A CROSS-NATIONAL STUDY OF THE EFFECTS OF DIRECT FOREIGN INVESTMENT ON THE DEVELOPMENTAL PROCESS OF DEVELOPING COUNTRIES

THESIS

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

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Denton, Texas
December, 1992

Using the assumptions of various schools of thought on development as the theoretical framework, an attempt is made to examine the effects of foreign investment on the socioeconomic growth of 50 developing countries by means of multiple regression models that utilize some external and internal variables assumed to affect the growth rate of GNP. Results from these models indicate that new inflows of foreign investments and amounts of domestic investments are positively related to growth while accumulated stocks of foreign investments have no effect on growth. This suggests that development funds, designed specifically for increased domestic investments, would be the most effective way to increase GNP.
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ACKNOWLEDGMENTS

I would like to thank members of my thesis committee and my major professor for their help and guidance in this study. I would also like to thank the following persons for reading various portions of this study and offering their criticisms: Dr. Michael Redfearn of the Economics Department; Dr. Elinor Johansen of the Department of Sociology and Social Work, Texas Woman's University; and Dr. Wolf Lubecke whose departure from the University of North Texas to Angelo State University prevented him from continued association with the study. Mention should also be made of the great help received from Professor Christopher Chase-Dunn of the Sociology Department at Johns Hopkins University and Mr. David Cieslikowski of the World Bank, Washington, D.C., who suggested sources of data for this research through their correspondence with the author.

This thesis is dedicated to my junior brother, Mr. Ime Albert Inyang, a staff member of the Mercantile Bank of Nigeria, for helping keep the family together during my sojourn, and Ms. Mayumi Katoo, a graduate student at St. Michael's College, Colchester, Vermont, for her steadfast support throughout the course of this research.
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CHAPTER I

INTRODUCTION

The findings from the first study done by this author on the role of direct foreign investment in the developmental process of Brazilian society suggested that the respective scholars writing on this subject could be divided into three groups composed of those finding positive association between such investment and development, those finding negative association, and those who are led by the evidence of their studies to conclude that foreign investment is at best a mixed blessing for Brazil. Due to these contradictory findings and their respective policy implications for industrializing modern economies, I was

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determined to further the investigation of this subject in a manner that could reveal the overall effects of direct foreign investment on the developmental process of most, if not all, developing societies. What emerged from my initial undertaking was an exposure to a vast amount of literature produced by two schools of thought which have not received adequate attention in mainstream economic theorizing on this subject. These two schools of thought are the dependency and world-system perspectives. Because of the limited interest of mainstream economists in the assumptions of these two schools, I considered it imperative to use the original works of their principal authors in order to acquire a direct understanding of their writings. Against the background of this approach, the second part of Chapter II of this study deals with a review of the key theoretical assumptions of the dependency and world-system perspectives on the subject of direct foreign investment as extracted from the original sources. The first section of that chapter deals with the Marxian

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The above assessment is based on the personal experience that many texts of development economics used in departments of economics tend to provide correspondingly more coverage to the ideas of classical and neo-classical economists on this subject. The assessment is further supported by the fact that most of the studies associated with the dependency and world-system perspectives are published in sociological and other social science journals with only a few published in journals of economics such as the American Economic Review. This fact will become evident in the sources cited in the subsequent pages of the present study.
assumptions on this subject followed by those of neo-classical economists as well as the assumptions of modernization/diffusion theorists in sociology because these theoretical perspectives preceded the dependency and world-system schools and dominated economic thought on this issue before the emergence of the latter. This arrangement therefore represents a significant aspect of the evolution of development theories with emphasis on the conditions and circumstances that gave rise to the emergence of the dependency and world-system perspectives on development. In the last section of Chapter II, an attempt is made to summarize the similarities and differences in the assumptions of these various schools of thought with a view to showing how their validity can be tested.

Consonant with the above approach, Chapter III of this study provides a review of specific testable propositions relating economic growth and development in developing societies to their integration into the global economy via the instrument of direct foreign investment. The review of such propositions is based primarily on the perspectives of the dependency and world-system schools of thought because, as already indicated, these propositions have not received equal attention in economic literature. The propositions reviewed in that chapter can also be perceived as the contrast of neo-classical and modernization/diffusion propositions on the effects of foreign resources on growth.
and development as specific examples of such contrary propositions indicate. Towards the end of Chapter III, an attempt is made to review some previous quantitative studies in which some hypotheses derived from the dependency and world-system perspectives have been empirically tested. The objective of such a review is related to this researcher's desire to find out if the research methodologies of previous studies testing the propositions of the dependency and world-system approaches to development do utilize measures accurately reflecting these propositions. An explanation of the research design and the data set for the present study will be offered in Chapter IV. The choice of the research design and the data set to be utilized are dictated primarily by the comparative nature of this study which requires a cross-national examination of the effects of foreign resources on the development process of host developing societies. Because of the inherent problems associated with the research designs and data set for cross-national comparative studies, an explanation of specific procedures devised for the elimination or amelioration of these problems is also be provided in Chapter IV of the study. One hopes that an application of such procedures produce relatively flawless research findings that will be analyzed in Chapter V.
Using the research findings and their analyses as a framework, some theoretical interpretations and policy implications of the results of this study are presented in Chapter VI. The policy implications of the results of this research explore the consequences associated with the formulation and adoption of development policies on the basis of the theoretical assumptions of the respective schools of thought on development. Like most other studies of this nature, a concluding chapter forms the last part of the research report. Chapter VII, therefore, deals with a summary of the facts and findings of the whole research process as well as the interpretations of this researcher on the question of direct foreign investment in developing societies.

