, widen, and become more perfect, thus increasing the opportunities for acquiring liquidity and for reducing risk, which in turn feeds back as a stimulant to real growth.<sup>3</sup>

The demand-following approach implies that finance is essentially passive and permissive in the growth process. Late eighteenth and early nineteenth century England may be cited as a historical example. In fact, the increased supply of financial services in response to demand may not be at all automatic, flexible, or inexpensive in underdeveloped countries. Examples include the restrictive banking legislation in early nineteenth century France, religious barriers against loans and interest charges, and Gerschenkron's analysis of the abortive upswing of Italian industrial development in the 1880's "mainly, it is believed, because the modern investment bank had not yet been established in Italy."<sup>4</sup> In underdeveloped countries today, similar obstacles, together with imperfections in the operation of the market mechanism, may dictate an inadequate demand-following response by the financial system. The lack of financial services, thus, in one way or another restricts or inhibits effective growth patterns and processes.

Less emphasis has been given in academic discussions (if not in policy actions) to what may be termed the "supply-leading" phenomenon: the creation of financial institutions and the supply of their financial assets, liabilities, and related financial services in advance of demand for them, especially the demand of entrepreneurs in the modern, growth-inducing sectors. "Supply-leading" has two functions: to transfer resources from traditional (non-growth) sectors to modern sectors,<sup>5</sup> and to promote and stimulate an entrepreneurial response

3. Cf. W. Arthur Lewis, *The Theory of Economic Growth* (London: George Allen & Unwin, 1955), pp. 267-85.

4. Alexander Gerschenkron, *Economic Backwardness in Historical Perspective—A Book of Essays* (Cambridge: Harvard University Press, 1962), p. 363. See also Ch. 4.

5. The difference between traditional and modern sectors is that the former are dominated by elements (attitudes, forms of economic organization, production technology) inherited from the pre-modern economy, whereas modern sectors are dominated by internationally modern technology, rationality (maximization behavior and attitudes) and modern institutions and other forms of economic organization. See, for example, K. Ohkawa and H. Rosovsky, "A Century of Japanese Economic Growth," in W. W. Lockwood, ed., *The State and Economic Enterprise in Modern Japan* (Princeton: Princeton University Press, forthcoming).

in these modern sectors. Financial intermediation which transfers resources from traditional sectors, whether by collecting wealth and saving from those sectors in exchange for its deposits and other financial liabilities, or by credit creation and forced saving, is akin to the Schumpeterian concept of innovation financing.

New access to such supply-leading funds may in itself have substantial, favorable expectational and psychological effects on entrepreneurs. It opens new horizons as to possible alternatives, enabling the entrepreneur to "think big." This may be the most significant effect of all, particularly in countries where entrepreneurship is a major constraint on development. Moreover, as has been emphasized by Rondo Cameron,<sup>6</sup> the top management of financial institutions may also serve as entrepreneurs in industrial enterprises. They assist in the establishment of firms in new industries or in the merger of firms (the advantages of economies of scale may be more than offset by the establishment of restrictive cartels or monopolies, however), not only by underwriting a substantial portion of the capital, but more importantly by assuming the entrepreneurial initiative.

By its very nature, a supply-leading financial system initially may not be able to operate profitably by lending to the nascent modern sectors.<sup>7</sup> There are, however, several ways in which new financial institutions can be made viable. First, they may be government institutions, using government capital and perhaps receiving direct government subsidies. This is exemplified not only by Russian experience in the latter half of the nineteenth century, but by many underdeveloped countries today. Second, private financial institutions may receive direct or indirect government subsidies, usually the latter. Indirect subsidies can be provided in numerous ways. Commercial banks may have the right to issue banknotes under favorable collateral conditions; this technique was more important in the eighteenth and nineteenth centuries (national banking in Japan in the 1870's; wildcat banking in the United States) than it is likely to be in present underdeveloped countries, where this right is reserved for the central bank or treasury. Nonetheless, modern equivalents exist. They include allowing private financial institution to create deposit money with low (theoretically, even negative) reserve requirements and central bank rediscount of commercial bank loans at interest rates effectively below those on the loans. Third, new, modern financial institutions may initially lend a large proportion of their funds to traditional (agricultural and commercial) sectors profitably, gradually shifting their loan portfolio to modern industries as these begin to emerge. This more closely resembles the demand-following phenomenon; whether such a financial institution is supply-leading depends mainly on its attitude in searching out and encouraging new ventures of a modern nature.

It cannot be said that supply-leading finance is a necessary condition or precondition for inaugurating self-sustained economic development. Rather, it presents an opportunity to induce real growth by financial means. It thus is likely to play a more significant role at the beginning of the growth process than later. Gerschenkron implies that the more backward the economy relative to others in the same time-period (and the greater the forced-draft nature of the economic development effort), the greater the emphasis which is placed on what I here term supply-leading finance.<sup>8</sup> At the same time, it should be recognized that the supply-leading approach to development of a country's financial system also has its dangers, and they should not be underestimated. The use of resources, especially entrepreneurial talents and managerial skills, and the costs of explicit or implicit subsidies in supply-leading devel-

6. Rondo Cameron, "The Bank as Entrepreneur," *Explorations in Entrepreneurial History*, Series 2, 1, No. 1 (Fall 1963), 50-55.

7. Except in the extreme case where inherent profit opportunities are very high, and supply-leading stimulates a major entrepreneurial effort.

8. *Op. cit.*

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opment must produce sufficient benefits in the form of stimulating real economic development for this approach to be justified.

In actual practice, there is likely to be an interaction of supply-leading and demand-following phenomena. Nevertheless, the following sequence may be postulated. Before sustained modern industrial growth gets underway, supply-leading may be able to induce real innovation-type investment. As the process of real growth occurs, the supply-leading impetus gradually becomes less important, and the demand-following financial response becomes dominant. This sequential process is also likely to occur within and among specific industries or sectors. One industry may initially be encouraged financially on a supply-leading basis and as it develops have its financing shift to demand-following, while another industry remains in the supply-leading phase. This would be related to the timing of the sequential development of industries, particularly in cases where the timing is determined more by governmental policy than by private demand forces.

