

Any views expressed in the Departmental Memoranda (DM) Series represent the opinions of the authors and, unless otherwise indicated, should not be interpreted as official Fund views.

DM/84/17

INTERNATIONAL MONETARY FUND

Fiscal Affairs Department

A Survey of the Determinants of Development:
Where Does Tax Policy Fit In?

Prepared by Parthasarathi Shome *

Approved by Ved P. Gandhi

March 5, 1984

	<u>Contents</u>	<u>Page</u>
I.	Introduction	1
II.	The Traditional Role of Savings in Development	4
	1. Savings in the context of surplus labor	4
	2. Savings in the context of Harrod and Domar	6
	3. Savings and the foreign exchange gap	8
III.	The Structuralist View of Development Expanded	9
	1. How important is financial structure for development?	9
	2. The influence of infrastructure on development	12
	3. Population pressure and development	14
	4. The impact of the agricultural sector on development	16
	5. Factor-substitution and technology	18
IV.	Tax Policy in the Light of the Above	19
V.	Concluding Remarks	22
	References	24

* I am grateful to Messrs. Vito Tanzi, Ved P. Gandhi, Jitendra R. Modi, Somchai Richupan, and Liam P. Ebrill of the Fiscal Affairs Department for valuable comments on earlier drafts. Remaining errors are my responsibility, however.

I. Introduction

The role of taxation and associated incentives in development is one piece in a large puzzle. Tax incentives may assume importance if tax policy is seen to play an instrumental role in development. Tax policy, in turn, may have perceptible ramifications on the savings rate and, therefore, on investment in the economy which, in the traditional literature, is the kingpin in an economy's development. There have, however, been other "structural positions" regarding the force behind or limiting development where natural resources are not a constraint. These are (1) the inadequacy of export markets due to protectionism abroad in the case of countries with a high degree of dependence on trade, (2) "investment"--even though treated as current expenditure in the account books of economists--in health, education, and other social infrastructure, (3) population control in countries such as India and China, or the lack of population--smallness of market size--in others, (4) the role of appropriate technology, that is, the choice of techniques and, finally, (5) the role of agriculture--land reform, extension work, innovation--cast independently of the effects of savings and investment. Therefore, in our attempt to study the effects of taxation on output--growth and development--there is some need for us to go back to the drawing board in order to see where, and how importantly, taxation in general fits into the development picture. Since the role of taxation is inherently linked with that of savings, in this paper, we start at the very beginning to review the treatment of savings in the development literature and to contrast and compare it with the role of other measures in the development process. This is not to belittle the work of us fiscal practitioners but to gauge more comprehensively where exactly, in the puzzle of development, our role fits in and to understand better the possibilities and limitations of that role.

It is a common conception that the role of savings and investment in the development process was perceived as paramount in the early neoclassical literature on economic growth and development up to the end of the 1960s. Much of this literature derives from Harrod (1939) and Domar's (1946) early formulations of the relationship between savings and growth. However, a perusal of the postwar literature reveals that, while the proponents of savings as a vehicle of growth were in the forefront of the discussions on growth, issues such as the role of economic infrastructure and social dynamics in the development process were being raised at the same time, even though it is true that the latter became more fashionable in the 1970s.

The savings literature is inherently connected with issues of external economies and of surplus labor and labor productivity, problems which are related to those of sectoral factor proportions. The right technique of production, that is, the right combination of labor and capital, therefore, assumes importance in this debate. Among the seminal works in this area are those of Lewis (1954), Eckaus (1955),

and Sen (1960) for the factor-proportions problem ^{1/} and for the implication of a labor surplus on an economy's development, and those of Rosenstein-Rodan (1943), Scitovsky (1954), and Bator (1958), for the effects of external economies and the need for additional investment to internalize them.

Immediately, savings--and, consequently, investment--rise in significance in that savings form the scarce factor of production. Improved savings performance thus becomes the vehicle of growth since investment follows savings. Rostow (1956) speaks of the "take-off...as the interval during which the rate of investment increases in such a way that real output per capita rises and this initial increase carries with it radical changes in production techniques and the disposition of income flows which perpetuate the new scale of investment and perpetuate thereby the rising trend in per capita output." (p. 25). The six lectures delivered by Nurkse (1953) on problems of capital formation in underdeveloped countries spell out the applicability of traditional, neoclassical instruments for development.

Issues regarding any slip between savings and investment in the forms of external as well as domestic structural rigidities appear subsequently in the literature. External constraints in the form of foreign exchange to transform domestic savings into investment, of which imported capital goods are an integral part, are considered by Chenery and Strout (1966), Joshi (1967), Atkinson (1969), and Nelson (1970) among others. The foreign exchange constraint is also caused by the nature of the primary commodities exported--tea, coffee, cocoa, jute--usually represented by inelastic supplies so that their price responsiveness is limited and by various forms of protectionism against imports of light manufactured goods.

Domestic constraints on growth have several sources. First, as Nurkse (1953) points out, the problem in many developing countries is not a shortage of savings, but the limited size of the market leading to low investment: "Many articles that are in common use in the United States can be sold in a low-income country in quantities so limited that a machine working only a few days or weeks can produce enough for a whole year's consumption." (p. 7). This problem of limitation is linked not only with the low standard of living in many a populous developing country, but also with the low absorptive capacity of those developing countries that are sparsely populated.

Second, from a different source, investment in machinery that produces consumer goods is seen as a leakage from the long-run rate of growth by Mahalanobis (1953) and other "planner" economists. Third, the difficulties in the transfer of technology from developed to

^{1/} These issues are inextricably linked with the "structural" feasibility or infeasibility of capital-labor substitutability--as posed by more recent literature--and are, therefore, addressed in this context, below.

developing countries are seen to reveal the insufficiencies of savings for development. Bruton (1955), in a review of the Harrod-Domar models in the context of developing countries, writes, "In the literature on economic development...emphasis is always placed on the need for more and more capital. This is surely correct and was never a secret. It would appear, however, though more capital is a necessary condition for speeding up the rate of development, it is not a sufficient condition.... There is no reason to assume that [modern] technology... can be bodily transferred to other countries." (p. 336). Fourth, the conversion of domestic savings or potential savings to investment is seen to be arrested due to the lack of adequate financial institutions by Patrick (1966), Gurlley and Shaw (1967), and others. This last concern receives greater attention as the literature proceeds to the future decades, for example in Tanzi (1976), Bhatt and Meerman (1978), and Von Pischke, et al. (1983), and as the premise that savings require complementary factors during the process of development gains wider influence.

Finally, other scholars such as Myint (1954), Myrdal (1968), Haq (1971) and Meier (1976) differentiate between concepts of growth and development, and expenditures in areas traditionally perceived as consumption, such as health and education, are perceived as causal factors in the development process, most notably by Streeten (1967). To these "structural" factors in the development process may be added a few others. First, population has been perceived as a leading determinant of development, in the postwar literature having been addressed by Clark (1953), Ohlin (1967), Walsh (1970), Chandrasekhar (1972), and recently by Hauser (1979) and Birdsall (1980). Second, the role of agriculture in development, while initially addressed by Viner (1953) and Lewis (1954), has been studied later by a multiplicity of authors such as Eicher and Witt (1964), Yudelman, Butler, and Banerji (1971), Lele (1975), Benor and Harrison (1977), Singh (1979), and Berry and Cline (1979), focusing on land reform, extension work, technological change and innovation and the like, and comprising what certainly is not an exhaustive list of authors who have addressed these issues. Third, the question of relative factor substitutability as a structural problem--its responsiveness to price signals--has also been dealt with recently by authors such as Acharya (1975), Bhalla (1975), Rhee and Westphal (1977), White (1978), and others.

In what follows we review the main features of the traditionalist view--savings and investment--of the development literature as well as the structuralist view--financial intermediation, social infrastructure, population pressure, agricultural reform and adaptation of modern technology, and factor-substitution problems. Sometimes, the role of the structuralist factors is cast as even more important in the development process than that of the scale of investment per se and is, to that extent, perceived as a substitutable mode of development to that of the traditionalist. At other times, their roles are cast as complementary, for example, a better financial structure or a more

educated public aiding in the savings performance of the economy. Whether substitutes or complements, tax policy emerges as a *modus operandi* for the various tenets of development. To the extent that savings continue to emerge as the primary engine of growth, the role of tax policy as a whole is vindicated within the traditional agenda for development and, in turn, to that extent is the effectiveness of a country's tax structure, tax incentives, and the like. In Section II, we review the primary literature on the traditionalist view and, in Section III, the structuralist issues. While the question of the foreign exchange gap is structural, it is usually included as a part of the savings literature on development and we do likewise. Section IV analyses briefly the efficacy of tax policy in light of the above and Section V presents concluding remarks.

