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Small change: An alternative strategy for the development of Latin America

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SMALL CHANGE: AN ALTERNATIVE STRATEGY FOR THE DEVELOPMENT
OF LATIN AMERICA

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In this dissertation, I have sought to evaluate the major political economy perspectives on the development of peripheral societies, both with regards to resource allocation processes and the ultimate goals such processes serve. The purpose of the evaluation is to provide a theoretical framework which can be used to evaluate and support practical economic planning and policy formulation in UDC (underdeveloped country) governments, in particular long-term growth paths and strategies as distinct from the present preoccupation with short-term macroeconomic policies.

To perform this evaluation systematically, I developed a classification scheme for political economy theories, consisting of the worldview taken (i.e., whether the theory takes a developed or underdeveloped economy viewpoint), the theory of social change and agents of change assumed or implied, and the nature of the causal models derivative of other methodologies. Also useful was Schumpeter's distinction between economic growth and economic development, which assisted grouping elements chronologically.

The significance of this dissertation lies not in the identification of the predominant paradigms of the past but in the systematic review of the fundamental elements of
theory, those aspects of political economy theory which are used to explain economic growth and rising labor productivity in the periphery. The case studies of Costa Rica and Nicaragua illustrated that rising labor productivity in their particular contexts would require meeting basic needs first. This means that education, housing, basic nutrition and health care needs (as well as infrastructure development and institutional reform) ought to be considered as inputs into the production function rather than as outputs. Education investments, in particular, ought to be targeted toward enhancing the general standard of living of the entire population. This would seem, to the short-term efficiency political economists, ludicrous—since the payoffs to education investment are negligible at this level. But, in the long-term, the returns to educational expansion would increase the quality of life.
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CHAPTER I
INTRODUCTION

This dissertation is organized in five chapters. Chapter I introduces the problem and organization. This chapter introduces the proposition that the literature on development (from both the neoclassical and neo-Marxist perspectives) has failed to provide Latin American policymakers with a definition of development that could be put into practice. On the neoclassical side, this literature argues that the development process is simply a growth process. This growth process is, essentially, an evolutionary one—that is, economies can be placed on a continuum that ranges from traditional to highly industrial. Most societies move along this continuum over time and those that do not are aided in the struggle from tradition to modernity. Economies that can save and invest the "necessary" percentage of national income will continue to grow. Those that cannot can receive "appropriate" amounts of foreign aid and investment. The principal assumption of the neoclassical school is that to save, government policy needs to be structured in ways that give to the class with the highest propensity to save and invest—the capitalist/entrepreneurial class. This
capitalist/entrepreneurial class will then reinvest in those things that give the highest return on investment. This is traditionally investment in the capital stock of the nation. Meantime, profits are extracted from labor because they receive lower wages. Most of the neoclassical literature ignores investment in human capital and sees this kind of investment as merely the residual in econometric studies. Investment in education, per se, is to neoclassical economists a necessary input into the production process, but only insofar as it increases the productivity of the labor factor. On the neo-Marxist side, this literature is aimed at rebutting the neoclassical assumption that the development of UDCs can be accomplished by replicating the development experience of the developed West. For this, it also argues that this "counter" neo-Marxist perspective has also failed on similar grounds.

Chapter II focuses on the major components of the development process and argues that there is a lack of agreement of what is meant by development. It begins with a discussion of how the Western capital accumulation model, from the classical to the neoclassical theorists' standpoint, has failed to provide Latin America with workable tools for development. It also discusses how the Marxist (and later neo-Marxist) program for development encounters serious impediments in its application to contextual realities. The chapter ends with a proposal for
development that involves the application of development strategies to improve the quality of life by investing in the quality of labor.

Chapter III describes the literature on investment in human capital. This literature focuses on the education investment and its contribution to economic growth. Chapter IV offers some discussion of the basic needs model of development and contrasts it with neoclassical and neo-Marxist perspectives on development. It argues that the basic needs strategy for development, as it was advocated, fails to provide Latin American UDCs with politically applicable solutions to the problem of underdevelopment; although, this development alternative comes closer to providing the key to development by placing quality of life issues above industrial growth. The chapter ends with the workings of a new strategy for development which will introduce into the production function the premise that educating labor for production is no longer sufficient. The production process needs to incorporate the human capital investment, but this needs to be more than educating the wage-earning class. It needs to make a small change: to see the educating of the labor force as an output into the production function as well as an input. Chapter V offers the study's conclusions.
The Purpose: Efficiency versus Equity

Latin America is one of most challenging regions to study. This study started in the late 1940s and early 1950s when the subfield "development economics" became concerned with understanding the causes of the relative poverty of underdeveloped countries (UDCs). The result of this effort was the revival of the body of literature produced by the classical political economists of the late eighteenth and the mid-nineteenth century who were concerned with the analysis of long-term sustainable economic growth. To some of these economists, the solution to UDC poverty could be found in the writings of Quesnay, Smith, Ricardo, and Mill. Their focus became the searching for ways to develop UDC economies through the growth of their industrial capacity. This led them to investigate the causes and impediments to growth and to speculate on ways to overcome potential constraints.\(^1\) Because of this focus, they came to be known as neoclassical theorists.

Among the most notable neoclassical economists is Kuznets, who defined economic growth as a "thorough transformation of a country's economic and social framework."\(^2\) Kuznets never defined the source of this transformation, but he developed a detailed national accounting system describing the circular flow of goods and income among different sectors of an economy. In this work,
he drew from Quesnay who, in 1758, had published a book entitled Tableau Economique describing the same flows in the economy of Louis XV's France. Kuznets' accounting is important because it has been used to organize enormous quantities of microeconomic data to measure a country's economic performance. Another significant contributor to the neoclassical paradigm is Emmanuel who developed the theory of unequal exchange from the work that Ricardo had spelled out in his book Principles of Political Economy and Taxation in 1821. In this work, Ricardo forwarded a number of arguments for the expansion of trade according to existing comparative advantages. Emmanuel extended this work and proposed that expanded international trade is a constraint, rather than a potential source, to UDC economic development. Many neoclassical economists followed the optimistic path prepared by Mill who advocated sustained long-term growth through technological innovation as a way to increase the opportunity for capital growth. This optimism made its way into, virtually all, nineteenth century economic analyses.

Most economists in the neoclassical tradition, however, began to shift their focus away from long-term growth and began to focus instead on short-term efficiency issues: how can resources be allocated to different uses to maximize output. Economic analysis, in other words, turned to decisions taken by individual firms and consumers and and to
the role of market forces in resource allocation. The early beginnings of this trend can be traced to Marshall's Principles of Economics in 1890 which had replaced Mill's Principles as the standard text of mainstream economics in the 1950s. The paradigm in this text advocates the maximization of aggregate economic welfare through the operation of the free market. By the end of the 1950s and the beginning of the 1960s, it had evolved into a distinctive body of growth theory whose main assumption was that an increase in savings can have a positive effect on the growth rate. The main source of long-term growth was, to this paradigm, technological progress.

Among the most notable neoclassical economists in this category are Harrod, Domar, Rostow, and Lewis. Following the 1930s international economic recession, Harrod in 1939 wrote an article entitled "An Essay in Dynamic Theory". In this article, Harrod raised the question of "whether an economy can sustain a steady rate of growth for an indefinite period, growing at the same rate each year with no digressions into recession or explosive expansion." A few years later, Domar presented the same theoretical concerns in an article entitled "Expansion and Employment." The result of these two efforts was the Harrod-Domar growth formula which has been used in conjunction with Rostow's growth model, discussed below, for calculating target rates
of investment in economic planning and for estimating foreign aid requirements for UDCs.

Rostow, while criticizing the legitimacy of the Harrod-Domar model as a theory of growth, developed a model along the same lines. In his search for the theoretical explanations for the development of industrial societies, Rostow proposed the stages of economic growth model to represent the "interplay of economic forces with the other components of the life of whole societies." His thesis is that all societies move along five stages of economic growth. The first stage is predominantly traditional and agricultural. The second stage sets up the preconditions for the take-off. The take-off takes place when a certain percentage of national income is saved and invested. After the take-off, the following stages are predominantly industrial. One is the drive to maturity and the other is the age of high mass consumption. Rostow did not concern himself with explaining the secular changes in output that would result from this transformation, but he did pinpoint the time when this transformation is likely to take place. It is at this point where the work of Harrod and Domar became useful. The Harrod-Domar formula, as had come to be known, could calculate the saving/investing ratios necessary to propel an economy to "take-off". Since UDCs do not have enough available national income to save and invest, the Harrod-Domar formula could calculate the required foreign
aid to make up the difference. The important thing in Rostow's schema is that, for this to occur, a new class of entrepreneurs and businessmen must emerge. The implication is that, through fiscal means, national policy has to be structured to give this class a boost. This is crucial to the work of Lewis, whose theoretical developments were set out to solve present-day problems of distribution, accumulation, and growth in poor, labor-abundant UDCs. Lewis proposed a two-sector model in which high growth accelerates the transition to higher mass income along the same lines as the classical tradition from which he drew.

According to this tradition, the capitalists' profits are saved and invested. As a result, Lewis set out to identify the circumstances in which the share of profits in national income increased. This was an important component because, in these circumstances, the share of savings will also increase. He proposed model of a closed economy intended to throw light into this process. In this scheme, the rising per capita income became the centerpiece from which to transform a traditional, stagnant, subsistence-oriented economy into a dynamic, capitalist economy based on wage-labor. This "transformed" capitalist economy will be then capable of sustaining itself and of providing rising real wages in the long-term. The common and dominant characteristics of this transformation process can be easily specified for all countries provided that they
start off with abundant supplies of labor in the traditional sector. The key determinant of the rate of growth is the rate of capital formation. This is governed by the share of savings in national income. The capitalist/entrepreneurial class plays a crucial role in capital accumulation because this class has a higher propensity to save and invest out of their profit income than any other class. In order to maximize the subsequent rate of growth, it is necessary, therefore, to concentrate as much of national income possible in their hands, as was proposed by Rostow earlier. The aim of this is to steadily increase this share over time.

Taking Lewis' assumptions as representative of the neoclassical school, development occurs as a result of the increased production of consumer goods per capita over the long-run. The increase in income generated by this expansion of production is to be concentrated in the hands of owners of capital for an indefinite period time so that they can save and invest in the short-run. These propositions have detrimental consequences on labor, and on the growth of underdeveloped economies. Some of these consequences, articulated by neo-Marxists, are that if the increase in income generated by expansion of production is to be concentrated in the hands of the owners of capital for an indefinite period, this would encourage the use of capital- rather than labor-intensive techniques of
production which will serve only to postpone the time in which laborers could experience a rise in wages. Furthermore, the labor and capital-saving nature of technological innovation, in itself, would lead UDCs to import both replacement equipment and new capital stock. Since both replacement equipment and capital stock have increasingly labor-saving characteristics, these would tend to further reduce the rate of growth of modern sector employment. Thus, technical advance would prevent indefinitely the full absorption of surplus labor into the modern sector.

But the most fundamental consequence comes as a result of the neoclassical assumption that a rise in the standard of living is not the result of an increase in wages, but the reverse. This is the reason why the neo-Marxist perspective gained such momentum during the late 1960s. It provided an ideological and analytical framework for radical critiques that stressed the central role of labor productivity in economic development as a basis for a steady increase in mass living standards. This shifted the theoretical debate not only away from economists onto other social scientists, but also toward the interest in development issues rather than growth.

During the mid-1970s, many historians and sociologists embarked on the quest of defining "development" and began it with the concern over the evolution of economic and social
"change" in UDCs. To some of the neo-Marxists, economic and social change was simply a matter of redefining development. The principal source of this redefinition was traced to 1911 when Schumpeter published, in German, the first edition of The Theory of Economic Development. In this, Schumpeter drew a distinction between economic growth and economic development. The former consists of a gradual process of expansion of production—producing more of the same each time while using the same methods. The latter, in contrast, is a more dramatic and disruptive process. It consists, "of the carrying out of new combinations of productive means" such that either the "conditions of production of existing goods are transformed, and/or new goods are introduced, or new sources of supply or new markets are opened up, or an industry is reorganized" (e.g. the creation of a monopoly position or the breaking up of a monopoly position). In each case, "innovation is entailed in production methods, products, markets, or industrial organization." The central element in Schumpeter theory was the specification of common features which are inherent in most instances of economic development and without which development cannot occur. Most of the social scientists, who adopted Schumpeter's view of development, broke the traditional stages of growth boundaries and adopted instead partial approaches while concentrating their review upon a few analytical constructs without attempting to generate new
paradigms. These attempts can be traced to the tendencies in economic thought on development in the 1950s and can be classified as neo-Marxist structuralist. Other, more radical, attempts can be traced to classical Marxism and can be further divided into the neo-Marxist paradigm and the dependency school.

Among the neo-Marxist structuralists, the most influential of these social scientists include Prebisch, Furtado, and Seers. Following the Great Depression of the 1930s, Latin American economists (who had been trained in the same neoclassical tradition as were Harrod, Domar, Rostow, and Lewis) were confronted with the task of grappling with the after-effects of the depression and with the immediate severe disruptions caused by the Second World War. Prebisch, who had long been an advocate of coupling the theory of comparative advantages and the doctrine of laissez-faire, found himself working to produce measures to protect the balance of payments and debt repayments in his native Argentina. These and related events moved him toward rethinking the theoretical basis of policy formation not only in Argentina and but also in the rest of Latin America. In 1948, the Economic Commission for Latin America (ECLA) was formed. Prebisch, who became its director, and Furtado, his colleague, worked out a "new" basis for national economic policy with which to reject conventional trade theory. Both became, as a result, convinced that the only
way out of backwardness was through the transformation of domestic economic structures via the development of the industrial sector through import substitution. The ECLA economists developed a new body of theory emphasizing both the structure of UDCs and the nature of their exposure to the international economic system as potential constraints to growth. During the 1950s and 1960s, the structuralist perspective attracted a number of economists outside of Latin America. Seers, Myrdal, and Chenery contributed much to the new paradigm, and they will be discussed fully in chapter II.

During the late 1950s and early 1960s, this neo-Marxist structuralist perspective coexisted with the more pessimistic neoclassical Marxist paradigm. Baran, who was among the leading economists of the time, explored the relevance of classical Marxism to underdevelopment in the same tradition as Lenin had in Russia. As a result, he introduced into the theory of underdevelopment the focus upon class modes of appropriation and the use of "actual economic surplus" in underdeveloped economies. To Baran, the perpetuation of underdevelopment is the product of the failure of the dominant classes in UDCs to use the surplus for productive accumulation within the domestic economy. The remedy, therefore, is the overthrowing of this class through a revolution designed to establish a socialist regime committed to social and economic development. In
the late 1960s, Emmanuel contributed to the analytical content of the neo-Marxist paradigm through his elaboration of the theory of unequal exchange—a sophisticated account of surplus extraction through trade. Amin completed the theoretical underpinnings of the neo-Marxist school when he proposed that the understanding of the causes and process of underdevelopment is in the analysis of the social formations in the center and the periphery and of the relations between them.

Neo-Marxists soon came under criticism, particularly from the radical element in Latin America, who for years had been attempting to introduce into the neo-Marxist perspective the concept of "dependence." The concept was given prominence by Frank, a German-born who had been working with Latin American scholars. Frank outlined the basic dependency argument that, although industrial growth had occurred in some UDCs, this growth had particularly undesirable features that distinguished it from the growth of industrially advanced economies. To Frank, growth in developed economies had been generated by an autonomous indigenous capitalist class while growth in underdeveloped economies had been (and continues to be) stunted by the incapacity of local capitalists to generate their own internal growth dynamic. The leading contributor to dependency theory, Dos Santos, saw in dependency theory the counter-part for Lenin's theory of imperialism. To him,
dependency was not purely an external phenomenon. It was perceived in that context simply because of the collaboration of domestic dominant classes with metropolitan capitalists. Cardoso and Faletto aligned themselves with Dos Santos in that they characterized dependency in terms of the composition and ownership of production in UDCs.

There has been a wide range of perspectives brought onto the analysis of dependency in the periphery. These ranged from those who argued that dependence is a distinctive and permanent characteristic of the periphery leading to a permanent state of underdevelopment through those who argued that dependence affects all countries (developed and underdeveloped) in varying degrees. Thus, dependence is not an immutable condition for all countries in the periphery, even while they remain part of the international capitalist system. A number of critics have argued that it is impossible to draw a line between economies that are dependent and those that are not. Rather, international dependence affects all economies. Seers, for instance, argued that no country is truly autonomous. He identified three key resources on which all national economies are dependent. These are oil, cereal, and technology. Accordingly, countries can be classified by focusing on the degrees of dependence rather than on clear-cut dichotomies. Palma, a critic of Frank specifically, called Frank's theoretical approach mechanico-formalistic;
because it leads to conclusions that are inevitable, static, and ahistorical. Others argued that dependency theorists failed to provide a satisfactory analysis of the causes of dependence.

In the latter part of the 1960s, neoclassical theorists initiated a major critique of the policy recommendations put forth by the neo-Marxist structuralist school. This was the counter-reaction to the earlier neo-Marxist structuralist attack on the short-term efficiency in resource allocation of the neoclassical school. The main focus of the neoclassical critique was the program of import substitution industrialization that had been followed by most politically independent Latin American UDCs. In the 1980s, the political grip of conservative governments in the developed economies of the United States, Canada, Britain, and "West" Germany brought with it a neoclassical, free-market counter revolution in economic theory and policy. This took the form of supply-side macroeconomics and the privatization of public corporations. It called for the dismantling of public ownership, planning, and regulation of economic activities in UDCs. With its controlling votes on the boards of the world's most powerful international financial agencies (such as the World Bank and the International Monetary Fund) and with the simultaneous loss of influence of organizations which more fully represented the views of UDCs (such as the International Labor Organization, the
United Nations Development Programme, and the United Nations Conference on Trade and Development), it was inevitable that the neoconservative, free market perspective challenged the interventionist arguments of the dependency school.

The basic argument of the neoclassical counter-revolution was that underdevelopment results from poor resource allocation due to incorrect pricing policies and too much state intervention by UDC governments. Rather, its proponents (such as Bauer, Lal, Little, Balassa, Simon, and Bhagwati) argued that it is state intervention which slows down the pace of economic growth. By permitting free markets to flourish, privatizing state-owned enterprises, promoting free trade and export expansion, welcoming foreign investors, and eliminating the plethora of government regulations and price distortions in factor, product, and financial markets, economic efficiency and economic growth will be stimulated. This basic argument of the neoclassical counter-revolution perspective ran counter to the dependency perspective since it argued that the UDCs are backward not because of the predatory activities of the developed world (nor of the international agencies that it controls) but rather because of the heavy hand of the state and of the corruption, inefficiency, and lack of economic incentives that permeate UDC economies. What is needed, therefore, is not a reform on the international economic system or a restructuring of dualistic UDCs or an increase in foreign
aid or attempts to control population growth or a more effective planning system. What is needed is simply a matter of promoting free markets and laissez-faire economics within the context of permissive government that allows the market place to guide resource allocation and stimulate economic development. This neoconservatives pointed both to the success stories of South Korea, Taiwan, Hong Kong, and Singapore as free market examples and to the failures of the public-interventionist economies of Latin America. Like the dependency theorists of the 1970s, the neoclassical revisionists of the 1980s, ran into the same ideological problem--using efficiency rather than equity criteria.

Two categories for the analysis of development in Latin America were presented above. The first, comprising the wave of contributions rooted in classical growth theory, addressed the importance of market expansion as a stimulus (both to expansion of total output and to raising labor productivity) and the importance of profits (savings) as a way to finance investments. The second, comprising the wave of contributions rooted in Marxist classical theory, addressed the importance of de-blocking the "partial" and "distorted" development of UDCs. The first adhered to a predominantly short-term efficiency-oriented program applying to UDCs both the efficiency-maximizing tenets of partial and general equilibrium theory and the linked precepts of the law of comparative advantage. The second
focused on the "widespread inefficiency in resource allocation" of UDCs brought about by the theory import-substitution industrialization and on the constraints upon the further advance of many UDCs: worsening balance of payments combined with rising shortfalls in domestic food production (which contributed to the foreign exchange shortages), domestic inflation, and an unwillingness on the part of industrial firms in the larger UDCs to support backward-linked import substitution by switching their purchases of intermediate and capital goods from overseas suppliers to domestic producers. The question became the inevitability of a trade-off between growth and equity. Seers, the leading promoter of this perspective, explored in depth the measurement and policy implications of a new definition of development for UDCs--what sorts of uses of redistributed resources would minimize the growth/equity trade-off. Drawing from the Chinese experience of growth and development after the revolution of 1949, a third perspective argued (in the same neo-Marxist structuralist tradition) that the demand constraint to growth should be overcome internally. Lefeber, its main proponent, argued that this could only be achieved by first raising output and incomes in the sector which contains the majority of the UDC population--agriculture. But to him, there was also a demand constraint to the expansion of agricultural output. The upper income groups have a low income elasticity of
demand for food (because regardless of what the price is the rich are not going to buy more or less food than they are already purchasing), while the poor have a high income elasticity of demand for food (because the poor cannot afford to pay for it). Therefore, the generation of sufficient effective demand depends on the redistribution of income toward those in the rural sector who have a high marginal propensity to consume food, as well as other locally produced goods— the rural poor. Furthermore, if growth is to be sustained, not only should the existing agricultural demand constraint be overcome, but the foundations must be laid for the steady expansion of demand. Industry must serve agriculture, providing it with the improved inputs and equipment needed to generate further increases in income and demand. Lefeber argued that, in overpopulated countries, the most effective means of combining income redistribution with output expansion (rather than by simply generating an increase in consumption demand) would be through the redistribution of land rights and the creation of a new communal framework of rural production along Chinese lines.

But the fact that the Chinese appeared to succeed in combining growth and structural change with improvements in mass welfare, does not make the Chinese model a widely applicable one. This is partly because there is a huge gap between theory and reality and partly because there is a
need to link a particular interpretation of development policy in a particular country and in a particular period.

There are at least four arguments for this: (1) the philosophy, policies and development experience concerned are country-specific, (2) the development "package" may not replicable elsewhere, (3) the ideology contained may predispose the outcomes—that is, one might rationalize the use of any one model over another, and (4) the development perspective concerned may be embodied in insufficient economic theoretical content to justify its inclusion. Against these points, however, is the overriding argument that what guided policy formulation in China back in 1949 is what directly affects the lives of 402,843 million Latin Americans today.26 This is the reason why the basic needs-first perspective has been taken as the starting point in this dissertation to argue that new theoretical approaches on economic and social change ought to be formulated. These approaches need to reflect the theoretical position that both neoclassical and neo-Marxist schools have failed to provide Latin American policy-makers with workable tools for development. This argument is made in light of the examination of literature on growth which sees growth as the independent variable on which development depends. This examination has led to the conclusion that the growth strategy has placed the growth of industry (with its emphasis on investment in the capital stock) above the
development of the labor force (aimed at improving the quality of life on the demand side). The result has been, invariably, that capital accumulation has been accomplished at the expense of labor in the form of "forced" savings (lower wages) for investment in the short-run. Forced savings was redefined by the neo-Marxist school as the exploitation of labor since "forced" savings was extracted from the workers through managed prices and industrial production quotas which emphasized the growth of heavy industry, not consumption, and was rationalized as necessary to defend their socialist revolution against capitalism. This neo-Marxist perspective, although it argued on development grounds, also failed to provide politically-feasible and practical solutions to the plight of Latin Americans since the neoclassical perspective (this time in its neoconservative counter-revolutionary guise) was able to redefine socialism as economic slavery. Neither side looked at labor other than as an input into the production process. Investment in those things that are considered labor investments (such as health care and education) are seen to both sides only as strategic investments to the industrial process in the form of, for example, Solow's efficiency unit model discussed in Chapter II. This was a minimal contribution, at best, to the development problematique since it was investment in capital and new technology to which both sides attributed economic growth.
The dissertation is, then, oriented toward finding a systematically appropriate procedure that starts from the premise that it is possible to design and structure broadly-based alternative proposals (based on a few theoretical tools) with which to illuminate common Latin American problems. And, although these problems will differ in scope and magnitude in such diverse countries as Costa Rica and Nicaragua, the fact remains that they both face similar development problems—widespread poverty and growing income inequalities; rapid population growth; questionable levels of literacy and low levels of nutritional intake; rising levels of urban and rural unemployment and underemployment; stagnating agriculture and relative rural neglect; chronic debt problems; inadequate and often inappropriate educational and health care delivery systems; inflexible institutional and administrative structures; significant vulnerability to external economic, technological, and cultural forces; and the difficult choices regarding the tradeoffs between modernization and cultural preservation.

The research question is based on the thesis that efficiency proposals (even when defined in terms of both rapid growth and equitable distribution of national incomes) are necessary but not sufficient conditions for development. The problem is that economic development cannot simply be viewed in the context of traditional approaches to productivity, which equate labor-saving practices with
growth. New approaches that look into the concept of labor-augmenting development strategies are needed. In these approaches, production should be a function of the increased well-being of the work force and should entail an increase in non-traditional factor inputs, such as education, health care, and housing.

This research is delimited to education as a factor input to the production function, and it attempts to provide a theoretical understanding of the education investment. The research questions pertinent to the relationship between quantitative educational expansion and economic growth are the following:

1. Does education contribute to or retard the growth of domestic economies?

2. How does education influence the rate, structure, and character of economic growth? and How does the rate, structure, and character of economic growth influence the nature of the educational system in peripheral economies?

The Hypothesis: Capital Augmenting versus Labor Augmenting Strategies

The hypothesis is that investment in human capital will have a more positive effect on economic growth than will investment in physical capital.
The Significance: Physical Capital versus Human Capital

In Latin America, the standard of living tends to be very low for the vast majority of people. This is true not only in relation to their counterparts in developed nations, but often also in relation to the small elite groups within their own societies. This standard of living is manifested, quantitatively and qualitatively, in low incomes, inadequate housing, poor health, limited education, and a general sense of malaise. The following characteristics are common to Latin American economies: (1) low relative levels and, in many countries, slow growth rates of national income, (2) low levels and, in many countries, stagnating rates of real income per capita growth, and (3) highly skewed patterns of income distribution, with the top 20 percent of the population receiving five to ten times as much income as the bottom 40 percent. As a result of the above three, the great masses of Latin American populations suffer from absolute poverty, with 343.4 million people living on subsistence incomes of less than $125 per year. Large segments of the populations suffer from ill health, malnutrition, and debilitating diseases—with infant mortality rates running as high as ten times those in developed nations; and, with inadequate and often irrelevant educational curricula and facilities, the populations
generally exhibit low levels of literacy and significant school dropout rates.\textsuperscript{27}

In addition to low standards of living, Latin American countries are characterized by relatively low levels of labor productivity. To raise productivity, economists on both sides (neoclassical and neo-Marxist) use a production function that systematically relates outputs to different combinations of factor inputs for a given technology. The production function is often used to describe the way in which societies provide for their material needs and to search for ways in which to accelerate national growth rates. Traditionally, neoclassical economists advocate investing in land and in physical equipment to accomplish these. Kuznets, for example, defined a country's economic growth as "a long-term rise in the capacity to supply increasingly diverse economic goods to its population. This growing capacity is based on advancing technology and the institutional and ideological adjustments that it demands."\textsuperscript{28} Capital accumulation, to them, results when some proportion of present income is saved and invested in order to augment future output and income. New factories, machinery, equipment, and materials increase the capital stock of a nation (i.e., the total net real value of all physically productive capital goods) and, therefore, increase productivity. The principle of diminishing marginal productivity states that if increasing amounts of a
variable factor (labor for instance) are applied to fixed amounts of other factors (capital, land, materials for example), then beyond a certain number the marginal product of the variable factor declines. In this, low levels of labor productivity can, therefore, be explained by the absence, or lack of complementarity, of several factor inputs such physical capital and/or human capital. Productivity is raised, according to the neoclassical argument, when domestic savings and foreign finance are mobilized to generate new investment in physical capital goods and also to build up the stock of human capital (e.g. managerial skills) through investing in education and in training. Investing in human capital can increase total output and thereby have the same, if not a more powerful, effect on production. Formal schooling, vocational and on-the-job training programs, and adult informal education may all be made more effective in augmenting human skills and resources as a result of investing directly in buildings, equipment, and materials such as computers, lab equipment, and vocational tools. The advanced and relevant training of teachers also may make an enormous difference in the quality, leadership, and productivity of a given labor force. The concept of investing in human capital is, therefore, analogous to that of improving the quality, and thus the productivity, of existing land resources through strategic investing. Unfortunately, to neoclassical
economists, investing in human capital refers only to the increase of efficiency units of labor (the number of units) brought about by increasing the health, education, skill, and knowledge of the labor force. This translates directly into educating the labor force for the productive enterprise at a minimum level—to get a better input and not to reach beyond the point of diminishing returns on investment. The neo-Marxist proponents would, as well, fall under the same critique, except that for them, educating the labor force for the productive process has taken the added task of educating for ideological consumption. This concept is discussed in more detail in Chapter II in the Nicaraguan case.