Japan between the 1870's and the beginning of World War I presents an excellent example of the sequence of supply-leading and demand-following finance.<sup>9</sup> A modern banking system was created in the 1870's, subsidized by the right to issue banknotes and by government deposits. These banks, in the absence of large-scale industrial demand for funds, initially concentrated their funds on financing agriculture, domestic commerce, and the newly important foreign trade. However, they also became the locus for much of the early promotional and entrepreneurial talent which initiated the industrial spurt beginning in the mid-1880's, especially in railroads and in cotton textiles (at first import-competing, and later export-oriented). The banks also became an early important source of industrial funds, albeit *via* an indirect route. The modern financial system thus was not only created in advance of Japan's modern industrialization, but, by providing both funds and entrepreneurial talent on a supply-leading basis, contributed significantly to the initial spurt. By the mid-1890's, the emphasis apparently moved from supply-leading to demand-following in the financing of the textile and other consumer goods industries. On the other hand, the financing of most heavy manufacturing industries continued on a supply-leading basis perhaps until World War I, with a considerable portion of external funds provided through the long-term loans of special banks established at government initiative and utilizing government funds.

#### Finance and the Real Capital Stock

The nature of the connection between financial growth and economic development may be examined from a somewhat different approach. One can conceive of a variety of relationships between the financial system and growth-producing real factors. However, probably the most important is the relationship of the stock of financial assets and liabilities to the real capital stock—its optimal composition and rate of growth and its efficient allocation and utilization. I assume the relationship between the capital stock and real output is strong, direct, and monotonic.<sup>10</sup> The growth objective of the financial system is to achieve the structure and rate of growth of various financial assets and liabilities which are consonant with and even induce the optimal characteristics of the real capital stock.

There are three major ways in which the financial system can influence the capital stock for growth purposes. First, financial institutions can encourage a more efficient allocation of a given total amount of tangible wealth (capital in a broad sense), by bringing about changes in its ownership and in its composition, through intermediation among various types

9. For greater detail on the Japanese case, see Hugh T. Patrick, "Japan," in Rondo Cameron, ed., *Banking in the Early Stages of Industrialization* (Oxford University Press: forthcoming).

10. I do not here consider in other than broad outline what constitute the optimal characteristics of the capital stock for growth.

of asset-holders. Second, financial institutions can encourage a more efficient allocation of new investment—additions to capital stock—from relatively less to relatively more productive uses, by intermediation between savers and entrepreneurial investors. Third, they can induce an increase in the rate of accumulation of capital, by providing increased incentives to save, invest, and work.

These effects can be analyzed by an approach blending the Gurley-Shaw model<sup>11</sup> with a portfolio analysis of the behavior of saving-type and investing-type asset holders. The composition of individual wealth portfolios consists of non-reproducible tangible assets (land and precious metals), reproducible tangible assets (producer durables, consumer durables, and inventories), and financial assets (currency, deposits, bonds, stock, loans, insurance, etc.), minus financial liabilities. Individual units hold varying proportions of real and financial assets (and financial liabilities), based on their own preferences and on an asset's specific characteristics of safety, liquidity, and yield (of money income and/or real services). Most theoretical work on portfolio analysis has focused on the composition of financial assets, with little emphasis on the choice between financial and real assets.<sup>12</sup> This latter choice, of course, is of prime importance for growth.

#### Allocation of a Given Amount of Tangible Wealth

In this section, the focus rests on changes in a given aggregate amount of tangible wealth under the assumption of no net additions to this stock. Unfortunately, definitive capital stock or wealth estimates are not yet available for any underdeveloped country over time, or even for any single point in time.<sup>13</sup> Nonetheless, flow characteristics of saving provide some indication of stock characteristics of wealth. For example, the findings for a sample of underdeveloped Asian countries that between one-half and two-thirds of gross saving is done by households, and that between one-half and three-fourths (and perhaps more, due to under-reporting of increases in tangible assets) of household net saving is in the form of increases in tangible assets,<sup>14</sup> probably well reflects the structure of ownership and composition of wealth for these countries. It is notable that most of the assets held by savers are under their own direct control. In general, the composition of individual real wealth holdings in underdeveloped countries typically consists mainly of land and land improvements, simple agricultural and handicraft tools, livestock, inventories (notably food-stuffs), and durable consumer goods (especially housing, but in some countries precious

11. See John G. Gurley and E. S. Shaw, "Financial Aspects of Economic Development," *American Economic Review*, XLV, No. 4 (September 1955); "Financial Intermediaries and the Saving-Investment Process," *Journal of Finance*, XI, No. 2 (May 1956); and *Money in a Theory of Finance* (Washington: Brookings Institution, 1960). For explicit adaptations and developments of this model to the process of growth, see Rondo Cameron, "Theoretical Bases of a Comparative Study of the Role of Financial Institutions in the Conference of Economic History, Aix-en-Provence, France, 1962," and Robert L. Bennett, "Financial Innovation and Structural Change in the Early Stages of Industrialization: Mexico, 1945-59," *Journal of Finance*, XVIII, No. 4 (December 1963).
12. See, however, James Tobin, "A dynamic Aggregate Model," *Journal of Political Economy*, LXIII, No. 2 (April 1955); James Tobin and William Brainard, "Financial Intermediaries and the Effectiveness of Monetary Controls," *American Economic Review*, LIII, No. 2 (May 1963); and P. R. Brahmaand, "Some Issues of Monetary Theory and Policy in a Real Liquidity Conscious Economy," *Commerce [India]* (1960 annual special issue).
13. Estimates have been made for India; cf. "Estimates of Tangible Wealth in India," Reserve Bank of India *Bulletin* (January 1963), pp. 8-19. Gold, silver, and jewelry are not included (they are approximately 10 percent of total tangible wealth), and the inventory estimates are crude. For a criticism of these estimates see Uma Datta, "The Capital Structure of the Economy," *Economic Weekly*, XVI, Nos. 5-7 annual issue (February 1964), 301-10.
14. UN ECAFE, "Measures for Mobilizing Domestic Saving for Productive Investment," *Economic Bulletin for Asia and the Far East*, XIII, No. 3 (December 1962), 3-8. The classification of saving sources is into government, government enterprise, private corporate, and household sectors, so households include unincorporated enterprises and farming. For our purposes, this does not pose a major problem.

metals<sup>15</sup> and jewelry, as well). The share of producer durables is relatively low,<sup>16</sup> while that of traditional consumer durables may be relatively high.