II. The Traditional Role of Savings in Development

In this section we review the seminal works linking development and growth to the savings performance of an economy. We first cast the need for additional savings in the context of a labor surplus--or, shortage of capital--economy. Then the basic growth literature à la Harrod and Domar is reviewed in the context of developing countries. Finally, we look at the role of the foreign exchange gap in the conversion of savings to investment.

1. Savings in the context of surplus labor

The issue of surplus labor, that is, removal of a laborer from a peasant economy does not diminish productivity, is usually set against the backdrop of a lack of sufficient capital for growth. This lack arises due to a prior stipulation of sectoral rates of growth and associated needs for the use of capital. The solution to the surplus labor problem is, therefore, seen as an increase in the supply of capital. Similarly, externalities across industries leading to inefficiencies in production are said, for example by Rosenstein-Rodan (1943), to be cured by the setting up of a number of industries such that the external economies become internalized as a whole, necessitating an increase in the rate of savings in the economy. Nurkse (1952) has, however, attempted to provide a list of activities in which surplus labor can be used as preferred, for example, to act as a substitute for capital-intensive technology (such as in the construction of roads and other economic infrastructure and in the activities of government) implying, in effect, that this surplus labor can be used to alleviate the bottleneck of capital.

The utilization of surplus labor has its associated problems. While the withdrawal of surplus labor does not reduce output and, therefore, supply, of the sector from which it is withdrawn, the demand side--consumption plus investment--may very well be affected. If investment increases it comprises a movement in the right direction but, if

educated public aiding in the savings performance of the economy. Whether substitutes or complements, tax policy emerges as a modus operandi for the various tenets of development. To the extent that savings continue to emerge as the primary engine of growth, the role of tax policy as a whole is vindicated within the traditional agenda for development and, in turn, to that extent is the effectiveness of a country's tax structure, tax incentives, and the like. In Section II, we review the primary literature on the traditionalist view and, in Section III, the structuralist issues. While the question of the foreign exchange gap is structural, it is usually included as a part of the savings literature on development and we do likewise. Section IV analyses briefly the efficacy of tax policy in light of the above and Section V presents concluding remarks.

II. The Traditional Role of Savings in Development

In this section we review the seminal works linking development and growth to the savings performance of an economy. We first cast the need for additional savings in the context of a labor surplus--or, shortage of capital--economy. Then the basic growth literature à la Harrod and Domar is reviewed in the context of developing countries. Finally, we look at the role of the foreign exchange gap in the conversion of savings to investment.

1. Savings in the context of surplus labor

The issue of surplus labor, that is, removal of a laborer from a peasant economy does not diminish productivity, is usually set against the backdrop of a lack of sufficient capital for growth. This lack arises due to a prior stipulation of sectoral rates of growth and associated needs for the use of capital. The solution to the surplus labor problem is, therefore, seen as an increase in the supply of capital. Similarly, externalities across industries leading to inefficiencies in production are said, for example by Rosenstein-Rodan (1943), to be cured by the setting up of a number of industries such that the external economies become internalized as a whole, necessitating an increase in the rate of savings in the economy. Nurkse (1952) has, however, attempted to provide a list of activities in which surplus labor can be used as preferred, for example, to act as a substitute for capital-intensive technology (such as in the construction of roads and other economic infrastructure and in the activities of government) implying, in effect, that this surplus labor can be used to alleviate the bottleneck of capital.

The utilization of surplus labor has its associated problems. While the withdrawal of surplus labor does not reduce output and, therefore, supply, of the sector from which it is withdrawn, the demand side--consumption plus investment--may very well be affected. If investment increases it comprises a movement in the right direction but, if

educated public aiding in the savings performance of the economy. Whether substitutes or complements, tax policy emerges as a *modus operandi* for the various tenets of development. To the extent that savings continue to emerge as the primary engine of growth, the role of tax policy as a whole is vindicated within the traditional agenda for development and, in turn, to that extent is the effectiveness of a country's tax structure, tax incentives, and the like. In Section II, we review the primary literature on the traditionalist view and, in Section III, the structuralist issues. While the question of the foreign exchange gap is structural, it is usually included as a part of the savings literature on development and we do likewise. Section IV analyses briefly the efficacy of tax policy in light of the above and Section V presents concluding remarks.

II. The Traditional Role of Savings in Development

In this section we review the seminal works linking development and growth to the savings performance of an economy. We first cast the need for additional savings in the context of a labor surplus--or, shortage of capital--economy. Then the basic growth literature à la Harrod and Domar is reviewed in the context of developing countries. Finally, we look at the role of the foreign exchange gap in the conversion of savings to investment.

1. Savings in the context of surplus labor

The issue of surplus labor, that is, removal of a laborer from a peasant economy does not diminish productivity, is usually set against the backdrop of a lack of sufficient capital for growth. This lack arises due to a prior stipulation of sectoral rates of growth and associated needs for the use of capital. The solution to the surplus labor problem is, therefore, seen as an increase in the supply of capital. Similarly, externalities across industries leading to inefficiencies in production are said, for example by Rosenstein-Rodan (1943), to be cured by the setting up of a number of industries such that the external economies become internalized as a whole, necessitating an increase in the rate of savings in the economy. Nurkse (1952) has, however, attempted to provide a list of activities in which surplus labor can be used as preferred, for example, to act as a substitute for capital-intensive technology (such as in the construction of roads and other economic infrastructure and in the activities of government) implying, in effect, that this surplus labor can be used to alleviate the bottleneck of capital.

The utilization of surplus labor has its associated problems. While the withdrawal of surplus labor does not reduce output and, therefore, supply, of the sector from which it is withdrawn, the demand side--consumption plus investment--may very well be affected. If investment increases it comprises a movement in the right direction but, if

consumption does, it is detrimental to the process of growth. The change in consumption of the traditional sector, as a result of the removal of surplus labor from it, is

$$\Delta c = (1-s_1)(w-y) + (1-s_2)y \quad (1)$$

where s_1 and s_2 are the savings propensities of the migrant worker in his new job and in the traditional agricultural sector respectively, w and y are his new and old income respectively, and Δc is the change in his consumption; the consumption of those left behind in the traditional sector is assumed to remain the same. Or,

$$\Delta c = (s_1-s_2)y + (1-s_1)w \quad (1)'$$

Whether or not Δc is greater or less than zero depends on whether

$$\frac{w}{y} > \frac{s_2 - s_1}{1 - s_1} \quad (2)$$

Thus, as soon as surplus labor is taken from the traditional agricultural sector, while total availability of its product may not change, consumption may actually increase resulting in lower capital stock with which to work.

The choice before an underemployed worker in the countryside is to give up the average income he shared with his family and to go to work in an urban factory. Thus, the supply of labor to the factory in the modern sector will depend on the opportunity cost to the worker of giving up his private average income in the traditional sector. The demand for labor at the factory is, however, given by the marginal product of labor. Letting \bar{L} be the total supply of labor, L the labor in the modern sector, and $\bar{L} - L$ the labor in the traditional sector, the average product of labor (AP) in the traditional sector can be denoted as $AP(\bar{L} - L)$ and the marginal product of labor (MP) in the modern sector as $MP(L)$, yielding a static equilibrium condition for the wage rate, with constant capital K_0 , as

$$w = MP(L) = AP(\bar{L} - L) \quad (3)$$

In a dynamic context, labor grows exponentially at rate n such that

$$\bar{L}_t = \bar{L}_0 e^{nt} \quad (4)$$

while the growth of capital stock depends on that part of nonwage income which is reinvested in the modern sector, say α . Thus

$$\frac{dK_t}{dt} = \alpha \{ Y_t - L_t MP(L_t) \} - \delta K_t \quad (5)$$

where Y_t is output in time period t , α is that part of nonwage income which is saved and invested for capital formation, and δ is the rate of depreciation of capital. The equilibrium growth rate of modern sector output, wage rate, and share of income can now be solved.

An increase in capital shifts the marginal product of labor in the modern sector outward, thereby raising its wage rate. As a result, more laborers migrate from the traditional sector and employment in the modern sector increases, once again pressuring the wage rate to decline and raising modern sector output without decreasing traditional sector output since only surplus labor emigrates from the traditional sector. Whatever nonwage income the modern sector can invest in period $t+1$ results again in the marginal product of labor in that period shifting further rightward, and in surplus labor from the traditional sector to respond and migrate to the modern sector, and output to increase, and so on. The argument essentially rests, therefore, on the ability to save and invest in the modern sector in order to utilize surplus labor from the traditional sector so that overall output is increased. Thus, in this framework, the need for additional savings due to the existence of surplus labor in the traditional sector is met by the extent to which investment takes place in the modern sector.