Because low standards of living and low productivity are self-reinforcing social and economic phenomena in Latin American economies, they are as such the principal manifestations of and contributors to their underdevelopment. Myrdal's well-known theory or "circular and cumulative causation" in underdeveloped countries is based on these mutually reinforcing interactions between low standards of living and low productivity. The next section explores the ways in which this vicious cycle can be reversed.
The Research Question:
Cobb-Douglas versus the Social Production Function

The production function has been used by economists to give a mathematical expression to the relationship between the quantity of output and the quantity of inputs, like capital and labor. The production function most often used is the Cobb-Douglas production function, where

\[ Q = cK^aL^b \]

and \( K \) = capital cost,
\( L \) = labor cost,
\( 0 \) = value of output,
and \( a \) and \( b \) are constrained so \( a + b = 1 \) and \( 0 < a, b < 1 \); and \( a, b \) are constants and where \( c \) is a scaling factor.

In this dissertation, a human component (the physical quality of labor) is used to complement the Cobb-Douglas function so as to assume that not only the quantity of capital and labor change but also its quality. Toward this end, a social production function written by two economists working at the United Nations University served as the basis to propose an alternative strategy (to the efficiency model) based on development rather than growth. Drewnowski and Subramanian gave,

\[ P = cK^aT^bQ^s \]

where,
\( P \) = product per unit labor,
\( K \) = capital intensity (capital per unit labor),
\( T \) = capital productivity, and
Q = quality of labor. No constraints are placed on a, b, g and c indicates no constraint on P when K = T = Q = 1 (c is a scaling factor).^{32}

Independent of whether P might be substituted for L in Cobb-Douglas, the critical point in using Drewnoswki's and Subramanian's production function is that, in it, labor quality increases labor productivity. The work of Hughes (1980) provides an excellent argument for this in that he pointed out that as income increases, birthrate declines. To him, income per capita is a "surrogate" for those things that enhance labor quality: education, health care, and women's rights.^{33} Drewnoswki and Subramanian use education, protein consumption per capita and longevity as equivalent indicators. What shall we expect? As the quality of life goes up, the birth rate goes down and the population declines. This brings about an improvement in labor productivity, which improves the productivity of capital. The productivity of capital brings about an improvement in the quality of capital and in the quality of labor, which then raises the quality of life and so forth. Thus, instead of ending in a Malthusian world of overcrowding and starvation, the world may well stabilize at a higher standard of living.
NOTES


23. Although this dissertation does not advocate a "basic needs" approach to development, it nevertheless takes as its centerpiece the need to overcome underdevelopment internally: by maximizing mass welfare.
25. This concept is further explored in chapter II.


32. J. Drewnowski and M. Subramanian, "A Suggestion for an Empirical Production Function Representing the Productivity Effect of Social Factors," Research Notes: A Review of Recent and Current Studies Conducted at the Institute. United Nations Research Institute for Social Development 1 (June, 1968), pp. 46-49. The conceptualization on the "social production function" resulted from face-to-face discussions and Email communications between R. Chadwick and myself during the course of the writing of this dissertation.

CHAPTER II
THE THEORY OF DEVELOPMENT OF PERIPHERAL CAPITALISM

This chapter is a critique of development theory. It focuses on two Latin American countries: Costa Rica and Nicaragua. The reason for that is that, as no other geographical region, these bordering UDCs can best illustrate the failure of development theory in its current state. To this end, it argues that development theory has failed on two counts. On the first count, it has failed at the most fundamental level: at the level of definition. Social scientists, in general, have historically treated economic growth as the conceptual equivalent of economic development. Consequently, the distinction noted in the literature of development economics revolves around Schumpeterian lines. Growth basically relates to quantitative increases in GNP per capita. Development entails "something more". This "something more" is usually delineated as the qualitative changes in institutions and structures necessary for growth to occur. Methodologically, this has important implications. Economists of the first persuasion see the process of development as a capital accumulation question. As it was stated in Chapter I, this is related to the allocation of resources to maximize
output. Since this maximization is achieved by encouraging savings, the task of development theorists is to define formulae that could calculate savings and investment ratios. In this theoretical scheme, growth serves as the independent variable upon which development depends. Kuznets, Rostow, Harrod and Domar, and Lewis are among the most notable growth economists (referred in the literature as neoclassical economists). To them, economic growth is an evolutionary process defined by an "upward movement of the entire social system." Kuznets defined economic growth as a "thorough transformation of a country's economic and social framework" but never defined the source of this transformation. Rostow, while he was concerned with the application of economic theory to economic history, developed a theoretical explanation for the transformation of entire societies. The stages of economic growth, as they came to be known, represented to Rostow the "interplay of economic forces with the other components of the life of whole societies." Rostow did not concerned himself with explaining the secular changes in output that would result from this transformation; but Harrod and Domar, while working independently to explain them, arrived at a mathematical formulation that could be used to promote this transformation. Thus, in this scheme, growth and development are interchangeable and synonymous concepts. This observation is important because, by equating these
terms, the dynamic of structural change and technological advance becomes relegated to the analysis of sequential patterns of structural transformation. In this, the issue of discontinuity is only brought into the context of the "changes in technique that are the decisive factor in economic growth." Except that, in Lewis, structural change is a precondition to growth. This is why Lewis has been rightly considered a "structuralist" and why most of those who try to organize the literature find it difficult to place him. Lewis is a neoclassical economist, a growth theorist, and, to an extent, a stage proponent. This argument is made here, for the first time, since, in Lewis scheme, a predominantly agricultural economy moves in "K" stages (from K1 to K2 to K3...) until it becomes completely industrial.

Economists of the second persuasion (those who regard themselves as development economists) begin with some "warranted" questions: If a nation achieves the level of economic growth measured by GNP per capita, is that growth not indicative of economic development? Are the two processes, therefore, not the same? As a challenge, they argue against the tendency of neoclassical economists to conceptualize economic development primarily in terms of the more efficient use of resources. The reason for this is that they interpret the "more efficient use of resources" rather than the "exploitation of resources". The theorists
in this category see the process of transformation as a prerequisite for what Kuznets called "the upward movement of the entire social system". The causes of transformation and how they account for the dynamic of economic evolution are the central theme of these more radical economists who draw from Marx their interpretation of development. Marx defined "development as how the economic process...incessantly changes the social framework--the whole of society in fact." Development can be promoted through the structural transformation of the system, but this structural transformation is not just a function of raising output in the way that the neoclassical economists prescribed. The reason for this is that, neo-Marxist political economists, as they are called, saw the economic development of advanced industrial economies as initiated and sustained by an internal supply-side dynamic; while, they saw the economic development of underdeveloped economies as generated externally on the demand-side. This difference is crucial since, to the neo-Marxists, the role of labor productivity in economic development is the basis for the steady increase of mass living standards. Some of them, for instance, saw a rise in per capita income as the most pervasive feature of structural transformation, for what they are called neo-Marxist structuralists. Chenery proposed that because, as per capita national income increases the share of industrial output in GDP rises and the share of agricultural output
declines, a rise in wages needs to be the first step. Prebisch and Furtado proposed that this is accomplished through the steady incorporation of the labor force into lines of production in which the most advanced technologies are applied and in which labor productivity is maximized. The essential flaw in this scheme is that labor productivity is measured in efficiency units in much the same way that the neoclassical economists saw the role of labor productivity—as a an input to increase output in measurable GNP increments.

Other neo-Marxists, known as the basic needs school, argued for the "dethronement of GNP in favor of the elevation of widespread absolute poverty, increasingly inequitable income distributions, and rising unemployment." Economic development came to be redefined in terms of the reduction or elimination of poverty, inequality and unemployment within the context of a growing economy. Development, to them, cannot be measured strictly in economic terms but must be measured, instead, on the basis of some kind of equity criterion. They challenge the planned alteration of the structure of production and employment that is promoted by neo-Marxist structuralists and make casual reference to noneconomic social indicators as gains in productivity through increased literacy, schooling, health care and housing services. To some of these theorists this becomes nothing more than a mild clamor
for a "basic needs-first" approach while, to others, this becomes more than a cry to rethink the theoretical basis of the entire development problematique. Seers' redistribution from growth slogan, for example, served as a basis to question why a number of developing countries that experienced relatively high rates of growth of per capita income during the 1960s and 1970s showed little or no improvement (or even an actual decline) in employment, equality, and real incomes of the bottom 40% of their populations. To answer this question, a number of other neo-Marxist economists argued that, although these developing countries had experienced industrial growth, this growth has particularly undesirable characteristics. They drew from classical Marxism the constructs for a theory of "underdevelopment" to explain these characteristics. Baran, as was point out in Chapter I, placed the blame in the failure of the dominant classes in UDCs to use the surplus for productive accumulation within them. Emmanuel and Amin placed the blame outside the national context and argued that the perpetuation of underdevelopment is due to the nature of exchange relations (in the case of Emmanuel) or to the nature of production (in the case of Amin) of the social formations in the center and the periphery and of the relations between them. Frank and company introduced into this schema the concept of dependence by explaining that while growth in developed economies had been generated by an
autonomous indigenous capitalist class, growth in underdeveloped economies has been stunted by the incapacity of local capitalists to generate their own growth dynamic. The fundamental flaw here is that, underdevelopment theorists, as they are called, are also talking about growth, not development.

On the second count, this chapter argues that development theory, as a whole, has failed to provide Latin American policy-makers with workable tools for development. Because Rostow, Harrod and Domar, and Lewis equated growth with development, the focal characteristic became to them rising per capita income. But economic development, in this context, entails the transformation of a traditional, stagnant, subsistence-oriented economy into a dynamic, capitalist economy based on wage-labor. This "transformed" capitalist economy will then be capable of sustaining itself and of providing rising real wages in the long-term. The common and dominant characteristics of this transformation process can be easily specified for all countries provided that they start off with abundant supplies of labor in the traditional sector. The key determinant of the rate of growth is the rate of capital formation. This is governed by the share of savings in national income. The capitalist/entrepreneurial class plays a crucial role in capital accumulation because this class has a higher propensity to save and invest out of their profit income
than any other class. In order to maximize the subsequent rate of growth, it is necessary, therefore, to concentrate as much of national income possible in its hands. The aim should be to steadily increase this share over time. These propositions have detrimental consequences on the growth of underdeveloped economies and are the reasons why the neo-Marxist perspective gained such momentum during the late 1960s. It provided an ideological and analytical framework for radical critiques that stressed the central role of labor productivity in economic development as a basis for a steady increase in mass living standards. Prebisch, like Furtado, began by attacking the theory of comparative advantages by arguing that, contrary to fact, the benefits of technological advance in primary exporting and manufacturing economies are never equitably distributed between two trading partners. They noted that although major advances in productivity have occurred in the main manufacturing nations since the late nineteenth century, these have not reflected a decline in the price of exports and a subsequent improvement in the terms of trade for primary exporters. This has been due to the downward rigidity of wages and prices in the manufacturing nations. These productivity gains have been fully absorbed within the industrially advanced economies in the form of higher real wages and profits. Consequently, the terms of trade of primary exporting countries, which should have improved,
have not. Furthermore, while the manufacturing nations have retained the benefits of their own productivity gains, the extent of the movement in the terms of trade suggest that they have also absorbed part of the productivity gains of primary exports. The policy recommendations of the structuralist school relate in one way to another to the international context. The crux of this policy debate, with its preoccupation on the balance of payments constraint, the small size of the domestic market, and domestic supply inelasticities, is different from that to be found in the analyses which perceived inadequate savings to be the main constraint to growth. Understandably, the policy recommendations impact the equity criterion in a different way. The leading neo-Marxist structuralists did not, however, ignored the fact that economic development is fundamentally concerned with raising the productivity of labor through increased incomes. Prebisch argued that "a general increase in wages resulting from greater productivity in industry gradually spreads to other activities, which are thereby obliged to use more capital per capita, in order to achieve the increase in productivity without which they would be unable to pay higher wages." To Prebisch, there is a consistency between some real wage increase in the modern sector and economic development. To him, an increase in real wages helps to expand the domestic market. It may also act as a stimulus to raising labor
productivity in technologically backward branches of productive activity, and, as such, is a crucial way to retaining the benefits of rising productivity within an open economy. Unfortunately, since there is an implicit assumption in the structuralist literature that the bulk of the productive capital accumulation will be undertaken in the private sector and, since the private sector is export-led, there will be no way in which the government can guide and facilitate the correct pattern of investment through infrastructure development toward the domestic side of the economy. This is what led the founders of the neo-Marxist school to question the transformation approaches of the neoclassical structuralist school, of which Lewis is the sole representative. They argued that on the basis that, by virtue of the nature of the structural needs of the center (necessarily one of exploitation), surplus or profit is transferred through various channels from the periphery to the center. This, in turn, aggravates the surplus-absorption difficulties of the center and induces further outward expansion. Thus, the periphery are caught in the explosive vicious spiral of the center's surplus-absorption problem. At the same time, the surplus drain they are subjected to and other factors make their economic development an impossibility (in the case of Baran). It leads to an inappropriate pattern of development (in the case of Amin), and it will lead to the development of
underdevelopment (in the case of Frank). These differences are crucial. Because of their emphasis on the surplus drain (which they assume to be of crippling magnitude), the early neo-Marxists saw imperialism as a system that created a necessary polarity between an extremely poor periphery and a prospering center. Poverty and wealth were thus seen as two faces of the same coin. They assumed that a very large part of the surplus is drained, and that the part of the surplus that is not drained is not utilized in a way conducive to local development. Thus, even if the proportion of drained to not-drained is low, there is no growth. Amin calls the surplus drain the "continuing primitive accumulation" by the center, but he allows both for a residue of utilization of this surplus toward the development of peripheral economies. For Baran, the real problem is not necessarily the presence of a vicious circle but the lack of a significant stimulus to development aggravated by the surplus drain—the continuing primitive accumulation by the center implies a simultaneous negative primitive accumulation for the periphery. Surplus transfers, then, create and perpetuate underdevelopment in the periphery, a phenomenon that Frank calls the development of underdevelopment. Amin adopts Frank's motto but to him it means a dependent development, that is an inappropriate pattern of growth imposed upon the country through its ties with the center—literally through being sucked into the capitalist system. This view allows
for the possibility of growth of aggregate income, an observed fact in underdeveloped countries.

The crucial problem of how the available surplus is utilized in peripheral economies leads the neo-Marxists to examine the role of local elites. Baran and Sweezy argue that no local development is to be expected from such elites. On the contrary, the elites are by their nature a factor contributing to underdevelopment. The analysis is based on the objective situation in which these elites find themselves. Their economic behavior—conspicuous consumption, investments in real estate and extreme risk-aversion, the export of their savings to be deposited with foreign banks for security, their avoidance of investments in industry—is, from the standpoint of private advantage, essentially a rational response to the circumstances in which they find themselves. Their fear of foreign competition, where to invest in more productive activities, is fully justified. Most elite members lack the capital required for the establishment of enterprises able to compete with foreign oligopolies. Also lacking are entrepreneurial skills and attitudes to work and innovation conducive to growth.

Amin offers the view that local elites are not, in fact, exploited by the elites of the center. Their field of independent activity is severely curtailed by the elites of the center. Anyway, many members of local elites profit,
too, from foreign activities in their country. What enables Amin to say this is his adoption of Emmanuel's theory of unequal exchange, in which the level of wages is the major determining factor. Because wages are lower in peripheral economies, this means that the labor force of these countries carries the burden of exploitation both by its local capitalist class and by the capitalist class at the center. The working class is burdened by the regular exploitation of the home capitalists and the primitive accumulation of the capitalist class at the center. The higher wages that the center's working class enjoys are in turn attributed solely to its higher productivity. It does not partake of the proceeds of the continuing primitive accumulation.

Underdevelopment theorists argue that here is also a disheartening lack of entrepreneurial and administrative talent in the countries of the periphery. Their reasoning for this is that entrepreneurial and administrative talent can neither be found or created as the objective conditions do not exist in an environment of dependence. This problem is the result of the discouragement and systematic sabotaging (or at least the guiding in the wrong paths) of local development by the center. From this view of the economic impotence of the local elites, underdevelopment theorists are led to the conclusion that in the periphery only the state can mobilize the surplus in a way conducive
to the country's development. First, the state itself can become capitalist and finance industrialization with state-owned enterprises. Within the context of world capitalism, however, such a role for the state is severely limited. Second, the state can put sufficient funds in the hands of capable members of the local elite in the form of long-term loans. But, is that advisable since, to underdevelopment theorists, the local elites are either exploited, corrupted, or at best co-opted? Third, the state can mobilize all productive structures through bureaucratic planning in a socialist setting. Underdeveloped theorists advocate the process of de-linking from the "world-order" as the only alternative for the development of underdeveloped economies.

The Implications for Efficiency

In UDCs, there is a fundamental maladjustment between factor supply and low productivity. This is due to the fact that there is always an under-utilization of production factors. Under-utilization in UDCs, however, does not necessarily result from the faulty combinations of existing factors. It, most often, results from the scarcity of capital; and, because of that scarcity, labor is wasted. In addition, the average productivity of a mixture of factors in UDCs is lower than would be expected from the observation of the utilization of these same factors in developed
economies. This depressed productivity exists because of the relative deficiency of savings and investment. Thus, if it is taken for granted that UDCs grow by the simple assimilation of known techniques and by the corresponding accumulation of capital, it follows that the transplanting of those techniques (along with the net additions to the capital stock through new investments) is all that is necessary to resolve the fundamental maladjustment between factor supply and low productivity. This problem can be met only through the adaptation of technology and through an influx of investment into the economy— which is all the more difficult since UDCs, as a rule, lack a native capital goods industry and enough savings to generate new investments. In this fundamental maladjustment between factor supply and technological orientation may lie the major problem facing the underdeveloped countries of the present time.

The Complementarity of Lewis, Rostow, and Harrod-Domar

In 1954, Lewis, in attempting to propose an analytical framework with which to solve the problems of economic growth in contemporary poor, labor-abundant UDCs, announced a need to return to classical economic theory. He pointed to the failure of "some" neoclassical theorists to resolve the problems of such economies. The basis for his arguments
were that (1) these neoclassical economists assumed full employment of all resources and (2) that these neoclassical economists were not concerned with the problems of long-term growth. The classical economists, on the other hand, were preoccupied with economies having unlimited supplies of labor at subsistence wages. With these, Lewis set out to determine to what extent the classical school could solve present-day problems of distribution, accumulation and growth in poor, labor-abundant UDCs, first in a closed economy and subsequently in an open economy. Lewis, since he was concerned with the causes of and constraints on economic growth, equated growth with development. That is, Lewis was concerned with the impact of growth on contemporary mass welfare. His thesis was that high growth now accelerates the transition to higher mass incomes in the future.

Lewis took at his starting point the "typical" UDC which has unlimited supplies of labor at subsistence wage. This labor is mainly found in the traditional agricultural sector and, to a lesser extent, in the urban sector. Such labor-surplus economies are divided into two sectors: the capitalist sector and the subsistence sector. The capitalist sector is very small and is the part of the economy which uses reproducible capital. The capitalists hire wage labor for production in mines, plantations, and industry. Capitalist production in this sector is not
spatially concentrated in one location, but it is geographically fragmented. The subsistence sector, in contrast, does not use reproducible capital. Consequently, output per head is much lower than in the capitalist sector. It is based upon family labor rather than in hired labor. Labor is available to the capitalist sector at a wage determined by earnings in the subsistence sector. Since workers in this sector generally work in household enterprises, and they generally pool their earnings with other household members, their effective income reflects the "average" rather than the "marginal" income of household members. It is this average per capita income that Lewis equated with average labor productivity. This represents the material opportunity cost to a laborer for moving from the subsistence to the capitalist sector. The wage paid by the capitalist sector is set at the level of this opportunity cost plus a margin which is just sufficient to induce workers to move into wage employment. Lewis observations on the availability of abundant labor at subsistence wages in UDCs led him to identify the fundamental cause and constraint to growth in output: the lack of accumulation of productive capital coupled with an inadequate rate of savings. "The central problem in the theory of economic development was," to Lewis, "to understand the process by which a community which was previously saving and investing 4 or 5 percent of the
national income, or less, converts itself into an economy where voluntary saving is running at about 12 or 15 percent of national income or more. Lewis, however, rejected the possibility, implicit in neoclassical theory, that an increase in saving can simply occur as a result of the population becoming more thrifty. This is not possible, first, because 90 percent of the population in poor countries with surplus never manages to save a significant proportion of its income and, second, because in UDCs a substantial proportion of the rich are landowners. Landowners have a high propensity to consume out of rental income and even when rents are saved, they are usually used unproductively (to buy existing assets rather than to create new ones). This leaves the saving initiative to the richest 10 percent of the population--the capitalists.

Lewis assumed, in the classical tradition, that capitalists save and invest their profits. Where a capitalist nucleus exists, however small, and where there is an unlimited supply of labor, then the capitalists will reinvest, at least part of their profits, thus expanding the capital stock. More labor is, then, drawn into the capitalist sector. With each round, as the surplus is reinvested, total profit increases. With wages in the capitalist sector remaining at subsistence level, the share of profits in national income rises as the capitalist sector expands. As the share of profits rises, the share of
savings and investment in national income rises, too, thereby increasing the rate of economic growth. Expansion in the capital sector, through deficit financing, can occur when credit is created in favor of private capitalists or when credit is used to finance government capital formation, provided that the projects financed by the government generate increased output quickly. This expansion of the money supply can, for a time, produce price inflation; but inflation can be liquidated as new goods begin to flow into the market.

Lewis noted four factors that may constrain the effectiveness of monetary expansion as a growth promoter: (1) If prices rise too fast or for too long, investors may lose confidence and turn to various forms of unproductive investment such as speculation in commodities and land purchase. (2) The smaller the capitalist class, the greater the likelihood that much of the expanded money supply will find its way into the pockets of other groups (such as merchants, who speculate in commodities; the middle classes, who buy big American cars with it or go on trips to Europe; or peasants, who use it to pay off debts or to buy more land). (3) In an open economy, expansion of monetary demand would put pressure on the balance of payments; thus, only if the balance of payments is favorable and only if governments can contain the pressure on the foreign balance while ensuring that the monetary expansion leads to a significant
increase in investment, should the monetary expansion be used as a means of accelerating growth. (4) The natural tendency of governments is to try to control price inflation by fixing industrial prices. However, in an inflationary context, governments should not control industrial prices, since it is the industrial capitalist class which saves the most. Industrial price controls, hence, reduce profits, and, therefore, savings and investment, while perpetuating inflation.

This process showed the circumstances in which sustained growth can be promoted. So long as there is an initial capitalist nucleus and an abundant supply of labor, UDCs can grow unprecedentedly. But this process cannot go on forever. The process will slow down and will finally come to a halt when the capitalist sector has absorbed all the surplus labor. At this point, wages will inevitably rise, eating into profits and reducing the incentive to invest. In this final analysis, Lewis shifted to UDCs where labor is scarce but other labor-abundant economies exist. The economy is now "developed" but labor-scarce entering into relations with other UDCs. The capitalists in such economy may export capital to labor-abundant economies. On the other hand, technical progress combined with the co-existence of skilled labor, external economies and a capitalist rather than pre-capitalist culture in the advanced country, may serve to sustain the rate of profit in
the latter and make continued reinvestment of capital in the advanced economy more attractive than capital export. Capital exports, then, flow to and from UDCs. How this "open" economy concept is to relate to the previous "closed" economy construct is not elaborated by Lewis.

Rostow, in 1956, put together the dynamics of Schumpeter and the classical economists into a perspective outlined, first, in The Process of Economic Growth (1952) and, second, in "The Take-off into Self-Sustained Growth" which appeared in the Economic Journal in 1956. It is in these works that the complementarity to Lewis is noted.

For Rostow, like Lewis, a crucial factor which serves to lift an economy out of low income stagnation onto a sustained growth path is a significant increase in the share of savings and investment in national income by the entrepreneurs/businessmen class. Rostow identified five stages of growth: the traditional society, the establishment of the preconditions for take-off, the take-off, the drive to maturity, and the age of high mass consumption. Of these, it is the middle three that are central to his analysis. Rostow proposed that take-offs have occurred in two types of societies: those already settled and those newly settled. Prior to the take-off, the preconditions for growth are established in already settled economies over what is likely to be a long time period of up to a century or more. In this period, "new enterprising men
come forward, willing to take risks in pursuit of profit, notably in commerce. "Markets widen as a result. "Basic capital is expanded notably in transport and communications, often to bring to market raw materials in which other nations have an economic interest." Financial institutions develop to support this increased activity, and "here and there, modern manufacturing enterprise appears, usually in substitution for imports." During the pre-take-off phase, "the rate of productive investment may rise to up to 5 percent of national income." This phase is followed by the take-off into self-sustained growth "where political, social, and institutional changes will perpetuate an initial increase in the scale of investment and result in the regular acceptance and absorption of innovations." Like Lewis, Rostow observed that while national income aggregates reveal little, it is "nevertheless useful to regard as a necessary but not sufficient condition for the take-off the fact that the proportion of net investment to national income rises from (say) 5 percent to over 10 percent, definitely outstripping the likely population pressure and yielding a distinct rise in real output per capita." It is implicit in Rostow's analysis that, although some premature take-offs fail (because the particular country has still not completed the preconditions phase), modern economic history consists basically of a linear progression from a traditional to a mature economy. Once a country is
brought into contact with the world capitalist system, changes in social values and economic institutions begin to occur. At a certain point, when appropriate investment opportunities and the impetus to exploit them have also developed, this will lead to a successful take-off into economic growth.

In an attempt to disaggregate the nature of the growth process, Rostow analyzed the interrelationship between the growth performance of different sectors: (1) Primary growth sectors where possibilities for innovation or for exploitation of newly-profitable, unexplored resources yield a high growth rate and set in motion expansionary forces elsewhere in the economy. (2) Supplementary growth sectors where a rapid advance occurs in direct response to—or as a requirement of—an advance in the primary growth sectors, e.g. coal, iron and engineering in relation to railroads. (3) Derived growth sectors where advance occurs in some fairly steady relation to the growth of total real income, population, industrial production or some other overall, modestly increasing parameter. Food output in relation to population, housing in relation to family formation are classic derived relations of this order. \(^{18}\) To achieve satisfactory growth in balance with rising demand in the derived growth sectors requires the diffusion of technical innovations in these sectors too. Thus, Rostow notes that
revolutionary changes in agricultural technology as essential for a successful take-off.