As evident in the preceding synopsis, the research process of this study is a reflection of the conventional modern science approach whereby the choice of a research topic is followed by a sequence of structured research procedures aimed at achieving objective findings through a positivistic method of inquiry. Positivism is a derivative of a philosophy of science that has traditionally assumed and espoused the creation of true knowledge through the deduction of facts from empirical observations or from things that are either experienced or can be experienced because they positively exist. In the face of this empirical emphasis, metaphysical or philosophical issues
not amenable to mathematical manipulations are regarded as unsophisticated and unreliable mechanisms for the creation of true knowledge since no valid empirical correlations can be established between or among the different components of such philosophical issues. A positivistic method of inquiry therefore perceives empirical observations as the primary mechanisms of a valid knowledge process while metaphysical and philosophical issues devoid of empirical connections are treated as things with "no fundamental significance for the practice of an empirically oriented discipline."\(^3\) Also inherent in this method of scientific inquiry is the assumption that through the process of successive approximation, the knowledge process will gradually and progressively lead to the attainment or discovery of ultimate reality or truth by improving the findings of each succeeding study through the application of improved scientific methods or techniques. The application of these principles of positivism in the research process of the social sciences is generally traced to the modelling of social science studies in the 18th century after the framework of scientific inquiry in the

natural sciences. Due to such modelling process, inquiries in the social sciences have been characterized by the formulation of theoretical propositions assumed to have equal objective validity as those of the natural sciences, the use of observable and measurable concepts in the research process, and attempts by researchers to achieve value-neutrality by remaining objective throughout the research process. Questions about the effectiveness of conventional social science methodologies were raised by some students of social life as early as the last decades of the 19th century due to the recognition that there is little or no commonality between the social and natural or physical sciences. Alternative methods of doing social science studies* are advocated by those who raised these questions including the requirement that researchers should explicitly state their personal biases at the onset of the research process due to the assumption that it is impossible to divorce our biases from the subjects and processes of our studies:

As social scientists we are deceiving ourselves if we naively believe that we are not as human as the people around us and that we do not tend to aim

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*Examples of these alternative methods are provided in Ibid., pp. 93-279.
opportunistically for conclusions that fit prejudices markedly similar to those of other people in society. By keeping to higher valuations and by assigning prime importance to observed facts, we only partly purge these biases from our mind. Because this researcher is receptive to the idea that the research process is infused with our personal biases, I would like to state my personal bias by indicating that I do not believe that the subject of this study, direct foreign investment, is an appropriate instrument of growth and development in developing societies because this instrument has not become and, will never become, the panacea for the socioeconomic problems prevalent in these societies. My assessment is derived from the belief that the interests of foreign investors are radically different from those of host countries which may be willing to mobilize national resources for investment programs in the absence of personal financial benefits. I cannot say the same about foreign investment activities because, in most cases, they are profit-oriented and untied to the long-term welfare of host developing societies.

Another significant intellectual development that has influenced the present research process is concerned with

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the challenges and serious doubts raised by postmodernism against conventional modern social science approach to the attainment of knowledge. Many of the postmodern challenges are directly related to questions about the usefulness of theory and truth as well as the epistemology and methodology of modern social science. In a general sense, postmodernism discourages the hegemony of the kinds of theories to be reviewed in this writing on the ground that they are grand and timeless theories seeking universal answers and truths to complex problems of social life. Theories that are "personal in character and community specific in focus" are perceived as appropriate mechanisms of explaining the interlocking processes of social realities because such theories are devoid of propositions offering absolute and universal truths. Accordingly, postmodernists prefer the kinds of theories that offer truth which can vary according to "place and historical context" since conflicting truths can be true in "different world." Because of my sympathy with the cause


7Ibid., p. 80.
and concerns of postmodernism, it should be stated that this study is done in the spirit of a postmodernist notwithstanding the fact that the principles of modern social science approach will be evident in the subsequent pages.* I have been led by this spirit of postmodernism to observe that the dependency school of thought offers the kind of theory likely to be acceptable to many postmodernists by taking into account the specific national histories of developing societies and deconstructing those historical accounts before extracting common themes to form the foundational propositions of a theory of development. Viewed in that context, the dependency school offers an explanation of a social issue that constitutes "the collective story of the disempowered . . . , placing their lives within the context of larger social and historical