2. Savings in the context of Harrod and Domar

Harrod (1939) and Domar (1946) raise comparable yet independent issues regarding the role of savings in growth using a similar framework. Harrod derives the steady state growth rate for an economy with fixed capital-output and savings-output ratios, v and s , respectively. A unit of capital K , produces $1/v$ units of output Y , of which s/v is saved, that is, the rate of growth of capital stock. This is also the rate of growth of output, g , since the capital-output ratio is constant. Domar considers the question of obsolescence in a mature economy and the associated need for new investment to generate employment for the economy as a whole; in a surplus labor context, this can be extended to mean that the supply of labor is not a constraint over output and growth, while capital is. To elaborate on the Harrod and Domar framework, then, if all savings (S) are invested (I) the constant rate of growth is

$$g_t = \frac{\Delta K}{K_t} = \frac{I}{K_t} = \frac{S}{K_t} = \frac{sY}{K_t} = \frac{s(K_t/v)}{K_t} = \frac{s}{v} \quad (6)$$

The rate of growth remains constant over time as long as s , the savings ratio, and the productivity of capital, $1/v$, remain the same. Thus, to increase the rate of growth of output--and employment--savings need to increase or the choice of techniques has to lean toward capital-saving ones. When the choice of technique is treated as limited--as in much of the early development literature--then only the first option is available.

For shorter-term scenarios, where marginal and average propensities to save might differ, and the savings function can be written as $S_t = b + aY_t$, the effect of savings on growth will, of course, be more complicated. Here, for period 1, the rate of growth

$$g_1 = \frac{K_1 - K_0}{K_0} = \frac{I_0}{K_0} = \frac{S_0}{K_0} = \frac{aY_0 + b}{K_0} = \frac{a(K_0/v) + b}{K_0} \quad (7)$$

generalizable to period t . Thus the rate of growth now depends on the intercept b , the marginal propensity to save, a , as well as the time element t and, of course, on v . Thus, over and above the role of domestic savings, issues regarding the possibilities of affecting intercept b through policy measures as well as variations in time become quite important.

A further issue is the question of the composition of capital stock, an issue not touched upon by Harrod and Domar. Suppose there are two types of commodities, investment, I , and consumption, C . The capital used to produce these in period t are K_t^I and K_t^C , at the capital-output ratios v_I and v_C , respectively. Thus $I_t = \frac{1}{v_I} K_t^I$ and $C_t = \frac{1}{v_C} K_t^C$. Capital stock--and output--can be increased through increases in I_t .

An extra handle to attain higher investment, apart from increasing the overall savings ratio of the economy, is gained by altering the composition of K_t^C and K_t^I over time as in Mahalanobis (1953). This can be addressed by dividing investment I_t itself into two types of goods, say blast furnaces, $\lambda_I I_t$, and spindles, $\lambda_C I_t$, where $\lambda_I + \lambda_C = 1$.

The former augments K_t^I and the latter, K_t^C . Thus, in the next period $K_{t+1}^I = K_t^I + \lambda_I I_t$, and $K_{t+1}^C = K_t^C + \lambda_C I_t$. The time paths of these, affected by the λ s, will generate the time path of income. A change in their time paths will alter that of income. This is possible by decreasing λ_C and increasing λ_I , that is, by postponing production of capital which yields consumption items over those which yield investment goods. The long-run rate of growth is given by the productivity of capital in the investment goods sector and the amount of capital goods allocated to this sector:

$$I_t = (1 + \lambda_I v_I)^t I_0 \quad (8)$$

The effect of a policy of increasing λ_I to λ'_I is to alter the time path of consumption--the raising of which is the ultimate goal of policy--whereby, by sacrificing some consumption in the short run, the economy is able to increase it indefinitely in the long run.

3. Savings and the foreign exchange gap

While investment and the composition of investment determine the rate of growth in the early literature, as it progresses the conversion of savings to investment is seen as a possible bottleneck. Within the traditional framework the primary bottleneck in the context of a developing country is seen as the "foreign exchange gap" as in Raj and Sen (1961), Chenery and Strout (1966), Joshi (1967), Atkinson (1969), Bhagwati and Chakravarty (1969), Nelson (1970), and others. The argument, in a nutshell, is as follows. The process of industrialization requires capital goods, some of which must be imported because of lack of domestic technology. However, the country cannot increase investment through imports unless domestic savings are first converted to exports. It cannot increase exports when world demand for primary products is sluggish. This results obviously in a foreign exchange gap. The structure of the argument is elaborated below.

Thus, first the problem is cast in the form of necessary imports to meet any output target. Because investment goods may necessarily have an import component, not all savings can be automatically transformed into investment. Also, for a typical developing country, there may be a more or less inflexible import coefficient of consumption. Thus with invariable import (M_t) coefficients of consumption and investment, say μ_1 and μ_2 , respectively, that is,

$$M_t = \mu_1 C_t + \mu_2 I_t \quad (9)$$

some of the savings need to be converted to foreign exchange prior to the conversion of savings into investment, because not all necessary capital goods can be produced at home.

Second, coupled with the need for foreign exchange due to the dearth of domestic technology in producing all capital goods, there may be an added problem if exports are stagnant, which results in the foreign exchange gap being the "dominant gap" for the investment sector, especially if priority commitments of foreign exchange exist in the form of minimal emergency-type food imports. The stagnancy of exports which causes the inability to close the gap has, in its turn, been explained from both demand and supply sides. The demand for and supply of traditional exports of developing countries are purported to be inelastic, necessitating large, disturbing price changes for small quantitative responses. Or, there may be externally imposed barriers over entrance to foreign markets. Typical is the following argument.

In order to increase the exports of textiles, the government of a developing country imposes a domestic tax on textiles, pressuring domestic consumption downward, saving upward, and releasing more textiles for exports. Due to quota restrictions abroad, however, the potential exports cannot fructify. Thus, even though the country has tightened its belt and has achieved a high savings rate under a given

set of circumstances, thereby closing the "savings gap," its conversion to investment will be hampered by the lack of domestic technology to produce the right investment goods. This problem is exacerbated by the import-substituting technological improvements in developed countries which tend to reduce raw material requirements--the substitution of jute by bulk-packing, of cotton by synthetics, and so on--thereby shifting inelastic demand further inward. In this light, development is cast as a "structural" issue which, to quote Little (1982) is a "view of the world (which) provides a reason for distrusting the price mechanism" (p. 21).

While the structuralist issue of the foreign exchange gap is usually studied within the context of the traditional literature on savings and development, other constraints such as an underdeveloped financial sector, the lack of economic and social infrastructure, the pressure of population, or the role of agriculture have been approached independently. These are issues we turn to next.

III. The Structuralist View of Development Expanded

We have already cast the broad spectrum of development as not only a price-responding question of savings and investment, but as beset with structural constraints that belie the price mechanism. Among these structural issues may be included a few that have received considerable attention from development economists: the financial structure of a country, its human capital, that is, education, nutrition, and so on, the pressure or lack of population, the status of agricultural development and associated reforms and, finally, the structural limitations of factor-substitution in the production process. These issues are reviewed in this section.

1. How important is financial structure for development?

Traditional development economists who emphasized the role of savings and investment perceived the role of finance as being of secondary importance. However, by the late 1960s, more economists such as Patrick (1966), Gurley and Shaw (1967), Goldsmith (1969), and others, were beginning to recognize the role of the financial structure as instrumental in the development process, a view that was reinforced in the 1970s by authors such as McKinnon (1973), Shaw (1973), Tanzi (1976), and Bhatt and Meerman (1978) to name a few. While the literature of the 1960s primarily focuses on the developmental role of the financial structure per se, that of the 1970s seeks out the role that government can play in the development of the financial structure itself, since the complementary role of the latter in the development process seems already to have been established at this juncture.