In part, this composition of wealth results from a lack of productive investment opportunities or ignorance of their existence. As the economy undergoes change and brings out productive investment opportunities, pressures develop to improve the wealth composition. Moreover, while an individual's initial portfolio composition may be inefficient in terms of the possibilities for selecting among a full range of financial assets as desirable alternatives, the composition may not be inefficient relative to the alternative financial asset choices which actually exist. Thus, creating additional types of financial assets and making them available to potential holders provides the opportunity for more efficient portfolio selection.

A considerable portion of tangible wealth in underdeveloped countries is held in forms unproductive of sustained growth. Some can fairly readily be transformed into productive capital goods. This is especially true of precious metals, excess holdings of inventories, and the replacement in an aggregative context of the depreciating portion of the capital stock. The amounts involved could be significant. It is not unreasonable to think of ratios of tangible wealth to GNP, even excluding land, of 2 or 3. A re-allocation of as much as 10 percent of this wealth to more productive forms would be equivalent to 20 or 30 percent of GNP and would raise the level of output by about 10 percent.<sup>17</sup> It should be recognized that changes in the composition of a given stock of wealth to more productive forms are a once-and-for-all adjustment, even though they may take some time, so that the level of output is raised, but continued growth does not result.

In many underdeveloped countries, wealth is held in the form of inventories of foodstuffs, other primary products, and, in some cases, even finished manufactured goods, in amounts considerably in excess of normal consumption or production requirements. An important reason<sup>18</sup> for this behavior is that, in the absence of suitable financial asset alternatives, inventories are the only assets which are relatively liquid, divisible, and offer some protection against general consumer good price inflation. On the other hand, storage and spoilage costs are high, and, for individual commodities, risks (as measured by variance) of price fluctuation are high.

I conjecture that in the early stages of development individuals shift their asset portfolios, relatively, from holding inventories in excess of their normal production or consumption requirements to holding newly-created financial assets which have more attractive terms. In real terms, these inventories are freed to be transformed into productive fixed capital goods, either *via* the foreign trade route, or as consumer goods for workers who produce the capital goods.<sup>19</sup> This hypothesis is virtually impossible to verify by direct empirical evidence, since satisfactory data on inventories in underdeveloped countries do not exist. Consequently, it is possible that there is some overestimation of gross domestic investment

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15. Precious metals may be processed into jewelry as a consumer good, as well as being held in bulk form as a store of value. Cf. Hugh T. Patrick, "The Mobilization of Private Gold Holdings," *Indian Economic Journal*, XI, No. 2 (October-December 1963). Private foreign exchange and other foreign asset holdings should be included in real wealth, since they represent a direct claim on foreign goods; probably netted against this should be foreign claims upon the country.
  16. See Raymond W. Goldsmith, *The National Wealth of the United States in the Postwar Period* (Princeton: Princeton University Press, 1962), pp. 96-97, for cross-country comparisons.
  17. Based, obviously, on highly simplistic assumptions that the marginal capital-output-ratio for such reallocated capital is on the order of 2 to 3, and that this wealth prior to reallocation made no contribution to output, a more general assumption would be that the difference between the capital-output ratios of this capital before and after reallocation would be 2 to 3.
  18. Probably the most important reason is the inadequacy, and especially the uncertainty, of supply lines. Thus, improvements in distribution systems probably are the most important single factor in making feasible a reduction in holdings of inventories.
  19. There is also the danger that after financial intermediation the inventories will simply continue to be held, but by a different group (speculators), who finance their holdings by borrowing (short-term) from the financial intermediaries.

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In such developing economies, since statistical coverage is likely to be more complete for fixed investment than for inventories, especially where there may be widespread small declines in inventory holdings by a large number of individual units. Part of the recorded fixed investment is thus derived from and offset by unrecorded declines in inventories.

Individual holdings of precious metals and foreign exchange and other foreign assets also can be transformed directly into socially productive fixed assets by the foreign trade route, with imports of capital goods being paid for by a reduction in the net domestic holdings of precious metals or foreign exchange. An important mechanism in the past, whereby countries have freed domestic holdings of precious metals, has lain in the shift from a currency system based in effect upon a commodity (such as specie) as money (where its value in exchange as a monetary unit is equal to its value in alternative uses) to a system based on token currency (where the value in exchange is derived from a guarantee by government or private financial institution, and the value of the token in alternative uses is negligible relative to its monetary value). A further refinement is the development of deposit money.<sup>20</sup> Such token money has the advantages of very low resource costs of production and of greater potential for control over its elasticity of supply. At the same time, it frees the commodity (specie) for alternative uses; using commodities as a domestic means of payment has a high opportunity cost.