Although Rostow's stages of growth theory specifies a very long pre-take-off phase in which the preconditions for growth are established (up to a 100 years or more), his analysis did not generate a great deal of opposition as might have been expected. This is probably because the theory offers no certain means of identifying what stage a country has reached in the growth process other than retrospectively. It was, therefore, possible for national planners to assess that a country was ready, or nearly ready, for the take-off. Furthermore, it was also possible to calculate the needed requirements of saving and investing to accelerate the preconditions for take-off through active government intervention. It is here where the Harrod-Domar formula has been used to complement Rostow's theory.

Harrod began his analysis by introducing the concept of the warranted rate of growth. This is the rate of growth which is sanctioned by the values of two other crucial variables—the planned national rate of savings and the average value of the capital-output ratio as planned by producers. Planned savings represents the sum of the spending power which individuals and firms plan to withhold from consumption in a given period, and which, if the plans are fulfilled, can be made available to finance new capital formation. The capital-output ratio represents the value of
the capital needed to produce a given output divided by the value of that output. The stock-flow ratio depends partly on the time period over which that output flow is measured. This is usually a year. If planned savings represents a proportion of national income, then this proportion divided by the planned capital-output ratio gives the warranted rate of growth of output.

For most of his analysis, Harrod assumed that savings plans, as a proportion of national income, are fulfilled. He then focused his attention on capital, minus its determinants, and on the consequences of the failure of producers to achieve the planned target. Harrod observed that the capital-output ratio is technically determined. It represents the value of all capital required to produce one unit of output in a given time period—when machines are working the optimum time and when there are no additions to, or reductions from, the stock of working capital. The amount of investment that producers plan to undertake in any given period is given by the value of the extra output that they wish to produce, multiplied by the relevant capital-output ratio. The assumption is that producers plan to expand production if the rate of growth of output that occurred in the previous period was that which producers had planned. Then, they will increase their investment in the next period. Critics have asked why producers should plan to implement the same growth rate of output rather than to
achieve the same absolute increase in output. Equally important, they asked, why they would adopt such a short-term perspective--basing their plans only on the outcome of the previous period. In Harrod's model, output plans may not be fulfilled. This is because aggregate demand does not always behave as expected. This is not because savings plans, expressed as a proportion of national income, are either changed or unfulfilled. Presumably, Harrod is here assuming that either foreign demand changes or that there is a change in the money supply--either of which would permit aggregate demand to rise or fall, without necessarily violating the savings assumption. Producers adjust immediately to unanticipated changes in demand. At first, they do it by working their plant overtime (at above planned capacity) in the case of output increase or by accumulating unsold stocks in the case of a demand increase. In either case, the actual capital-output ratio diverges from that which had been planned, and the actual rate of growth of output therefore diverges from the warranted rate. The actual growth rate is given by the actual savings rate (which is assumed unaltered) divided by the actual capital-output ratio. Where output growth is above the planned rate, the capital input will be forced below its desired level and vice versa.

Important consequences arise from this divergence. If producers find that demand in a given period has been higher
than anticipated so that, to meet this demand, machines have been worked longer than planned and stocks run down, then, in the next period, they will increase their investment. However, the rise in investment will, through a multiplier, generate a further increase in demand. If capacity proves to be inadequate, the economy (having diverged from the state of steady growth), now moves further and further away from that state, along an explosive growth path. In circumstances in which the initial divergence is due to a decline in the rate of growth of demand, exactly the opposite will occur, with net investment falling and eventually becoming negative (as worn-out capital is replaced).

In such case that these forces were to operate indefinitely, Harrod identified certain buffers that not only bring both spiralling growth and decline to a halt, but, indeed, reverse the process. In the former case, this occurs when the economy reaches full employment. Harrod assumed not only a constant capital input but also a constant capital-output ratio. Given this assumption, the economy cannot, at full employment grow faster than the rate of growth of the labor force. The "natural rate of growth," as Harrod called it, is the maximum rate of growth allowed by population growth and labor saving technical innovation combined. If either current population and the warranted rate of growth exceed the natural rate of growth, then, at
full employment, either or both will no longer be realized. Through the multiplier, the slowing down in investment will lead to a decline in the rate of growth of demand. Investment plans in the next round will be further contracted, and the economy will move into recession. Recession, in turn, is brought to a halt because, at a certain point, a lack of savings will slow down the decline in consumption as households try to maintain a certain minimum standard of living. In economies with a welfare state, the floor is raised by state welfare payments. With a slowing down, or halt, to the decline in consumption, producers who have been disinvesting once again begin to replace worn-out equipment. With increased employment in the capital goods sector, demand rises still further and once more the process is reversed. In Harrod's scheme, the likelihood of an economy to grow steadily at full employment is extremely low. Harrod observed that the empirical evidence for the United Kingdom suggests that the warranted rate of growth exceeds the natural rate. Thus, even if the natural rate of growth equals the warranted rate below full employment, cyclical swings in economic activity are inevitable unless government policy can bring the rates into line at full employment. Harrod, therefore, advocated lowering the warranted rate. For this, he recommended the use of a low interest rate policy which should tend both to lower the inducement to save and to raise capital (by
cheapening the price of capital relative to labor). He advocated an anti-cyclical program of public works in order to raise the floor of economic recessions. Although these are not sufficient conditions to achieve steady growth at full employment, they are designed, by Harrod, both to raise the possibility of achieving this and to reduce the degree of fluctuation in economic activity.\textsuperscript{19}

In a separate article, Domar reached very similar conclusions.\textsuperscript{20} Hence the growth rate equation is generally referred as the Harrod-Domar model. In this model, the savings rate, together with the capital-output ratio, is reinstated as one of the key determinants of economic growth. Since it is possible to estimate target rates of growth with the Harrod-Domar formula, it has, subsequently, been adopted by some development economists to estimate the target savings rate needed to achieve Rostow's take-off stage.

The main attractions of this perspective may be said to have derived from the relative simplicity of its fundamental elements, its potential fruitfulness at the theoretical level, its relative optimism, and the fact that it pinpointed a constraint to growth about which there was a widespread, though not universal, consensus and a feeling that, with aid, it could be overcome. Finally, it was politically acceptable, both in Western industrially
advanced countries and in many UDCs in which it was to be applied.

Unfortunately, the tools for development embodied in this perspective did not always work. The basic reason for this was not because more savings and investment is not a necessary condition for accelerated rates of economic growth, but rather because it is not a sufficient condition.

The problem with the assumptions of Western economic theory is that underdeveloped nations do not possess the necessary structural, institutional, and attitudinal conditions (e.g., well-integrated commodity and money markets, highly developed transport facilities, well-trained and educated manpower, and an efficient government bureaucracy) to convert new capital effectively into higher levels of output. The Rostow-Harrod-Domar models, for example, implicitly assume the existence of these arrangements in UDCs. Yet, in most cases, they are lacking, as are complementary factors such as managerial competence, skilled labor, and the ability to plan for development. But more importantly, this perspective failed to take into account the crucial fact that contemporary underdeveloped nations are part of a highly integrated and complex international system in which even the best and most intelligent strategies for development can be nullified by external forces beyond any country's control.
The Implications for Equity

With respect to the UDCs, the primary concern of the neo-Marxists is with what is happening to national output and to its distribution, and why. Particularly in the 1950s and 1960s, there was little concern on the part of leading neo-Marxists to explore the essential nature of the mode, or modes, of production that prevail within the periphery. Instead, the emphasis was on the economic and political relations between the center and periphery of the world economy, and the impact of these in the periphery. In investigating these issues, the neo-Marxists use a terminology for the key concepts in their analytical framework that appears to derive from Marxism—even though the interpretation they give to certain central concepts differs from that given to the same concepts by Marx. It is because of this difficulty that it was deemed necessary to lump together all political economists and social scientists whose purpose is to expose the exploitative nature of the world capitalist system in order to mobilize support for revolutionary change. Nonetheless, since there is a clear academic debate about the merits in analytical content—the ability to expose the causes of underdevelopment—of some of the leading neo-Marxists, this section will review Baran (the founder of the neo-Marxist school), Emmanuel (the proponent of unequal exchange), Amin (the proponent of the
modes of production), and Frank and Dos Santos (the founders of the dependency school).

The section begins with Prebisch and Furtado (the founders of the structuralist school in the periphery) because they took, from the classical structuralist analysis of Lewis, their main tenets to throw light on the causes of underdevelopment and development in the periphery.

**The Complementarity of Neo-Marxist Thought**

The founding father of the neo-Marxist structuralist school in the periphery was Prebisch. It was he who gave early articulation, first, to the new policy responses, and then to their theoretical justification, that were imposed upon Latin America by the "harsh" international environment of the early 1930s and 1940s. However, what is arguably the most sophisticated theorization of the structuralist position, did not come from Prebisch, who was mainly concerned with policy issues in his native Argentina. It was Prebisch colleague, Furtado, who in a book published in 1961, concluded that the central features of economic underdevelopment have been caused by the impact of the developed countries on the UDCs. Underdevelopment, to Furtado, is not a phase through which every growing economy passes, but a specific historical condition.
Furtado began his study with the distinction between growth and development, the latter consisting not just in rising output, but in the steady incorporation of the labor force into lines of production in which the most advanced technologies are applied and in which labor productivity is maximized. 23 Central to Furtado's analysis is the contrast he draws between the development path pursued in the past by the industrially advanced countries of the mid-twentieth century, and the paths possible for present-day UDCs. The economic development of the industrially advanced countries over the past two centuries has been based on a continuing technological revolution in domestic production, first, in consumer and, later, in capital goods. Development, in other words, was initiated and sustained by an internal supply-side dynamic. In contrast, in UDCs what development has occurred has been generated externally, on the demand side. This difference is crucial in explaining differences in development performance and development potential.

Furtado outlined the key features of development at the center as follows. Toward the end of the eighteenth century, the first consequence of the introduction of improved technology in consumer goods production was to make it possible to lower the price of these goods. This had two consequences: (1) It led to increased demand for the output of producers using the new technology, leading in turn to an expansion in supply. (2) Artisan production was undercut,
thereby creating a surplus supply of labor. Those who invested in improved technology experienced healthy profits and, as a result, expanded production further. This led to an increased demand for the capital goods that were required in the new branches of consumer goods production. At first, these capital goods were produced using essentially artisan methods of production. Thus, there was not only increased employment in the new forms of consumer goods production, but also, and more particularly, given the labor intensive methods used, in the capital goods sector. Meanwhile, output was expanded not only for the domestic market, but for foreign markets as well. As a result, by the 1870s, the point was being reached, first in Britain and then elsewhere, at which the supply of cheap labor was exhausted. At this time, there was risk that the process of economic growth would come to a halt. As the labor supply became inelastic, wages began to rise and to squeeze profits in the modern consumer sector. This, in turn, began to lower the rate of investment in consumer goods production, thereby lowering demand for the output of the capital goods where profits were already also being squeezed by higher wage costs. Any substantial cut-back in production in this latter sector would mean growing unemployment, consequent decline in consumer demand, and a further decline in consumer goods production, with stabilization finally occurring at a lower level of output and employment. The
rate of output growth would subsequently be limited by the rate of growth of the labor force.

However, this outcome did not occur because of a crucial adjustment made in the capital goods sector. Toward the end of the nineteenth century, a continuing process of technological innovation in capital goods production was initiated. This served to release labor, contain the upward pressure on wages, and restore the rate of profit in both branches. This process, meanwhile, had a disruptive effect in almost every region of the world. These disruptive effects operated in three directions: (1) on the traditional artisan economies of Western Europe, (2) on those regions where there was still unoccupied land with characteristics similar to Europe itself (U.S., Australia, Canada), and (3) in already inhabited regions, some of which were densely populated, whose old economic systems were of various, but invariably pre-capitalist types. In the latter case, the contacts made were of various types too. In some cases, they were confined to opening up lines of trade, while, in others, there prevailed from the start a desire to develop the production of raw materials for export. However, both where the contacts were confined to trade and where they included direct investment in raw material production by companies from the industrialized countries, the result of these links was the same. They led to the creation of hybrid structures in the backward
economies, "part tending to behave as a capitalist system, part perpetuating the features of the previously existing system. The phenomenon of underdevelopment today is precisely a matter of this type of dualistic economy."27

The question arose as to why there was not a smooth expansion of the modern capitalist enclave.28 According to Furtado, the extent of the expansion of the modern enclave depends on two key factors: (1) the relative importance of the income to which it gives rise and (2) the extent to which this income remains within the underdeveloped economy. The latter depends very much on the inducement to invest in that economy. Then, the question became what determines that inducement. Initially, the inducement was production for export (external demand). However, Furtado, like all of the members of the structuralist school, took the view that external demand could not be relied upon to sustain growth indefinitely.29 The central issue is, therefore, whether export production can in turn generate an internal impetus to further growth, for example, could it generate sufficient internal demand to induce a process of sustained investment to supply an expanding domestic market?

The scale of demand generated in the export-oriented enclave depends on the following factors: (1) the amount of labor that the modern enclave employs, (2) the average real wage, (3) the amount of tax paid by enterprises in the modern sector (which determines the possible scale of public
sector expenditure), (4) the demand for locally-manufactured producer goods which is generated by this sector, and (5) the extent to which profits and salaries are spent within the UDC.

The quantity of labor employed in the modern sector will depend on the scale of production and the technology used. The wage paid will be determined by the supply price of labor from the traditional sector. Similar to Lewis, Furtado held that this will be given by the average subsistence standard in the traditional economy. Therefore, wage rates are initially likely to be low. Turning to tax revenues, Furtado did not think that these would be important and, hence, they could not be expected to create a basis for substantial public sector expansion of demand. Frequently, instead, tax exemptions are offered to attract foreign capital into UDCs. And, as long as the scale of modern sector production is insufficient to induce local investment in capital goods production, the latter will be imported. This is invariably the case in the early stages of expansion of the capitalist sector. Retention of profits and salaries to purchase locally-produced luxury consumption goods will be determined by whether the goods demanded are produced locally to an internationally-competitive standard. In the early stages of development, there is an insufficient volume of demand to induce investment in local production of these goods and such demand is met by imports. Since the
wage rate is initially low, tax revenues are low and local production of capital and luxury consumption goods cannot compete with imports, the extent to which profits are retained and invested within the local economy will depend on the rate of growth of external demand and the scale of employment in the modern sector. If export demand is to be assumed constant, then, the inducement to invest locally will be determined entirely by the proportion of labor that has already been absorbed. This would create a more favorable population-resource ratio in the traditional sector, thereby increasing both per capita incomes in this sector and the modern sector wage which they determine. Such an increase in basic incomes would expand the demand for mass consumption goods and could thereby create the necessary inducement to invest.

For Furtado, much depends on the extent to which labor is drawn into the modern sector. However, he is pessimistic about the likelihood of this occurring on a large scale in most UDCs. He gives 5 percent as a typical figure for the proportion of labor that is usually absorbed into export production. Here lies the crux of the problem which points to the crucial difference between Furtado and Lewis. Lewis assumed that there will be reinvestment of profits within the host economy. Furtado suggested the contrary—an outflow of profits from the host economy. Furtado, however, admitted that there are a few exceptions to the rule: where
the size of the modern sector labor force may become large enough to satisfy some investment in diversifying production in the modern sector into the manufacture of consumption goods for the local market as, for example, in Brazil.\textsuperscript{30} But, even here, Furtado saw no evidence of the generation of indigenous technology to substitute for imported equipment, designs, and know-how. "The greatest concern of the local industrialist," he said, "is to provide an article similar to the one imported and, consequently, to adopt production methods that make it possible to compete with the foreign producer."\textsuperscript{31} This implied a continuing demand for foreign exchange to finance the necessary imports. The use of technology also has important implications. Since the imported technology is capital-intensive, it results in low rates of surplus labor absorption, which implies the perpetuation of the dualistic nature of these economies. In UDCs, "technology assumes the character of an independent variable."\textsuperscript{32} It becomes one of three variables, the others being the rate of modern sector capital formation and the national rate of population growth, which determine whether the modern sector's share of total employment expands over time (i.e. whether growth is combined with development).

In the context of export demand-led growth, the size of the export sector thus determines the depth of industrial development. The majority of UDCs have much smaller export sectors than does Brazil. Given the limited size of the
domestic market, industrial development to supply domestic demand has been confined to a limited range of consumer and intermediate goods. Furtado concluded that, in the absence of appropriate policy intervention, industrial development is likely to remain blocked, and economic dualism, which characterizes UDCs, will be perpetuated. To break this impasse, economic strategy must emphasize the formation of common markets to enlarge market size and the deliberate promotion of import-substitution by the public sector in those products that show particularly high income elasticities of demand. This concept of import-substitution industrialization, led Prebisch to propose an alternative strategy, primarily aimed at attacking Ricardo's theory of comparative advantage.

Prebisch, like Furtado, stressed the central role of labor productivity in economic development—as a basis for a steady increase in mass living standards. He began by attacking the theory of comparative advantages by arguing that, contrary to fact and to this theory's prediction, the benefits of technological advance in primary exporting and manufacturing economies are never equitably distributed between the two trading partners. 33 He noted that although major advances in productivity have occurred in the main manufacturing nations since the late nineteenth century, these have not reflected a decline in the price of exports and a subsequent improvement in the terms of trade for
primary exporters. This has been due, according to Prebisch, to the downward rigidity of wages and prices in the manufacturing nations. These productivity gains have been fully absorbed within the industrially advanced economies in the form of higher real wages and profits. Consequently, the terms of trade of primary exporting countries, which should have been improved, have not. Furthermore, while the manufacturing nations have retained the benefits of their own productivity gains, the extent of the movement in the terms of trade suggests that they have also absorbed part of the productivity gains of primary exports (which were passed on through a decline in relative prices, as the theory of comparative advantage would predict). Thus, the conclusion of the theory of comparative advantage that where two countries have different internal relative productivities in the production of two goods, both can gain if they enter into international trade (and even in the unlikely case that all the gains are absorbed by one country, the other will not lose out) no longer applies to the real world, especially not to the periphery.

The cause of the center's ability not only to retain its own productivity gains but also to appropriate part of those of the periphery derives, in Prebisch's view, largely from different responses to recession in the two regions. Specifically, it derives from trade union success in the
center in claiming wage increases in the upswing of the trade cycle while ensuring wage rigidity in the downswing. When profits have to be reduced during the downswing, the part that had been absorbed by increases loses its fluidity, at the centre, by means of the well-known resistance to a lowering of wages. The pressure then moves to the periphery. "The less that income can contract at the centre, the more it has to do so at the periphery," Prebisch argued. The lack of organization "among the workers in the primary production countries prevents them from obtaining wage increases comparable to those of the industrial countries and from maintaining the increases to the same extent." From this analysis, Prebisch concluded that the economies of the periphery have no option but to industrialize and to produce their own manufactured goods. Then, they will be able to reap the benefits of their own productivity gains both in primary production and in manufacturing.

Emmanuel in Unequal Exchange: A Study of the Imperialism of Trade, set out to demonstrate, as did Prebisch, the major flaws of the Ricardian theory of comparative advantages and, with that, offered a theory of wages for contemporary poor UDCs. Emmanuel, Amin, Baran, and Frank provide the analytical work for the following section.
Socialist Development: An Equity Issue

The first, and the most influential, articulation of socialist development appeared in Baran's in a book entitled, The Political Economy of Growth, published in 1957. Having graduated from the Plakhanov Institute of Economics in Moscow, he called himself both a socialist and a Marxist. Baran focused his analysis on "the vicissitudes of monopoly capitalism during its current period of decline and fall, the outlook for the nascent socialist societies in Europe and Asia" and the circumstances of the underdevelopment economies.

Baran's analysis presents a largely familiar analysis of the constraints to economic growth in backward economies, having much in common with many of his neoclassical contemporaries. Growth is constrained both by low savings and the lack of inducement to invest. The latter stems primarily from low domestic demand and the non-existence of a physical infrastructure which serves to reduce production costs in industrially advanced economies. Meanwhile, savings are low not only due to the poverty of the masses but to high standards of luxury consumption among the landed and urban elites. The generation of growth requires, then, an effective program of state intervention--involving both progressive taxation and public sector investment--to break out of the impasse.
The originality of Baran lies in the class-based analysis of the constraints to implementing such a program in which he reached the conclusion that the prospects for development in the periphery, based upon an indigenous capitalist bourgeoisie, simply do not exist. To him, in order to understand the changing interrelationships of the world economy, and their impact on the periphery, it is necessary to comprehend first the internal mechanisms, the driving force, and the pattern of evolution of capitalism itself. Central to Baran's analysis of underdevelopment are four key concepts: (1) monopoly capitalism, (2) imperialism, (3) class, and (4) economic surplus. To explain these, he adopted Marx's theory of monopoly capitalism and Lenin's theory of imperialism—the political and military manifestation of the search for economic surplus. In the classical Marxist sense, Baran defined class as a social category representing a group of individuals all of whom have the same relationship to the means of production and the same rights over the output of labor. However, his use of this concept is more narrowly focused being concentrated on the distribution of the surplus rather than on social relations in the production process. Meanwhile, Baran introduced an innovatory interpretation to the concept of economic surplus: the actual and the potential surplus. The former represents "the difference between society's actual current output and
its actual current consumption. The latter represents "the difference between the output that could be produced in a given natural and technological environment with the help of employable productive resources, and what might be regarded as essential for consumption." Baran used the concept of potential surplus to expose what he perceived as the waste and irrationality of monopoly capitalism with its heavy outlays on packaging and advertising, on the one hand, and with militarism, on the other. It is the concept of actual surplus which he used to analyzed the periphery.

Baran divided his analysis of underdevelopment in two sections: a historical account of the origins of underdevelopment and an analysis of the "morphology" of contemporary underdevelopment. The origins of underdevelopment can be traced to seventeenth and eighteenth century Western imperialism—a period when European merchant capitalists successfully sought to accumulate wealth through plunder and enforced trade with more densely-populated non-European regions. The morphology of backwardness represents Baran's perceptions of the objective conditions of UDCs. These UDCs share some commonalities: They are predominantly rural, the marginal productivity of labor in agriculture is close to zero, and industrialization is used as a means to absorb excess population in agriculture. Industrialization, in turn, presupposes substantial and sustained new capital formation. In many economies, development is seemingly
constrained by the small size of the domestic market, combined with competition from cheaper and/or higher quality imports, the absence of essential infrastructure, and low tax revenues which make it difficult to finance a program of public investment in infrastructure. So, if today's industrially advanced countries began their agricultural and industrial revolutions from what were in many respects similar initial conditions, why, then, is it not possible for today's backward economies to develop in the same way? The answer to Baran lies in that the actual surplus in the periphery falls below the potential surplus since the actual surplus is used by the local classes in ways that contribute little to the accumulation of productive capital by either the state or the private sector.

In UDCs, the surplus potential available for capital formation takes the form of land rent, interest on credit, and profits from trade and production based on wage labor. The main classes which appropriate this surplus are: domestic landowners, indigenous merchants, monopoly capitalists, and foreign capitalists. Much of the surplus is generated in agriculture, where production is organized in two ways: subsistence peasant agriculture and commercial plantations. Since a large proportion of peasant small-holdings are rented, the behavior of the landlord class in the disposition of its revenues is crucial to the pace of development. Meanwhile, surplus is also extracted from the
peasantry by moneylenders, merchants, and the state in the form of taxes, leaving the peasants unable to engage in any significant accumulation process.

The feudal landowning class sends abroad much of the potential surplus in luxury consumption. In so far as this class seeks ways of raising its revenues, it does so by lending money to the peasants and by purchasing more land and urban real state. Meanwhile, the merchant class, like the landowners, is discouraged from moving into agricultural producer capitalism (or agribusiness) by the relatively risky and long-term nature of such investment. Instead, this class uses its revenues both for reinvestment in trade and commodity speculation. Of the remaining two classes (monopoly and foreign capitalists), both derive their revenues from capitalist production wherever it is. Members of the "small" middle class, who might perhaps be expected to challenge these monopolists, in fact, save and invest the least as they strive to emulate the consumption standards of those whose ranks they aspire to someday join. They are further discouraged by the structure of the state and of the interests that it promotes.

Since the state is the only other entity that can actively intervene to promote economic development in the periphery, a crucial question concerns the nature of the class interests that dominate state policy. Baran classified the relevant government in the 1950s as:
colonial, comprador, "New Deal" oriented. Both colonial and comprador clearly promote the interests of metropolitan capital. The New Deal category is destined also to become committed to maintaining the status quo. Thus, Baran concluded that any prospects for the emergence of an indigenous, dynamic, competitive class in the periphery has been eliminated by the past history of imperialism. Capitalism has no more to offer the underdeveloped world and "the establishment of a socialist planned economy become essential for the attainment of economic and social progress." At this level of theoretical analysis, the contribution of Frank on the causes of underdevelopment shares with Baran the prospects of development via a socialist revolution.

A major theme in Frank's work is the explanation of the dominant causes of underdevelopment: (1) the expropriation of surplus from the many and its appropriation by the few, (2) the polarization of the capitalist system into metropolitan centers and peripheral satellites, and (3) the continuity of the fundamental structure of the capitalist system, which ensures the perpetuation of 1 and 2, even while more superficial elements of this system are constantly changing. While these, at first glance, appear to be the same concerns that Baran proposed, Frank's treatment of class analysis is what sets him apart. In Frank's analysis, there is one overriding method of surplus
extraction which has permitted in the past, and continues to permit today, the expropriation of surplus from the masses by the capitalist class. To him, this surplus extraction predominates through trade. Frank argued that in the sixteenth century, Latin America was drawn into the world capitalist system as a result of the development of expansionist trading empires based in Western Europe. The colonization of the sub-continent by Spain and Portugal was designed to establish control by these countries over its natural resources, and to ensure a flow of mineral wealth and other products back to the colonizing countries. The whole population of the sub-continent was rapidly caught up in networks of exchange whose ultimate purpose was to transmit surplus to Europe. Since capitalism is implicitly defined by Frank in terms of exchange relations and not in terms of relations of production, his observation that merchant capital penetrated even the most remote corners of the periphery led him to conclude (in contrast to Baran) that capitalism itself permeated the whole periphery.\textsuperscript{43} Feudalism, according to Frank, has never existed in Latin America since the first penetration of the continent by metropolitan merchant capital where large landed states (latifundia) were established specifically to produce for the external market. The owners of these latifundia then used all means possible to maximize the surplus expropriated and appropriated from the actual producers--the workers of
the land. The subsequent evolution of feudal-type institutions of land tenancy, including payment of labor dues, was simply a response by surplus-maximizing hacienda owners to commercial pressures and opportunities—rising demand for land for tenancy, on the one hand, and rising demand for labor by the estate owner themselves, on the other. Frank rejected the dualistic theory of Baran by sustaining that development and underdevelopment are two distinct processes. While underdeveloped economies possess two sharply distinguished sectors—one modern, dynamic, integrated into the world economy, and the other traditional, stagnant, often feudal, supplying labor but littler else to the other—Frank argued that individual UDCs are internally integrated through the permeation of merchant capital. Thus, the capitalist world system is a single integrated whole. Within this system, only those metropolitan centers which are not subjected to the expropriation of part of their surpluses can fully develop. All regions that are subjected to such expropriation are destined to underdevelop. Underdevelopment is, to Frank, a process not a state.

Frank perceived the world capitalist system as a hierarchical structure with, at the base, the rural regions of the periphery. These satellite regions are linked, through trade, to small centers of surplus accumulation, their local metropoles. These, in turn, are satellites of,
and are subject to, the trading and other surplus extraction activities of larger metropoles (regional towns) which are, in turn, linked as satellites to the main submetropoles in the different national economies of the periphery, usually the capital city and/or the main port. These centers are, in turn, subjected to surplus extraction and appropriation by the world centers of capitalism.