*The combination of postmodern principles with those of conventional modern social science should not be regarded as an incompatible approach to scientific inquiry because the former can reinforce some valuable features of the latter by making researchers cognizant of the limitations of their studies. Based on my understanding of postmodernism it is likely that many, if not most, skeptical postmodernists will reject such an approach while many affirmative postmodernists will endorse it. The differences between the ideas of the skeptical and affirmative postmodernists are provided in Ibid., pp. 1-184. Elsewhere I have also established the utility of the above approach in Ambrose Inyang, "A Postmodern Approach to the Study of Poverty," Paper presented at a graduate seminar on Postmodern Sociology, Texas Woman's University, Fall, 1991.
forces." An additional aspect of the theoretical approach of the dependency school suggestive of a postmodern approach is the fact that many of its leading exponents have made no claim of remaining detached from the research process. They have consistently portrayed their sympathy for the people of the society they study through the use of language indicating their passions for the disempowered of developing societies. I have already followed this example by not making any pretense of detachment from the research process due to the recognition that the interpretations and recommendations that will be presented at the end of the present study are products of human construction notwithstanding the empirical framework. An equally important postmodern approach adopted in the study is concerned with the intended use of the results of the research process. The results and recommendations to be offered will be designed for the empowerment of previously excluded societies from effective participation in the global economy. Towards this end, the results and interpretation of the research findings are presented in a

way capable of maximizing the number of participants in the knowledge process.\footnote{The importance and liberating consequences of this postmodern principle is eloquently argued in T. R. Young, "The Archeology of Social Knowledge and the Drama of Human Understanding," \textit{Michigan Sociological Review} 5 (Fall, 1991): 41-65.}

The choice of countries used as the units of analysis in the study is another important issue requiring qualification and a few comments due to existing profound differences among these countries. Some of these countries are characterized by large populations while others have very small populations, some have existed as nation-states for centuries while others are creations of 20th century geo-international politics with many of them gaining their independence only in the second half of this century. For some in the latter group the concept of nation-state is not only a recent phenomenon, it is also regarded as an alien concept by many of their citizens. In terms of economic measures such as per capita gross national product, a few of the developing societies exhibit measures that are comparable to those of some developed societies, others have high per capita gross national product indicators that make them a distinct group within the developing societies, while most of the countries exhibit characteristics that place them collectively at the lower end of this indicator. Given these profound differences, it is imperative that
researchers including these societies in a collective sample of analysis should justify such an approach. For the present study that justification is derived from the common history of penetration of the developing societies by various European powers for the past 400 years and the subsequent imposition of socioeconomic organizational structures, which in the opinion of this researcher, became detrimental to the developmental process of these societies. The legacy of this common history of exploitation and domination is the malintegration of these societies into a world division of labour that assigns them a subservient role of suppliers of raw materials and light manufactured goods that attract lower rewards in comparison with products made in the developed countries. One result of this extant unequal arrangement is that it significantly contributes to the socioeconomic problems in the developing societies by providing them with fewer resources to cater for the material well-being of millions of their citizens. The average socioeconomic indicators in the developing countries including per capita gross national product, physical quality of life index, life expectancy, infant mortality, and per capita public education expenditures provide another justification for their inclusion in a collective sample of analysis because these indicators are on the average quite below those in the developed countries. It is also justified by the fact that most of
these countries, in recognition of their common history of colonization and exploitation, have frequently joined together in international forums for the collective defense and pursuit of common interests. An excellent example of creating such a separate identity is the Nonaligned Movement of the second half of this century which distinguishes the developing societies as a group from the developed societies of Western Europe and the former socialist countries of Eastern Europe. Given the preceding features, the developing countries can be employed as a collective unit of analysis while noting at the same time the differences among them.*

*This research problem is not an exclusive function of using the developing societies as a collective unit of analysis. The same is also true of the developed societies where profound differences and similarities will also require justification of their use of as a collective unit of analysis.
CHAPTER II

THE EVOLUTION OF DEPENDENCY AND WORLD-SYSTEM THEORIES OF DEVELOPMENT

In his classic study of capitalism in the 19th century, Karl Marx indicated that certain contradictory features inherent in the capitalist economic system will necessitate the expansion of the capitalist mode of production from advanced capitalist countries to pre-capitalist ones partly because "the world market" is "the basis and vital element of capitalist production."* This expansion, reflecting the need for "an ever-expanding market" through foreign trade, will produce some significant but short-lived economic benefits for the advanced capitalist countries in the form of "higher rates of profit . . . due to backward development" in the pre-capitalist societies.¹

In the precapitalist societies, the capitalist mode of production will exert "a revolutionary influence" through