Gurley and Shaw (1967) emphasize four "technologies" for savings mobilization and allocation: self-finance, taxation, debt-asset, and foreign aid. Each technology has a yield and a cost component, the net yield being its ability to raise savings and investment, the economy's capital stock and, thus, the flow of consumption. While they treat all of the technologies as substitutes, they assert that, in each phase of development, an economy has an optimal combination of savings-investment technologies, there being no optimal combination across space and over time. Some countries may want to concentrate initially on the technology of taxation and devote resources to the improvement of taxable capacity and so on, and later focus on debt-asset finance as communication and complementary institutions develop. Others may opt for a different combination of technologies. Thus, in the Gurley-Shaw framework, development is a function of the combination of technologies chosen by a developing economy and, as a result, is a trial and error process not often emulated by other countries, but often ending up with a mixture of self-finance under central planning and decentralized processes. On the basis of time series and cross-sectional evidence, Gurley and Shaw suggest therefore, "If we dared to suggest a Law of Financial Development it would be this: each economy begins its development by intensive exploitation of a savings-investment technology that is chosen for historical, political, social, or perhaps economic reasons. Then, as this technology produces a diminishing net yield, it experiments with alternative technologies that are marginally superior in terms of their capitalized returns and costs." (p. 268).

Patrick (1966) emphasizes the role of financial policy in encouraging savers to shift from tangible to financial assets and also in increasing savings, investment, and production. He emphasizes the need for government to establish state-owned or to subsidize private financial institutions where private entrepreneurial response in the financial sector may not be adequate or when external economies persist. He calls this an approach of "supply-leading finance" where financial institutions are established and instruments created even before the emergence of a perceptible demand for them in an effort to stimulate growth. Growth is thus cast as a direct result of an efficient financial system, whose success requires government participation and innovation as well as public confidence. He contrasts his approach to a "demand-following" one in which finance is essentially passive and responds only as the need for financial services increases with development. He points out that such a response may not, however, be cheap or quick enough in developing countries. Patrick's approach would, therefore, emphasize the first of Gurley and Shaw's technologies, that of self-finance.

The literature of the 1970s focuses more on the role of government in the development of the financial sector. Tanzi (1976), for example, says, "It would certainly be desirable for the developing countries to have financial institutions that worked smoothly and efficiently to promote economic development. Unfortunately, many developing countries

Gurley and Shaw (1967) emphasize four "technologies" for savings mobilization and allocation: self-finance, taxation, debt-asset, and foreign aid. Each technology has a yield and a cost component, the net yield being its ability to raise savings and investment, the economy's capital stock and, thus, the flow of consumption. While they treat all of the technologies as substitutes, they assert that, in each phase of development, an economy has an optimal combination of savings-investment technologies, there being no optimal combination across space and over time. Some countries may want to concentrate initially on the technology of taxation and devote resources to the improvement of taxable capacity and so on, and later focus on debt-asset finance as communication and complementary institutions develop. Others may opt for a different combination of technologies. Thus, in the Gurley-Shaw framework, development is a function of the combination of technologies chosen by a developing economy and, as a result, is a trial and error process not often emulated by other countries, but often ending up with a mixture of self-finance under central planning and decentralized processes. On the basis of time series and cross-sectional evidence, Gurley and Shaw suggest therefore, "If we dared to suggest a Law of Financial Development it would be this: each economy begins its development by intensive exploitation of a savings-investment technology that is chosen for historical, political, social, or perhaps economic reasons. Then, as this technology produces a diminishing net yield, it experiments with alternative technologies that are marginally superior in terms of their capitalized returns and costs." (p. 268).

Patrick (1966) emphasizes the role of financial policy in encouraging savers to shift from tangible to financial assets and also in increasing savings, investment, and production. He emphasizes the need for government to establish state-owned or to subsidize private financial institutions where private entrepreneurial response in the financial sector may not be adequate or when external economies persist. He calls this an approach of "supply-leading finance" where financial institutions are established and instruments created even before the emergence of a perceptible demand for them in an effort to stimulate growth. Growth is thus cast as a direct result of an efficient financial system, whose success requires government participation and innovation as well as public confidence. He contrasts his approach to a "demand-following" one in which finance is essentially passive and responds only as the need for financial services increases with development. He points out that such a response may not, however, be cheap or quick enough in developing countries. Patrick's approach would, therefore, emphasize the first of Gurley and Shaw's technologies, that of self-finance.

The literature of the 1970s focuses more on the role of government in the development of the financial sector. Tanzi (1976), for example, says, "It would certainly be desirable for the developing countries to have financial institutions that worked smoothly and efficiently to promote economic development. Unfortunately, many developing countries

do not have the benefits of such institutions....There is then a particular and rather obvious role that the government of these countries can perform." (p. 911). "If a country...does not have a...well-working capital market, it should be the responsibility of government to try to develop one...it can itself invest a rather substantial share of total savings as has been done in Latin America in the past two decades...it can itself provide a kind of proxy for...the capital market...the government should...yield an overall surplus, which could then be made available on a competitive and nonconcessionary basis to the private sector, as well as to public enterprises." (p. 914). Indeed, experience reveals that even the growth of a major financial center for the attraction and deployment of domestic as well as international funds such as the Asian dollar market has been made possible in Singapore by direct fostering by government, as described in Shome and Wee (1980).

Bhatt and Meerman (1978) continue in the same vein by bringing attention to the role of the central bank in the development of the financial sector. *Emphasizing that the function of a sound financial structure is to improve the mobility of financial resources and that innovations in financial structure are at least as important for development as those relating to the production structure, they identify the central bank as the agency that should carry the responsibility for promoting a sound financial structure.* Unlike the situation in developed countries, they feel that in developing countries the role of the central bank should be expanded from being merely a regulator since, very often, the institutions to be controlled and the credit system to be regulated are yet to emerge. In such a scenario, the central bank can aid in the development of the banking system and, therefore, "It must not only be central but also, and very actively, a bank." (p. 56). Bhatt and Meerman claim that this promotional function of a central bank is not recognized in international circles and, as a result, a fragmented rather than an integrated system of financial intermediaries has evolved in many developing countries, the ultimate effect of which can only be on resource mobilization.

Finally, the role of finance in mobilizing rural savings and transforming unproductive into investable assets is coming increasingly to the fore. Von Pischke, Adams, and Donald (1983), for example, have brought together a number of essays testifying to the importance of this role. To quote, "Agricultural credit has traditionally been viewed as having more to do with agriculture than with finance, but this perception is changing....More attention is now being given to financial markets in rural areas, to their performance, structure, institutions, operations, costs, and the nature of their services to rural people." (p. 5).

To conclude, the ramifications of having a sound financial structure as an economy progresses along its path of development have been seen to be significant since at least the 1960s. While in the early literature

a sound tax structure and a well-rounded financial structure seem to have been treated probably as alternate goals for a government to choose between, by the 1970s, fiscal policy is seen as complementary to the financial plan for an economy, for example, with the government either running budget surpluses or generating surpluses through quasi-fiscal institutions such as provident funds, specifically for the development of the financial structure of the economy.

2. The influence of infrastructure on development

That economic as well as social infrastructure are crucial for economic development has been argued for some time, notably by economists such as Myint (1954), Streeten (1967), Myrdal (1968), Haq (1971), and Meier (1976), even though very recently the vogue seems to be on emphasizing efficiency and growth rather than equity and development. Economic development is probably most pointedly defined by Myrdal (1968) as the "upward movement of the entire social system" (p. 1869), clearly implying that economic development is something beyond the rate of growth. To quote Meier (1976), "Development is taken to mean growth plus change; there are essential qualitative dimensions in the development process that may be absent in the growth or expansion of an economy through a simple widening process. This qualitative difference is especially likely to appear in the improved techniques of production--in man's growing control over nature. It is also likely to appear in the development of institutions and a change in attitudes and values." (p.6). Such views are found in several other writings such as those by Black (1966), Clower (1966), Seers (1972), and others.

Development, therefore, seems to be perceived at least by most development economists as a conglomeration of policy objectives comprising an increase in real per capita income sustained over a long time, *pari passu* with a minimally acceptable structure of distribution such that no one is below a clearly defined poverty line, attained through a process that generally increases social welfare. Others go on to stipulate a minimum level and composition of the consumption basket, a maximum level of unemployment and of regional disparity, or a rate of diversification of the economy. The importance of fostering a wide range of infrastructural bases for the economy cannot be minimized if development is to address this large a set of goals.

Among all these goals, the one that has drawn most attention in the 1970s, is that of poverty. To quote Haq (1971), "...the problem of development must be defined as a selective attack on the worst forms of poverty. Development goals must be defined in terms of progressive reduction and eventual elimination of malnutrition, disease, illiteracy, squalor, unemployment, and inequalities. We were taught to take care of our GNP as this will take care of poverty. Let us reverse this and take care of poverty as this will take care of the GNP. In other words, let us worry about the content of GNP even more

than its rate of increase." (p. 6). Again, the significance of infrastructure in the eradication of poverty cannot be exaggerated. Associated with these concerns, education, social services, health, and other issues under comprehensive phrases such as "minimum needs strategy" and "human resource development" are emphasized.