Frank asserted that not only merchant capital has reached out to the very base of the pyramid but also that these exchange relations are all monopolistic. At every level, surplus extraction is maximized by monopolistic traders who buy cheap and sell dear, although always with the possibility of lowering the price of manufactured imports should it be necessary to undercut local producers. Frank provided historical evidence in that "those historical periods in which parts of the periphery have achieved a certain degree of development have been precisely those in which for one reason or another the ties with the relevant metropolis have been loosened, as in this century during the recession of the 1930s and both World Wars." These periods, as earlier ones in which either war or economic recession in the metropolitan centers have disrupted links with the periphery, have been characterized by development and diversification, and with the "temporary" increase in the production of import substitutes. However, the revival of trade has always led to undercutting these manufactures,
reverting UDCs to the traditional role of exporters of cheap natural resources.

Frank argued that there is also continuity in change. Even though the status of the original world metropolitan centers to which Latin America was linked was later transformed. Even though Latin American countries became independent from colonial rule, the satellite-metropolitan relationships (and the linked processes of surplus expropriation and appropriation through trade) have continued. Frank's conclusion is, then, inevitably similar to Baran's. But while Baran concluded that a class alliance dominated by landlords, merchants and monopoly capitalists, with a strong comprador element, cannot be expected to promote national economic development, Frank concluded that the predominantly merchant capitalist comprador bourgeoisie that dominates the periphery must be replaced if genuine and equitable economic development is to occur.

Two years after the publication of Frank's Capitalism and Unequal Development in 1969, Emmanuel published his main contribution Unequal Exchange. As its title suggests, Emmanuel, like Frank, argued that the root causes of underdevelopment lie in the exchange relations between center and periphery. However, while Frank specified monopoly control over trade as the means by which surplus is extracted, Emmanuel focused on a different mechanism of surplus extraction. This is based on the divergence of
labor costs (as reflected on the money wage) between center and periphery. In focusing on the money wage, he brings a parallel to Marx theory of labor value and an explanation as to why the import-substitution strategies proposed by Prebisch did not work.

Emmanuel started from the common proposition that the development of imperialism imposed a particular set of trade relationships on the periphery. In his explanations of this process, Emmanuel set out to demonstrate what he regarded as a major exception to the conclusion of the Ricardian theory of comparative advantage. Emmanuel's thesis is that under certain conditions, countries may indeed become net losers when they engage in international trade. As was pointed out in the above section, the structuralists rejected the law of comparative advantage too. However Emmanuel shied away from the Prebisch thesis. In expounding the theory of comparative advantage, Ricardo emphasized that in any two countries the relative productivity of labor in producing any two commodities is likely to differ. This may be for a variety of reasons: climate, quality of raw materials, the skills and aptitudes of the labor force, etc. In each country, there will be, therefore, a different relative price for the two commodities determined by the two sets of relative labor costs. When the two countries enter into international trade, each specializing in the product in which it is relatively more efficient (as measured by the
output of the alternative product that is foregone for each unit produced) then they will exchange goods at relative prices that lie within a range that is limited by the two sets of domestic price relatives. Ricardo's analysis is presented entirely in real terms; the nominal prices of exchange are incidental.49

In Emmanuel's model, the emphasis shifts. The causal role in the distribution of gains from trade is now assigned to monetary variables, although behind these operate economic forces. He assumed a world in which capital is internationally mobile but labor is not. With capital being mobile, the rate of profit is assumed to be equalized in all countries.50 Emmanuel also assumed that, to a large degree, the products exported from the periphery cannot also be exported from the center and vice versa. Under these conditions, he argued, the ratio in which products are exchanged is determined not by the forces of supply and demand—not by competition between center and periphery in international markets—but by the domestic costs of production in the two contexts. While capital costs are assumed to be uniform in the two regions, wage costs are not. Thus, "prices depend on wages."51 The rate at which goods are exchanged between the center and the periphery depends primarily not on the amount of labor embodied in their production, but on the relative unit cost of labor. Underlying this relative money cost is, of course, the
relative value of the real wage in the center and in the periphery. The higher standard of living enjoyed by labor at the center is directly reflected in the price of the center's exports relative to that of exports from the periphery. In a case where the same products are exported by both center and periphery, the periphery's lower wage costs impose a competitive upper limit on price, and the center's ability to compete, given its higher unit labor costs, is entirely due to differential productivity. However, he argued that in most cases the exports from the two regions are distinct and, in these cases, the center's prices are not forced down by lower cost competition from the periphery. Emmanuel concluded that as long as wages remain at subsistence level in the periphery, productivity gains there will simply be passed onto the center in the form of lower prices, thus leading to an outflow of potential surplus from the periphery. For, when such productivity gains occur, the profit rate will rise and output will be expanded—leading to a decline in unit price—until the rate of profit has again been equalized internationally.

Unequal exchange is likely to lead to cumulative growth in per capita income inequality between center and periphery for three main reasons: (1) In the center, trade union success in bargaining for wage increases puts sustained pressure on capitalists to counteract the ensuing fall in
the rate of surplus value, and, hence, profit, by seeking new means of raising labor productivity—for Emmanuel, wage increases cause productivity gains and not the reverse. (2) Wage increases expand the domestic market, thereby inducing further investment in high wage areas. (3) In circumstances where roughly the same proportion of GDP is taken in tax in the center and the periphery (and this is used by the state to finance social expenditure on health, education, infrastructure, and law and order), the absolute expenditure per capita on this "social wage" is higher at the center. Emmanuel argued that these have a cumulative effect on economic growth.

Unequal exchange has political implications as well as it casts a wedge between the interests of the working classes at the center and in the periphery. At the center, there has emerged a "labor aristocracy," in possession of a standard of living that is much higher than the average for the world's proletariat. This labor aristocracy, realizing its privileged position, will fight to protect it. This is reflected in the emergence of strong nationalist sentiments among the labor aristocracy, who have become committed defenders of imperialist and neo-imperialist interests: "a de facto united front of the workers and capitalists of the well-to-do countries, directed against the poor nations, co-exists with an internal trade union struggle over sharing the loot."52 Far from forming a united front with workers
in the periphery, the division of interest between the two branches of the working class is firmly entrenched. The commonality of interest of the capitalist class in the center and the periphery is far greater than that of the working class.

The implication of Emmanuel's analysis is ultimately the same as that of Baran's and Frank's. The periphery will continue to lose surplus value as long as it remains part of the international capitalist system. The promotion of economic autarky (a proposition he shares with Amin) is the only way to retain the surplus and to promote economic development—for, it is better to reinvest surplus value in the comparatively inefficient domestic production of manufactured goods than to lose the surplus permanently through unequal exchange. To achieve this, a radical change in the class distribution of power in the periphery is required.

When Amin published Accumulation on a World Scale in 1970, he drew upon not only the theoretical works of Marx and Lenin but also on the analytical work of Baran and Emmanuel (and to a lesser extent of Frank). In that sense, the theoretical contribution of Amin is largely synthetic. In common with other neo-Marxists, Amin took the view that Marx had little empirical information concerning the periphery, that Marx was wrong about the impact of colonial capitalism upon development in the periphery, and
that the development of capitalism at the center has in reality been based partly upon the blocking of development in the periphery. Amin rejected Frank's definition of capitalism in terms of relations of exchange, and, hence, the thesis that the capitalist mode of production pervades in the periphery. But he, nonetheless, accepted that metropolitan capital dominates the periphery. In this respect, his analytical work is closer to that of Baran. While the specific experiences of economic change have varied among different countries in the periphery, Amin regarded the following propositions as generally valid:

(1) The key to an understanding of the causes and processes of underdevelopment lies in an analysis of the social formations in the center and in the periphery, and of the relations between these. This analysis must adopt a historical perspective, because the nature of these formations (and of their interrelationship) has changed over time. (2) In the contemporary periphery, there are three key structural 'symptoms' of underdevelopment which must be understood or explained: (a) unevenness of productivity between sectors; (b) disarticulations of the national economic system; (c) domination from outside. These are not characteristics of purely traditional economies but of ones that have been drawn into the international economy in a particular way. (3) The social formations that have these characteristics are not purely capitalist. Rather, the
capitalist mode of production dominates the high productivity branches of the economy while traditional and peasant social formations contain the branches of low productivity. Capitalism has, however, penetrated and used these formations (through trade and extraction of cheap labor) and continues to dominate and use them. (4) In the contemporary centers, the social formations consist of virtually pure forms of the capitalist mode of production, now developed to the level of monopoly capitalism. (5) The monopoly capital of the center dominates the modern sectors of UDCs and blocks their development. It does so in two ways: (a) domination of investments in these sectors, controlling their composition and extracting surplus in the form of repatriated profit and (b) through a new form of primitive accumulation—surplus extraction and appropriation through trade based on unequal exchange. (6) Neither of these forms of domination was possible before the emergence of monopoly capitalism in the center in the nineteenth century. With the emergence of monopoly capitalism, concentrations of capital at the center became large enough to permit private resource mobilization to finance investment in the periphery. Simultaneously, the transition to monopoly capitalism associated with a decline in price competition at the center enabled individual firms to carry real wage increases by passing these on, in the form of higher prices, thereby introducing the era of surplus
extraction through unequal exchange. (7) While the current
domination of the periphery by the center takes these two
forms, it did not always do so in the past. The periods of
close interaction between center and periphery can be
divided into three epoches: (a) primitive accumulation by
the center based upon forced, uncompensation extraction of
resources of the mercantile age--sixteenth century through
the Industrial Revolution; (b) between the Industrial
Revolution and the complete conquest of the world (1880-
1900), a century elapsed that was in the nature of a pause.
The trade that continued during this period seems to have
been equal, products being exchanged at their value. The
rewards of labour at the center were very low, tending to be
kept down to subsistence;54 (c) this was followed by the
epoch of monopoly capitalism which still continues. These
three epochs have generated a series of changes in the
structure of production and the allocation of labor in the
periphery that have consistently impeded the transition to a
process of sustained capitalist development described as
unequal specialization.55 The outward-oriented
commercialization of the two first epoches undercut both
artisan producers in the periphery and the scope of
indigenous capitalist development of industry. Displaced
artisans were forced back into agriculture, where they
increased the person-land ratio in the small farm sector and
lowered the rural wage. However, while the lowering of the
wage reduced the size of the domestic market for consumer goods, it need not have impeded development. In the nineteenth century, the industrially advanced countries developed on the basis of a low-wage economy, exploiting cheap labor to expand production of producer goods; industry provided its own market. The crucial question is why the recipients of surplus in the periphery did not respond to the incentive offered by lower wages in a similar way. Amin answered this question as follows. In epoch II, the move to local capital investment in industry was blocked because the productivity gains already achieved in manufacturing production at the center enabled the latter to undercut any indigenous attempts to develop manufacturing in the periphery. In cases where local capital was invested, the low wage-level influenced the choice of technique, favoring intensive use of manpower rather than of machines. Epoch III, the era of monopoly capitalism at the center, is characterized also by exports of capital to the periphery. However, due both to continuing competition in manufacturing from the center, with its high productivity of labor, and to the small size of the domestic market, this capital is invested, first and foremost, in export production—in mineral extraction and tropical agriculture. Later, this is followed by some investment in industry, but such investment is overwhelmingly light, labor-intensive branches of manufacturing as opposed to capital goods production.
Investment by foreign capital not only distorts the pattern of industrial development in the periphery, it also stunts it by discouraging investment on the part of potential indigenous capitalists—a phenomenon that is reinforced by the continuing adverse impact on indigenous accumulation of trade between the center and the periphery. The joint impact of these two forms of competition from the center (investment and trade) leads to distortion toward export activities, tertiary activities and light industry, and, to a lesser degree, light techniques. Not only has this "limited advance" been distorted, but it has been highly disjointed. It has been marked by "brief bursts of very vigorous growth, shifting from country to country, followed by long periods of stagnation." Amin's interpretation of development of underdevelopment, thus, emphasized that underdevelopment is reflected both in the flow of surplus through trade and in a distorted and stunted process of industrial growth in the periphery—a view certainly shared by the dependency school. Dependency analysis emerged as a distinctive branch in the development literature in the late 1960s. The significance of this occurrence has been interpreted in various ways. Some argue that dependency theories represent a well-integrated, dominant, school of thought, referring to dependency as a new paradigm. Others, however, have taken issue with this interpretation due to the diversity of the theoretical perspectives from which
dependency analyses have been approached. In the next section, the main perspectives of dependency are given significance only to the extent to which dependency approaches have generated new theoretical insights into development and underdevelopment.

Dependency and the neo-Marxists

Dependency analyses have been categorized in various ways. They can be dated back to various points in time: (1) to the early structuralists, (2) to neo-Marxist such as Amin, and (3) to the branch introduced by Frank in *Capitalism and Underdevelopment in Latin America* (hence, dependency is mostly a Latin American phenomenon). But, the first contribution to dependency theory is generally attributed to Dos Santos in 1969 who defined dependency as a conditioning situation in which economies of one group of countries are conditioned by the development and expansion of others. A relationship of interdependence between two or more countries or between them and the world economy becomes a dependent relationship when some countries can expand through self-impulsion while others can only expand as a reflection of the expansion of the dominant countries, which may have positive or negative effects on their immediate development. This definition is elaborated by Amin's *Unequal Development* in which he developed the theme that
there is a single world capitalist system which derives the moment of its development from the center. The centers of world capitalism are in principle capable of autarkic development, fully independent of the periphery, whereas the reverse is not true. Frank pointed out the concept of dependence in 1977 in *Lumpenbourgeoisie, Lumpendevelopment* and later in 1978 in *Dependent Accumulation and Underdevelopment*. These two theoretical contributions in Frank constitute his thesis that the reasons for the different impact of colonialism, on the one hand, and of colonialization of parts of the new world, on the other, lie in the different conditions (natural resource endowment, population density, and mode of production) found in the new territories. Secondly, they also contain his reassertion of the significance of the role played by commercial relations in the development of central and peripheral capitalism. In 1973, Furtado, himself, presented a paper to the Centre for Latin American Studies at Cambridge University in which he suggested an explanatory model of underdevelopment that assigned the key causal role to cultural dependence. His thesis explained that technical progress in those countries (that led the Industrial Revolution) opened the way to significant increases in labor productivity in other areas through geographical specialization. Some of the extra surplus so generated may have left the economies concerned (being appropriated by foreign merchant and/or producer
capitalists), but some of the surplus was appropriated domestically. In the disposition of this surplus, Furtado gave the key to underdevelopment. To him, the surplus remaining in the country was basically used to finance a rapid diversification of the consumption habits of the ruling classes through the import of new products. It was this particular use of the additional surplus that gave rise to the social formations that we now identify as underdeveloped economies.62

There have been a wide range of perspectives on dependency, and there have been many contributors to its definition. They can be, however, synthesized in the following simple constructs: (1) There is one integrated world capitalist system and (2) economic and political conditions in the UDCs are determined by the interaction of internal and external factors. These range from those who argue that dependency is a distinctive and permanent characteristic of the periphery, leading inevitably to its blocked development to through those who argue that dependency affects all countries in the international economic system.

**Structuralist Perspectives on Dependency.** The attempts of some members of the ECLA in the late 1960s and early 1970s reformulated the thought of ECLA along dependency lines. This move was brought about by two major
developments: the dramatic slow down in capitalist economic growth in Latin America in the early 1960s and the undesirable consequences that import-substitution growth had brought forth. Furtado argued that a number of factors demanded analysis and explanation. The process of import-substitution industrialization which ECLA recommended seemed to aggravate the balance-of-payments problems. Foreign investment was not only in part responsible for that, but it did not seem to be having other positive effects that ECLA had expected. Real wages were not rising sufficiently quickly to produce the desired increase in effective demand—indeed, in several countries income distribution was worsening. The problems of unemployment were also growing more acute. Industrial production was becoming increasingly concentrated in products typically consumed by the elites, and was not having the 'ripple effect' upon other productive sectors of the economy, particularly the agriculture sector. In the early 1970s, Furtado, with his friend Sunkel, sought to explain these phenomena in terms of the theoretical models focusing on a particular aspect of dependence—cultural dependence in the one case and, in the other, dependence on foreign investment.

To Furtado, the sequence through which the process of dependence occurs was as follows. Consumption dependency deterred capital investment by lowering the propensity to save. Moreover, as the supply of new consumer goods from
the 'central' countries expanded, so the consumption aspirations of the élites in the periphery rose too. In the absence of a corresponding process of capital accumulation and technical progress in the periphery, privileged groups there have sought to raise their incomes and consumption through expanding the volume of traditional exports and/or increasing the rate of exploitation of labour (thereby increasing income inequalities within the economy). When domestic consumer goods production is established in the periphery it is largely to meet this élite demand. Consequently the technologies to produce the goods demanded have to be imported (since suitable domestic technologies are not available). "Penetration by multinational corporations is bound to be very rapid," argued Furtado "specifically because of the sophistication of the technology generally required."64 Meanwhile these capital-intensive technologies generate employment for a privileged minority who receive wages well above those in the subsistence sector. Thus, this pattern of consumption and production causes slow growth of modern sector employment, growing income inequality and mass marginalization. This, in turn, slows the expansion of the domestic market and the scope for further investment.

Balance of payments difficulties increase with expanding industrialization, due to the latter's high import content and to external surplus appropriation, and they too
contribute to the slowing-down of industrial growth. New attempts to overcome balance of payments constraints through exports of cheap labor embodied in industrial products produced by foreign firms for foreign markets cannot eliminate underdevelopment as defined in the structuralist sense precisely because outward-oriented industrialization can only succeed if labor is cheap.65

By 1973, Furtado had switched to the view that attempted to break out of this impasse through regional integration. This policy was, as well, advocated by leading neo-Marxists such as Amin and Frank whose main theme became the way in which the single world capitalist system derives its momentum form the development of the capitalist mode of production at the center.

Neo-Marxist Perspectives on Dependency. While Frank's account of dependent development was basically descriptive, Amin's offered a more penetrating analysis of the role of the periphery within the world capitalist system. Amin used, as well as Dos Santos and Frank, a stage approach, but he incorporated a fourth stage of dependence in the periphery which was not specified by them. Amin explicitly allowed for the continuing existence of different modes of production in the periphery following the contact with capitalism. He was, then, able to explore the manner in which metropolitan capitalism both uses, and generates
changes in these modes. Elements of the role of the periphery in the center's development, as defined by Amin, were already presented in a previous section, but, to recount, "in each of the main eras of world capitalist development, the center, although in theory capable of autarkic development, has in practice used the periphery to further its own economic expansion. In each of the first three phases changes were imposed on the periphery which led to economic development" (in one or more of the senses). "However, this development was 'extraverted'--i.e. caused from without--and dependent in various ways on the centre--on its demand for raw materials, its supply of producer goods and technical skills, and, especially since 1880, its supply of finance capital." Such development led to various changes in the structure of production in the periphery and in the structure of production relations, but neither were of a kind capable of leading to self-sustaining development. For example, foreign capital investment in primary production during the era of monopoly capitalism has often been associated with a high level of development of the productive forces, combined with the proletarianization of labor. Yet, the very dependence on foreign technology, combined with repatriation of profits and production for foreign markets, ensures that this development of the capitalist mode does not provide the basis for sustained capitalist development in the periphery.
The fourth stage that Amin added to the process was produced by two changes that occurred since the Second World War: (1) the development of transnational corporations and (2) a technological revolution which transfers the center of gravity of the industries of the future toward new branches (atomic power, space research, electronics), while rendering obsolete the classical modes of accumulation, characterized by increasing the organic composition of capital. "The 'residual factor'--'grey matter'--has become the principal factor in growth, and the ultra-modern industries are distinguished by an 'organic composition of labour' that accords a much bigger place to highly skilled labour."67 "In the future," Amin suggested, "there will probably be an increasing transfer of traditional heavy industry to the periphery in line with new patterns of specialisation at the centre."68 Amin argued that the newly industrializing countries (NICs) are the vanguard of this process.

This new form of specialisation, however, is unlikely to absorb the bulk of the labor force in the periphery since it is in the best interests of the center to prevent this from happening--since it is the excess labor supply that keeps wages in the periphery low, thus helping both to sustain the rate of profit on capital exported to the periphery and to keep down the cost of goods exported to the center. Dependent development, therefore to Amin, entailed the marginalization of the masses and, along with this, a
widening variation in productivity between sectors in the periphery. Meanwhile the center will continue to appropriate surplus from the periphery in the form both of repatriated profits and unequal exchange.

As the foregone analysis illustrated, neo-Marxist dependency analyses reflect an evolution of the neo-Marxist perspective of the 1960s. The concepts of dependent or extraverted development enabled neo-Marxists to acknowledge that capital accumulation and output expansion have occurred in the periphery, while emphasizing the distorted and undesirable features of this process. This is contrasted with the more complete self-sustaining and equitable expansion path which could be achieved by pursuing autarkic socialist development. There is a continuing presumption among members of this school that the dominant class alliances in the periphery will, in alliance with metropolitan capital, continue to prevent the full development of the periphery.

The Validity of Equity in Neo-Marxism

A wide range of theoretical perspectives on neo-Marxism has been reviewed. The main elements of this analytical framework can be summarized as follows: (1) Economic underdevelopment is a process whose dominant feature is the persistent outflow of economic surplus generated in the
periphery to the advanced capitalist economies. The surplus defined as the difference between either actual or potential output and either actual or essential consumption.

(2) Economically underdeveloped countries are, as a result, characterized by low average per capita incomes and by slow rates of accumulation. (3) Economic development consists, by implication, in national reinvestment of the surplus and the consequent expansion of national output, the latter being equitably distributed. (4) The prospects for economic development through capitalism in any one country are determined by its position in the international economy. (5) Two central elements in the analytical method are the adoption of a historical perspective and a focus on the class distribution of control over the surplus in underdeveloped economies. (6) In the past, the now industrially advanced capitalist economies drew the countries of the periphery into a system of unequal exchange relations through which economic surplus was extracted from the periphery. (7) These unequal exchange relations, initially often imposed by force, persist to this day, and it is largely they which block capitalist development in the periphery. (8) International exchange with the center has destroyed pre-capitalist artisan production in the periphery and has largely removed the incentive for indigenous capitalist industrial development there. (9) Competition from the manufactured exports of the center continues to
undercut the incentive for industrial development in the periphery. (10) The industrial development which has occurred consists predominantly of a limited range of industrial monopolies owned by nationals and/or foreign capitalists (who repatriate profits to the center). (11) The dominant classes in the periphery (landlords, the commercial bourgeoisie, owners of monopoly capital, and foreign capitalists) have no interest in the sustained development of producer capitalism there. (12) Thus, contemporary UDCs cannot pass through the same stages of economic development as the new industrially advanced capitalist economies, because the international conditions have changed irrevocably. The stage of national competitive capitalist development, when capitalism is at its most dynamic, has been undercut in the periphery by foreign competition. (13) Full economic development can only occur after "radical" political change.

It is difficult to assess the extent to which these perspectives have contributed to the equity criterion. In the early 1970s Furtado and Prebisch kept on the improving inadequate domestic demand, bypassing the foreign exchange constraint, and on removing market imperfections. The efforts of both neo-Marxists and Dependency theorists throughout the late 1960s and early 1970s must be seriously call into question. Although these perspectives were effective in providing explanations for underdevelopment,
they were not, however effective in providing policy
prescriptions for the problems of underdevelopment.

Applications to Development Planning:
Neoclassical Development Programs

Development policies do not appear on a vacuum. They
appear in response to problems that scientists and social
scientists have been worrying about. The introductory
chapter of India's First Five Year Plan clearly reflects
some of the preoccupations of the neoclassical paradigm.
Entitled "The Problems of Development," the chapter reflects
a number of the ideas presented by Rostow. Like Rostow, the
plan's authors review the past growth experience of more
advanced economies as a source of insight into the
contemporary growth process of a less developed country.
The planners concluded that India's rate of capital
accumulation must be raised from about 5 percent of national
income to 20 percent. The two main factors that will
determine the scale of investment are the savings rate and
the volume of unutilized human and material resources which
can be used for direct investment with the former being the
more important of the two. On savings, they observed that:
"Social customs and habits, the distribution of incomes, the
rates at which incomes of different classes go up and the
efficiency of banking and other institutions for mobilising
savings--all these--play a part in determining the rates of
savings attained."\textsuperscript{69} With an acknowledgment of the influence of Harrod-Domar, the plan's growth projections were based on the target rate of investment and the projected capital-output ratio. The planners also emphasized the need to take a long-term view in planning India's transformation. While the development of a modern industrial sector is taken as a major objective, they advocated emphasis on agriculture, including irrigation and power, in the first plan period. This was justified on the basis of the need to expand the output of food and raw materials for industry and also by reference to the early experience of modern economic growth in Britain and Japan. The Kenyan Development Plan (1966-1970) was also written largely in the vein of the paradigm.\textsuperscript{70}

A Critical Appraisal

The ideas of the neoclassical paradigm have been subjected to a wide-ranging critique. These range from a questioning of some of the underlying assumptions to points of empirical accuracy or technical detail. But the most significant criticism refers to the paradigm's policy prescriptions.

\textbf{Inadequate Domestic Demand.} The emphasis on an overriding savings constraint to development ignores the
possibility that investment is constrained not by lack of savings but by a lack of demand. Thus, for example, the first and major part of the Lewis model is based upon the assumption of a closed economy. Nowhere, in this section, does Lewis consider the possibility that inadequate demand may deter capitalist investment and slow down the rate of growth. With mass incomes held constant, much of the inducement to invest must come from within the capitalist sector itself. Yet, the ability of the capitalist sector to sustain this inducement will be a function of the size both of the economy as a whole and the sector itself. These issues are not raised in Lewis model.

The Foreign Exchange Constraint. While this perspective ignores the possibility of a domestic demand constraint to capital accumulation, it also ignores the possibility of a foreign exchange constraint. Neither Lewis nor Rostow confront the implications of the fact that technical innovation in most UDCs is based heavily on imported technology. Not only may this put a pressure on foreign exchange availability, but, equally important, the use of imported technology effectively eliminates the internal backward linkages that Rostow considers so important.
The Importance of Market Imperfections. To the neoclassical economists, the need to raise capital accumulation is the basic causal factor in economic growth. But, the overwhelming constraint on increased output in UDCs is inefficiency in the use of existing resources—inefficiency generated jointly by market imperfections endogenous to traditional societies and by government interventions in resource allocation. In this context, the single-minded pursuit of capital accumulation can simply lead to a growing stock of underutilized new capital stock, poorly matched to the needs of the economy—without necessarily generating a significant expansion of output. The overriding need is to remove market distortions, whether government-induced or otherwise.

The Impact of Capital-intensive Technology on the Surplus per Worker. Meanwhile, the assumption that capital-intensive techniques will lead to a higher rate of surplus per worker is highly questionable. This will depend upon the impact on unit costs of such factors as the level of capacity utilization, the standard of maintenance and operation of machinery, the time and payments involved in obtaining spare parts and servicing.71

The Impact of Capital-intensive Technology on the Quality of the Labor Force. Galenson and Leibenstein (two
neoclassical theorists who proposed that the savings-gap constraint could be resolved through aid) claimed that the use of capital intensive technology will not only raise the savings rate in UDCs, but will raise the quality of the labor force. However, it is not clear that the effect of capital-intensive production methods will be to promote the development of those qualities which are most urgently needed. That is to say, automated and highly specialized production methods, in which most members of the work force each concentrate on a single routine task, do not serve to develop basic technical skills, nor the workers' latent technical innovatory capability. Nor do they provide opportunities for the development of small scale entrepreneurship. The next section examines the effect of the stabilization programs of the International Monetary Fund (IMF) on the Costa Rican political economy from 1979 to 1991.