An example of such a transformation in the composition of wealth is Japan at the beginning of its modernization effort. Between Japan's opening to foreign trade in 1853 and 1881, almost all of the domestic supply of gold and silver, which had gradually accumulated through limited domestic production during 250 years of isolation for use as circulating coin, was shipped abroad to pay for a substantial import surplus. Good estimates of Japan's stock of gold and silver as of 1853 do not exist, and the data on the net outflow of specie in the turbulent years of foreign trade prior to the Restoration in 1868, and even during the early years of the new government, are inadequate. Between 1872 and 1881, the net outflow of specie amounted to 71 million yen, 24 percent of total imports during the period. For the entire period, the outflow was on the order of 220 million yen. This was equivalent to perhaps half of her national income in an average year during this period.<sup>21</sup>

It could be argued that a similar shift in the composition of wealth is not open to contemporary underdeveloped countries, since in virtually all countries specie has been eliminated as circulating medium and token money has been substituted. While this is true, in some countries (notably India, but probably also Burma and Pakistan) immense amounts of gold and silver are held by individuals, in part as attractive assets, rather than solely for consumption purposes. In other countries, especially in Latin America and the Middle East oil countries, rich individuals evidently hold a considerable portion of their wealth in the form of liquid foreign assets, at yields below what could be (socially) achieved by stimulating domestic economic development. One of the problems (from a growth perspective) in such a transformation of inventories, precious metals, foreign exchange, or other liquid assets into other forms is that, possibly, they will be used for consumption purposes, with a net decrease in the wealth stock, rather than for creating new productive capital goods. Such living off a country's wealth stock is difficult to document, except in blatant cases. For example, even the use of exports of such assets to finance the import of consumption rather than capital goods does not necessarily mean that consumption increases at the expense of wealth stocks, since the imported consumption goods may replace domestic consumption goods production, thereby freeing domestic resources for production of capital goods or exports.

20. This process was particularly important in the nineteenth century. Cf. Robert Triffin, *The Evolution of the International Monetary System: Historical Reappraisal and Future Perspectives*, Princeton University Essays in International Finance (1964).

21. Cf. Patrick, "Japan" *op. cit.*

With reference again to the Japanese case, 1853-81, initially, a high proportion of Japan's imports were manufactured consumer goods, especially cotton textiles, which substituted for domestic handicrafts. It is not clear where and how the domestic handicraft resources found productive alternative uses. The share of investment goods did rise steadily, from 5 percent of imports in 1868-72 to 10 percent of a much larger volume of imports in the next five-year period.<sup>22</sup> More important, perhaps, Japan's stock of specie provided the new growth-oriented government with a breathing period, during which the country's balance of payments pressures were less severe than they might have been and the government's position could be consolidated.

A more pervasive mechanism whereby the composition of a given stock of wealth is altered to produce a higher level of output is through the investment replacing the annual amount of depreciation. While in aggregative terms the wealth stock does not change, in micro terms the replacement investment is often in new sectors, for new uses, and with a higher embodied technology, so it is more productive than the depreciated portion of the wealth stock had been. Measurement of the extent of this allocative effect is extremely dependent upon the definition used for capital consumption allowances. However, the importance of capital consumption and its replacement is well recognized and does not require further comment here.

By what means does the development of financial assets assist in this process of transformation of a given total amount of tangible assets into more productive form? The main point is that individuals who hold tangible assets capable of being transformed are not necessarily those who are willing to hold productive fixed assets. The ownership of productive fixed assets in underdeveloped countries usually entails entrepreneurial and managerial functions as well, especially since equities markets are not well developed. Not all wealth-holders are willing to engage in these functions. The opportunity to hold financial assets of superior characteristics to inventories and specie as a store of wealth enables holders of such tangible assets to give them up for financial assets,<sup>23</sup> and for others to arrange the transformation of these freed, tangible assets into a more productive form. What is crucial is, on the one hand, substituting financial assets for real assets in the portfolios of certain individuals and, on the other, permitting entrepreneurs to incur financial liabilities in order to enable them to hold a larger amount of productive assets than they could have otherwise.

In this context, the important point is the substitution between real assets and financial claims. Substitutions among various kinds of financial assets in portfolios of individuals are relatively less important. Their main function is to enhance the efficiency of financial markets by developing various alternative financial assets and liabilities with differing characteristics to meet the variegated preferences of individuals.

In summary, while data are not sufficient to provide an adequate test, I suggest that in the early phases of development such an improvement in the composition of wealth can be quite important. It is one aspect of taking up the slack, as Ranis had aptly phrased it; output is increased by moving toward existing production frontiers through the improved allocation of resources, including tangible assets. This more efficient composition of real wealth is obtained through the creation of financial assets and liabilities which provide the incentive for savers to hold (at least part of) their wealth in financial form and investors to hold more productive real assets than they could have in the absence of a financial system.

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22. See M. Shinohara, "Economic Development and Foreign Trade in Pre-War Japan," in C. D. Cowan, ed., *The Economic Development of China and Japan* (London: George Allen & Unwin, 1964), p. 234.

23. The point should be emphasized that, in order for such a substitution to take place, the financial assets must have sufficiently desirable characteristics of safety, liquidity, and yield.

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**More Efficient Allocation of Investment**

The foregoing discussion on increasing the level of output by improving the composition of a given amount of wealth through the substitution of financial assets for relatively unproductive tangible assets is essentially an extension of the Gurley-Shaw analysis of the role of financial intermediation in improving the efficiency of investment. In this section, emphasis is placed on the flow of gross additions to the capital stock through the process of saving and investment out of current production. The Gurley-Shaw theory rests on two important assumptions: individual savers (surplus spending units) are not all the most efficient investors (deficit spending units), in terms of the optimum allocation of investment; and savers are not willing to make the full amount of their saving (in excess of their own efficient investment) directly available to the most efficient investors.

The reason that the distribution of saving differs from the most efficient distribution of investment is that saving depends primarily upon income, while efficient investment depends upon entrepreneurial talents, knowledge, and willingness to take risk. Several corollaries follow. Savers in underdeveloped countries, especially in rural areas, tend to invest in real assets, often of relatively low social productivity.<sup>24</sup> Contrarily, efficient investors are not able to invest as much as they would like; in portfolio terms they are unable to increase sufficiently their holding of productive tangible assets and their issuance of financial liabilities. In other words, savers are not entrepreneurs, and entrepreneurs cannot save enough to self-finance their desired investment expenditures. Consequently, marginal rates of return are not equated for different uses or among different users. This deficiency could be remedied without recourse to financial intermediation if savers were willing to purchase the primary securities from (i. e., make loans to or purchase the bonds or stock of) efficient entrepreneurs. However, the characteristics of primary securities do not coincide fully with the preferences of savers, especially in terms of liquidity, safety, divisibility, diversification of assets, and the special services specific financial assets provide (e. g., money as the medium of exchange, insurance, etc.).