*The ideas expressed here on the contradictory features of capitalism and how these features will contribute to the expansion of the capitalist mode of production are derived from various portions of Karl Marx, Capital: A Critique of Political Economy, Vols. I, II, and III, ed. Frederick Engels (New York: International Publishers, 1984).

the destruction and replacement of their traditional mode of production with the necessary economic and technological infrastructure which will make higher stages of economic development possible. It is this dual positive effect of the capitalist mode of production for both the exporting and recipient countries that contributed to Marx's observation that:

The bourgeoisie, by the rapid improvement of all instruments of production, by the immensely facilitated means of communication, draws all nations, even the most barbarian, into civilization. The cheap prices of its commodities are the heavy artillery with which it batters down all Chinese walls, with which it forces the barbarians' intensely obstinate hatred of foreigners to capitulate. It compels all nations, on pain of extinction, to adopt the bourgeois mode of production.²

In a specific example designed to buttress his observation, Marx concluded that the expansion of capital from England to India will result in the inevitable industrialization of the latter because, "when you have once introduced machinery into the locomotion of a country which possesses iron and coal you are unable to withhold it from its fabrications."³


The Role of Capital Under Imperialism

The theory of imperialism, introduced early in the 20th century into the Marxian analysis of capitalism, provided other perspectives on the possible effects of the expansion of the capitalist mode of production to pre-capitalist societies. One of the most prominent seminal works in this direction, done by V. I. Lenin, postulated that the export of capital to "backward countries" will be necessitated by the lack of "profitable" investment in the advanced capitalist countries due to the fact that in some of these countries "capitalism has become over-ripe." Before Lenin, another theorist of imperialism, John Hobson, had predicted the same phenomenon by observing that everywhere in the advanced capitalist countries "appear excessive powers of production, excessive capital in search of investment." The scarcity of capital, relatively low price of land, low wages, and cheap raw materials which characterize the "backward countries" make high profits possible for investors from the capital-exporting countries. In spite of the opportunities for high profits, Lenin was quick to detect instability in the capital-exporting countries due to political struggles.

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among these countries for the control of markets in "backward countries." This view was consistent with that of another exponent of the theory of imperialism who believed that the "expansion of capital" had the effect of "plunging the civilized peoples of Europe itself into a series of catastrophes whose final result can only be the decline of civilization or the transition to the socialist mode of production." The political struggles to divide up "backward countries" will lead to inter-imperialist wars with a resultant economic stagnation which will revert industrial development from the advanced capitalist countries to "backward countries." Like Marx before him, Lenin therefore predicted positive economic benefits for "backward countries" due to the export of capital to these countries:

The export of capital greatly affects and accelerates the development of capitalism in those countries to which it is exported. While, therefore, the export of capital may tend to a certain extent to arrest development in the countries exporting capital, it can only do so by expanding and deepening the further development of capitalism throughout the world.  

The Neo-Classical and Modernization Schools of Thought

Two other schools of thought which have emphasized the positive effects of foreign capital in the

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7 Lenin, Imperialism: The Highest Stage of Capitalism, p. 65.
developmental process of host countries include those of the neo-classical international economics and modernization or diffusion approach in sociology. These two approaches see the expansion of capital as resource flows capable of extending modernity from advanced capitalist countries to "backward nations." According to the neo-classical approach, the expansion of capital through the instrument of foreign investment provides critical factors of economic growth lacking in host countries. These factors include foreign exchange and technology which tend to maximize growth in both the capital-exporting and recipient countries.\(^8\) This neo-classical approach is based on the assumption that foreign investment can successfully fill the gaps between domestic accumulation of savings, foreign exchange, technology, and the required level of these resources necessary to achieve development targets. The motivation of foreign investors to fill these gaps is derived from the conventional neo-classical production function, \(Q = f (L, K, M)\), where \(Q\) is output, \(L\) is labour, \(K\) is capital, and \(M\) is management or technology.\(^9\) Foreign investors from countries with


abundant supply of L, K, and M will be attracted to invest in places where these factors are scarce because the marginal product of these factors are higher in such places.

The neo-classical approach also relies on David Ricardo's theory of comparative advantage to explain the potential benefits of foreign investment. As developed by Ricardo this theory espouses that:

Under a system of perfectly free commerce, each country naturally devotes its capital and labour to such employments as are most beneficial to each. This pursuit of individual advantage is admirably connected with the universal good of the whole. . . . It is this principle which determines that wine shall be made in France and Portugal; that corn shall be grown in America and Poland; and that hardware and other goods shall be manufactured in England.¹⁰

Based on the above premise, neo-classical economists hypothesize that countries which play host to foreign investment will benefit from it despite the fact that for many of these countries their primary product is composed primarily of raw materials. Specialization in the production of raw materials is an efficient economic undertaking which will enable these countries exchange such products for imported manufactured goods which otherwise will be very expensive to produce domestically.