The Political Economy of Costa Rica

The monetarist macroeconomics which underpins the IMF view of the causes of balance of payments instability and domestic inflation in UDCs has its foundations in the standard neoclassical model of economic behavior: a model in which all prices are assumed to be flexible (upwards and downwards), structural rigidities in both supply and demand
are discounted, and competition (international as well as national) is regarded as a healthy stimulus to economic efficiency. This monetarist view of the causes of balance of payments deficits and domestic price inflation in the periphery, as elsewhere, is as follows. In all countries with a central banking system, the authorities can vary the money supply independently of the demand for it. If the growth rate of the money supply in a particular country exceeds the growth rate of output and incomes, then the demand for goods and services will also grow faster than output. This leads to upward pressure on domestic prices and to pressure on the balance of payments. At the same time, declining real interest rates may lead to increasing capital outflows.

According to this perspective, the cure for both balance of payments deficits and or domestic price inflation lies primarily in curtailing the rate of growth of the money supply. Since excessive money supply growth is generally due to governments' need to finance their own deficits--i.e. to finance expenditure programs that exceed tax revenue plus borrowing--an important feature of monetary control is the reduction of the public sector deficit. This can be achieved via a reduction in public expenditure supported by improved tax performance. Since the latter is difficult to achieve in low-income countries, the emphasis is placed chiefly on the former. Meanwhile, to restore balance of
payments equilibrium via reduced imports and increased exports it is also necessary to devalue the domestic currency. In addition, both in order to curtail aggregate domestic demand--via reduced borrowing and increased saving--and to reduce capital outflows, an increase in domestic interest rates is likely to be necessary.

IMF stabilization programs characteristically also include measures that focus on increasing the short-term efficiency with which existing resources are allocated. These are measures to reduce distortions caused by price and exchange-rate rigidities, monopolies, taxes, subsidies, and trade restrictions. This perspective is, of course, in stark contrast to structuralist views on the causes and remedies of domestic inflation and balance of payments crises that plague so many UDCs.

The 1970s and 1980s have greatly increased the scope for applied analysis of country experiences in the implementation of the policy reforms advocated by the neoclassical school. These are implemented, at the instigation, and sometimes at the insistence of the IMF. The Costa Rican case is a clear example of that.

From Success to Crisis. In the years prior to 1979, the Costa Rican model was held as one of the clearest examples of what could be called "successful"
peripheral capitalism. In terms of the evolution of its productive structure, Costa Rica boasted a model of peripheral capitalism characterized by quality of life indicators (PQLIs) rivaling those of advanced industrialized countries, with the exception of the birth rate. In contrast with other Latin American countries, the Costa Rican economy showed an increasing growth rate, a tendency toward diversification, an impressive modernization attitude, one the highest levels of living, and, most importantly, one of the highest levels of political participation in the region.

As a result, a number of questions arose in the literature about the nature of the Costa Rican economy: How can such a social and political structure be explained within a country that is typically peripheral? What mechanisms promoted and permitted this result in Costa Rica, when in countries all around it, the disarticulation and backwardness of the productive sectors were reflected directly in the poverty of the population and in the predominance of authoritarian political regimes?

Part of the answer to such questions was given by examining the role of the state in Costa Rica. As a legitimate body, the Costa Rican state has been concerned with the institutional resolution of social conflict, not only inside of the dominant class but also between it and the different social groups that make up the Costa Rican
populace. This is why some observers of the Costa Rican model have called it the "protectionist-paternalist state" or the "benefactor-developmentalist state;" because, in effect (since the nineteenth century, but especially since the late 1940s), the Costa Rican state has played an intrinsic role in the process of national development. The state has promoted the productive transformation of the economy, the strengthening of the social sectors, a significant modification of the distributive mechanism, and even the creation of new social sectors.

This logically resulted in a complex institutional apparatus in which distinct formulas and distinct pressures are channelized, generating an enormous amount of conflict and an enormous quantity of measures. These measures are often confusing and ambiguous but, in the end, they have contributed to the character of Costa Rican development.

From Manageability to Crisis. However, the relatively successful state of peripheral capitalism that characterized the post-revolutionary Costa Rican development project was not without its problems. A substantially higher quality of life was achieved for the bulk of the population. There were still, however, major social and regional inequalities. It was estimated that, in 1979, close to 30 percent of the population existed in
conditions of relative poverty (meaning that two thirds of total family income had to be spent on satisfying basic nutritional needs) and that 15 percent of the people lived in utter poverty (meaning an income insufficient to satisfy those needs). This kind of poverty was most noted in the rural areas where the proportion of poor families was estimated at 40 percent. The income distribution showed a marked inequality in which the poorer 20 percent of the population lived with 3.9 percent of total income while the richer 20 percent received 53 percent of total income. The productive structure of the country seemed unable to systematically generate enough funds to finance the very improvements in the quality of life which it was promoting. In general, this was expressed in a constant external commercial deficit: year after year Costa Rica imported more of what it could export and covered the difference with external funds received through foreign investment, loans and aid. This tendency resulted in a permanent state of fiscal deficit. In short, the Costa Rican state had the political capacity to generate programs and activities tied to the process of national development, but it was incapable of generating the funds to finance such activities. Hyperinflation and indebtedness were the state of affairs.

In 1978, the commercial deficit reached $300 million. This represented 35 percent of the value of total exports. The public sector deficit reached 6 percent of the Gross
Domestic Product, and the external debt reached $1.1 million, with the debt of service representing 25 percent of the total value of exports.  

In the following years, everything changed drastically. The international conjuncture aggravated the Costa Rican economy. The oil shocks coupled with dropping prices (which fell by 25 percent between 1978 and 1982) consequently increased the commercial deficit to more than $500 million in 1980. This was later reduced, but not because of a more favorable export position, but because of a 40 percent cut in imports.

The situation grew more complex because the alliances that had formed after the civil war (which had been the source of maintaining institutional legitimacy and stability), along with the structural transformations of the past three decades, had been seriously eroded. There did not appear to be a clear social force with the capacity to launch a definitive strategy to confront the zigzagging economy. Both liberalizing and developmentalist political strategies took their turns and at times co-existed in different institutions. They tended, however, to act not as a remedy but as an additional factor in the deepening of the crisis.

Production not only stopped growing, but it began to diminish in real terms: the per capita GDP declined by 16 percent between 1979 and 1982; the unemployment rate, which
had been maintained at 5 percent, zoomed to 9.4 percent in 1982; inflation rose from 6 percent in 1978 to 90 percent in 1982, real salaries dropped by more than 40 percent in the same period; the public sector deficit grew from 6 percent of GDP in 1978 to 9 percent in 1980; the external public debt grew to $3.1 million in 1982, with a service of debt payment representing more than 70 percent of total exports that year; and the colón suffered a devaluation from 8.6 per dollar to 60.00 colones per dollar in 1982. By 1986, there were 94,639 precaristas (18 percent of whom were in the rural economically active population--EPA). Seventy-four percent of total poverty was located in the rural areas. As a result of the deterioration of the material conditions of life (experienced as a consequence of the crisis), public assistance from the state began to decrease. This was mainly the result of the politics mandated by the structural adjustment of the IMF. During the former decades, the social programs carried by the state, which grew to 32 percent in 1980, constituted a significant supplement to family income. In 1981, cuts in social expenditures decreased somewhat, thanks to the timely, but not altogether unconditional, assistance from IBRD. But, although a total dismantling of the social programs never occurred, the reductions produced a significant decreases in the quality of services provided to the population (i.e., the management of the Caja Costarricense del Seguro Social
put into practice a financial stabilization plan, with the advice and insistence of the IMF and the IBDR, to reduce expenditures in operation costs that historically had a high social cost). Hence, the subordination of the state to international monetary agencies was felt most at the level of quality of services. The proportion of the budget geared toward housing was kept low (2.6 percent) until 1984, which explains the accumulation of problems in this sector: in 1985 the housing deficit reached 275,912. The Carazo administration (1978-1980) increased the resources allocated to these projects, but it did it in a way that was costly to other programs. The 1986 housing law assigned 33 percent of the budget for families to the construction of housing, which in effect meant a substantial decrease in the funds designated for the school lunch programs, for the Education and Nutrition Center (CEN), and for the Children's Nutrition and Integral Attention Center (CINAI).

The Administration of Crisis: Productive Structure v. Social Structure

With this crisis, the principal limitations of the development of post civil war Costa Rica were obvious: the difficulties of promoting and maintaining a social democratic structure and of promoting a relatively equitable base over a typically peripheral economic structure. It
became evident that the productive structure of Costa Rica was effectively incapable of financing the levels of living that had been reached by 1979. Furthermore, it became obvious that the Costa Rican state was incapable of financing the function that it had developed over time. This was all that the conservative political strata needed to bring back the arguments of the 1930s: that Costa Ricans consume more than they produce, that public intervention in the economy can only bring problems, that the Costa Rican industrialization program does not respond to comparative advantages.\textsuperscript{85}

This renaissance of conservative thinking, now under the neoliberal guise, not only presented itself as a model of alternative development to the "desarrollista-benefactor state"\textsuperscript{86} (which, according to them, had been the cause of the crisis), but it also ignited, in a significant manner, the thinking of the old enemies of the developmentalists. Henceforth, the ideological specter of the Costa Rican political economy turned to the right.

In this context, the expanding of exports quickly became the axis of the new political economy. This new political economy's emphasis was on restricting internal demand as a way to develop new export goods. For that, it insisted that the role of the state be diminished, leaving to market mechanisms and to privatization the management of resources.
In Costa Rica, it is possible to distinguish two distinct versions of the neoclassical argument. On the one hand, there is the orthodox neoclassical variant that proposes simply to reestablish international competition in accordance with comparative advantages, through the total liberalization of the economy (commercial, financial, etc.). On the other is the variant that can be called neoliberal. This is more pragmatic because it accepts a certain degree of state intervention, nevertheless oriented toward the creation of subsidized offers to private capital export. This last position is what has predominated in Costa Rica during the crisis of the past decade.

From Crisis to Manageability

The practice of neoliberalism, which predominated throughout the 1980s, has tended to replace the old system of undifferentiated protectionism toward industry (which produced consumption goods directed toward the internal and the Central American market) with a new, but equally undifferentiated, promotion system directed toward productive activities dedicated to export--without restricting the type of products to export, their sectoral location, their capacity for horizontal and/or vertical articulation with other sectors, or their potential contribution to a rise in productivity and/or wages.
The first two years of the Monge administration (1982 - 1984) were dedicated to the politics of stabilization. This stabilization resulted in remarkable improvements. As a consequence of the signed agreement with the IMF, the external debt was renegotiated, the inflationary process was halted, and the fiscal deficit was reduced. This was accomplished through duty and tariff reductions and through two legal mechanisms to compensate for the resulting policy of austerity: workers' compensation and companies' bailout. The Law for the Financial Equilibrium of the Public Sector (1984), generally known as the "Emergency Law," imposed important restrictions on public sector growth, including measures for its eventual contraction. The role of the state was restricted as to resource allocation and price control. The state was forced, as a result, to maintain a flexible policy of exchange without quantitatively restricting imports. At the IMF's insistence, public enterprises such as the Costa Rican Development Corporation (CODESA) were sold to the private sector. In fact, AID donated $140 million to CODESA with the stipulation that it had to be sold.

As a consequence of the structural adjustment, the political economy of Costa Rica has been geared, in recent years, to the promotion of non-traditional exports such as exotic fruits. Numerous provisions were put in place to facilitate these exports, including especial port tariffs, a
simplification of the export process, and easy access to credit at low interest. The fifth structural adjustment loan from the World Bank ($80 million) in 1985 was effected as a way to promote a rational program for the competitiveness of the Costa Rican market. Is it important to note that these structural adjustment measures have been conflictual with longstanding traditions of the Costa Rican economy: the importance of the public sector as a major force in the process of development, the tradition of increasing salaries, the economic democratization, and the importance of the internal and Central American market.

The sixth structural adjustment has brought the ultra-conservative Calderón administration (1988 - present) to realize that corresponding decreases in the public sector, particularly in education, can only increase the level of social unrest—manifested in increases in petty crimes (purse snatchings, property ransacking, car thefts) and in increases of family violence and other types of violent crimes. According to José Rafael Brenes Vega, vice-minister of the Ministry of National Planification and Political Economy, "the Costa Rican economy cannot continue to make policy thrust upon it by outside directives and formulae which contradict the very nature of Costa Ricans."

These conflicts have, therefore, cleared the path toward the understanding that a greater gradualism has to be factored into the process of adjustment. From the
perspective of the Costa Rican state, the actual transformation of the productive system ought to proceed in such a gradual way that it appears imperceptible to the Costa Rican populace. But, from the perspective of the international lending institutions involved, this transformation ought to happen "overnight".

Applications to Development Planning:

Neo-Marxist Development Programs

The contribution of the structuralist school to development of planning in Latin America resulted in the formation of the Latin American Free Trade Area (LAFTA) which exerted some influence on national development planning in the region. Furtado's claims that the application of the structuralist perspective to national planning resulted in: "an entirely new approach in the evolution of ideas on economic planning, since it differed not only from socialist planning--an outcome of the determination to change the overall economic structure and the need to coordinate investment decisions in a system involving greatly diminished consumer freedom--but also from planning in Western Europe, for which the starting point was the concern to coordinate sectoral programs or to achieve conditions of full employment of labor." In contrast, Prebisch's ideas (while heading the ECLA) on planning sprang
from a concern to regulate the import-substitution process. The methodology worked out by ECLA and later widely adopted is based on a diagnosis of the national economy in question and on a set of macro-economic projections established essentially on the basis of hypotheses concerning the evolution of the capital-output ratio and the income elasticities of demand for final products. On the basis of the capital-output data and the analysis of inter-industrial relationships, a system of projections can be worked out that makes it possible to forecast the structural inadequacy of the capacity to import, the rate of private domestic savings or of fiscal revenue in terms of various hypotheses as to the probable growth of the domestic product, the increase in the demand for exports and probable trends in relative export prices, as well as in terms of the estimated income elasticities of demand for the major items of consumption. In other words the technique involves a prospective analysis that makes it possible to define the conditions of internal and external balance, given certain development targets. 93

ECLA's influence on national development planning in Latin America has been quite widespread. Furtado reported that "the Target Programme carried out by Brazil in the second half of the 1950s was directly inspired by this type of diagnosis. However, he also observed that the authorities, while successful in promoting
industrialization, were unable to avoid the aggravation of inflationary pressures and a sizeable external debt.

A Critical Appraisal of Structural Dependence

Although many development economists, not only in Latin America (it has also been applied in Ghana and Uganda) have found it fruitful to apply a structuralist perspective in their analytical work, criticisms have also been levelled against the various aspects of the structuralist paradigm.94

The Methodological Foundations. The structuralist case rests, partly, on an analysis of historical trends in the terms of trade and, partly, on predictions concerning the likely future trends. Among the methodological errors noted are: (1) Sensitivity of the estimates to the base and terminal years chosen. (2) Data inaccuracy including: (a) failure to take into account the impact of quality changes and product innovation upon the value of manufactured exports; (b) failure to account for declining transport costs for the import price of both primary and manufactured exports; (c) equation of primary exports with underdeveloped country, and manufactured exports with developed country. (d) conceptual errors in determining the use of trends in the commodity terms of trade alone in order to determine whether a country has gained from trade.95
The Validity of the Concept of a Foreign Exchange Constraint to Growth. According to this line of criticism, most, if not all, apparent foreign exchange constraints actually boil down to a savings constraint: If population in the periphery consumed less of domestic output and exported more, they would have more foreign exchange. According to Joshi, for a true foreign exchange constraint to exist, it must be impossible to transform additional domestic production into additional foreign exchange.96

Inflation, Monetary Policy, and the Balance of Payments. Structuralist theories of inflation and balance of payments also remain controversial because monetarist critics argue that prices cannot rise without a prior expansion of the money supply, and balance of payments crises reflect domestic excess demand and an overvalued domestic currency.

In the face of inflation and balance of payments pressures, devaluation provides an incentive to expand exports and contract imports while domestic deflation (restraint on the money supply) reduces excess demand for both domestically-produced goods and imports, and hence the inefficiencies (speculation, hoarding) that excess demand often generates.97
The Economic Efficiency of Common Markets.

Structuralists emphasize increased industrial diversification as the main potential benefit of common market creation in the periphery. However, given the variation in levels of industrial and infrastructural development that so frequently characterizes neighboring countries, new investment is unlikely to be evenly distributed: it will concentrate in the most favorable location.

For countries that experience little or no increase in investment, the potential benefits of common market entry are confined to any reduction in the cost of commodities to domestic users due to rationalization and economies of scale in the use of existing capacity.98

The Efficiency Costs of Import-Substitution. Along with the structuralist theory of inflation and balance of payments crisis, there are other aspects of the critique on the merits of import-substitution industrialization—the efficiency and welfare impact of the policy. With respect to the choice of policy instruments, those that have been widely used, and criticized, are tax remission on capital investment, cheap credit, overvalued exchange rates (to keep down the cost of capital imports), foreign exchange and investment licensing, selective tariffs and import quotas. These, it is claimed, have distorted relative prices and,
thereby, have also distorted the choice of techniques in production, the intersectoral allocation of resources, and the pattern of investment within industry. Meanwhile, administrative intervention in resource allocation has led to corruption (which has pushed up the production costs), and to inefficiency and delay in the allocation of resources.

While Furtado and Sunkel have much in common with neo-Marxism, both diverge from the 1970s approach of the leading neo-Marxists in the relative narrowness of their analytical focus. Whereas the latter were concerned with theorizing about the evolution of the capitalist system as a whole, Furtado and Sunkel remained concerned specifically with the problems of the periphery.

A Critical Appraisal of Neo-Marxist Dependence

While there has been no "claimed" applications of the neo-Marxist paradigm in the development context (since it has been mainly concerned with understanding the causes of underdevelopment rather than with providing alternative development programs), the neo-Marxist, in general, have been criticized, particularly from the right wing. Lal, for example, reasserted the belief in the greater effectiveness of capitalism over socialism in raising growth, alleviating poverty, and promoting civil liberties including--in his
view—in the periphery. According the right wing, Amin's notion of "delinking" from the international capitalist system is ludicrous. This would generate economic inefficiency and stagnation. They also claim that socialist regimes are also notorious for the suppression of civil liberties.

Non-Marxists, but more radical economists, have also written little systematic criticism of the neo-Marxists. In their own work, however, some have either implicitly or explicitly acknowledged a positive contribution of neo-Marxism in the development debate, through drawing attention to the significance of class interests in the disposition of the surplus. However, neo-Marxism is either implicitly or explicitly criticized by some of the economists for espousing an overly rigid and homogeneous interpretation of patterns of class dominance in the periphery. The example of Cuba has been used extensively in the development debate, but the Sandinista Development program is the focus of next section.

A Critical Appraisal of Dependence in General

Critiques of dependency have generally focused on the work of the neo-Marxist school, particularly Frank and Amin, but also relate in part to the pessimistic dependency analyses of structuralists such as Furtado and Sunkel. A
number of critics have argued that dependence has no validity as a concept. They have argued that dependency theory has not prescribed a formula for success since, if success is to be possible, its attainment will depend on both the level of development and on the balance of political forces in individual countries in the periphery. For many, a continuing weakness of dependency theory is the rigid conclusion that there is no prospect for full national capitalist development in the periphery. It is this pessimism, coupled with the advocacy of socialism as an alternative, that seems to be responsible for the failure of dependency attempts to overcome the chain of causality. Dependency theory, as a whole, is rigid and deterministic.

The Political Economy of Nicaragua

It is difficult to ascertain the extent to which the nine members of the Sandinista Junta relied on neo-Marxist policy implications to organize the Nicaraguan socialist economy. It can be argued that much of its program was borrowed from Baran and, since much of their preoccupation was concentrated in assessing resource costs of improved public service chiefly in education and health care, this was justified as an investment in human capital. Their basic needs first strategy emphasized the need to raise directly the income of the working poor and to eliminate the
growth-equity trade off. In this, the Junta's program resembles that which was proposed by Lefeber in 1974: 
(1) Economic development includes not merely economic growth but steady, measurable progress toward absolute poverty elimination and a sustained expansion in the employment opportunities and incomes of the poor. (2) A basic needs first development strategy that can lay more effective foundations for sustained growth--This is primarily because of its impact on the structure of domestic demand and the associated inducement to invest. (3) A redistribution of resources toward the poor with an increase in the productive mobilization of presently untapped small-scale savings potential and with an increased opportunity to develop the technical and innovatory skills of the labor force. (4) An expansion of small-scale labor-intensive farming with greater efficiency of land use, reduced use of imported machinery, and reduced food imports (and/or increased agricultural exports). (5) The removal of the legal, institutional, and financial impediments which discriminate against the expansion of small-scale and labor-intensive production. (6) The use of policy instruments to promote small farm production (land reform, agricultural research, extension of credit, marketing). (7) The commitment of more resources to research and development of small-scale, labor-intensive production technologies in all sectors in which these are likely to be efficient. (8) Expansion, and
revision of the technologies and methods, of public service provision, in order to reach the poor more efficiently.\textsuperscript{100}

While this paradigm is not specifically quoted as serving to raise the welfare of the poor in Nicaragua, it has been influential in advocating a comprehensive basic needs strategy at the expense of the perceived costs in reduced growth.

\textit{From Crisis to Crisis}

Although to a great extent the mixed economy of the Sandinistas was thrust upon the National Liberation Front (FSLN), this mixed economy differed from all mixed economies in that it was one in which the propertied classes were excluded from power. It is difficult to produce any other example of a country in which private capital remained the dominant form of property, while in the political realm capital was disenfranchised. When a revolution succeeds, there are two typical outcomes: (1) a counter-revolution occurs by which propertied interests regain the political power commensurate with their economic importance or (2) the new revolutionary government moves rapidly to confiscate large-scale property to secure the revolution. In this sense, the leaders of the Sandinista National Liberation Front (FSLN) are justified in claiming that the Sandinista Revolution has been unique: capital was out of power, but
capitalist property continued on a large scale. In this light, the problem became how the economy of Nicaragua could incorporate capitalist property without re-incorporating the former class structure. Implicit in this policy is the assumption that the cooperation of the domestic capitalist class could be obtained by guaranteeing the limited fulfillment of this class's narrow economic goals. Whether this hypothesis could be given validity and, therefore, whether a mixed economy of the Nicaraguan type could be sustained, became the object of national and regional interest.

The Administration of Crisis: Social Structure versus Productive Structure

Immediately after the fall of Somoza, the FSLN-dominated government took two steps that fundamentally altered the conditions of accumulation in Nicaragua. Despite the fierce opposition of Nicaraguan capitalists, the first step consisted of taking control over the banks and establishing a state monopoly over external trade. As a result, Nicaraguan capitalists faced a situation for which they were unprepared: the córdoba was rendered nonconvertible, and exporters could no longer receive their earnings in foreign exchange. The fierce opposition of Nicaraguan capitalists to these measures reflected both
general and historically specific factors. As a rule, private capitalists are never pleased with restriction. Yet, the measures taken by the revolutionary government were not dissimilar to policies applied by other governments in Latin America. Import controls, restrictions on convertibility, and the like have been tolerated elsewhere by capitalists as measures necessary to deal with their particular problems. But the fierce opposition to these familiar controls also had a cause that would be relevant in any country. With propertyed interests denied significant political power in Nicaragua, the controls were instituted and implemented in a manner over which these interests had little influence. This meant, at the most general level, that the relationship between the private sector and the state sector was different than in any other place in Latin America. The intention of the leadership of the FSLN was that the state sector would be the engine of accumulation, providing direction and priorities in the productive sectors. This vision necessarily implied a state sector that expanded vigorously relative to the private sector.

The second step constituted a number of measures directed at increasing internal demand through the reformulation of education, health, housing, and food policy. This represented a fundamental parting of the ways with traditional approaches to growth in which the push is toward the steepening of the capital investment (in
infrastructure and machinery) rather than the human investment. The following section examines these measures.

**Education, Health, Housing, and Food Policy**

One of the early militants of the FSLN, Commander Omar Cabezas, described the slow and steady process of working during the important organizing years (1967 - 1974) when the strategy was to accumulate forces in silence. "We would take hold of the hand of a peasant, their hands were big, strong, rough" and they would ask them, "and these callouses, where do they come from?" They would respond that the callouses were from the machete, from working the land. And they would ask them that if they got callouses from working the land, why wasn't the land theirs, rather than the bosses'? They tried to slowly awaken the peasants to the dream that they had."\(^{101}\)

This work was a critical aspect of an education process aimed at developing the political consciousness and popular organization necessary to overthrow the dictatorship. It acted in the interest of the popular masses. Cabezas' experience, and that of the FSLN, was not an isolated one. The growing organization of dispossessed peasants and workers in Latin America was accompanied by a growing consciousness. Popular education emerged as an integral tool to these liberation efforts and as a key element in the
development of new revolutionary societies. The Nicaraguan experience, in fact, shed new light on our understanding of the role of education in shaping ideology and consciousness, in reproducing any economic system. Popular education, and education in general, plays a determining role in the consolidation of any model of development, whatever it may be. Somocism implanted not only a particular economic development model, but a particular education that corresponded to that development model. Somoza didn't have any interest in the people having access to wealth, to welfare, to any kind of participation, and because of this it created an economic model that required a work force with preferably the least possible consciousness, the easier to be exploited without any resistance. The Revolution does not merely propose an economic model but rather proposes the construction of a society where there are neither exploiter nor exploited. And to do so the Revolution has to give to our people, through education, the instruments that the people need to be authentic in this new society.102

Popular participation was the base of this new society, and was both the cause and effect of popular education. Education was to prepare people for participation by developing the technical skills necessary for economic development, by transmitting revolutionary ideology, by providing practice in collective analysis leading to action. It was critical for the consolidation of the revolution that
education not be considered in isolation. Its leaders stressed: "No single program of the Revolution can be understood without understanding the Revolution integrally, because the principal force of the Sandinista Revolution is integration." \(^{103}\)

As integral to an unfolding revolutionary process, popular education took different roles at different moments. "Conscientization," (or development of critical political consciousness), was part of the process that led the Nicaraguan people to power. At the stage of consolidating that power, conscientization had a different focus. Once isolated and clandestine, educational work came to take the form of massive national projects, not only through the formal education system, but through popular education programs of many other state institutions, mass organizations, and religious groups. The formation of the new person was not the monopoly of the educational system. This was the hour of non-formal education in Nicaragua in which to define the state apparatus, the ideological apparatus. The educational system was seem as a gigantic upsurge, like a tidal wave, which showed itself in the mass media, the newspapers, in a CDS [neighborhood Sandinista Defense Committee] meeting, in every fact of the class struggle. The participation of the masses in the whole range of economic and other activities, through non-formal education outside the classroom built up revolutionary
ideology in all sections of the population. "[They blew] apart the myth that education is something which only takes place in schools."^{104}

Public education before 1979 served the interests of the Somoza dictatorship. It reflected the material conditions of a dependent capitalist society, dominated by a national elite and the foreign interest of U.S. imperialism. Nicaragua's agroexport economy needed an unskilled rural labor force, whose services were used primarily during the three or four months of harvest season. Literacy and technical training were not necessary for this work, which required only brute force.

As in most Latin American colonial systems, formal education evolved to meet the needs of an urban elite, reproducing patterns of economic and cultural domination. That education was not a priority under Somoza is clear in the following statistics: (1) 67 percent of all students were from urban areas; (2) 68 percent of all primary-age children entered school, but half of those dropped out during the first year (only 5 percent of all rural children finished primary school); (3) secondary school was accessible to 18 percent of the eligible population (over half studied business, while less than 10 percent prepared for work in agriculture); (4) a mere 0.3 percent of the population completed higher education.^{105}
Most of the urban and rural poor were effectively eliminated from the educational system before finishing primary school. For those who did have the opportunity, education had limited offerings. Teaching standards were low, training was inadequate, there was favoritism in hiring. Classrooms were crowded, and most rural schools had only one teacher for six grades. The contents of the textbooks, most of them imported through USAID programs, reflected experiences and values alien to the Nicaraguan peasant. And the rich studied abroad.