Under these circumstances, financial intermediaries have an important function in providing a market mechanism for the transference of claims on real resources from savers to the most efficient investors. The more perfect are financial markets, the more nearly optimum allocation of investment is achieved. In this way, the financial system accommodates economic growth; on the other hand, to the extent that the financial system is underdeveloped and/or inefficient, it restricts growth below what optimally could be achieved. The mechanism whereby financial institutions effect this transfer is to issue their liabilities (sell indirect securities) to savers, in exchange ultimately for their real saving (assets) or monetary claims upon such assets, and to provide the assets so accumulated to investors by purchasing their primary securities. The financial system can create a wide variety of financial claims (indirect securities) to serve as assets for savers, with claims differentiated by liquidity, yield, maturity, divisibility, risk of default or change in value, and other services. In this way, the financial system obtains claims to resources which it provides, under optimal market conditions, to the most efficient user. Hence, the most efficient allocation of investment results.

In addition to this major function, financial institutions can achieve economies of scale in the costs of transferring saving to investors through the pooling of default risks of individual deficit spending units, in carrying out investigations of the characteristics of deficit spending units in order to determine the most appropriate terms of issuance, and in engaging

24. For example, rural saving in India is predominantly in kind. There is a tendency to hold increased saving in the form of foodstuffs in excess of normal consumption demand, in order that it may be used later to pay for the purchase of durable capital goods or to allow extra consumption (such as for festivals) later. Cf. Wilfred Malenbaum, *Prospect for Indian Development* (London: George Allen & Unwin, 1962), p. 142. See also UN ECAFE, *op. cit.*

in transactions among saving and spending units of diverse location, size, or other characteristics. These economies offset the net risk the financial institution usually assumes by purchasing direct securities of higher risk than the indirect securities it creates and sells. The margin between the interest rate at which it buys primary securities and at which it sells indirect securities is the compensation a financial institution receives for its services.

Hence, an important function of the financial system is the transmutation of relatively safe, liquid, short-term financial claims into riskier, less liquid, longer-term real assets. We must distinguish between the degree of risk for individuals and for society as a whole in examining specific projects, and also between two types of risk—insolvency and illiquidity. For both types the degree of risk is less for society than for individuals. Risks of insolvency (unprofitability) of specific investment projects are pooled for society, but not for (all but the wealthiest) individuals, unless by financial intermediaries. Risks of illiquidity in the economy can be eliminated or substantially reduced by appropriate action of the monetary authorities as the lender of last resort. Accordingly, financial intermediation allows society to assume the appropriate degree of risk, which would be too high if it were assumed directly by saving individuals. At the same time, financial intermediation provides the mechanism for the re-allocation and spreading of risk among individuals.

As an underdeveloped country grows, the composition of its tangible wealth is altered to a more growth-productive mix, both by the once-and-for-all shifts and by the differential composition of the gross additions to wealth. With the growth of financial intermediation, during the neo-classical growth phase (in which the major problem is to increase the supply of productive capital and other factors of production), funds are channeled mainly to finance productive industrial and infrastructural investment. Accordingly, the proportion of producer durables and business structures in total wealth rises, while land and consumer durable assets decline. Later, in what may be termed the Keynesian growth phase (in which the major problem is to assure adequate demand for output), a higher proportion of funds may be channeled into financing the purchase of (new-style) consumer durables,<sup>25</sup> and their proportion rises in total real assets. This is particularly likely to be the case where the government maintains aggregate demand by techniques which directly encourage consumption (such as reductions in personal income taxes) rather than investment. However, a country's economy will have to be relatively advanced before this phase is likely to be reached; in the interim, investment in consumer durables will compete directly with productive investment for growth.

#### Provision of Incentives to Growth

It is asserted that the development of a financial system and the associated provision of financial claims and services has positive incentive effects for growth, though these effects have not been analyzed in great detail. The standard approach has been to point out that financial intermediation narrows the differential between the interest rate savers receive and that which investors have to pay.

Gurley and Shaw suggest that by offering a wide array of financial assets, financial institutions stimulate saving,<sup>26</sup> but without further elaboration. A higher, and rising, saving rate relative to GNP correlates well, for a sample of Asian countries, with an increase in the proportion of saving held in the form of financial assets relative to tangible assets.<sup>27</sup> Pre-

25. Cf. Harry T. Oshima, "Consumer Asset Formation and the Future of Capitalism," *Economic Journal*, LXXI, No. 281 (March 1961), 20-35. For example, Oshima estimates that consumer asset formation in the late 1950's was 12 percent of GNP in the United States and 3 percent in Japan.

26. *Money in a Theory of Finance*, p. 55.

27. UN ECAFE, *op. cit.*, p. 8. The causal relationship is not explained, however; both the saving rate and proportion held in financial form may be a consequence of the level and rate of economic growth.

sumably, the major rationale of the stimulus to saving is that with new assets having higher yield, lower risk, and/or other desirable characteristics, the return on saving is higher than it was heretofore. With the terms of the trade-off (the exchange ratio) between saving and present consumption relatively more favorable to the former, individuals substitute increased saving for consumption out of current income.<sup>28</sup>

Offsetting somewhat this favorable substitution effect on saving are the effects of increased real income (or wealth) derived from having a wider selection of assets in which to hold wealth. Having the additional alternative of holding financial assets makes an individual better off, and he likely will utilize some of this increased income in the form of consumption. This is especially important where the individual is a target saver.<sup>29</sup> Target saving is a shorter-run characteristic of some rural savers in underdeveloped countries. The (subsistence) farmer wants to be certain of adequate saving to provide for consumption until his next crop is harvested, plus a margin to cover the possibility of adverse crop conditions.<sup>30</sup> However, in the longer run, the horizon of conceivable alternatives expands, targets are raised, and the beneficial substitution effects on saving will probably substantially outweigh offsetting income effects.