Modernization theorists who analyze the external factors affecting modernization in developing countries focus on benefits which accrue to these countries in the form of advanced technology transfer, modern rational organizational forms, labour habits complementary to industrial production, and "modern" attitudes towards the self, family, and society which stimulate economic growth. Other external factors which contribute to the economic growth of these countries include technical assistance which provides advice on fiscal and developmental policies.\(^1\) These external factors, considered crucial to the transformation of developing countries from traditional to modern societies, are derived from an important theoretical assumption of the modernization school of thought concerning the unidirectional character of development. According to this assumption, developing countries will emulate the Western European and American model of development because of its successful industrialization and economic prosperity.* This


*In response to persistent criticisms against the assumption of a unidirectional character of development, some modernization theorists are now de-emphasizing this concept and embracing the notion that developing countries can follow a path of development different from that of Western Europe and the United States. However, it is
assumption is reflected in the views of one modernization theorist who asserts that, "historically, modernization is the process of change towards those types of social, economic, and political systems that have developed in Western Europe and North America from the seventeenth century to the nineteenth." 12

An important premise of both the neo-classical and modernization approach to development is the implicit assumption that foreign investment is a powerful development tool which tends to integrate developing economies into the world economy dominated by the advanced capital exporting countries. This perceived integration has led some authorities in these two schools of thought to the observation that the trend towards modernization "has now become worldwide" in character. 13

still their contention that the extension of "modern traits" from the advanced to developing countries is beneficial to the latter. The modifications in the theoretical assumptions of the modernization school of thought are reviewed in Alvin Y. So, Social Change and Development: Modernization, Dependency, and World-System Theories (Newbury Park, California: Sage Publications, Inc., 1990), pp. 60-62.


The Emergence of the Dependency School of Thought

Another approach to the study of the role of external factors on the modernization process of developing countries based partly on a critical examination of the preceding theories emerged in the 1960s and culminated in what is broadly known as the dependency school of thought.* This new approach began with an impressive and insightful work by Paul Baran who is generally acknowledged as the intellectual father of this school of thought. Baran's most influential work on dependency, The Political Economy of Growth, analyzes the activities of foreign investment in its historical context and offers an assessment accounting for the detrimental and negative effects of these activities in developing countries. According to this historical analysis, it is the penetration of foreign lands by Western Europeans during the period of colonization that laid the groundwork from which emerged a number of factors responsible for the perennial problems of economic development in Third World countries. Thus, unlike the emphasis of the preceding schools of thought on the

*Unlike the preceding schools of thought which emerged from Western Europe and the United States, the dependency school originated from Latin America thereby giving it a unique perspective on the developmental process of Third World countries. The conditions that gave rise to this school of thought and the spread of its ideas to the developed countries are reviewed in Ronald H. Chilcote and Joel C. Edelstein, eds., Latin America: The Struggle with Dependency and Beyond (New York: John Wiley and Sons, 1974), pp. 41-46.
positive impact of external factors on the developmental process of Third World countries, Baran's analysis detects some negative effects of these factors. For example, it is Baran's assessment that the "unilateral transfers" of resources from developing countries to Western Europe have added to economic surplus and increased capital accumulation in the latter while retarding economic development in the former.\(^\text{14}\) This process is believed to be still evident in the activities of multinational corporations serving as conduits for the repatriation of profits and dividends from countries of the Third World. In Baran's view, the process of profit and dividend repatriation attenuates economic development in the periphery by withdrawing the economic surplus often associated with stimulated economic growth through reinvestment in the expansion of productive facilities.\(^\text{15}\)

Another direct consequence of the penetration of foreign lands by Western Europeans was the destruction of the pre-capitalist structures of colonized societies built around a self-sufficient agricultural economy. The destruction of these structures was accentuated by the activities of foreign investors who emphasized the production of exportable crops at the expense of crops for


\(^{15}\)Ibid., p. 184.
domestic consumption. In many instances, the colonized societies were made to specialize in the production of a single export crop thereby preventing agricultural diversification and creating food problems that subjected large parts of the native populations to systematic pauperization. A corollary to this specialization is the exploitation of the raw materials of developing countries by multinational corporations that tends to deplete these natural resources at a pace with dire long-term consequences for the economies of these countries. In Baran's analysis, this kind of specialization does not augur well for the developing countries because it is organized in such a way that, "one participant of the team specializes in starvation while the other assumes the white man's burden of collecting the profits."16

International capital has slowed down or prevented the transition to industrial capitalism in Third World countries because the infrastructures built for foreign investment activities are not integrated into the socioeconomic structures of these countries. This lack of integration is attributed to the fact that, historically, facilities such as railways, roads, airports, telephone systems, and power stations were constructed for the specific purpose of promoting the production and exportation of raw