There was no rationalization of the curriculum according to the real economic needs of the country. The several training centers established by Somoza were more like businesses for his friends. It was a classic case of education for the development of underdevelopment. It did not respond to the interests of the large poor majority; their illiteracy was a condition of underdevelopment, keeping them uninformed and passive. The textbooks used during the Somoza period, when they referred to Nicaraguan history, were devoid of stories of popular struggle. If Sandino was mentioned, he was pictured as a bandit who robbed the peasants and murdered their children. But the heroic tales of the "General of All Free Men" and his "Army-Defender of Sovereignty" remained alive, passed on orally by the thousands who in the 1920s and 1930s had participated in the successful efforts to oust the U.S. Marines.108
Health care conditions under Somoza were among the worst in Central America. The health system was one of the most inefficient and inequitable and most oriented towards curative, rather than preventive, services. Like the rest of the Somoza regime, the health system was a highly centralized patronage system, which at the same time was fragmented into many weak and competing institutions and programs. The Sandinistas were able quickly to unify the fragmented system and make it more responsive to popular needs. They upgraded both hospital and preventive programs, in some cases with dramatic results. Hospital and clinic utilization mushroomed. Training programs to multiply the number of physicians and other health professionals were accelerated. Immunization and sanitation campaigns were particularly effective, and a broad network of oral rehydration centers appeared to have made marked inroads in reducing mortality from diarrhea—once the main killer of children under 5 years of age.\textsuperscript{107} Also important was the successful effort to produce genuine popular participation, which involved both voluntary efforts to implement programs and a means to make health officials more responsive to community demands and needs. All these achievements contributed to the legitimacy of the Sandinista government.

Throughout the Third World, rapid demographic growth and urbanization have put considerable strain on the economic and political organizations responsible for the
provision of basic necessities. Housing, requiring extensive capital investment and frequently providing little direct or immediate return, has presented a particularly difficult challenge. This usually involves some combination of actions of the public sector (the state), the formal private sector (the market), and the informal private sector (the community). With the typical laissez-faire response, common throughout Latin America, the state limits itself to regulatory actions, and enough public sector housing projects may also be initiated in response to private sector pressure to keep down the labor cost, or, in the case of most slum clearance projects, to gain access to valuable land. The result is that the private sector reaps the direct profits from the construction of private housing and much of the subcontracted public housing, as well as from the reduced labor costs and the increases in land value that are generated by the public sector investments in infrastructure. The informal private sector, primarily the poor, is left to its own devices.¹⁰⁸

This pattern was evident in Nicaragua under Somoza. Government housing policies favored the upper classes and proved inadequate for the vast majority. The policies developed and carried out by the Government of National Reconstruction during the first five years after the overthrow of the dictatorship were clearly different.
The housing situation in Nicaragua was extremely critical. Nicaragua had an extremely high population growth rate. The development of nonlabor-intensive agriculture encouraged migration to urban centers, even though there was little industry to provide employment. An already serious situation was exacerbated by the earthquake of 1972, which destroyed some 40,000 housing units.

The Junta announced a four-point program for housing that included urban reform, national planning, a program of rural housing, and an emergency program for marginal urban neighborhoods. In the program set up by the Ministry of Housing and Human Settlements (MINVAH), the major objectives were defined: (1) initiation of a territorial ordering of human settlements with the goal of reinforcing production and improving the life conditions of the population centers in the interior of the country, (2) planning and massive construction of popular housing in the city of Managua in order to attend in part to the deficit inherited from the Somoza period, and (3) impelling of an Urban Reform which permits the distribution of the benefits of urbanization to all social sectors.109

From the beginning, the policies of the Junta deviated from the laissez-faire approach. Housing policies were carefully integrated into a broader program of national development. The national development objectives stressed the recognition of agriculture as the base of the Nicaraguan
economy and the responsibility of the Junta to plan and coordinate its development. MINVAH constructed general housing for workers in urban settings, established new settlements in rural areas, and identified urban and agrarian reform as fundamental elements in the new government's program. Urban reform was described as a national effort to formulate a rational response to the problems created by uncontrolled urban growth. The two elements to urban reform were the regulation of urban and suburban land use, and the resolution of the housing problems of the urban popular sectors.

To feed the people, which has been the Sandinistas' self-imposed social priority, food policy was a cornerstone of the Revolution's social policy. The government confronted the problem of hunger by creating a strategy to ensure consumer access to food and to increase the food supply.

In 1970, half of all Nicaraguans consumed a daily average of 1,767 calories per capita, about 70 percent of the recommended allowance. Over 56 percent of children under five years of age were estimated to be severely malnourished and over one-fourth of these were suffering from severe second-or third-degree malnutrition. Malnutrition was undoubtedly a significant factor contributing to the very high infant mortality rate of 120 per 1,000 live births.
Hunger in Somoza's Nicaragua reflected the prevailing poverty and skewed income distribution. The richest 20 percent of the population consumed almost twice the calories and protein of the bottom 50 percent. The large and medium landowners constituted only 3.5 percent of the economically active rural population but received 63 percent of all rural income. The small producers were 46 percent of that population but received only 29 percent of the income. The 51 percent of the population who were landless laborers earned only 8 percent of the income. This economic structure was, in part, a result of the agroexport strategy of the 1950s and 1960s. Large scale production displaced the many, and, at times, the government used the armed forces to evict small landholders, renters, or sharecroppers from their lands. Thus, the Sandinistas inherited a hunger problem rooted in the economic structure of the old Nicaragua.

The new government began to address these structural economic problems on the consumption and production sides simultaneously. The strategy for consumption was to find mechanisms to ensure the population's access to adequate food supplies, and these fell into two related areas: economic access and physical access. Three economic instruments were deployed to improve the consumers' purchasing power: price controls, consumption subsidies, and employment. The Ministry of Commerce concentrated its price
control efforts on rice, beans, maize, beef, pork, poultry, eggs, milk, cheese, sugar, salt, cooking oil, and coffee. Consumption subsidies entailed selling basic foods at prices far below the purchase price of logistic costs. Increasing employment took the form of payroll swells in the administrative apparatus and the state productive enterprises. Efficiency considerations took a secondary place to the social and political exigencies of providing income sources through employment. This was probably a reasonable short-term measure, given the major social dislocations from the revolutionary war, but it was not fiscally sustainable. In order for its economic regulatory instruments to work, the state felt it necessary to manage the commodity flows more directly. It did this primarily at four points in the food distribution channels: importing, domestic procurement, wholesaling, and retailing. The main institutional vehicle for these activities was the state-owned food marketing enterprise. This situation raised doubts about the course of development in Nicaragua as it continued to be incorporated into the international division of labor as a primary export economy. Foreign investments in small sectors as bananas, wood, and mining ceased to exist. And at the high point of production, these sectors were turned over to the local producers, as was true of cotton and beef exports. From this perspective, Nicaragua
was truly a case of "national control of the productive system." But at what cost?

From Crisis Back to Crisis

One does not need to be more than a casual observer to realize the economic devastation that ten years of Sandinismo have brought Nicaragua. The year 1989, which marked the anniversary of the Sandinista revolution, ended with a total of 57,731 victims of war and a net loss of $17,845.9 million dollars in direct costs from what the Nicaraguan Ministry of the Presidency calls the "cost of U.S. aggression against Nicaragua." Official sources reported that the real salary of workers dropped by 87 percent in 1988, that the unemployment rate in the capital city reached 53.3 percent, and that the córdoba had been devalued by 471,743 percent by 1989.

In the public health sector, from 1985 to 1990 the infant mortality rate was 71.8 per thousand, with an incidence of chronic gastrointestinal and respiratory illnesses representing 80 percent of the total deaths per year. One in four children suffered the risk of malnutrition. Two out of four children were born below the normal infant weight. One out of six children had not developed normally, physically or mentally, due to inadequate nutrition. Today, 120 thousand children are
malnourished, among whom 23 thousand are mentally disabled. Twenty-two percent of children in the first grade have not reached the average height. In 1990, the average caloric intake was 1,567 kilograms and the average protein intake was 41.5 grams, representing a deficit of 15.3 percent and 17.7 percent respectively, according to the norms set by OPS (Organización Panamericana de Salud).111

Among the female population, 66 percent are below the age of fifteen, most of whom are considered marginal. They suffer inequality and violence. Single female-headed homes range from 25 percent to 54.9 percent, and they do not receive enough state subsidies to satisfy the minimum basic requirements. Twenty-one percent of children are born to women between 15 and 17 years of age.112

In the housing sector, the problem is particularly serious. It is estimated that the housing deficit will reach 415,000 units by 1993. Between 1990 and 1991, 115 shanty towns were formed. About 55 percent of existing houses have only one bedroom. At the national level in 1989, 34.4 percent of all houses were considered uninhabitable and 47.3 percent did not have drinking water or sewage. Nicaragua registers the lowest indices in Central America in terms of providing water and sewage facilities to its population. In 1989, in the urban sector water reached only 78 percent of the people and sewage facilities only 31.8 percent. In the rural sector of a
population of 1.5 million, only 19.5 percent have access to water. One to 4 Nicaraguans receive permanent water supplies.\textsuperscript{113}

According to the plan of the Nacional Desarrollo Humano,\textsuperscript{114} $1,673$ million will be required during the years 1992 - 1996 to fulfill Nicaragua's objectives, assuming, of course, a satisfactory rate of GDP growth, which in turns assumes an end to insurgency-counterinsurgency activity,\textsuperscript{115} social peace, labor discipline, stable international prices, etc. The deficit to finance such programs can be estimated as $1,263.6$ million, the only source of which can come from international aid. For this, the picture looks grim. In the Nicaraguan newspaper La Prensa, it was reported that it would take not only the efforts of Violeta Chamorro but the concerted efforts of all Central American presidents to convince a reluctant U. S. Congress to reconsider Washington's decisions to table all aid to Nicaragua.\textsuperscript{116}

However, Violeta Chamorro's plea was not heeded in the midst of the United States' own conjunctural crisis.

A stroll through the ravages of today's Managua will bring even the most politically apathetic to tears. The Municipal Palace, whose opulent rooms were once meeting grounds for European nobility and for foreign dignitaries, now serve as government offices where scores of civil servants work with pre-revolution technology and, often, without electricity. Managua's Cathedral, once an envied
relic of colonial architecture, lies in the midst of hundreds of precaristas, who have made of its ruins their home. The Central Plaza, which was once promenaded by Managuan families, serves now as the home of dispossessed women and children who have appropriated military equipment to use as shelter against the brutality of Managua's solar emissions. It does not take much conjecture to link the heat waves and dead vegetation to military activity directed from Southern Honduras.

In the sidewalks of Managua, its people sell fruits, used trinkets, and ice. In this latter regard, it is important to note that Managua's water supply is infected with cholera. There have been numerous reports of deaths from this cause. Managua's leftist newspaper, Barricada, reported several incidents of patients who have contracted cholera while under the care of Managua's Lenin Fonseca Hospital. Managua's "Hospital Carlos Marx" has been also reported to operate under conditions in which there are no syringes with which to give patients plasma or serum transfusions. There is inadequate food for the patients and inadequate (and outdated) operating facilities.

The streets of Managua are traveled by innumerable dilapidated Ladas that now serve as one of the seemingly few sources of income for Managua's male population. A taxi ride, in any direction, is remunerated at the rate of 7 córdobas, too much for the local commuter, who is then
forced to gamble with his life by riding in the Sandinistas' former objects of war (military trucks used to transport troops and equipment) adjusted to function as public buses which charge fifty Nicaraguan cents, consistent with the national fare.

The lake of Managua is so filled with pollutants that children who play near its waters often contract diseases long eradicated in Central America. Everywhere in the streets lie posters of Managua's hero, Sandino; but, when the people are asked to voice an opinion, they often answer with anger misdirected toward their former hero.

Thus, how can this social reality be explained within the context of a war of liberation that was fought to free the Nicaraguan people from the fifty years of oppression and economic violence? How can Nicaraguans recover from their failed social experiment and begin to rebuild their society? Although an optimistic response to these questions has not been forthcoming, given the current global conjuncture, some remarks can point toward new possibilities.

Looking Toward Alternative Strategies

To begin conceptualizing an alternative strategy for political economy, the economy's direction ought to be made consistent with the orientation of its political economy. The first step is to begin a process capable of generating
significant inputs to raise the general levels of living of the population. The second step is to ensure that this process is dynamic and self-sustaining. It is important, therefore, to consider the criteria which could, in the short term, initiate the highest degree of dynamism toward a development process primarily directed to the maximization of public well-being. This does not necessarily entail a "War on Poverty" approach, nor its Costa Rican equivalent, "la erradicación de la pobreza" of Margarita Penón de Arias; but, given the structural characteristics of the Costa Rican and Nicaraguan economies, it may have to start that way.

If the goal of development is to increase the output of the productive structure, the productivity of human resources (the productivity of labor) must be increased. But this cannot mean increasing productivity simply by keeping wages down. As Penón pointed out, "the Costa Rican worker is not a maquilador." This means that products should be price-competitive due to the efficiency of production and not due to the super-exploitation of the labor force.

This, which at first glance appears obvious, has not reached the consciousness of the neoclassical economists whose focus has been the promotion of specialization in producing for the external market with an extensive and badly remunerated labor force. It is imperative that Costa
Rica and Nicaragua move in a new direction: the better paid the productive resources, the richer the country, and the greater its social well-being. Toward this aim, specialization of production with high productivity does not depend primarily on low cost (low salaries) but on the quantifiable improvement of the labor market, in which technological advances permit systemic improvements in the quality of life.

The following chapter explores the literature on alternative forms of investment, namely the education investment, to promote development in the periphery.


10. This is only correct if a family with no dependents is considered.


21. Revolutionary change in this context means the movement toward a socialist economy in which the factors of production are managed by the state rather than the traditional classical Marxist movement toward communism.


29. Furtado argued that where real wages are supply-determined, variations in export revenues are absorbed predominantly by profit fluctuations. Although the quantity of labor employed might also fluctuate in
these conditions, Furtado asserts that this usually varied relatively little. See: Furtado (1964), pp. 132-3.

51. Emmanuel (1972), chapter 5.
52. Emmanuel (1972), P. 267.
70. Government of India, First Five Year Plan (India: Government Printer, 1953).


80. This refer to the alliances formed after the civil war of 1948 in which the National Liberation Party (PLN) was able to reconcile the interest of the "old guard", referring to the coffee oligarchy and the conservative strata of Costa Rican society, with the interest of people at large without having to displace anyone.


82. People who live in shanty-towns.


(Latin American and Caribbean Center: Florida International University, May 1985).


91. Personal interview with the Vice-Minister of National Planification and Political Economy, José Rafael Brenes Vega, conducted on May 11, 1992 in San José, Costa Rica.


93. Furtado (1976), p. 244.

94. See: Little (1982).


115. Fighting has not stopped in Nicaragua. The Contra-counterinsurgency has been joined by other factions. The result has been that no one knows for sure who is fighting whom. The tendency of the press has been to label all insurgency groups as "los revueltos."


118. Lada is the Soviet automobil model.

119. In a private interview, May 8, 1992, Margarita Penón de Arias spoke to me about her political platform and her plans for the future of Costa Rica. She is the wife of former president, Oscar Arias and is herself seeking the PLN nomination for the upcoming election.


CHAPTER III
THE ECONOMICS OF EDUCATION AND DEVELOPMENT

Most political economists would probably agree that it is the human resources of a nation, not its capital resources, that ultimately determine the character and pace of its economic and social development. In 1776, Adam Smith wrote, "[t]he expense of the institutions for education is . . . beneficial to the whole society and may therefore without injustice, be defrayed by the general contribution of the whole society." Although these thoughts were expressed almost two centuries ago, until quite recently the economic significance of education to society had been largely ignored. Only in the past few decades have economists recognized the significance of education to the rate of economic growth of a nation. These economists, however, have concentrated on those aspects of educational investment that relate educational expenditure to the productivity of the labor factor, that is education in this context became nothing more than the training of the workforce for production. This chapter critically challenges these assumptions.
Education and National Development

As was stated in the previous chapters, insight into the contribution of education to national development has been frustrated by a number of obstacles, not the least being the general lack of agreement on the notion of development and the general level of ignorance about the functioning of the educational system. For example, most discussions of education appear to suggest that (1) educational systems are easily influenced and altered and (2) education is a homogeneous process whose characteristics are well known. While it is true that educational systems are moulded extensively by the greater society and culture, it should be equally clear that educational systems may either resist or influence outside efforts at organizational or curricular change. Thus, educational change cannot be viewed merely as a set of responses to demographic, social, and economic pressures, for such pressures do not necessarily dictate particular organizational arrangements or specific educational curricula. At best such external factors offer firm output targets (e.g., number of skilled persons demanded by certain industries) and guidelines for inputs (e.g., number of pupils to enter the first year, or grade).

The inabilities of the educational system to respond satisfactorily to the objectives and targets of educational
plans and policies are not well documented, but they are well known. Manpower or other planning targets require specific skills and knowledge of the educational system. This output in turn demands specific capacities and competencies within the system. While this is all too obvious, not fully appreciated are the subtlety of some external restrictions on the functioning of the educational system, the constraints on planning and policy-making resulting from basic characteristics of the system, the kind and extent of socialization provided within the educational system, and the receptivity of the system to change, and the inadequacy of evaluative processes that decision-makers themselves employed.

Educational Descriptors in the Periphery

The inability to analyze the process of development in any refined way and the practice of treating only the external manifestations of education have permitted the rise of three unfortunate characteristics in much of the literature on education and development.

First, in development theory, there is that body of literature that focuses on abstract and qualitative approaches presenting "ideal" typologies of (1) traditional vs. modern societies, (2) folk vs. urban societies, (3) ascriptively normed vs. universally normed populations,
and (4) simple \textit{v.} complex social structures.\textsuperscript{2} Such outcomes are the result of ethnographic and related ad hoc approaches to the problem of evaluation with no comprehensive model of the dynamics of education processes, and no philosophy of education to guide them. These theorists have turned to historism and relativism to bail them out rather than critically examine their own normative assumptions.

Second, corresponding to the equivalent of these ad hoc explanatory models of education processes, are the rationality models of economic development in general, which focus on modern versions of the Protestant ethic argument. In these models, historical-psychological interpretations of "innovative personalities" abound as explanations of development. "The entrepreneur, with a dream and will to found a private kingdom, to conquer adversity, to achieve success for its own sake, and to experience the joy of creation, is a heroic figure in economic development," wrote Schumpeter.\textsuperscript{3} In the same vein, McClelland perceived the efforts of the entrepreneur, in controlling production in both capitalist and socialist economies, as largely responsible for rapid economic growth. For McClelland, the entrepreneur, driven by an inner urge to improve, is motivated by profits as a measure of achievement--rather than as a source of enrichment.\textsuperscript{4} Hence, a society with a generally high need for achievement produces energetic entrepreneurs who, in turn, can be trained to succeed.
Hagen, on the other hand, utilized psychology, sociology, and anthropology to explain how a traditional agricultural society (with a hierarchical and authoritarian structure where status is inherited) becomes one in which progress occurs. Since the industrial and cultural complex of low income societies is unique, they cannot merely imitate Western techniques. Thus, economic growth requires widespread adaptation, creativity, and problem-solving, in addition to positive attitudes toward manual labor.

Hagen moves from development to education theory by suggesting that childhood environment and training in traditional societies produces an authoritarian personality with a low need for achievement, a high need for dependence and submission, and a fatalistic view of the world. If parents perceive children as fragile without a capacity to understand or manage the world, the offspring are treated oversolicitously and are prevented from taking the initiative. The child, repressing anger, avoids anxiety by obeying the commands of powerful persons. Events that cause peasants, workers, and lower elites to feel they are no longer respected and valued may catalyze economic development. For Hagen, this process occurs over many generations. Increasingly, adults get angry and anxious; and sons retreat and reject their parents' unsatisfying values. After several generations, the women, reacting to their husbands' ineffectiveness, respond with delight to
their sons' achievements. Such maternal attitudes combined with parental weakness provide an almost ideal environment for the formation of an anxious, driven type of creativity. If the sons are blocked from other careers, they will become entrepreneurs and will spearhead the drive for economic growth.⁵

Weber (in the 1958 translation by Parsons) took a systemic perspective on economic development which like Hagen's had a strong values/education component. He argued that capitalism is an economic system where private owners of capital and their agents make decisions based on profit and hire free but capital-less workers. Weber tried to explain the continuous and rational development of capitalism that originated in sixteenth century Europe. He noted that European businessmen and skilled laborers were overwhelmingly Protestant and that capitalism was most advanced in Protestant countries such as England and Holland. Although Puritans opposed materialism as much as the Catholic Church did, paradoxically, they did not disapprove of accumulating wealth. They did, however, restrict extravagance and conspicuous consumption and frowned on laziness. These attitudes resulted in (or at least they were consistent with) a high savings rate and continued hard work--both factors necessary for economic growth.⁶ Despite intense criticism, Weber's work stimulated scholars to ask important questions about how
entrepreneurial activity is affected. One question concerns marginal ethnic and social groups and to what extent marginal individuals, because of their ambiguous position, tend to be innovative. For example (in a replication of Weber's study), Hagen found that Nonconformists (Quakers, Methodists, Congregationalists, Baptists, Anabaptists, and Unitarians), with only 7 percent of the population, contributed 41 percent of the leading entrepreneurs during the English Industrial Revolution (1760-1830). Most studies of this type indicated a higher level of education among entrepreneurs than for the population as a whole, and found a direct relationship between education and the entrepreneur's success.

Third, there is the literature generated in the West during the 1960s and 1970s, in which the relationship between education and economic growth was treated in highly aggregated terms. The levels of national development were measured and compared by single or composite quantitative indices, which usually considered only very limited structural characteristics of the society or a few of the consumption habits of portions of the population. Such aggregated measures were often statistically related to obtainable indicators of educational progress. Impressive statistics and numerous quantitative studies of the sources of economic growth by Denison (1962) and Solow (1957) were used to demonstrate that it was the growth not of physical
capital but rather of human capital (the "residual" in econometric production function estimates) that was the principal source of economic progress in the developed nations. As a result, most Third World nations have been led to believe that it is the rapid quantitative expansion of educational opportunities that holds the basic key to national development: the more education, the more rapid the development. Most countries have committed themselves, therefore, to the goal of universal education in the shortest possible time—a quest that has become a politically sensitive and, often, an economically costly, sacred cow.

The first and second type of literature probably overemphasize the significance of the entrepreneur and as such misdirect educational policy toward those aspects of the educational process (as curriculum and teaching methods as the crucial factors in better relating education to development needs—educational reform is seen as pedagogical reform, and prescriptions are centered on improved teaching education, curriculum revision, use of educational technology and so forth) geared to improving the educational experience of those already benefitting from formal schooling. The third type of literature, because of its greater impact on UDC policy and because of its focus on education as a skill-producing process, is made the topic of this chapter.
Education and Economic Growth. For many years, the proposition that educational expansion promoted and, in some cases, determined the rate of overall GNP growth remained unquestioned. A. Kahan in "Russian Scholars and Statemen on Education as an Investment" provided one of the first studies of this type. In a collection of essays published in 1896 under the title Economic Evaluation of Popular Education, he based his conclusions on the assumption that the various external stimuli of economic growth (tariffs, subsidies, government regulations) are less effective than are education and training. He invoked the authority of Mill, Brassey, and Marshall, and provided empirical data from American experience to argue that the level of productivity of labor in various countries is positively correlated with per capita expenditures on education and with rates of literacy. The general conclusion of the essays was that "[t]here are, of course, many factors impeding the development of the Russian economy, but the foremost among them is the general illiteracy which distinguishes our country from all other civilized countries. . . . An increase of labor productivity is the only means to erase poverty in Russia and the best policy to achieve it is through the spread of education and knowledge."10

The changes that occur in the sectoral composition of output, in the occupational structure of each industry, and
in the formal educational attainments of workers in occupations as the economy develops, give rise to a direct relationship between productivity (production per worker) and the formal educational attainments of the labor force. Economists have long focused on this thesis. The approaches ranged from a general defense of education as a major force in shaping a desirable society 'prone' to development to the precise econometric measurements of residuals and rates of return to education. These attempts had a flourishing era starting with Strumilin in 1925. On the microeconomic level were studies trying to relate earnings to years of schooling. The works of Walsh, Friedman and Kusnetz prepared the ground for many other works that appeared in the 1950s and 1960s, such those of Schultz, Becker, Blaug, Mincer, and others. The implications of these studies for the importance of education to economic development can be summarized as follows:

1. Wherever relative earnings reflect the free interplay of market forces, we may expect that higher education, with its corresponding higher earnings, reflects higher productivity from the national standpoint.

2. Rates of return from investment in education, however measured, compare favorably with rates of return from other types of investment.