A debate between the role of investment vis-à-vis that of consumption emerges when one attaches importance to social infrastructure in the context of development. In the traditional savings literature, as we saw in Section II, there is no confusion over the roles of the two: postponing consumption today results in a higher long-run consumption path; further, this is accelerated if current investment is made in the capital goods, rather than the consumption goods sector. But if more food, better health, and education increase productivity, they also attain investment characteristics. Streeten (1967) has called this issue one of "illegitimate isolation": it would be illegitimate to isolate the savings-investment criterion as the sole sufficient condition for development. It is only one among several necessary conditions. To quote Myint (1967), "Looking at these new theories, which became popular during the 1950s, such as the "vicious circle," "take-off," or the "big push," it does not seem to me that these have stood up to the test of realism...." (p. 121). He calls into question the relevance of the existing economic theory to the developing countries on the basis of his opinion that development lies in the realm of social and economic dynamics, while cautioning against the complete discarding of static theory for the study of development.

That the dynamics of health, education, and general well-being have something to do with development cannot be called into question. As summarized in Shome (1981), a prime example of their role has been the case of Sri Lanka, where an approach of government guarantees for minimum consumption standards for the whole population, together with a conceptual emphasis on economic justice, eradication of malnutrition, population control, and providing basic medical necessities---postponing investment in the orthodox sense---comprised the development strategy up to the end of the 1970s. There is no doubt that Sri Lanka is, today, able to boast the highest literacy and longevity rates in the world within its per capita income group of countries. If these indicators are taken as specific goals in the process of development, they are marks of achievement. If, however, they also form an instrument--a more productive population--for growth, then Sri Lanka now needs to worry over how its population is best utilized, especially since it has incurred massive fiscal deficits in the past in order to sustain its social welfare programs. Such a route now seems definitely in the offing. To quote from a recent study by the International Labor Office (1983) which cited the 1981 Central Bank Review of the Economy, "In order to ensure that the growing debt would not be eventually an economic burden, it is desirable to maintain the rate of growth of public debt at a lower level than the rate of growth of the GDP....It is also prudent that the debt incurred is expended on investment expenditure

in order to produce a stream of benefits in the economy which will generate the requisite incremental revenue." (p. 22). This clearly brings us back to Gurley and Shaw's observation that alternative "technologies" of development will be picked by an economy at different points in time and indeed, will not probably be repeated by other economies.

To conclude this section, one may reiterate that the traditional savings-investment approach to development is characterized by a sizable number of development economists as only one among several strategies. Indeed, there seems to be some conformity among these economists that, if one were to exercise an option, one would do better in choosing a strategy that calls for a comprehensive view of development rather than a narrow focus on solely saving and investing today and consuming tomorrow.

3. Population pressure and development

Among demographers, the accelerating rate of world population growth--especially in developing countries--is the one basic impediment to a nation's progress. To quote Chandrasekhar (1972) in order to single out the acceleration process, "...it took the human species about a million years to multiply to a billion in the 1830s, but it took less than a century to add the second billion, and about thirty years to add the third.... And at the current rate of increase, short of some global holocaust, the world might well have more than seven billion by A.D. 2000...this is population explosion, par excellence." (pp. 244-46). Through history, until as recently as the industrial revolution, population has been the major source of general expansions of output because the tools used by labor have been traditional and basic. In the context of postwar industrialization, population's role becomes complex, as indicators of modern growth such as per capita output seem to be bogged down by population pressure, even though the latter's effect on the former should depend on the particular pattern of population increase such as whether it is based on increases in fertility--leading to higher dependency burdens--or on rises in life expectancy--expanding productive man years in the economy. While Ohlin (1967) writes, "Fertility in the underdeveloped world has not yet shown definite signs of declining" (p. 87), Little (1982), quoting Ohlin writes, "Ten years later one could confidently strike out the words 'not yet'." (p. 197).

Population is often cast as straining an economy's resources to the hilt, countering which is the argument that population growth makes possible market expansions. Thus, population growth during the modern era has both positive and negative influences on economic development: China, the country with the highest population in the world, has modified its population policy significantly over the years, stressing, relaxing, and once again stressing population control in recent years, as reported by Coale (1981) and others. A study by Walsh (1970) of

Jamaica, another densely populated country, which looked at the implications of lower rates of population growth for several major economic growth variables, yielded the interesting result that the total amount of savings is affected by differences in the rate of growth of population, as reflected by four fertility assumptions, but the basic propensity to save is not. Thus, variations in the amount of saving are induced only by changes in the net additions to the population. Further, the higher is the level of fertility, the later is the period of peak unemployment and the greater is the amount of unemployment, thus necessitating higher welfare "investments."

Countries have approached the population problem in two ways: the first is to tackle its effects, the second to modify its rate. India has experimented with both. The first calls, for example, for specific economic measures such as employment creation--its Food for Work program whereby payments in kind are made to rural workers for work in construction projects--or the provision of incentives to relatively labor-intensive industries, such as its cottage industries. However, the goals of employment creation and economic growth may conflict since capital-use for creating jobs and capital-use for highest output may not coincide. It is here that the second approach of changing the rate of population growth--compulsory or voluntary family planning--assumes importance. The application of compulsory birth control has had its political costs in India while the nature of voluntary measures has yielded relatively modest results. Further, trying to affect the population growth rate also has achievement problems: according to Birdsall (1980), even if fertility rates in India are reduced to just replacement level in 30 years, population will still increase for another 130 years, because of the youthful age-structure of population, otherwise known as its "momentum."

In conclusion, the pressure of population on a country's economic performance cannot be denied. While the low-density countries of Africa, lacking sufficient market outlets, have less reason for concern, even here natural resources and complementary factors of production may be relatively more scarce than labor. And in countries with high densities, the economic game may be reduced to one of perennially catching up with population growth. A silver lining is that a prevalent idea of the 1970s, which was that only countries with a moderate per capita income could lower birthrates, seems to have been muted by the remarkable success of family planning in Indonesia and a modest one in India, contrasted with almost no success in the Islamic Republic of Iran and Ivory Coast. Thus, growth may have little impact on falls in fertility and it remains for different countries--at any income level--to approach the problem as a policy option. None of the above ideas is new. Clark (1953) had predicted the economic problems that would ensue from increased population if three conditions were not met by international counterparts: first, that free emigration should be facilitated from a few isolated overcrowded areas; second, that the

world should leave markets open for populous countries to sell goods abroad; and third, that at least small populous countries, lacking in complementary natural resources, should be provided external assistance in sufficient scales. In the absence or partial presence of these conditions, a populous country would have to treat its population size and growth rate as a problem and deal with it directly.

4. The impact of the agricultural sector on development

As mentioned at the outset, this is a topic that can hardly be given adequate coverage in the space allocated here. Consequently, we shall address the question rather simplistically as follows: as contrasted with the traditional literature on development linked with the savings performance of the economy, how differently does the literature on agriculture pose the development problem in terms of the latter's necessary ingredients? While in the 1950s some, like Viner (1953) and Lewis (1954), envisage the agricultural sector as important, most economists, including these two, also perceive it as a means for industrialization. In the 1960s, however, agriculture is assigned a direct role in development (Eicher and Witt, 1964). It begins to be realized that the squeeze on agriculture in the 1950s has had negative ramifications for domestic demand as well as for exports during the 1960s. Food output has had to constantly catch up with population and food imports have increased. With the rise in population, the necessity grows for more people to find work in the agricultural sector (as Lewis's hypothesis begins to work somewhat in reverse), and eventually the world food problem rears its ugly head. As a result, the premise that calls for savings and investment as the primary determinants of development seems to recede in its exclusivity. Agriculture, for its own sake, deserves attention. A trend is thus established.

By the late 1960s, agricultural development becomes congruous with the concept of "development from below." The relevance of agricultural incomes is reflected in the concern for the agricultural and nonagricultural-industrial terms of trade, predictably resulting in inconclusive debates. Some analysts claim an "urban bias" by demonstrating that agriculture's terms of trade have deteriorated secularly due to both depressed agricultural prices as well as inflated industrial prices. Opposers point to "farm lobbies" in many Asian countries influencing both agricultural procurement prices as well as prices of agricultural inputs. In the case of India, Thamarajakshi (1969) and Mundle (1977) claim a constant terms of trade in the 1950s but a sharp improvement in the 1960s. Kahlon and Tyagi (1980) derive a decline in the 1970s. Thus, no sweeping policy conclusions seem possible from a perusal of the literature. One argument worth noting is that, even if terms of trade between agriculture and industry could be determined flawlessly, the subsidization by government of both sectors by differing degrees would have to be adequately accounted for.