16 Ibid., p. 188.
materials as well as exportable agricultural goods. Because of this, such facilities do not create the external economies which normally occur "whenever the operation of one enterprise facilitates (cheapens) the establishment or the conduct of another."\(^1\) It is also Baran's contention that foreign investment has prevented industrial capitalism in many developing countries by exposing domestic and infant industries to unfair competition not only with "manufactured goods cheaply supplied from abroad" but also with goods produced in host countries by multinational corporations. It is this kind of unfair competition along with limited domestic markets which have turned foreign enterprises into a hindrance against industrial growth. This situation is made worse by the fact that frequently, the monopolistic control of foreign investment over the limited domestic markets of host countries is sanctioned by protective tariffs and policies of Third World governments granting "concessions of all kinds" to foreign investors. The net result of this process is that domestic industries:

> Having lived through all the pains and frustrations of childhood it never experienced the vigor and exuberance of youth, and began displaying at an early age all the grievous features of senility and decadence.\(^2\)

The alliance between foreign investors and local elites is another mechanism through which international

\(^1\)Ibid., p. 190.

\(^2\)Ibid., p. 177.
capital contributes to stagnation in the periphery. This alliance consists of local merchants who control imported manufactured goods, native industrial monopolists who abhor competition in their markets, and feudal landowners who benefit from foreign investment by earning "considerable profits" from sales of landed estates. In Baran's view, what has emerged from this alliance is "a political and social coalition of wealthy compradors" along with "powerful monopolists and large landowners" who have prevented the emergence of indigenous industrial capitalism through their dedicated support for the maintenance of the existing "feudal-mercantile order." 19

Based on the preceding analysis, Baran concludes that the shortage of capital is not the crucial factor preventing economic development as neo-classical economists assume but rather it is the improper utilization of potential economic surplus that could be reinvested in productive development projects in Third World countries that is accountable for their slow or lack of development. Baran's firm belief in this assessment is evident in the view that:

The principal obstacle to rapid economic growth in the backward countries is the way in which their potential economic surplus is utilized. It is absorbed by various forms of excess consumption of the upper class, by increments to hoards at home and abroad, by the maintenance of vast unproductive bureaucracies and

19 Ibid., p. 195.
of even more expensive and no less redundant military establishment. A very large share of it--on the magnitude of which more is known than on that of others--is withdrawn by foreign capital.20

Andre Gunder Frank and the Concept of "Development of Underdevelopment"

Baran's approach and findings on the role of international capital have been applied to the study of the developmental process in many developing countries, especially those in Latin America. Andrew Gunder Frank, one of the first to adopt this approach, provides an extensive overview of the process characterizing the incorporation of the periphery countries into the world capitalist economy and how this process has historically led to the removal of productive resources from these countries for capital accumulation in the metropolitan countries of Western Europe and later, the United States. In Latin America, this process began during the mercantilist era when "an economically subordinate colonial relationship" was imposed on the indigenous populations by European settlers.21 This subordinate

20Ibid., p. 228.

relationship was directed towards the development of an export economy that systematically engaged the native populations in the production of goods for export to the metropolitan countries. From this economic arrangement emerged members of "a resident commercial and productive bourgeoisie" among the native populations who shared with the European colonizers benefits of the export economy to the detriment of the populations at large which suffered from unequal distribution of income and lack of purchasing power. In alliance with their counterparts in the metropolis, the Latin American bourgeoisie remitted "a major part" of their profits overseas where they served as new investment resources that contributed to the economic development of metropolitan countries. Part of the surplus capital not exported overseas was either reinvested in the expansion of productive facilities of the export economy or used for the importation of capital goods to strengthen these facilities or spent on luxurious consumption goods. As a consequence, and unlike the metropolitan bourgeoisie, the Latin American bourgeoisie did not invest in a "productive apparatus" necessary for the stimulation of the local economy and the provision of a foundation for a "self-sustained economic development." 22

22 Ibid., pp. 22-23.
Frank's application of Baran's model also shows that the above subordinate colonial relationship has remained a constant factor in Latin America and other Third World countries with only "some local and temporal exceptions." The few local exceptions notwithstanding, these countries have progressively become more dependent on the metropolitan countries and fully integrated into the world capitalist economic system in a manner that continues to foster underdevelopment. Based on this assumption, Frank contends that external instruments of development like foreign investment activities have contributed to the "development of underdevelopment" in Latin American and other developing countries by destroying their "productive and viable agricultural and also industrial economies."\(^2\)

This process of underdevelopment can only be reversed through a revolution which destroys "the capitalist class structure" and replaces it with "socialist development."\(^3\)

Frank's rationale for this advocacy is derived from his observation that today's developing countries constitute a unique form of underdevelopment within the global capitalist system and, therefore, they do not follow a succession of capitalist development stages as postulated


by neo-classical and diffusion theorists. These countries will not experience any genuine development through the same historical process of the present developed countries because the latter "were never underdeveloped, though they may have been undeveloped." Two case studies illustrating how the integration of Chile and Brazil into the world economy leads to underdevelopment in Third World countries are provided as empirical evidence for this assertion.