The first landmark in empirical profitability studies in the United States is the study by Glick and Miller (1956) who, after analyzing 1949 census data of median
income by age, race, sex, and education, and adjusting the income data by the probability of survival, penned the phrase that a college education is worth $100,000. However, no discounting was used. A few years later, Houthakker (1956) used the same source of data and derived present values of lifetime incomes of persons with different amounts of schooling. His approach was more sophisticated than that of Glick's and Miller's in that he discounted mean incomes and took income tax into account. The main conclusion from Houthakker's study was that the $100,000 value of college education could only be regarded as an upper boundary. Becker (1960) estimated rates of return and presented them later in 1964. His initial concern was whether there was under- or over-investment in college education in the United States. Based on the censuses of the population, he computed a private rate of return to college education of 12.5 percent in 1940 and 10 percent in 1950. These rates referred to urban white males only, and were adjusted for ability, unemployment, and mortality. The corresponding social rate of return was 9 percent in both years. A direct comparison of the above estimates with the rate of return on physical capital led him to conclude that there was evidence of under-investment in college education, at least on the basis of the direct economic benefits. In his later study, he produced some additional evidence of the returns to college education in 1956, 1958, and 1961. The whole set of
estimates showed that the profitability of investment in college education in the United States did not change appreciably between 1939 and 1961. Becker also produced rate of return evidence for high school graduates. In contrast to the returns for college education, those for high school education showed an ascending pattern over time.20

Schultz (1951) also produced some rate of return estimates for the three educational levels in the United States in 1958. These were 30 percent for elementary, 10 percent for high school, and 11 percent for college education.21 But Hansen (1963) provided a comparative landmark, with a study that gave private and social rates of return for a variety of schooling combinations in 1949. The income data source was the population census. Concentrating on completed schooling cycles, the social rates of return were found to be 15 percent for elementary, 11.4 percent for four years of high school, and 10.2 percent for the four years of college. The corresponding private rates of return were infinity.22 Hanoch (1967) introduced another milestone in rate of return studies, in terms of both methodology and reliability of the estimates produced. Based on a 1/1000 sample of the 1960 census, he was able to estimate earnings functions that included 23 explanatory variables. The sample was divided into 24 groups defined by race, region and age, and earnings functions were estimated within each
group. Beyond schooling and age, the explanatory variables referred to the type of residence, the origin of the individual, mobility, marital status, size of family, and number of children by using multiple regressions, expected age-earnings profiles by years of schooling were estimated. No adjustments were performed on the benefits side, other than the ones reflected by the explanatory variables of the earnings functions. Although private rates of return were estimated, no tax adjustments were made. On the cost side, part-time student earnings and direct costs of schooling were assumed to be equal. Lassiter (1965) conducted a study simultaneously with Hanoch's in which he used a 5 percent sample of the 1960 census. He computed the earnings function $Y = a + b S$, where $Y$ is income, $S$ is years of schooling completed and $a$ and $b$ were the estimate parameters. The fitting of this equation allowed him to compute private rates of return based only on opportunity costs (i.e., assuming zero direct costs of schooling). In a later work, he reported similar rates of return for 1949. A comparison of the 1949 and 1959 rates of return showed a small increase over time. A study by Hines et al. (1970), using the same basic earnings data as Hanoch had, found that the social rates of return for white males were equal to 17.8 percent for elementary school graduates, 14 percent for high school graduates, and 9.7 percent for college graduates. On the private side, the corresponding rates
were 15.1 percent, 19.5 percent, and 13.6 percent. These rates were before adjustments for secular growth of incomes, mortality, ability, and taxes.\textsuperscript{24}

Wilkinson (1966)\textsuperscript{25} and Podoluk (1965)\textsuperscript{26} calculated rates of return in Canada using the 1961 census. Wilkinson's estimates were in the form of (private) net present values of lifetime earnings for different occupations. Podoluk, on the other hand, computed private rates of return to investment in education based on pre-taxed incomes. The rates were equal to 16.3 percent for high school graduates and 19.7 percent for university graduates relative to high school graduates. Using special tabulations from the 1960 census in Puerto Rico, Carnoy (1970) produced rate of return estimates for males and females in urban and rural areas. The private rates unadjusted for labor force participation for males were over 100 percent for primary, 26.4 percent for secondary, and 23 percent for higher education. The corresponding social rates were 19.8 percent, 20.1 percent, and 11.9 percent respectively.\textsuperscript{27} A study of the rates of return for Mexico was also completed by Carnoy (1964). This study uniquely standardized rates of return for factors other than education. Carnoy's study was based on a cross-sectional sample of 4,000 male wage-earners in 1963. The questionnaire provided data on the wage of the employed worker, the number of years of completed schooling, his age, his father's occupation, the type of industry he was
employed in, and the city in which his employment was located. This sample permitted the estimation of earnings functions. The results of the regressions were that, when schooling alone was used as an explanatory variable of income, 43 percent of income variance was explained. When age was added as an independent variable, the schooling explanatory power dropped to 36 percent. When other variables such as age, city, father's occupation, industry, and attendance were added, schooling explained only 29 percent. Yet schooling was found to be the largest single determinant of income differences.\textsuperscript{28} The rate of return for Venezuela was calculated by Shoup (1959). Few details are known concerning the sources of data, sample size and adjustments. The study gave extreme results, particularly at the primary level where, using illiterate agricultural workers as the base group, the rate of return was estimated at 130 percent. When the earnings of the illiterate urban workers were used as a control group, the rate dropped to 82 percent, which is still a very high figure by any standard. The rate of return for secondary education was equal to 17 percent, and the rate for university graduates was equal to 23 percent.\textsuperscript{29}

Four rate of return studies of investment in education have been conducted in Colombia. The first one, by Franco (1964), gave private rates estimates for urban male workers. These were found to be 20 percent for primary education, 19
percent for secondary technical schooling, 30 percent for
general secondary, and 19 percent for university
schooling.30 The second study, conducted by Schultz (1968),
was based on a rather small sample of the urban labor force
in Bogotá in 1965. The sample included 684 men and 316
women, ten years of age and older. Earnings functions were
estimated separately for men and women. The independent
variables of these earnings functions were schooling, age,
years of residence in Bogotá and other sources of family
income. The third variable was included in order to
evaluate the effect on earnings of the number of years in
residence in the urban setting. The inclusion of the fourth
variable rests on the hypothesis that the more income that
is available in the family from other sources, the less the
effort of the person in the sample to earn more income
himself. In addition to these two new independent
variables, Schultz stressed the importance of hourly
earnings as the dependent variable. The private estimates
for men were 18.4 percent for primary schooling, 34.4
percent for secondary schooling, and 4.4 percent for
university. The corresponding social rates were 15.3
percent, 26.5 percent and 2.9 percent. The highest rates of
return calculated by Schultz were for vocational secondary
schooling (52.5 percent private and 35.4 social).31
Selowsky's (1968) study of Colombia consisted of a thorough
exercise showing how different assumptions can affect a rate
of return estimate. Using a sample of 10,715 male and female urban workers in Bogotá in the 1963-1966 period, he estimated a variety of social rates of return using various assumptions. For example, the completely unadjusted rates of return for the three educational cycles were 40 percent for primary, 24 percent for secondary, and 8 percent for university. The labor force participation adjustment reduced these rates to 33 percent, 21 percent, and 6 percent respectively. Further adjustment for unemployment reduced the rate of return to primary education to 28 percent, but left the other two rates unaffected. The combined effect of a labor force participation adjustment and differences between shadow and market wages reduced the primary rate of return by only 1 percentage point. On the basis of these results, Selowsky concluded that rates of return are rather insensitive to different patterns of expansion of the educational system. The final profitability study on Colombia derived social rates of return equal to 21.1 percent for primary education, 20.7 percent for secondary, and 7.4 percent for higher. Dougherty (1971) also calculated rates of return referring to the future, based on alternative expansion paths of the educational system. Harberger and Selowsky (1967) calculated rates of return for Chile. Using case studies for the income of the urban labor force by years of schooling and the costs of education, they calculated social rates of return for 1959.
These were 24 percent for the primary level, 16.9 percent for the secondary, and 12.2 percent for the university. These estimates, however, appear inflated by their use of constant age-earnings profiles over the lifetime of the individual. Selowsky later calculated the same costs but with a different earnings source.\(^{34}\)

Three Ph.D. dissertations reported rates of return for Brazil. The first one by Castro (1970) produced social rate of return estimates for Bello Horizonte and Itabirito based on a combination of assumptions about costs and length of study. His basic rates for Itabirito were 21 percent for elementary, 20 percent for the first cycle of secondary, 19.7 percent for teacher training college, and 14 percent for university.\(^{35}\)

In another study, Lerner (1970) used data from the Brazilian census with a sample size of 4,700. Regression analysis yielded estimates of earning by level of formal schooling. Exogenous variables other than education included sex, race, and place of residence. Lerner's estimate of the private rate of returns to elementary schooling for females was more than double that for males.\(^{36}\)

Lastly, Rogers III (1969) estimated social and private rates of return to a number of subjects within higher education. His overall social rate for higher education in the Northern region of Brazil was 15 percent, whereas the corresponding private rate was 20.7 percent.\(^{37}\)
Rates of return studies were also found for numerous countries in Europe, Asia, and Africa, but were too many to report in the usual manner.

**Education and Population: The Fertility Question.**

Education seems to be an important factor influencing levels of fertility. Analyses of fertility and mortality have identified many factors that help explain them: health care, education (especially of women), literacy rates, the availability of information concerning contraception, and, most importantly, income. A study by Rogers (1969) in Mexico showed that maternal schooling is consistently related to those behaviors most significant for maternal and child health, even when access variables are controlled. The proportion of pregnancies in which the mother received prenatal care at a clinic is significantly related to her years of school attendance. The general use of emergency services is strongly correlated with maternal schooling in the squatter settlement where this study was conducted, but not in the inner city, where many mothers go to private doctors. The finding supported the hypothesis that, given a similar level of environmental risk and medical access, schooling increases a mother's likelihood of using modern medical services that benefit maternal and child health.38

The effect of parental education on fertility was also the subject of a study by Cleland and Rodríguez (1982) in which
the level of education of husbands and wives was contrasted. The result was that the highest fertility is recorded for families where the husband had a few years of schooling. Cases where the husband had only completed primary school did not show a significant difference with the cases in which the husband had not attended school at all. If only the husband had a secondary level of schooling, fertility decreased.39

The impact of income is, perhaps, the most important. The key role of higher income levels in reducing both fertility and mortality is little disputed in the literature. In fact, increases in income are so highly correlated with improvements in educational level, the status of women (especially their entry into the workforce), and health care, that income changes, for which data are easier to obtain, are often used as a surrogate indicator for all of these other factors.

The importance of income as an explanatory variable is especially attractive to the economic perspective of the individual rationality of the classical liberal approach: it is always satisfying to have an explanation of a relationship, rather than just a statistical identification of one. In the case of fertility, there is a cost-benefit analysis argument would indicate that at low levels of income, especially in rural areas, additional children may be associated with few costs and relatively great benefits.
When the mother is already without opportunity, cost of childbearing and childraising is low. Research conducted in the Philippines by Rindfuss (1986) demonstrated that households with large landholdings in remote and less developed regions have a strong economic reason for large families and they may be reluctant to accept family planning services. The same is true for landless families in more modern settings, where transaction costs are low and where there are greater opportunities to sell the labor of their children. On the other hand, landless families in remote regions and families with large landholdings in modern regions may be more inclined to reduce their family size.\textsuperscript{40} Behrman's and Deolalikar's (1986) research on seasonal variations in the impact of prices and assets on the nutrition and health states of individuals in rural south India and in the allocation of food by parents to their children indicated that, in the surplus season, children are treated fairly in terms of nutrients. During the lean season, however, a preference is seen, with parents concentrating on those children for whom the returns to nutrient investments are greater. This means that when food is scarce, those children who are poorly endowed are quite vulnerable.

Some evidence also suggests significant seasonal differences in the extent of parental favoring of boys over girls and of older children over younger ones.\textsuperscript{41}
With increases in individual and national income levels, the cost-benefit calculation can change dramatically. When other sources of income for women exist, education costs also tend to increase. Also, child labor laws and different expectations for children reduce income flows from the child, and social security systems reduce or eliminate the need for support of the aged within the family. Statistical evidence corroborates this line of argument. Clear evidence indicates that increased income is related to lower birth rates. A study in Costa Rica by Heer and Rodríguez de Ortega (1986) showed that, holding constant the population per square kilometer in individual-level variables, communities with a lesser degree of modernization (a composite based on community levels of infant mortality, adult female educational attainment, adolescent male school attendance, and monthly income of male salaried workers) were shown to be significantly associated with certain fertility behavior—the number of births subsequent to the second, the number of births subsequent to the third, whether a woman after two births had a third, and with additional number of children desired. The results of the study implied that modernization exerts a synergistic effect on fertility reduction. First on the individual level, women who are more modernized (in the sense of having higher educational attainment or a lower personal experience of child loss) have lower fertility than those who are less
modernized. Second, regardless of their personal level of modernity, women have lower fertility if their community of residence is more modern. 42 Ewer and Crimmins-Gardner (1976) studied the relationship between income and fertility using data from a longitudinal study of a marriage cohort by examining the relationship between various measures of income (antecedent, current, and expected future income as well as a measure of income change). The relationship between the various income measures and family size (current and desired) were investigated to determine whether or not the rise of cross-sectional income would have biased reports of the nature of the relationship between income and fertility. Correlations between income measures obtained at different times were low. The income variable which most consistently accounts for variation in fertility was wife's income. Neither husband's income nor expected future income were significantly correlated with the measures of family size. 43 In an econometric study, Browning (1982) studied the cost that rapid population growth imposes on a developing country in terms of reducing per capita income growth rates. This did not fully answer the question of whether population growth inhibits development, since it is now widely recognized that income growth is not equivalent to economic development, but the study showed that distribution of income, wealth, political power, levels of mortality and morbidity, and levels of education and
literacy affect the prevailing demographic conditions. His hypothesis that population growth inhibits the growth of per capita income was tested with the use of a production function based on the determination of income growth, capital accumulation, and the performance of the export sector. His conclusion was that rapid population growth has not been an overarching obstacle to the growth of GNP per capita.⁴⁴

Some Conclusions: Education for Economic Development

The Limits of Current Theory

It is clear from the above discussion of the relationship between education and development that this cumulative evidence strongly recommends the allocation of national resources to the expansion of the educational system. In addition, there is a proposition, strongly rooted in neoclassical theory, permeating this literature: that educational expansion promotes and, in some cases even, determines the rate of overall GNP growth. The logic of this is fairly straightforward. UDCs are very deficient in their supply of semiskilled and skilled manpower. Without such manpower, which it was assumed could be created only through the formal educational system, development leadership in both public and private sectors would be woefully lacking.
As it was stated in this chapter, numerous statistical and quantitative studies of the sources of economic growth in the West were paraded out to demonstrate that it was not the growth of physical capital but rather of human capital that was the principal source of economic progress in the now developed nations. And, clearly, in the newly independent nations of Africa and Asia, there was an immediate need to build up the human as well as the physical capital infrastructure in order to provide indigenous leadership for the major tasks of development. Rapid quantitative expansion of enrollments, therefore, appeared justified in light of the substantial manpower scarcities of the 1950s and 1960s. And, although it is often difficult to document statistically, it seems clear that the expansion of educational opportunities at all levels has contributed to aggregate economic growth by: (1) creating a more productive labor force and endowing it with increased knowledge and skills; (2) providing widespread employment and income-earning opportunities for teachers, school and construction workers, textbook printers, school uniform manufacturers, etc.; (3) creating a class of educated leaders to fill vacancies left by departing expatriates or otherwise vacant positions in governmental services, public corporations, private businesses, and professions; and (4) providing the kind of training and education that would promote literacy and basic skills while encouraging modern
attitudes on the part of diverse segments of the population. Even if alternative investments in the economy could have generated greater growth, this would not detract from the important contributions, noneconomic as well as economic, that education can and has made to promoting aggregate economic growth in the West. That an educated and skilled labor force is a necessary condition for sustained economic growth is undeniable.

On the other hand, any evaluation of the role of education in the process of economic development should go beyond the analysis of single statistics of aggregate growth. The structure and pattern of that economic growth ought to be considered and, with this, its distribution implications. One needs to ask who benefits?

Education, Inequality, and Poverty

For many years, studies on the economics of education on both developed and underdeveloped nations have focused on the linkages between education, labor productivity, and output growth. This is not surprising since, as has been shown, the principal objective of development during the 1950s and 1960s was the maximization of aggregate rates of output growth. As a result, the impact of education on the distribution of income and the elimination of absolute poverty was largely neglected. Recent studies, however,
have demonstrated that contrary to what might have been assumed, the educational systems of many UDCs act to increase rather than to decrease income inequalities.\textsuperscript{45}

The basic reason for this reverse effect of formal education on income distribution is the positive correlation between a person's level of education and his level of lifetime earnings. This correlation holds especially for those who are able to complete secondary and university education where income differentials over who have only completed part of all of their primary education can be on the order of 300 to 800 percent. And, as levels of earned income are so clearly dependent on years of completed schooling, it follows that large income inequalities will be reinforced if students from middle-and upper income brackets are represented disproportionately in secondary and university enrollments. In short, if for financial/or other reasons, the poor are effectively denied access to secondary and higher educational opportunities, then the educational system can actually perpetuate and even increase inequality in UDCs. Simmons, gave the following example of this:

Schooling, the poor quickly learn, in most countries, is an escape from poverty for only a few. The poor are the first to drop out because they need to work, the first to be pushed out because they fall asleep in class as one result of malnourishment, and the first to fail their French or English tests because upper income children have had better opportunities at home. The hope brought to village parents by the construction of the primary school soon fades. Enough schooling
to secure a steady, even a menial job for their son, let alone for their daughter, seems just beyond their grasp. Before...any schooling would have done to achieve their aspiration. Now a primary school certificate is needed, and some are saying that even students with some secondary schooling cannot get a steady job; and they could never afford to send their son away to town for secondary schooling.  

There are two fundamental economic reasons for the inegalitarian nature of UDC educational systems: (1) the private costs of primary education (especially in view of the opportunity cost of a child's labor to poor families) are higher for poor students than for more affluent students and (2) the expected benefits of primary education are lower for poor students. Together, the higher costs and lower expected benefits of education mean that a poor family's "rate of return" from investment in a child's education is lower than it is for other families. The poor are, therefore, more likely to drop out during the early years of schooling.

There are many reasons as to why costs might be relatively higher and benefits relatively lower for poor children: (1) The higher opportunity cost of labor to poor families means that even if the first few years of education are free, they are not without cost to the family—Children of primary school age are needed to work on family farms. (2) As a result, school attendance and performance tend to be lower for poor children despite the existence of free and
universal primary education of UDCs--Children or primary school age, especially in rural areas, are seldom able to proceed beyond the first few years of their education.

(3) This is often compounded by the substantial annual tuition charged at the secondary and tertiary levels where it is known to exceed the per capita national income. 47

This, in effect, amounts to a system of educational advancement and selection based not on any criteria of merit but strictly on family income levels. It is the educational system itself which perpetuates concentration of income within certain population groups and it means that earned income will accrue primarily to those who already possess the bulk of unearned income and wealth--whose assets already place them in the upper deciles of the personal income distribution scale. This is compounded even further at the university level where the government may pay the full cost of tuition and fees as well as provide university students with income grants in the form of stipends. Because most university students already come from the upper-income groups, highly subsidized university education utilizing public funds often amounts to a subsidy or transfer payment from the poor to the wealthy--in the name of free higher education. 48

On the benefit side, the poor are also at a disadvantage. Even if they are able to complete their primary education, the poor typically have more difficulty
competing for rural and urban jobs. They lack the range of contacts and influences necessary to secure a good job and are less likely to be selected for a job requiring educational certification. Even in agriculture, the benefits of this will accrue disproportionately to those farm families who own their land and also have the complementary financial resources to modernize their agriculture techniques. In the extreme case of landless rural laborers, the greatest proportion of the benefits of their limited education and higher productivity may accrue to the rich landlord on whose farm they work.

It follows that in UDCs characterized by highly unequal distributions of personal income, sizable secondary school tuition, and subsidized higher education, the educational system operates to increase inequality and to perpetuate poverty.

Finally, even if all of the above cost and benefit distributions in favor of the rich were to be removed (e.g., by taxing higher incomes at higher rates, subsidizing the education of the poor, broadening employment opportunities for all, making the rich bear the full costs of their education) so as to make progress in the educational system strictly a function of merit and performance, the poor would nevertheless still be at a competitive disadvantage. This is because a childhood characterized by poor nutrition, poor health, and a congested illiterate environment can have no
more than negative effects on cognitive ability and academic achievement.

In the following chapter it is argued that, if national development is to become a reality in the UDCs of Latin America, there needs to be a shift toward balancing the gap between the rich and the poor. Because most of the priority projects of the past have focused on the modernization criteria of neoclassical advocates (efficiency concerns which lead toward educational programs to increase the skills of the labor force for production activities related to the division of labor), much more emphasis needs to be placed in future years on transforming economic and social structures, institutions, relationships and processes of entire UDCs. The goals of UDC development cannot simply be restricted to economic growth. Rather, they must be viewed in terms of a balanced economic and social development with emphasis on the equitable distribution, as well as the rapid generation, of the benefits of higher standards of living. Historically, these goals have been related to the creation of more productive employment (the movement from the rural to the urban sectors of Lewis, for example), more equitable access to land (the basic needs approach of Maoist theory, for example), more widely distributed improvements in health, nutrition, and housing (the Castroist programs of national development, for example), and finally a broadened access to both formal and nonformal education (to improve
labor productivity of Deninson, Solow, and Schultz, for example). Since the formal school system in most UDCs, with minor modifications, is basically a direct transplant of the educational system in developed nations, the overriding goal of the former of these has been to prepare all children to pass standard qualifying examinations. This type of education institutional transfer has proven ill suited to the factor endowments and output priorities of UDCs and have tended to reproduce antidevelopmental effects.
NOTES


CHAPTER IV
ON THE REDEFINITION OF DEVELOPMENT

The preceding chapters discussed the growing concern that emerged during the 1960s development debates with respect to the apparent absence of a trickle down effect from economic growth. This led many economists and social scientists to address the inequity of contemporary patterns of change in the underdeveloped world. The growth versus development thesis directed the search toward the generation of a range of social development indicators. These efforts found cumulative evidence in the studies of the United Nations Research Institute on Social Development (UNRISD). The movement took off in momentum against the background of McNamara's report to the World Bank in 1973:

Despite a decade of unprecedented increase in the gross national product of the developing countries, the poorest segments of their population have received relatively very little benefit. Nearly 800 million individuals--40 per cent out of a total of two billion--survive on incomes estimated (in US purchasing power) at 30 cents per day in conditions of malnutrition, illiteracy and squalor. They are suffering poverty in the absolute sense. . . . Among 40 developing countries for which data are available, the upper 20 per cent of the population receives 55 per cent of national income in the typical country, while the lowest 20 per cent of the population receives 5 per cent. . . policies aimed primarily at accelerating economic growth, in most developing countries, have benefited mainly the upper 40 per cent of the population and the
allocation of public services and investment funds has tended to strengthen rather than to offset this trend.¹

About this time, several major studies concluded that the dominant trend is for economic inequality to increase as growth occurs in poor countries. Adelman and Morris confirmed Kuznets' hypothesis that income inequality increases (i.e. the Gini coefficient) during the early stages of economic growth.² However, these studies also showed that the predominant trend was not uniform across countries. Adelman and Morris pinpointed certain factors which tend to mitigate the trend toward rising inequality, although in these cases, it is the middle income rather than the lowest, income groups that benefit. These results led them to conclude that economic growth was not associated with increasing inequality but with a worsening of absolute poverty, particularly in the early stages of economic development. Indeed, "even in the last phase of the stage before take-off, with relatively high levels of development and a capacity for more broadly based economic growth, the poorest segments of the population typically benefit from economic growth only when the government plays an important economic role and when widespread efforts are made to improve the human resource base."³
On New Measures of Development

Dissatisfaction with the rate of growth of GDP as a measure of development led to the search for alternative measures. One approach was based on an attempt to revise the conventional estimation of GDP growth in such a way as to either give equal weighting to a given percentage increase in income for all income groups, or give an explicitly greater weighting to a given percentage for the lower income groups. Both possibilities were outlined by Ahluwalia and Chenery in 1974. A subsequent approach has been to seek to generate composite measures of development in which changes in each of the three variables (growth, inequality, and absolute poverty) are measured separately. The mid-1970s saw an upsurge in research on the impact on inequality and poverty of public sector policy and expenditure in different fields of social policy--most notably education and health. The findings of such studies, which were presented in Chapter III, contributed to a growing emphasis on a range of specific basic needs which should be met for all before absolute poverty can be said to have been eliminated. In conjunction with this there has emerged a still broader range of development indicators.
The Search for a New Development Strategy

The recognition that successful pursuit of economic growth had often been associated with rising inequality, and possibly with rising absolute poverty too, led in the early 1970s to the search for a new development strategy. One such strategy was articulated in the joint study by personnel of the World Bank and IDS Sussex entitled *Redistribution with Growth*--the name given to the new strategy. However, a key feature of this report was its continued acceptance of certain key assumptions of the neoclassical paradigm--that the most dynamic sector is the modern sector, and within this is the rich capitalists, that are assumed to have the highest propensity to save and invest. Any redistribution of income from rich to poor is bound, therefore, to slow down economic growth. The problem confronted in *Redistribution with Growth* is how to minimize the growth-equity conflict. The strategy recommended is continued pursuit of modern sector growth combined with limited resource redistribution (some two percent annually) for investment in various forms designed to raise the productivity and incomes of the poor in both wage- and self employment.7 The focus of *Redistribution with Growth* was on reducing inequality through raising the income share of the poorest 40
percent. However, it was quickly recognized by some that a possible consequence of focusing on such a target was that policy-makers would concentrate upon raising incomes at the top end of the poverty range, while the worst-off experienced little or no improvement in welfare. Meanwhile a more dramatic break with previous thinking on development strategies came, also in 1974, with the publication of Lefeber's paper "On the Paradigm for Economic Development." Lefeber broadened the discussion of income distribution in order to analyze its implications for the structure of demand and the incentive to invest in underdeveloped economies. A key to Lefeber's paper is that periphery countries cannot replicate the growth path of the now industrially advanced ones because they do not have access to either the overseas investment outlets or the expanding external markets that were available to the latter. In the same vein, the outlets for migration which both helped to raise per capita income at home (as the labor supply contracted, the marginal product of those who remained rose), and to develop new export markets through settlement of resource-rich areas, are also unavailable.

One consequence follows from the absence of these conditions which formerly favored growth. Contemporary underdeveloped countries "will increasingly have to rely on their own capacity to generate savings and resources
for development." This, of course, is not a contradiction to development theory which, in any case, calls for a high average and marginal savings rate but a paradox--for unless there is export demand for the goods and services produced in an economy, the demand which motivates investment must come from domestic sources.

Thus, on the one hand, there is a need for increased savings and, on the other hand, for increased consumption or other forms of absorption. Lefeber accepted the traditional assumption concerning the relative savings propensities of rich and poor. His preoccupation was, therefore, with finding ways of expanding mass demand in predominantly rural economies without lowering savings. To achieve this, he advocated as a first step land redistribution and promotion of labor-intensive public works in the rural sector along Maoist lines. After this, agriculture and industry must develop symbiotically. While Lefeber advocated a strategy based upon the Chinese model of agricultural collectivization, Adelman argued for a similar strategy based upon a different model. She urged that the periphery should switch to a "strategy of depauperization," which would provide the basis for rapid growth. The strategy would be implemented in three stages: (1) radical asset redistribution, focusing on land, (2) massive accumulation of human capital, and (3) rapid
human-resource-intensive growth. Although Adelman had in mind Israel, Japan, South Korea, Singapore, and Taiwan as the countries to which this strategy could be applied, a case can be made that this strategy could be applied to other countries as well.

The Equity Priority: Physical v. Human Capital

In 1975, the Dag Hammarskjöld Foundation Report also urged that first priority in development policy and programs should be assigned to meeting the basic needs of all, and, hence, the elimination of absolute poverty. These proposals were taken up and presented, with a more elaborate discussion of the policy implications, in the report of the ILO Director General to the 1976 World Employment Conference. It was then that the concept of basic needs was brought to the forefront of the development debate. The report identified four categories of basic needs and proposed the year 2000 as the target date for meeting these. The categories were:

1. The minimum requirements of a family for personal consumption—food, shelter, clothing.
2. Access to essential services, such as safe drinking water, sanitation, transport, health, and education.
3. Availability of an adequately remunerated job for each person able and willing to work.
4. The
satisfaction of needs of a more qualitative nature: a healthy, humane and satisfying environment, and popular participation in the making of decisions that affect the lives and livelihood of the people and individual freedoms.¹²

For a few UDCs (China and Tanzania), these proposals represented endorsement of existing goals. However, for the majority of the UDCs implementation of ILO proposals would require, in order to be effective, significant changes in government perspective and policy.

Many criticisms put pressure on the proponents of the basic needs strategy to justify more fully both the arguments for doing so and the proposed means to achieve this. The major critique was as follows: (1) The concept of basic needs lacks the operational precision needed in a planning objective. (2) The pursuit of a basic needs development strategy would conflict with growth maximization and entail perpetuation of economic and technological backwardness. (3) In order to provide employment to the poor within a short time period, UDCs would become locked into perpetual emphasis on primary production, using primitive, labor-intensive technology. (4) The public sector resource cost would be prohibitive. (5) Emphasis on basic needs represents an attempt by the North to divert attention away from the South's requests for a number of other changes as part of the introduction
of new international economic order (NIEO). (6) The theoretical arguments adduced in favor of a basic needs strategy represent an intellectual mixed-bag drawn from the various schools of economic thought and have no logical coherence. (7) Meeting basic needs in a non-socialist UDC is politically non-viable because the landowning classes and national comprador bourgeoisies will not release the necessary resources.

The discussion on how performance in meeting basic needs can be assessed has generally started from the acceptance of the proposition that the purpose of development is to provide everyone with the opportunity to live a full life. Meeting basic needs is an essential prerequisite for this. There is also a broad consensus that certain basic physical, intellectual, and psychological needs are essential preconditions for a full life.

The most important of these needs are for adequate nutrition, shelter, fuel, clothing, clean water, sanitation, health care, basic education, productive employment and popular participation in decisions concerning these needs. However, given the acceptance of a core list of basic needs, the interlinked questions remain of how the performance in meeting these can and should be assessed. Two issues that have been debated in this context are whether performance should be measured
in terms of "inputs" or "outputs," and whether it is possible to identify a single indicator of basic needs performance.