The concern with agricultural development has also tended to increase public investment in it. In Africa (Lele, 1975), large-scale state farms with mechanized production and large irrigation schemes abound in the 1960s. Little (1982) says, "These were all failures" (p. 164), because of lack of coordination in the provision of feeder canals, drainage and water control for dams, spare parts for tractors, and so on. Settlement schemes also failed due to high replication costs. He cites India's Community Development Program, emphasized in the first two Five-Year Plans, as examples of failed attempts to modernize village life. The point is, therefore, that even when and where agriculture is treated as an independent component in the fabric of development, the mode of government participation--direct, large-scale production--together with lack of adequate extension services for the future and ultimately, the relative allocation of resources between industry and agriculture, all seem to have led to questionable economic and social returns in the agrarian sector.

As in the case of rural-urban terms of trade, the debate over land reform has not yielded clear conclusions. The nucleus of the argument for land reform is that small farm productivity is higher across countries as well as within a country where small farms and large commercial endeavors exist side by side (Berry and Cline, 1979), due to higher labor productivity in small ownership farms. However, other economists have claimed that, in the absence of land reforms, other measures can also increase agricultural production. Improved management and cultivation methods, put into action through extension services, even without new inputs, seem also to lead to increases in yield as well as in income in the rural sector (Benor and Harrison, 1977; Singh, 1979). Of course, technological improvements--including new inputs--result in added benefits (Yudelman, Butler, and Banerji, 1971). Little (1982) summarizing the role of land reform vis-à-vis that of other factors in raising agricultural productivity, comments, "Provided that adequate arrangements can be made for servicing small farms and that the land reform can be smoothly conducted, without a prolonged breakdown of law and order, it would appear that the 'economic' reasons in terms of higher output and greater labor absorption are valid at least in certain areas and countries. At the same time, much improvement in raising yields on small farms and increasing labor use on larger farms can be achieved without land reform." (p. 173).

In conclusion, today the development of agriculture per se is understood to be a vital component in the improvement of the quality of rural life and, given that significant proportions of the inhabitants of developing countries remain rural, an independent determinant of development. Raising the rate of financial savings may often have little effect on an impermeable nonmonetized agrarian sector and the farmer's welfare may need to be addressed directly if the whole country's development is the goal. There is considerable uncertainty as to how to go about this task optimally, a task that becomes all the more

complicated when a focus on agriculture is treated as an opportunity cost for industrial development.

5. Factor-substitution and technology

A considerable portion of the early development literature considers the problem of factor-substitution in production functions as a structural one, employing linear programming techniques in the analysis of the modern sector of developing economies. To quote Eckaus (1955), "Unemployment difficulties of underdeveloped areas are not basically due to lack of effective demand but stem from...limited opportunities for technical substitution of factors and inappropriate factor endowments...or 'a structural disequilibrium at the factor level'." (p. 540). The essence of the argument, found even in the literature of the 1970s (Acharya, 1975; White, 1978), lies in the fact that the choice of techniques is often limited to a cluster with some highly capital-intensive technique ruling out all others because the latter have higher capital-output as well as labor-output ratios than the former, which becomes the socially efficient technique.

Empirical evidence on the factor-substitution question is certainly not conclusive. The econometric approach, usually measuring the factor-substitution elasticity between labor and capital, is often termed as casual empiricism (Bhalla, 1975; White, 1978). Evidence from the approach of constructing production functions from engineering data and actual observations of activities, however, point more convincingly toward the feasibility of labor-intensive methods than do the econometric studies according to White (1978). A specific example that has been studied time and again in terms of choice of techniques is cotton textiles, for example, by Sen (1960) who demonstrates a wide range of substitution possibilities and more recently by Rhee and Westphal (1977).

Little (1982), in a survey of the evidence on various country experiences, concludes that since low-income countries use more labor-intensive techniques than do middle-income countries, very often using machinery obsolete in the latter, even where production is for export markets where both compete, surely factors are substitutable in the production of the same commodity. This argument seems correct as long as one confines oneself to a range of goods which would fit the argument. There are, however, goods with probably rather limited possibilities for factor-substitution and biased toward high capital content, which a low-income country produces, given its planning framework. Indeed, even very recent evidence by Rwegasira (1983) seems to point in that direction: "...quantitative increases in the factors of production--specifically in the stock of capital, which is a relatively scarce factor in these economies--will be crucial to maintaining or raising rates of growth in the developing countries." (p. 20).

In conclusion, one might say that the extent of factor-substitution possibilities in a developing economy depends on the pattern of its

production. During the 1950s and 1960s, when many of these countries achieved independence, a significant number of them went in for prestigious, capital-intensive projects in both the manufacturing and agricultural sectors. As a result, and in the absence of domestic technology, the difficulty with factor substitution was seen by many of them as structural leading, in turn, to foreign exchange as being the dominant gap in development, a consideration which we have addressed in a previous section. By the 1970s, however, the often miniscule returns from these unsuccessful programs re-educated these countries regarding shifting techniques and production structures, even if through the endurance of stresses and strains.

IV. Tax Policy in the Light of the Above

If a comprehensive concept of development includes raising the rates of saving and investment in order to increase output, raising social investment in health, education and welfare, streamlining the rate of population growth with the rate of accumulation of capital stock, and safeguarding a reasonable terms of trade for the agricultural sector such that the latter's growth is assured, the role of tax policy is automatically extended from one of aiding the first criterion to all the others as well. Indeed, under appropriate assumptions, tax policy can theoretically be a powerful instrument in targeting all of the above factors of development. Whether such assumptions hold in many developing countries then becomes the question to ponder. Below we summarize the possibilities for and limitations of tax policy as a means to affect the above-mentioned components of development.

Among the various means by which a developing economy may increase its investment rate is taxation. By taxation, the government reserves a portion of the national resources for itself, often for capital construction projects, or offers it to the private sector for similar purposes. The Union of Soviet Socialist Republics has used a sizable turnover tax to finance capital formation. Japan, in its early development, has used a land tax for the same reason. Several low-income and middle-income countries--especially in South Asia and Latin America--have attempted to raise domestic savings through payroll taxes or compulsory social security schemes. While these endeavors have mostly been mired by inflation in the case of Latin America, they have been significantly successful in Asia--Malaysia, the Philippines, Singapore, Sri Lanka--where provident and pension funds seem not only to not have affected voluntary savings (Datta and Shome, 1981), but have also made available to their governments long-term investment funds for development purposes, as the accumulated funds of these institutions have become the primary source of financing of public debt (Shome and Saito, 1980). Theoretically, they can also be used to maximize an economy's utility from consumption at an equilibrium factor proportion, that is, take an economy to its "golden path," with appropriate financing methods (Shome and Squire, 1983).

Apart from direct quantitative controls, tax policy has been used in attempts by developing countries to close their foreign exchange gaps through import tariffs, free trade zones, income tax incentives for export diversification, such as in the case of light manufacturing goods, or contrarily, export duties in the case of traditional primary exports with low elasticities of supply. Indeed, theoretically, export subsidies and import taxes can have the same effects as those of exchange rate policies since a 10 percent ad valorem subsidy on all exports matched by a 10 percent ad valorem duty on all imports has similar economic implications as a 10 percent devaluation, with one difference: the devaluation affects all items of the balance of payments while the tax-subsidy mix affects only the mercantile items. Arguments that have been put forward in favor of a tax-subsidy mix are its selective nature and the lower inflationary pressure it generates.

Tax policy is utilized to encourage financial intermediation through special tax treatment of (1) dividends, to encourage the development of the stock market, (2) interest, including banks, governments, housing bodies, and insurance institutions, as well as (3) unit trusts and the like. The role of fiscal policy, in general, as a complement to the development of the financial sector has already been dealt with above. Tax policy, to change factor proportions, is also used widely through incentive packages including accelerated depreciation, income tax holidays, labor-utilization relief, deductions for research and development, and so on. Almost all developing countries boast a complex system of tax incentives, the ramifications of which are often difficult to trace through the economic system. Corporate tax incentives which tend to reduce the cost of capital and subsidize capital use exist side by side with labor-utilization relief which should encourage labor intensity, the net effect of the two often being intractable. However, tax policy usually remains the main tool in a country's caché of instruments in handling the factor-proportions problem.