In an attempt to provide a general framework for the understanding of the historical and structural process retarding development in the Third World, Frank offers five specific hypotheses relating to this problem. The first of these hypotheses attributes underdevelopment in Third World countries to the subordinate character of their relationship vis-a-vis the metropolitan countries. In the second hypothesis the author asserts that Third World countries tend to "experience their greatest economic development" when their relationship with the metropolitan countries "are weakest." As a corollary to this second hypothesis, the author further assumes that the re-establishment of

25Frank, Latin America: Underdevelopment or Revolution, p. 4.

trade and investment links with developing countries in the aftermath of crisis in the metropolitan countries tends to choke off "previous development and industrialization" in the former. The third hypothesis suggests that Third World regions with the closest ties to metropolitan countries in the past are those "most underdeveloped and feudal-seeming today." The fourth hypothesis relating specifically to the institution of latifundio* in Latin America suggests that this institution is an indigenous commercial enterprise with an efficient mechanism in the past capable of responding to increased demand for its products in the world or domestic markets. In the fifth and last hypothesis, also related to this institution, the author postulates that the decline in the demand for the products of the latifundios and their declining productive capacities are caused by the integration of their regions and hence their economic undertakings into the world economy.27

*This is a very large landholding in Latin American countries capable of providing employment for over twelve people. Along with the minifundio which is a farm "too small to provide employment for a single family of two workers," this institution still serves as an important framework of social organization of rural life in Latin America. The socioeconomic consequences of this institution are reviewed in Michael P. Todaro, Economic Development in the Third World (New York: Longman Inc., 1985), pp. 294-298.

27Frank, Latin America: Underdevelopment or Revolution, pp. 9-14.
Celso Furtado and the "Structural Character" of Dependency

An additional perspective on the consequences of dependency is provided in Celso Furtado's structural analysis of the institutional parameters serving as obstacles to development in Third World countries. In Furtado's analysis, emphasis is placed on three distinct but related features of dependency believed to be determined by historical circumstances and the integration of exogenous and endogenous structures hampering dependent capitalism. The first structural feature, the form of a dependent country's entry into the international division of labour, has the consequence of promoting backwardness in the productive forces of such a country while the second feature, industrialization based on modernization programs, tends to contribute to the factors of income concentration and inequality. The third structural feature, relating to the need of dependent countries to import certain techniques from advanced capitalist countries, has the

Furtado's structural analysis emerged initially from theoretical studies that attempted to identify the primary causes of inflationary disequilibrium in developing countries especially those in Latin America before the approach became closely identified with the dependency school. The initial application of this approach to the illumination of the developmental problems in Latin American countries is presented in Celso Furtado, Development and Stagnation in Latin America: A Structural Approach, Studies In Comparative International Development, Vol. 1 (St. Louis, Missouri: Social Science Institute, Washington University, 1965), pp. 159-175.
consequence of enhancing the control of host countries' economic activities by multinational corporations. This kind of control was evident in the denationalization of mineral production in some Latin American countries in the 19th century when "local producers were marginalized by American corporations" with advantages of greater financial backing and technology.

The preceding structural features are also tied to some important power resources including but not limited to the control of technology, financial resources, markets, and the control of access to cheap labor which underlie the international economic order and determine the bargaining strength of a nation in the struggle for the appropriation of the surplus generated within the global economy. Attempts by dependent countries to change the unfavorable structure of the global economy are hampered by their reliance on foreign technology, a key resource of the central countries that has made dependence "to be first and foremost technological." However, recent development efforts by some dependent countries have witnessed the


31Furtado, Accumulation and Development, p. 129.
judicious combination of their own power resources in an apparent attempt to neutralize the burdens of technological dependence. Furtado's earlier works on dependency in Latin America also emphasize the adverse effects of reliance on foreign technology by noting that industrialization based on this kind of reliance has consistently led to a decrease in the occupational structure of Latin American countries in the past. Furtado was led by this and other growth-inhibiting consequences of dependency to the observation that it is erroneous to perceive dependent capitalism as a phase in the evolution towards the type of capitalist structures arising in Western Europe and the United States because the economies of developing nations are special cases of underdevelopment created by the forms of their integration into the global economy.

Theotonio Dos Santos and "Structural Blockage" in Dependent Capitalism

Another application of Baran's model, that of Theotonio Dos Santos also, shows that the dependent status of Latin American countries could be blamed for their underdevelopment and, more importantly, this dependency could only be overcome through the adoption of qualitative


33 Ibid., p. xvi.
changes in the internal structures and external relations of these countries. The dependent status of these countries is also traced to their integration into the world capitalist economy through various forms of historic dependence including colonial, financial-industrial, and more recently, a new form of technological-industrial dependence based on the activities of multinational corporations. This new form of dependency, concerned mainly with industrial investment, has produced "fundamental structural limits" blocking the developmental process of host developing countries. Among these structural limits are the dependence on an export sector of the economy for foreign currency needed to purchase necessary inputs for industrialization, fluctuations in the balance of payments, and reliance on technological inputs owned and monopolized by the "imperialistic centers."