The specific characteristics of certain financial assets may result in increased total saving. For example, term life insurance may not be sold,<sup>31</sup> so that the buyer has to purchase an annuity as well as pure life insurance when he wants to obtain life insurance coverage. In this case, the lack of a perfect market—the tying of financial services to saving, rather than separating them—encourages additional saving, even though less of the services may be bought, since the price is higher.

Financial intermediation also provides a variety of incentives to investors. The reduction in the effective interest rate reduces the cost of investment; the strength of the demand response depends on the elasticity of the marginal efficiency of capital schedule. It should be pointed out that financial intermediation does not mean that "the" interest rate necessarily declines over time, since in a growing economy investment demand may become increasingly strong.<sup>32</sup> However, increased effective financial intermediation will produce a narrowing of the dispersion of interest rates among different types and levels of creditworthiness of users, among geographical regions, and over periods of seasonal fluctuation. This is a consequence of the improvement in financial markets. The development of a wide array of financial assets (and primary securities) provides a more finely delineated spectrum of asset alternatives, with greater possibilities for substitution among assets (since there can be a series of shifts among close substitutes). This allows an increased supply of funds to users who had been starved for funds under imperfect market conditions and who would be willing to pay relatively high interest rates.<sup>33</sup>

28. It should be noted that this is different from the wealth (or liquid asset) effect on consumption, in the analysis of which it is usually assumed that there are no changes in the exchange ratio between saving and present consumption.

29. By improving the return on saving, the target saver is encouraged to save relatively less and to consume more. At the limit, the target saver would not increase his saving, but would consume his full increase in welfare resulting from opportunities of financial intermediation.

30. Having the possibility of holding even currency, rather than a specific foodgrain, improves a farmer's position under conditions of general price stability, since he can reduce storage and spoilage costs (for which there are economies of scale) and protect himself against relative price movements in the specific commodity he holds.

31. This apparently is the case in many underdeveloped countries.

32. That is, the amount of shift of the investment schedule to the right per unit of time becomes increasingly large, for a variety of reasons.

33. This assumes that funds do become decreasingly rather than increasingly compartmentalized, as a consequence of intermediation. The latter is a real possibility, however; risk-averting bankers in underdeveloped countries may efficiently collect saving through deposits and use the funds to invest in prime commercial bills or foreign liquid assets.

For many entrepreneurs, the increased availability of funds as a result of financial intermediation may be considerably more significant than simply the reduction in costs.<sup>34</sup> This is probably particularly true in underdeveloped countries, where most markets are much less perfect than in developed countries. The availability of funds from financial institutions enables the efficient entrepreneur to assume a greater debt position than he could otherwise and concurrently to engage in a larger amount of productive investment. Moreover, as noted earlier, newly developed access to funds on reasonable terms from financial institutions can induce or encourage entrepreneurs to expand their horizon of conceivable opportunities. Not simply access to funds, but the entire financial milieu, and the rationalism it implies, triggers creative entrepreneurial responses.

This is true not only in industry, but also in other, more traditional sectors. A simple but highly important example for underdeveloped countries is the monetization of subsistence sectors, notably in rural areas. Monetization encourages the shift from subsistence to commercial production, with attendant increases in output due to specialization, increased work efforts (and increased saving and investment), emphasis on high-income crops,<sup>35</sup> and enhanced responsiveness to changes in relative prices of different crops. The opportunities of commercial production, at least in the early phases of development, improve the terms of the trade-off between income from work and leisure and result in increased labor inputs.<sup>36</sup>

Financial institutions provide services that reduce the risks or increase the profitability of productive real investment projects. Insurance is an obvious example. In underdeveloped countries, another important example is the service related to the financing of trade, as one aspect of the provision of readier access by producers to markets, both domestic and foreign.

Development of the financial system in these ways not only accommodates but even induces growth, by generating incentives to savers to increase their rate of saving, to entrepreneurs to invest more, and to producers to work harder.

#### Financial Policy and Financial Institutions

As outlined above, the basic objectives of financial policy for economic growth are to encourage savers (asset-holders) to hold their saving (assets) in the form of financial rather than unproductive tangible assets; to ensure that investment (capital stock) is allocated efficiently to the socially most productive uses; and to provide incentives to induce increased saving, investment, and production. To achieve these objectives, policy-makers must encourage the proper foundation and expansion of financial institutions.

Of fundamental importance for any country is the establishment of a unified, efficient, inexpensive medium of exchange (money), capable of elastic changes under the control of (wise) monetary authorities.<sup>37</sup> Sufficient flexibility is required for the money supply to be

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34. While availability can be thought of in cost terms (an infinite interest rate at the limit), this results in misplaced emphasis on the actual behavior of lenders, who certainly use credit-rationing criteria, as distinct from interest-rate criteria, in the allocation of funds.
35. See, for example, Walter P. Falcon, "Farmer Response to Price in a Subsistence Economy: The Case of West Pakistan," *American Economic Review*, LIV, No. 3 (May 1964).
36. This is not true, of course, where the supply schedule of labor is backward-bending. For peasant agriculture this does not seem frequently to be the case. Good examples are the response of Japanese farmers to possibilities of export of silk and of Nigerian farmers to the export of cocoa.
37. It can be argued that, where the monetary authorities are particularly unwise, some arbitrary rules or even haphazard systems such as wildcat banking may be preferable. The problem of evaluation may be obscured by authorities. For example, criticism of the 19th century monetary policies as growth-inhibiting may be misplaced, when the desired objectives were not so much growth as price stability.