Tax policy can similarly be used to affect the other factors of development. China now uses a heavy tax on married couples who have more than one child. India and several other developing countries also experimented with the same type of tax in the early 1970s by offering higher personal income tax breaks for smaller families, or by reducing the number of children for which tax credits and allowances are given. Thus, tax rates can be manipulated to make the choice between having and not having children more dependent on an opportunity cost that reflects an economic rather than a social cost.

The issue of a favorable treatment for agriculture in the literature on agricultural taxation has been much debated. Indeed, in the early literature, several economists have argued that agricultural taxation is necessary in developing countries to extract the agricultural surplus or for reasons of inter-sectoral equity. Gandhi (1966), for example, quantifies the "undertaxation" of Indian agriculture relative to other sectors. According to the 1982 World Development

Report, in the last two decades not only has the proportion of gross domestic product (GDP) accruing from the agricultural sector fallen sharply in developing countries, but so have the output per worker and the differentials in outputs per worker between agricultural and non-agricultural sectors. This type of reasoning has again brought about arguments for rehabilitating the agricultural sector with the aid of tax-subsidy policies, for example, export duty removal, and import duty exemptions for tractors, seeds, and fertilizers. It must be noted in this context that even the United States has long utilized direct subsidies for the farm sector for leaving land fallow or cows unmilked in order to assure a domestically acceptable terms of trade for this sector.

Tax and expenditure policy is, of course, the primary vehicle through which human resource development--social security, social welfare, education, nutrition--has been attempted. Many developed countries, especially from Europe, have very high social security expenditures in relation to GDP--nearly 20 percent--while, in general, in developing countries the ratio lies around 5 percent (Shome, 1981). Indeed, it has been argued that the huge deficits of European nations are now being caused primarily by social welfare coverage and that further taxation on this account is almost impossible (Mach, 1979). For developing countries, the use of tax policy to achieve the human welfare component of development is not yet exhausted. Countries such as Sri Lanka have demonstrated what can be achieved in terms of literacy and longevity when government fiscal policy takes these up as focal points of development, while others such as India have yet a distance to traverse.

Taxation has its limitations and difficulties, however. In general, the success of tax policy depends on four tenets: that everyone is covered by the tax regime, that the incidence of taxation is known, that the rate of the tax is high and not marginal, and that behavior is affected solely by price. If the first is not met, for example in most developing countries, where the rural sector hardly pays income tax, experimentation with higher marginal tax rates on families with large numbers of children could be expected to have rather limited results for the country as a whole since a high proportion of the population may be rural. If the second condition is not satisfied--tax incidence is difficult to determine with certainty--then the results of tax policy may locate far from its objective. For example, if the corporate tax is passed on to labor, then an increase in the corporate tax rate may not reduce capital-intensity. So the incidence question is quite important in issues of factor-substitution. Third, if the rate of tax is not high enough, its potency is reduced. For example, legislating an array of taxes with low rates may have a smaller overall impact than a single tax with a high rate where the objective is the same. Fourth, if behavior is price responsive but is also affected by other

less observable and noneconomic determinants, then the use of tax policy--by affecting price--to modify behavior may be vitiated. Sending children--especially female--to school to receive primary education may not depend on whether it is free but on whether society permits it.

Actual experience bears witness to all these concerns with respect to the exercise of tax policy. Taxes on the poor are limited by existing poverty. Taxes on the rich may affect savings adversely and are often a difficult political action. In primarily agricultural countries, tax collection is a major hurdle as farmers are difficult to tax and often, marketed surpluses may be small as a proportion of production. Similarly, the incidence of direct taxation is an issue that has remained unresolved through the decades. Finally, not much space needs to be devoted here to the issue of nonprice determinants of economic behavior since they comprise a major part of the trades of sociologists and anthropologists.

The limitations of tax policy may emerge from another direction: if marginal tax rates are prohibitive, they have been argued to have detrimental effects on the rate of growth, by truncating the rates of saving, investment, and labor supply. These concerns regarding the excessive use of tax policy have recently been revived under the banner of supply-side economics in which the idea, in a nutshell, comprises the relaxing of high marginal tax rates in order to release the forces of supply of savings, investment, and labor. As the supply of factors of production is purported to increase, output increases and so does the rate of growth. However, as Tanzi (1983) points out by citing the example of the United States, even if supply did respond to tax changes in the long run, tax policy by itself may not be able to yield supply-side effects in the face of noncomplementary changes in other policies, such as those relating to the monetary and financial sector. Also, whether or not tax policy affects marginal tax rates may be crucial to the success of tax policy from the supply-side point of view. Thus, while economists have to, and indeed, do assign a major role to tax policy in tackling development and growth, and sometimes successfully, it must be done with perspicacity.

V. Concluding Remarks

The above review, albeit selective, has attempted to put into perspective the role of the orthodox savings-investment strategy in the development process as a prior step to a study of the importance of fiscal policy since, traditionally, fiscal policy has been treated as an integral part of a composite orthodox strategy for development. In that endeavor, the paper has reviewed some of the seminal works in the growth literature based on the effects of savings on growth, and forming the major building blocks in their application to the early development

literature on surplus-labor economies. It then touched on the ensuing literature on the limitations of this strategy such as the foreign exchange gap, the lack of an optimal financial structure as well as of economic and social infrastructure, the population explosion, the role of the agricultural as opposed to the industrial sector, and the difficulties with neoclassical assumptions of factor-substitution. Indeed, it is found that the literature has often treated financial development and infrastructure, as well as agricultural development, as alternative "technologies" to development at least as a first step. Some economists have also emphasized the complementary roles that they can and need to play during the development process.

What emerges from this review for our ultimate purpose of the study of the effectiveness of tax policy is the following. Tax policy and, generally, fiscal policy form one component of the savings-investment strategy of development. There are ample views, however, in the literature on which route to take for development, the savings-investment strategy being only one among several or, at most forming a complement with other factors. The role of tax and fiscal policy, therefore, should be seen in this perspective as an atomistic part of a much larger whole. Before beginning to worship at the alter of tax and fiscal policy, therefore, it is educational to digest the relative position that tax and fiscal policy may be expected to hold as a determinant of development. This is not to belittle the role of fiscal policy, however. Once tax and fiscal practitioners have a clearer impression of the limitations of their practice, they may be better able to form objectives and pursue goals to be addressed by tax and fiscal policy.

References

- Acharya, S.N., "Fiscal Financial Intervention, Factor Prices and Factor Proportions: A Review of Issues," Bangladesh Development Studies, Vol. 3 (October 1975), pp. 429-64.
- Atkinson, A.B., "Import Strategy and Growth Under Conditions of Stagnant Export Earnings," Oxford Economic Papers, Vol. 21 (November 1969), pp. 325-38.
- Bator, F.M., "The Anatomy of Market Failure," Quarterly Journal of Economics, Vol. 72 (August 1958), pp. 351-79.
- Benor, D., and J.G. Harrison, "Agricultural Extension: The Training and Visit System," (Washington: World Bank, May 1977).
- Berry, A., and W.A. Cline, Agrarian Structure and Productivity in Developing Countries (Baltimore: Johns Hopkins University Press, 1979).
- Bhagwati, J.N., and S. Chakravarty, "Contributions to Indian Economic Analysis: A Survey," American Economic Review, Vol. 59, Part II (September 1969), pp. 2-73.
- Bhalla, A.S., Technology and Employment in Industry (Geneva: International Labor Organization, 1975).
- Bhatt, V.V., and J. Meerman, "Resource Mobilization in Developing Countries: Financial Institutions and Policies," World Development, Vol. 6 (January 1978), pp. 45-64.
- Birdsall, N., "Population and Poverty in the Developing World," World Bank Staff Working Papers, No. 404 (Washington: World Bank, 1980).
- Black, C.E., The Dynamics of Modernization (New York: Harper and Row, 1966).
- Bruton, H.J., "Growth Models and Underdevelopment Economies," Journal of Political Economy, Vol. 63 (August 1955), pp. 322-36.
- Chandrasekhar, S., Infant Mortality, Population Growth and Family Planning in India (Chapel Hill: The University of North Carolina Press, 1972).
- Chenery, H.B., and A.M. Strout, "Foreign Assistance and Economic Development," American Economic Review, Vol. 56, Part 1 (September 1966), pp. 679-733.
- Clark, C., "Population Growth and Living Standards," International Labor Review (August 1953).