Morris and Liser (1977) and Grant (1978) argued that certain variables are unambiguously sought as end-results or "outputs" of the development process. They identified three: (1) decreased infant mortality, (2) increased life expectancy, and (3) increased literacy. Most other development indicators such as nutrition, health services, education are claimed as "inputs." However, an opposing view is that this conceptualization of development is itself invalid, because development is a complex process in which many variables act and react upon one another. Even variables such as improved health and literacy, which the Overseas Development Council team see as unambiguous end-results are in fact inputs into further development: a healthy individual is more productive than an unhealthy one. A literate individual can assimilate and respond to functional information presented in low-cost form not available to an illiterate one. Meanwhile, it is also questionable whether increased longevity should automatically be regarded as a welfare gain, since its value depends on the quality of life experienced. Nonetheless, a number of writers accepted the input-output distinction and have moved to consider whether or not a single indicator of basic needs
performance could be analogous to GDP as an indicator of aggregate output performance. Various proposals have been made. Morris and Liser, for example, proposed a Physical Quality of Life Indicator (PQLI) based on the three outputs just specified and assigned equal weights to each. Stewart proposed an even simpler basic needs indicator, life expectancy at birth, which she justifies on the grounds that it is highly correlated both with infant mortality and literacy. But to date, none of these proposals has achieved widespread acceptance as adequately encapsulating the basic needs performance.

In its original formulation, meeting basic needs was advocated for its own sake: the provision of minimum levels of personal consumption and access to social services which should be universally regarded as a human right. Many proponents today continued to regard the meeting of basic needs but see it as a policy choice. In the literature, a division of opinion has emerged. Some argue that "the main problem is one of focusing efforts on the absolutely poor to increase their productivity and therewith their levels of living. The provision of minimal basic needs of social consumption through collective means is better seen as a useful supplement and incentive to the poorest to increase their efforts to help themselves grow." Others argue that policy efforts should concentrate primarily on the
provision of basic public services. Streeten is the main proponent of this and, at times, he is ambiguous on this point. For much of his work, however, he adopts the latter position. Improvement in the provision of basic public services to the poor is justified as an investment in human capital. This is the argument that is used by Denison (1967) on the importance of the "residual factor" in explaining growth rate variations between countries and which he used to proposed increasing education inputs as a strategy for growth. In what follows, Streeten's approach will be reviewed first.

The Arguments for Improved Public Services and Investment in Human Capital

The improved public services approach has generally sought to minimize the extent to which a focus on meeting basic needs requires radical policy change, while emphasizing the potentially positive effects on economic performance of improvements in a country's stock of human capital.

Advocates of this approach sought to demonstrate that the public sector resource costs of meeting targets for basic provision of public services can be dramatically lowered by the following measures:

(1) targeting provision of those in need, (2) use of more
cost-effective techniques of provision (generally more labor-intensive and less capital-intensive), and (3) mobilization of local voluntary contributions in cash and kind to help meet the costs of service provision (particularly through use of voluntary labor to construct basic facilities such as schools and dispensaries). Strenten also argued that the cost sceptics ignore the complementarities and linkages between the different components of a basic services package—each individual is made more cost-effective by the simultaneous provision of others. Thus, a nutrition program becomes more effective when the target group also benefits from improved water supplies, education, and health care. The supporting arguments for this approach are, thus, in various ways "efficiency-oriented." Investment in human capital, cost minimization and cost-effectiveness are all strongly emphasized.

It is probably not insignificant that a number of the leading proponents of meeting basic needs who assigned priority to public service have worked in association with the World Bank. From the World Bank's point of view, a basic needs program that is politically uncontentious is clearly preferable to one that is, in the case of Nicaragua, a program of land reform.

The key is to move toward a less contentious development strategy for the provision of health care and
Moreover, the World Bank has a tradition for lending for public works, whereas it has only once done so to support land redistribution (in the Kenyan case). Furthermore, this approach evolved rapidly at a time, in the early 1980s, when the World Bank's Research Department under the direction of Anne Kreuger was focusing almost exclusively on improving efficiency in resource use in UDCs.

Proponents of the improved public services and investment in human capital approach to meeting basic needs do not ignore the first and third category of basic needs (i.e. the need for improved employment and income opportunities for the poor in order to provide those basic needs that families usually supply for themselves). Labor-intensive public works programs and public sector investment in research and development of appropriate technology are both advocated. However, the emphasis on meeting these needs is less strong in this approach than in the alternative, more radical, perspective of land reform.

A Less Radical Perspective:
The Emergence of a New Paradigm

By the mid-1980s, the reformist, public service oriented approach to meeting basic needs was in
ascendancy for two main reasons: (1) The approach was in tune with a neoclassical revival in development economics and with related developments in World Bank thinking and policy. (2) Its flexibility in terms of scale and content can clearly be expected to increase its acceptability, at least in some degree, to a wide range of governments, and/or to any non-governmental organizations (NGOs) that these governments are prepared to tolerate. This reformist perspective is characterized not only by the values incorporated in its interpretation of development but by a particular theorization of the development process and its key causalities.

The more radical basic needs paradigm can be summarized as follows: (1) Economic development consists not simply of growth, but of improving mass welfare with priority assigned to meeting basic needs of all. (2) To achieve the latter, the masses must have the right to participate in policy debate concerning the provision of basic needs. (3) A basic needs first oriented development strategy will lay more effective foundations for sustained long-term growth than any other strategy. (4) This is primarily because of its impact on the structure of domestic demand and the associated inducement to invest. (5) Among the consequences that flow from the restructuring of domestic demand that is entailed in this strategy are an easing of both the
domestic demand constraint and the balance of payments constraint to economic growth. (6) Such a strategy also lays the foundations for sustained structural change, while helping to overcome the capital and foreign exchange constraints.21 (7) A basic needs oriented strategy also generates faster, and more appropriate, development of human capital.

The arguments used to demonstrate a potential positive correlation between meeting basic needs, on the one hand, and growth, structural change and greater self-sufficiency, on the other, focus on the dominant constraints that confronted earlier strategies of import-substitution. Successful implementation of a set of policies which enable the poor to meet their basic consumption needs by raising their productivity and incomes will affect the structure of demand in ways that will induce an increase and a qualitative change in aggregate investment, thus: (1) More equal income distribution in UDCs would generate a more homogeneous demand pattern, enlarging demand for a range of products, many of which can be produced in small and medium-scale plants—thus, market size would not restrain expansion of production. (2) At the same time, by increasing total demand for a range of goods in mass demand, meeting basic needs could also encourage the expanded large-scale production of certain products, particularly where
competitive labor-intensive products are not available—underutilized capacity in plants producing essential goods would be taken up, and unit costs would fall. (3) Meanwhile, the same change in demand structure would help to lower the overall foreign exchange needs and capital intensity of the goods and services demanded in the domestic market. (4) The increased demand would not only be for consumer goods; it would also be for capital and intermediate goods needed to produce mass consumption goods, insofar as these consumption goods can be produced economically by technologies which use capital and intermediate goods on a small scale. (5) The changed demand structure is, then, likely to induce expanded production in capital and intermediate goods as well. Thus, the new structure of demand and investment would also contribute to structural change in production capacity and to greater self-sufficiency.22

According to this interpretation, a basic needs development strategy provides the basis for the linked development of labor-intensive production in agriculture and in small-scale manufacturing and service enterprises and of large-scale modern industrial production, the latter of widening range of goods starting with essential items for which there is no labor-intensive substitute. Large-scale modern industry will provide a growing share of the capital and intermediate goods requirements of the
economy, as well as some mass consumption goods. The modern industrial sector will also continue to process various primary products for export, as well as producing some manufactured exports. However, because modern industry is likely initially to employ only a small proportion of the total labor force, the early development and use of relatively labor-intensive means of production are seen as essential features of a basic needs strategy, not only for poverty reduction but to sustain long-term growth through expanding demand and, hence, the inducement to invest.

A significant proportion of new labor-intensive production would be developed in the rural sector. Not only the majority of the poor in most UDCs live in the rural sector, but there are also greater opportunities for the productive mobilization of unemployed labor there, both for labor intensive capital formation and for labor-intensive recurrent production processes, especially in agriculture itself. The pattern of development of the rural sector, and the flow of goods that it supplies and demands, will therefore exert a significant influence on the pattern of development of the economy as a whole. In many countries, a redistributive land reform (either collective or individualistic) would be an essential precondition for a basic needs oriented strategy.23 This was, certainly, the
case in Nicaragua's pre-revolutionary model. In all countries, however, investment in rural infrastructure and services would be essential. Streeten argued, for instance, that a reduction in excess rural migration would take place as rural incomes and welfare rise in the rural sector.24

In the late 1970s and early 1980s, proponents of meeting basic needs reinforced the arguments for a basic needs oriented development strategy by emphasizing also that the deterioration in the economic position of the industrially advanced economies had severely reduced the opportunities for export-led growth, and that UDCs must look primarily to an expansion of their domestic markets to induce growth and structural change.25 Indeed, this view is still held by many—that any major attempt by all or the majority of UDCs to expand either primary or labor-intensive manufactured exports to the North would result in both deteriorating commodity terms of trade and increasing protectionism in the North. While some countries in the South might experience improved income terms of trade, it is doubtful to what extent this would be possible for the South as a whole. A basic needs oriented development strategy would, it was argued, reduce (though not eliminate) dependence on exports to the North both as a means of expanding the market and as a source of essential resources. At the same time,
however, a basic needs strategy could contribute to the
growth of trade between UDCs both in agricultural goods
and in more appropriate manufactured goods. 26

On the supply-side, a basic needs development
strategy would promote the more effective mobilization of
local entrepreneurial and technical innovatory
capabilities, not only because demand that can be met by
small-scale enterprise would be expanded, but because
this strategy entails a more equal distribution of access
to productive assets. 27 At the same time, expansion of
small-scale production (where the producer controls the
full production process and there is a direct interface
with consumers) increases the opportunity for adaptations
in product design and production technology in economies
still short of advanced skills in engineering and market
research.

Expansion in opportunities for small-scale
investment would also increase the productive
mobilization of significant untapped small-scale savings
potential, for which in the past there have often been
insufficient productive outlets. 28 According to this
perspective, other interpretations of the development
processes exaggerate the distinction between the savings
propensities of the rich and of small-scale
entrepreneurs. In practice, as was stated in Chapter II,
the rich often have a high propensity to engage in luxury
consumption, often undertake unproductive investments, and often transfer saving abroad. In the past, on the other hand, small-scale entrepreneurs have been discouraged from fulfilling their full savings potential by policy and institutional bias and lack of adequate productive outlets for investment.

A UDC with a strong mass market for consumer and small-scale producer goods (and with corresponding opportunities for small-scale as well as large-scale investment) is, after initial adjustments, likely to experience fewer permanent leakages from the "vicious" circular flow of national income in the form of capital exports that Myrdal spoke of. It is also likely to be capable of sustaining a higher growth rate without running into balance of payments constraints. It is also less likely to maintain a demand structure biased toward import-intensive elite consumption, which is characteristic of most market economies of UDCs. Meanwhile, higher incomes for the poor will enable this economy to make more effective use of public services as the poor become better nourished and have surplus cash to meet the complementary costs of using these services (transportation to the dispensary, school uniforms and equipment, etc). Improved education and health standards should contribute to further advances in labor productivity.
Proponents of the basic needs paradigm also emphasize the significance of improved and expanded public service provision as a means of raising the health, productivity, and welfare of the poor. However, this perspective pays greater attention to the positive interaction between improved incomes and consumption of the poor and the use and impact of these services. But this perception of the development process is not one which UDCs are expected to remain locked into, that is in an economic structure dominated by primary production based on labor-intensive technologies. It is one which assigns much greater weight to both of these in the early stages of development than has occurred in most UDCs in recent decades, where capital-intensive import-substitution industrialization based on, and promoting, unequal income and wealth distribution has been emphasized. It is these early stages of development that basic needs theorists emphasize. The precise direction to be taken by economic development in its more advanced stages is generally left open.

The Theoretical Underpinnings of the Basic Needs Paradigm

The basic needs paradigm is not a proposal for new constructs for development. It is basically a reordering of existing ones. These constructs are only innovative
in that: (1) They turn old assumptions around (most notably with respect to the relative propensities to save and invest). (2) They emphasize the crucial importance for growth variables whose significance had previously been ignored or underestimated (notably the level and composition of domestic demand and its determinants). (3) They point to the need to analyze systematically the implications of a changed structure of asset and income distribution for the patterns and pace of growth and structural change and for self-reliance. (4) They have contributed to the concept of human capital formation. The other concepts and analytical techniques used by proponents of basic needs are largely familiar. It is the manner in which they are combined that is distinctive.

At the macro-level, the theoretical arguments that underpin the basic needs first paradigm are predominantly structuralist. The focus is on the significance of the structure of asset distribution, demand and production for the level of current employment and income distribution, and for the rate and pattern of growth. These are combined with quite frequent use of elements of price theory at the micro-level. Indeed, one of the distinctive features of the basic needs paradigm is the relatively even balance accorded to macro and micro issues.
The following section examines the possible policy prescriptions and the possible ways of implementing them.

The Policy Implications of the Basic Needs Paradigm

The basic needs paradigm has two main types of macroeconomic policy implications. One is the need to remove many of the price distortions generated by strategies of protected import-substitution. This reflects the wide recognition that government interventions in factor and product pricing (tariff structures, modern sector interest rates, minimum wages, the internal terms of trade between agriculture and industry) have often encouraged inefficient patterns of resource use, high on scarce factors and low on the abundant one--labor. Second is the reform of economic structures) asset distribution, structures of demand and production, public services provision and institutional changes). Streeten and Stewart sought to justify in neoclassical terms the case for public sector intervention, basing their argument on the existence of externalities and market imperfections. The efficiency arguments for redistributive land reform also command the support of some neoclassical economists.29 However, so far as proponents of the basic needs paradigm are concerned the case for asset distribution rests not
simply on efficiency criteria but on the fact that this can both improve the immediate status of many poor households and lay the foundations for a development path capable of generating steady improvements in basic needs as well as continuing growth and structural change. Thus, the theoretical underpinnings of these policy recommendations lie in an explicitly value-laden normative economics where the fundamental values differ from those of the neoclassical school, but also use elements of price theory to demonstrate the potential efficiency gains of pursuing certain welfare objectives.\textsuperscript{30}

The following section explores the possible methodological or strategic foundations with which to build a basic needs first alternative strategy for the development of UDCs.

\textbf{The Political Viability of a Basic Needs Strategy}

Implementation of an effective strategy for meeting basic needs presupposes the existence of the political will to make the necessary changes. In this respect, the literature on the basic needs paradigm reveals two main themes: (1) the attempt to convert others both to the values and to the perception of the development process which are adhered to by proponents of this paradigm, (2) the prospects for the emergence in mixed capitalist
economies of dominant political coalitions that favor the meeting of basic human needs.

As was discussed in Chapter II, the key issue which is not considered by the politically optimistic proponents of this strategy is whether alternative lines of action might promote the same interests equally effectively—at least in the medium term—while costing influential interest groups less, either in taxes, or temporary disruption to production, or perceived threats to their own property rights.¹¹

Neoclassical economists have argued that the basic needs approach is fundamentally misconceived. They claimed that the predominant evidence shows that in efficiently operating UDCs, growth has brought a general increase in mass welfare as evidenced by the expansion of primary education, health care, and small farmer cash-cropping.³² Inequality may have increased, but this provides a necessary incentive for individual enterprise. Government policy should be concentrated on improving market efficiency.

In contrast, the structural changes and government intervention advocated by proponents of the basic needs paradigm would reduce output in both the short-term and long-term due both to the initial disruption to the economy and the associated reduction in incentives.
A Practical Elaboration on the Production Function

Very few attempts have been made to propose theoretical and/or mathematical models based on equity within the growth criterion of the neoclassical school. Even fewer attempts have been made to promote equity in particular contexts.

Equity concerns show up as the residual in production functions or are mentioned in passing when discussing technological progress. While most of the notations are of the former type, there is one theoretical abstraction on the latter type which merits some consideration—the Solow growth model.32

The Solow growth model is designed to find out how growth in the capital stock, growth in the labor force, and advances in technology interact to promote growth in an economy. Most importantly, it is designed to show how these affect output.

The first step examines how the supply and demand for goods determine the accumulation of capital over time. To do this, the labor force and technology are fixed. Later in the analysis, changes in the labor force and changes in technology are introduced.

The supply of goods is based on the production function that relates total capital $K$ and total labor $L$ to total output $Y$ explained mathematically in chapter
I as 0 and, later, theoretically in Chapter II. Thus far, the production function has been

\[ Y = F(K, L). \]

Output, \( Y \), depends on the capital stock and the labor input. The Solow growth model assumes that the production function has constant returns to scale and as such:

\[ zY = F(zK, zL). \]

This means that any changes on the capital stock and the labor input will also result in a proportional increase in output. Thus, it assumes an unchanging relationship between inputs of capital and labor and the output of goods and services. The model, however, can be modified to allow for exogenous increases in an economy's ability to produce. It does this by incorporating technological progress as:

\[ Y = F(K, L \times E), \]

where \( E \) is a new variable called the efficiency of labor. The efficiency of labor depends on the health, education, skill, and knowledge of the labor force.
The term $L \times E$ is the labor force measured in efficiency units. It takes into account the number of workers $L$ and the efficiency of each worker $E$. This type of production function states that total output $Y$ depends on the number of units of capital $K$ and the number of efficiency units of labor, $L \times E$.

The simplest assumption about technological progress in this way is that it causes efficiency of labor $E$ to grow at some constant rate $g$. For example, if $g = 0.02$, then each unit of labor becomes 2 percent more efficient each year: output increases if the labor force had increased by an additional 2 percent. This form of technological progress is what is known as labor-augmenting, and $g$ is called the rate of labor-augmenting technological progress. Since the labor force $L$ is growing at a rate $n$, and the efficiency of each unit of labor $E$ is growing at rate $g$, the number of efficiency units of labor $L \times E$ is growing at rate $g + n + n g$.

The problem with this approach is that, although the total output of an economy can be attributed to increases in capital, increases in labor, and advances in technology, it measures total output in quantitative numerical terms rather than on qualitative increases in the quality of life of the labor force. More fundamentally, the Solow model is an efficiency-driven
model. Technological progress is used to explain persistent increases in standards of living, but in the model technological progress is exogenous factor. Therefore, this model does not explain technological progress and, therefore, increases in the standards of living! A way out of this impasse would be to turn technological progress into an endogenous variable. The question becomes then whether to emphasize the acquisition of knowledge and skills through education, that is the accumulation of human capital, or whether to expect that technological progress occurs as a beneficial by-product of certain economic activities (for example, new and improved production processes may be devised during the process of accumulating capital). The Solow model shows that sustained growth in standards of living can arise only from technological progress. Therefore, understanding economic growth will not be accomplished until the private decisions and public policies that affect technological progress can be understood. This is a topic on which much more research is needed.

Areas for Future Research

The basic needs paradigm adopts a distinctive interpretation of the immediate objectives of
development, with a strong emphasis being assigned to elimination of absolute poverty. Over the long-term, the importance of sustained progress is also emphasized (the former both as an end in itself and as a means to growth). From this distinctive interpretation of development flows a particular perception both of immediate policy priorities and of the type of development path which it is appropriate to pursue. The recommended strategy is based not on a heavy concentration on "modern sector" development (as the Lewis model proposed) but on a more evenly diffused, broad-based development to which the traditional sector" makes a substantial contribution via rising productivity, incomes, and demand. With respect to the theoretical justification of this development strategy, the emphasis is on domestic mass-demand-led growth which initially is to come not from expanded wage employment in the modern sector, but rather from broad-based expansion of mass income, largely in the traditional sector--an expansion which can probably only be achieved if promoted partly by restructuring the distribution of ownership of productive assets.

Proponents of the basic needs first paradigm can argue that the development strategy which they advocate is both coherent and logically consistent. Yet, since 1976 the focus has been and remains on the meeting of
those "minimum levels of personal consumption and access to social services which should be universally regarded as essential to a decent life," and on the implications of meeting those levels for the structure and rate of economic growth. Detailed speculation on subsequent patterns of growth, structural change, and country level increases in basic needs standards, has been avoided (although the experiences of Japan, Taiwan and South Korea and of some of the socialist countries, especially China and Cuba, have been noted). Achievement of this preliminary stage, however, presupposes the existence of the political will to make the necessary changes, and this is far from guaranteed. At this stage, if confidence in the political viability of the strategy advocated is to be sustained, new examples of contemporary success in its implementation are needed.

Quantitative political economists need to take into account the various levels of absolute development when designing and testing their models. For example, what is the current distribution of educational resources in particular UDCs? What are the implications of an absolute level of literacy for UDCs? How do these interact? Development economists need to focus their research on such issues.
NOTES


25. Little and Mirrlees (1974), chapter XIX.


CHAPTER V

SUMMARY AND CONCLUSIONS

Since the 1940s, the study of economic development has generated a diversity of interpretations of the process of economic change in UDCs. It is hardly surprising that students of development, in general, have trouble synthesizing this diversity. The study of development has generated two different perspectives from which to analyze development programs and from which to prescribe policy alternatives. These are the neoclassical paradigm and the neo-Marxist paradigm. Students of Latin American development encounter even greater difficulties since they invariably find themselves at odds—caught between the irrelevant notions of general equilibrium and the disagreement as to whether Marxism has provided an intellectual framework for the determination of development strategies and policies. The fact is that the study of contemporary development, in general, and of Latin American development, in particular, does reflect unanimity of analytical perspectives, however disguised in elegant models concerning key assumptions about economic phenomena, the key causal factors in the expansion of aggregate output, and key aspects of macroeconomic policy. This study is, at its core, consensual. The incompatibilities noted have arisen
out of false premises or as the result of omitting one or more crucial variables and relationships. But, whether or not the two paradigms are based upon conflicting premises, there is a scope for synthesis that this dissertation has sought to find. Chapter I was aimed at laying the groundwork to look for complementarities. Chapter II was aimed at pointing out the complementarity among neoclassicists and among neo-Marxists. Chapter III was directed toward the finding of policy conclusions regarding the contribution of human investment (education, in this case) to equity and to growth: both via the mobilization of resources for skill formation.

Chapter IV was aimed at assessing the "only" important distinction found in the literature--between an internal supply-side growth dynamic of the basic needs paradigm and an external demand-side growth dynamic of neoclassical theory. This concluding chapter seeks to underline the basic dissimilarities between the main paradigms (neoclassical and neo-Marxist) and the basic needs paradigm proposed as the most viable alternative for the development of Latin America.

An Overview of Findings and Conclusions

It would be convenient to be able to conclude that the development paradigms reviewed in this dissertation offer
alternative perspectives on long-term economic development. Unfortunately, this is not the case. The neoclassical paradigm provided a necessary guide to short-term resource allocation while the neo-Marxist paradigm offered an assortment of short-and long-term perspectives based on efficiency criteria which did not go very far.

The Neoclassical Paradigm and the Basic Needs First Paradigm

As Chapter II showed, at the core of the neoclassical perspective is the argument that UDCs should concentrate upon expanding their modern sector using largely capital-intensive technology, with the impetus coming, as Rostow and Lewis originally proposed, either from state capitalism or private capitalism—growth being maximized in part by restraining the real income and consumption of peasants and wage-earners.

This perspective on the development process is incompatible with the basic needs paradigm of development discussed in Chapter IV since it interprets the nature of development differently and assigns a very different role to the peasantry and other small-scale producers. The dominant differences are not differences of omission (though these also exist), but fundamental differences in values, beliefs, and interpretation of empirical reality.
Thus, the following points can be made: (1) For the neoclassical paradigm, growth and development (since both are essentially equated) require, until the take-off into self-sustained growth is completed, increasing inequality in income distribution. For the basic needs paradigm, development requires a lowering of income inequality. (2) For the neoclassical paradigm, the only class with a high enough marginal propensity to save to allow it to play a significant part in saving and capital accumulation is the capitalist class. For the basic needs paradigm, other lower-income producers may also demonstrate a high marginal propensity to save and invest, including peasants and artisans--either collectively and/or individually. (3) Not surprisingly, the policy conclusions are also different. For the neoclassical paradigm, the importance of the use of capital-intensive techniques in view of their perceived impact on income distribution and savings is emphasized. For the basic needs paradigm, greater emphasis is given in addition to the importance of using relatively small-scale, labor-intensive techniques in labor abundant economies, due to contributions both to equity and to growth.

The basic needs paradigm has a significant number of elements in common with the Bukharinite view of the optimal socialist development path as was articulated in the Soviet Union in the 1920s, witnessed in the emphasis of the importance of raising peasant welfare and mass consumption,
and of designing an industrialization program closely linked to the needs of the agricultural sector for producer and consumer goods.

The Neo-Marxist Paradigm and the Basic Needs Paradigm

There are two alternative views on the relationship between Marxism and the study of development. One interpretation of Marxism is that, in essence, it is an analytical method rather than a body of theory reflecting a particular intellectual framework. The second is that Marx set out to apply this method to the analysis of the essential nature of the capitalist mode of production and its process of evolution. According to this latter interpretation, Marxism can provide an intellectual framework for determination of development strategy or policy for UDCs. Unfortunately, there seems to be no basis for discriminating between neoclassical and neo-Marxist interpretations. Rather, both interpretations offer the prediction that as the capitalist class comes to dominate the formation of state policy, the state will implement those policies which it perceives to further its own interests.

Contemporary neo-Marxism offered more radical approaches to meeting basic needs than what is articulated in the basic needs paradigm proposed here. The dominant
emphasis of proponents of meeting basic needs has been upon lines of argument and policy analysis more compatible (and therefore more likely to find support from) neoclassical welfare economists who make a moral case for absolute poverty reduction, the efficiency arguments for investment in human capital, and the efficiency arguments both for reappraisal of the technologies used in public services provision and for selective targeting of certain services. Finally, the efficiency arguments for encouraging small-scale farmers and urban informal sector producers are also emphasized. In this approach, the arguments for restructuring agricultural asset distribution and for selective intervention to influence the pattern of industrial investment are downplayed. It is possible, however, that the more radical perspective of neo-Marxism on meeting basic needs may experience a revival in the future, for example, if the guerrilla wars cease in countries such as Nicaragua, leaving the present pseudo-neoliberal political forces in power to realize that there is no realistic alternative to a basic needs strategy.

The Future of Development Theory for Latin America

How do these findings relate to the future debate on the condition of Latin American UDCs? In the context of the mid- and late 1980s, proponents of the basic needs first
paradigm have been relatively quiescent. Rather, the dominant emphasis, as was stated above, had been toward meeting basic needs from a welfare neoclassical view. Some of the more recent theoretical contributions have been already reviewed so there is no need to recapitulate them here. Rather, it is sufficient to note that if the development process has not recently proved fruitful with new ideas, it is because: (1) In the hands of neoclassical economists, it has been revived to focus on efficiency notions of human capital investment. (2) In the hands of the neo-Marxist political economists, it has been caught into debating conceptual dualities--core/periphery; traditional sector/modern sector; capitalism/socialism. (3) In the hands of the basic needs first theoreticians, it has been simply reformist. Meantime, the poor are just as poor; yet they are just as rational economic actors as the rich. As their skills and opportunities are increased so will their productivity. The development of their human capabilities may require more, or less, state intervention depending on the specific contextual reality.

Both Costa Rica and Nicaragua need to radically modify the application of their development projects in ways that are appropriate to their particular realities. The lesson learned from this exploration led to the conclusion that the development paths outlined from outside simply did not work on both political and philosophical grounds. In the Costa
Rican case, the structural adjustment policies of the IMF have resulted in the increasing pauperization of the masses. Education, housing, nutritional programs, and health care have significantly suffered a cut back in expenditures, with a significant decrease in the quality of life. In the Nicaraguan context, the quality of labor was significantly enhanced. This, however, did not have the expected positive result because it did so at the expense of increasing the cost of capital.
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