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able to expand just consonant with the demand for money, given the desired rate of change of price level. In particular, the money supply should be elastic enough to meet sudden (and extreme) shifts in preferences of asset-holders, especially between deposits and currency. Otherwise, conditions of extreme illiquidity may develop. In such monetary panics, there should be a lender of last resort capable of and willing to create the types of financial assets individuals want to hold and make them readily available through financial institutions, by rediscounting or accepting as collateral for loans as wide a variety of financial or real assets as are needed to satisfy the panic demands of individuals. The initial problem in such a situation is to halt the panic and to restore confidence; only later should those imprudent financial institutions whose assets are worthless be liquidated.

The monetary authorities have an important institution-building role in encouraging the establishment of a wide array of financial markets (and financial institutions to operate in these markets) which allocate saving competitively to the most productive investors.<sup>38</sup> One important approach is to encourage the private development of the financial system, in response to the demand for its services, by clearing away impeding institutional and other obstacles of a legal or customary nature. The financial authorities can create an environment which is conducive to growth both of the real economy and of the financial system. In this situation, reliance is placed upon the private market incentives to achieve an efficient allocation of resources.

In some instances, however, the private entrepreneurial response in the financial sector may not be adequate, or possibilities of external economies may exist. For example, financial markets may develop on a compartmentalized basis, with little integration among them. On the other hand, deliberate creation of the supply of financial services may have favorable allocative and incentive effects. Under these circumstances, it may well be desirable for the government to establish its own financial institutions or to subsidize private financial institutions. Nonetheless, a supply-leading approach should be handled warily and cautiously, with emphasis placed primarily on eliminating bottleneck areas in the provision of financial services. Political pressures, bureaucratic inefficiency, corruption, etc., can distort the flow of funds under government programs away from optimal allocation patterns.

The appropriate specific institutional arrangements for the financial system depend upon the particular characteristics of a given country. This includes such matters as the timing, size, and distribution of tax payments, the degree to which deposit money is accepted, and, more broadly, the particular nature of individual preferences as reflected in the terms of trade-off's among yield, safety, and liquidity. Developing countries should avoid the danger of being trapped into applying thoughtlessly the conventional rules of thumb of other countries (such as customary or legally determined deposit-loan, liquidity, or other ratios; restriction to certain kinds of lending—such as the short-term, self-liquidating commercial loan dogma—etc.), without considering their own needs.

I have emphasized the efficiency of financial intermediation through the private market mechanism in improving the allocation of scarce capital to its most productive uses. There are some conditions under which the private optimal allocation diverges from the social optimum. In the financial sphere, institutions may conceive of their function only narrowly, or they may be greater risk avoiders than is socially desirable. The monetary authorities should encourage financial institutions to allocate their funds into those kinds of investment activity where the social marginal productivity is relatively high. Which sectors deserve relatively greater encouragement depends upon the country, though in many underdeveloped countries private industrial plant and equipment investment and productive agricultural investment (fertilizers and land improvements) are starved, relative to commerce and government. In particular, there exists a need for the effective provision of long-term funds to finance such productive fixed investment. If there is an effective long-term capital market in which individual and institution savers are able and willing to purchase long-term securities (equities

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38. For more detail, see Edward Nevin, *Capital Funds in Underdeveloped Countries* (London: Macmillan, 1961).

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and bonds), most of the problem is solved. However, it is extremely unlikely that strong individual participation in capital markets can be achieved early in the development process in underdeveloped countries, so financial intermediation is even more important in carrying out the functions of the capital market.

The central bank can directly aid in making such investment activities relatively more attractive by various measures—open market purchases, or accepting as collateral for loans to financial institutions their holdings of industrial bonds, long-term loans, or even equities, or loans for productive purposes in agriculture.<sup>39</sup> It can indirectly aid by assisting in the development of financial institutions with special functions,<sup>40</sup> such as long-term credit development banks, agricultural and industrial credit cooperatives, and savings institutions, as well as regular commercial banks, in order to be sure a full spectrum of financial services are available.

The monetary authorities could also take steps to make financial assets more attractive to individual savers. A basic requisite is to develop and maintain full public confidence in the financial system and its institutions. Means include legal sanctions on and regular, thorough inspection of financial institutions and government insurance against default of certain types of financial claims, such as deposits, savings and loan shares, or even other assets. Additionally, the financial authorities should encourage the creation of those financial assets that will compete effectively with unproductive real assets. The competitive power of financial assets depends not only on their safety and liquidity, but, importantly, on their yield as well. Some underdeveloped countries today misguidedly pursue low interest rate policies, which effectively prohibit financial assets from competing with real assets, as well as encouraging unduly capital-intensive techniques of production.<sup>41</sup>

In underdeveloped countries, probably, a considerable portion of the saving used relatively unproductively is done by large numbers of relatively poor people. To reallocate such saving more productively requires financial assets which can be in very small units (divisibility), simple and convenient to use, and readily available in rural areas. Bank offices may be too expensive to operate relative to the deposits attracted in rural areas or small towns until agricultural incomes rise substantially. Under such circumstances, postal savings programs, utilizing the large number of post offices that exist even in an underdeveloped country, may be for some time the cheapest and most practical way to channel small rural wealth and saving into financial asset form.

Furthermore, in both rural and urban areas in underdeveloped countries, there are a large number of moneylenders, pawnbrokers, rotating credit associations,<sup>42</sup> and even commercial bill discounters carrying on many of the functions of modern financial institutions. In fact, they probably meet most of the financial needs of small-scale production and commerce. Such traditional financial institutions have usually been strongly criticized for being in monopolistic positions and thereby charging extremely high interest rates (in excess of the presumably high risk premiums and high costs of developing knowledge of borrower creditworthiness).