- Clower, R.W., G. Dalton, M. Harwitz, and A.A. Walters, Growth Without Development (Evanston: Northwestern University Press, 1966).
- Coale, A.J., "Population Trends, Population Policy and Population Studies in China," Population and Development Review, Vol. 7 (March 1981), pp. 85-97.
- Datta, G., and P. Shome, "Social Security and Household Savings: Asian Experience," The Developing Economies, Vol. 19 (June 1981), pp. 143-60.
- Domar, E.D., "Capital Expansion, Rate of Growth and Employment," Econometrica, Vol. 14 (April 1946), pp. 137-47.
- Eckaus, R.S., "The Factor-Proportions Problem in Underdeveloped Areas," American Economic Review, Vol. 45 (September 1955), pp. 539-65.
- Eicher, C. and L. Witt (eds.), Agriculture in Economic Development (New York: McGraw-Hill, 1964).
- Gandhi, V.P., Tax Burden on Indian Agriculture (Cambridge: Harvard University Law School, 1966).
- Goldsmith, R.W., Financial Structure and Development (New Haven: Yale University Press, 1969).
- Gurley, J.G., and E.S. Shaw, "Financial Structure and Economic Development," Economic Development and Cultural Change, Vol. 15 (April 1967), pp. 257-68.
- Haq, M., "Employment and Income Distribution in the 1970s: A New Perspective," Pakistan Economic and Social Review, Vol. 9 (June-December 1971), pp. 1-9.
- Harrod, R.F., "An Essay in Dynamic Theory," Economic Journal, Vol. 49 (June 1939), pp. 14-33.
- Hauser, P.N., (ed.), World Population and Development (New York: Syracuse University Press, 1979).
- India, Government of, First Five-Year Plan, Chapter I; Second Five-Year Plan, Chapter I, Planning Commission (New Delhi: 1951 and 1956).
- International Labor Office, "Investment Practice of Social Security Institutions in Developing Countries," Working Paper of the Social Security Department (November 1983).

- Joshi, V., "Foreign Exchange Bottleneck or Unwillingness to Save," Economic and Political Weekly, Vol. 2 (March 1967), pp. 485-86.
- Kahlon, A.S., and D.S. Tyagi, "Intersectoral Terms of Trade," Economic and Political Weekly Review of Agriculture (December 1980), pp. A173-85.
- Lehman, D., (ed.), Agrarian Reform and Agrarian Reformism (London: Faber and Faber, 1974).
- Lele, V., The Design of Rural Development Lessons from Africa (Baltimore: Johns Hopkins University Press, 1975).
- Lewis, W.A., "Economic Development with Unlimited Supplies of Labor," Manchester School, Vol. 22 (May 1954), pp. 139-91.
- Little, I.M.D., Economic Development: Theory, Policy and International Relations (New York: Basic Books, 1982).
- Mach, E.P., "Selected Issues in Health and Employment," International Labor Review, Vol. 118 (March-April 1979).
- Mahalanobis, P.C., "Some Observations on the Process of Growth of National Income," Sankhya, Vol. 12 (September 1953), pp. 307-12.
- McKinnon, R.I., Money and Capital in Economic Development (Washington: The Brookings Institution, 1973).
- Meier, G.M., Leading Issues in Economic Development (New York: Oxford University Press, 3rd edition, 1976).
- Mundle, S., "Intersectoral Resource Flows in Post Colonial India," Indian Economic Review, Vol. 12 (October 1977), pp. 151-67.
- Myint, H., "An Interpretation of Economic Backwardness," Oxford Economic Papers, Vol. 6 (June 1954), pp. 132-63.
- _____, "Economic Theory and Development Policy," Economica, Vol. 34 (May 1967), pp. 117-30.
- Myrdal, G., Asian Drama (New York: Twentieth Century Fund Inc., 1968).
- Nelson, R.R., "The Effective Exchange Rate: Employment and Growth in a Foreign Exchange-Constrained Economy," Journal of Political Economy, Vol. 78 (May-June 1970), pp. 546-64.
- Nurkse, R., "Some International Aspects of the Problem of Economic Development," American Economic Review, Vol. 42 (May 1952), pp. 571-83.

- , Problem of Capital Formation in Under Developed Countries,
(Oxford: B. Blackwell, 1953).
- Ohlin, G., Population Control and Economic Development, Organization
for Economic Cooperation and Development, Development Centre
(Paris: OECD, 1967).
- Patrick, H.T., "Financial Development and Economic Growth in Developing
Countries," Economic Development and Cultural Change, Vol. 14
(January 1966), pp. 174-89.
- Raj, K.N., and A.K. Sen, "Alternative Patterns of Growth Under
Conditions of Stagnant Export Earnings," Oxford Economic Papers,
Vol. 13 (February 1961), pp. 43-52.
- Rhee, Y.W. and L.E. Westphal, "A Micro-Economic Investigation of Choice
of Technology," Journal of Development Economics, Vol. 4
(September 1977), pp. 205-37.
- Rosenstein-Rodan, P.N., "Problems of Industrialization of Eastern and
Southeastern Europe," The Economic Journal, Vol. 53 (June-September
1943), pp. 202-11.
- Rostow, W.W., "The Take-Off into Self-Sustained Growth," The Economic
Journal, Vol. 66 (March 1956), pp. 25-48.
- Rwegasira, D., "Adjustment Policies in Low-Income African Countries:
A Comparative Interpretation of the Kenyan and Tanzanian Experiences,
1974-78," (unpublished, International Monetary Fund, 1983).
- Scitovsky, T., "Two Concepts of External Economies," Journal of
Political Economy, Vol. 62 (April 1954), pp. 143-51.
- Seers, D., "What are We Trying to Measure," Journal of Development
Studies, Vol. 8 (April 1972), pp. 21-36.
- Sen, A.K., Choice of Techniques: An Aspect of the Theory of Planned
Economic Development (Oxford: B. Blackwell, 1960).
- Shaw, E.S., Financial Deepening in Economic Development (New York:
Oxford University Press, 1973).
- Shome, P., "Social Security, Health Care and Human Resource Development:
A Cross Country Study," South East Asian Economic Review, Vol. 2
(April 1981), pp. 103-21.

- _____, and K.A. Saito, "Creating Capital Through Social Security Institutions: The Asian Experience," Studies in Domestic Finance No. 61 (Washington: World Bank, April 1980), and World Bank Reprint No. 144.
- _____, and L. Squire, "Alternative Financing Mechanisms for Social Security," World Bank Staff Working Paper No. 625 (Washington: World Bank, December 1983).
- _____, and E.C. Wee, "Is Singapore Developed or Developing? The Makings of an Advanced Financial Center: A Survey," Kajian Ekonomi Malaysia, Vol. 17 (June 1980), pp. 8-19.
- Singh, I., "Small Farmers and the Landless in South Asia," World Bank Staff Working Paper No. 320 (Washington: World Bank, February 1979).
- Southworth, H.M. and B.F. Johnson (eds.), Agricultural Development and Economic Growth (Ithaca: Cornell University Press, 1967).
- Streeten, P., "The Use and Abuse of Models in Development Planning," in The Teaching of Development Economics, ed. by K. Martin and J. Knapp (Frank Cass and Co., 1967), pp. 57-63.
- Tanzi, V., "Fiscal Policy, Keynesian Economics and the Mobilization of Savings in Developing Countries," World Development, Vol. 4 (October-November 1976), pp. 907-17.
- _____, "The Policy Lessons of Supply Side Economics: A Very Personal Interpretation," paper presented at the 53rd Annual Conference of the Southern Economic Association, Washington, D.C., November 1983.
- Thamarajakshi, "Inter-sectoral Terms of Trade and the Marketed Surplus of Agricultural Produce," Economic and Political Weekly Review of Agriculture (June 1969), pp. A91-102.
- Viner, J., International Trade and Economic Development, Lectures delivered at the National University of Brazil (Oxford: Clarendon Press, 1953).
- Von Pischke, J.D., D.W. Adams, and G. Donald, eds. Rural Financial Markets in Developing Countries, Economic Development Institute Series in Economic Development (Baltimore: Johns Hopkins University Press, 1983).
- Walsh, B.T., Economic Development and Population Control: A Fifty Year Projection for Jamaica, Praeger Special Studies in International Economics and Development (New York: Praeger 1970).

White, L.J., "The Evidence on Appropriate Factor Proportions for Manufacturing in Less Developed Countries," Economic Development and Cultural Change, Vol. 27 (October 1978), pp. 27-59.

World Bank, World Development Report (Washington: World Bank 1982).

Yudelman, M., G. Butler, and R. Banerji, Technological Change in Agriculture and Employment in Developing Countries, Organization for Economic Cooperation and Development, Development Centre (Paris: OECD, 1971).