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39. The private financial system, in its desire for satisfactory collateral for loans, may not be able to overcome fully the gap between the owners of wealth and its most efficient users. This is particularly true where the most acceptable forms of collateral are traditional items of wealth, such as land, precious metals, or inventories. In these cases, programs to encourage financial intermediary acceptance of collateral arrangements which facilitate productive fixed investment can be especially useful.
40. Alternatively, the monetary authorities could encourage financial institutions to undertake a wide variety of functions; the economies of specialization appear to argue more for the former institutional setup, as long as compartmentalization and impediments to flows of funds among different types of financial institutions do not result.
41. Lester V. Chandler, *Central Banking and Economic Development* (Bombay: University of Bombay Press, 1962), pp. 41-51.
42. See Clifford Geertz, "The Rotating Credit Association, A 'Middle Rung' in Development," *Economic Development and Cultural Change*, X, No. 3 (April 1962). Geertz makes the point that such institutions, based on members who know and trust each other, are an intermediate step between a traditional agrarian and a modern commercial economy.

A probably more significant criticism from the viewpoint of growth is that a substantial proportion of the loans of traditional financial intermediaries are used to finance consumption rather than investment expenditures. These institutions transfer the net saving of one group to finance the net dis-saving of other groups. Modern financial institutions in underdeveloped countries do not typically make consumer credit loans or otherwise directly finance much consumption expenditure. However, for a variety of reasons,<sup>43</sup> underdeveloped countries have not had a great deal of success, particularly in the short run, in eliminating such traditional financing institutions by attempting to substitute new financial institutions. More should be done to explore the possibilities of utilizing these traditional financiers for productive purposes, while reducing their monopolistic powers through increased competition.

In order to encourage financial intermediation as a means of obtaining more resources for economic growth and of allocating those resources more efficiently, the monetary authorities have to pursue broad economic policies which not only directly promote growth, but which also enhance public confidence in the financial system. Two general policy areas are particularly relevant: the country's financial relationship with the rest of the world, and the level (and rate of change) of domestic prices.

A country's foreign monetary policy for growth has, on the one hand, the objective of enabling the country to take full advantage of the opportunities offered by foreign trade, *via* specialization on the basis of dynamic comparative advantage, and by foreign capital (and skilled labor) markets, and, on the other, the objective of minimizing external restrictions on domestic growth. A decision has to be made on what extent to encourage or discourage the inflow of foreign capital; non-economic (xenophobic) as well as economic reasons loom important in this decision. Further, a foreign exchange policy has to be devised which encourages exports (given the rising import requirements for growth in developing countries), which minimizes the amount of reserves the country needs to hold, and which handles problems of balance of payments disequilibria. A general foreign exchange rate policy cannot be enunciated without knowledge of the price elasticity of foreign demand for exports, domestic factor mobility, opportunities for efficient import-competing industrial activity, etc. For many underdeveloped countries, an exchange rate policy which over time allows for the possibility of depreciation<sup>44</sup> may be the best means of mitigating balance of payments constraints on growth and inducing import-competing and export-oriented industrial development.

Equally as important as the country's exchange rate policy for minimizing balance of payments constraints on growth is its domestic price policy. Fiscal and monetary authorities have a wide range of alternative rates of change of the price level—from negative, to zero, to positive—from which to select, explicitly or implicitly. Empirical evidence on the relationship between the rate of growth of real output and the rate of price changes in different countries has not demonstrated beyond doubt the superiority of any particular policy of price level changes. Certain policies—hyperinflation and extreme deflation—have been shown to be inferior policies. The main argument in favor of severe deflation has been as a relatively short-term measure to eliminate the inefficient users of resources, to induce others to use resources more efficiently, and to encourage the modernization of plant and equipment. Yet the ability to survive such abnormal conditions is not necessarily highly (or even positively) correlated with efficient production in more normal periods. Moreover, whatever net positive allocative effects there are may well be more than outweighed by decreased real output, increased unemployment, and unfavorable expectation effects in a real world of substantial downward wage and price inflexibility.

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43. Such as lack of borrower trust, lack of lender knowledge of creditworthiness of individual borrowers and high costs in obtaining this knowledge, the convenience of multiple functions (engaging in commerce and rental, etc., as well as financing) of traditional financiers, and capture of new institutions by these financiers.

44. A further issue is whether depreciation should be implemented by flexible exchange rates or fixed but adjustable rates. Given the administrative problems and time-lags in policy formulation and administration in underdeveloped countries, use of the market mechanism *via* flexible rates is likely to be more efficient.

While it can reasonably be argued that deflation tends to slow down the growth rate, it does not follow that mild (or even more rapid) inflation speeds up the rate of growth. The relationship between inflation and growth evidently depends, importantly, upon the individual behavioral patterns and the structural and institutional rigidities within the particular economy. Inflation probably increases entrepreneurial demand for real investment. It conceivably may also increase the saving rates of individuals, though more often the increase in the aggregate saving ratio is deemed to come from a redistribution of income and wealth from spenders to savers.<sup>45</sup> However, inflation changes the effective yields on various assets, tending to raise yields on relatively unproductive investment, such as holding of inventories, residential construction, etc. Since most financial assets are predicated upon a reasonable degree of price stability, inflation discourages the holding of financial assets and encourages a return to the holding of socially unproductive real assets.<sup>46</sup> If an inflationary policy is to be adopted, it would behoove the financial authorities to develop financial assets whose yield and value will not be hurt by price rises.

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45. This does not necessarily mean a distribution from poorer to richer, since there may exist profligate rich (rentiers, nobility) and thrifty entrepreneurs of only moderate incomes. The usual emphasis is, of course, upon the (temporary) distribution from worker to owner of productive real assets. At any rate, inflation is a particularly erratic and capricious tax in its incidence; cf. Chandler, *op. cit.*, p. 36.
47. Kessel and Alchian have pointed out that a real cost of inflation is that of producing real assets to be hoarded as substitutes for money (and, by extension, other financial assets). See their "Effects of Inflation," *Journal of Political Economy* (December 1962).

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