Reliance on an export sector of the economy creates structural limits through the preservation of a "traditional export sector" which serves as a structural blockage limiting the economic development of internal markets and leading to the repatriation of "high profits" abroad by foreign firms whose capital control many of the activities in the export sectors of the economies of


developing countries. Fluctuations in the balance of payments produce structural limits by creating deficits through unfavorable trade relations that have progressively lowered the price of raw materials while raising the prices of imported industrial products. There is also "an enslaving deficit" in the capital accounts of dependent countries due to the repatriation of "a high volume of profit" which makes the amount of capital leaving these countries greater than that attracted from abroad. Because of this situation, dependency is strengthened through a further need for foreign capital and aid to fill "holes that they themselves created." This problem is compounded by the high price paid by Third World countries for reliance on unadapted foreign technology saddled with restrictive patent rights. \(^{36}\) The net result of these structural limitations is the emergence of a dependent capitalism with harmful structures distorting the productive systems of developing countries. Deriving his evidence from the preceding analysis, Dos Santos offers what has become the most commonly used definition of dependency as follows:

> By dependency we mean a situation in which the economy of certain countries is conditioned by the development and expansion of another economy to which the former is subjected. The relation of interdependence between two or more economies, and between these and world trade, assumes the form of dependence when these

\(^{36}\)Ibid.
countries (the dominant ones) can expand and can be self-sustaining, while other countries (the dependent ones) can do this only as a reflection of that expansion, which can have either a positive or negative effect on their immediate development.  

Samir Amin and "Peripheral Capitalism"

The above view of dependency is reflected in the work of another dependency theorist, Samir Amin, whose nine specific theses dealing with the transition to peripheral capitalism have provided further insight into the developmental problems caused by the dependent status of developing countries.* First, Amin postulates that underdevelopment in Third World countries is an outcome of the distortion of their precapitalist formations by foreign penetration through the capitalist mode of production. An example of such distortion given by the author is the destruction of domestic crafts by foreign penetration without replacement with any kind of local industrial production. Second, unequal international specialization has distorted the economies of peripheral countries by

37 Ibid., p. 231.

*Because the emphasis in this chapter of the study is on the theoretical orientations of the various schools of thought on development, Amin's exposition of the historical process of accumulation within the global economy is not utilized here at great length. However, a review of his major works on this process indicates that the findings are consistent with the nine theses presented here. His exposition of the historical process of accumulation is the subject of Samir Amin, Accumulation On a World Scale: A Critique of the Theory of Underdevelopment, Vols. 1 and 2, trans. Brian Pearce (New York: Monthly Review Press, 1974).
confining them to the role of "complimentary suppliers" of raw materials for the production of goods in the advanced capitalist countries and thus causing an "extraversion" or distortion towards export activities in Third World countries. It is this kind of distortion that has led to lower levels of wages in periphery "for the same productivity" undertaken in the center. The third thesis, a corollary of the preceding distortion, postulates that there is a "hypertrophy of the tertiary sector in the periphery" caused by inadequate industrialization and increasing unemployment. This in turn has led to widespread unproductive activities and has served as a hindrance against capital accumulation in the periphery. Fourth, unequal international specialization has another adverse effect of directing development policies in Third World countries towards engagement in "light branches of activity" that employ modern production techniques. As a result of this, development policies in Third World countries are not only characterized by "special policies" but are also fundamentally different from the policies that provide the framework for development in advanced countries of Western Europe and North America. Amin's fifth thesis is a caveat against the extension of the theory of the multiplier effects of investment "in a mechanical way to the periphery." According to Amin, the effects of this
Keynesian multiplier which are applicable to the phase of monopoly capitalism in developed countries of the center are punctiliously countered in countries of the periphery through the repatriation of profits of foreign capital. Sixth, countries of the periphery do not possess the "economic means of action" to compete with the foreign monopolies that dominate key sectors of their economies. In the seventh thesis, Amin attributes underdevelopment in Third World countries to three important structural features including "extreme unevenness" characterizing the distribution of productivities in these countries, disarticulation resulting from the "adjustment of the orientation of production" towards the needs of the developed countries of the center, and economic domination of the periphery by the center through the latter's accumulation of capital and monopoly in world trade. The eighth thesis, derived from the preceding structural flaws in Third World economies, postulates that the accentuation of these features of underdevelopment, which tends to increase in proportion with economic growth of the periphery, has the negative effect of blocking any dynamic growth. Finally, Amin assumes that the form of periphery capitalism is a function of the nature of each country's precapitalist formations and the forms and epochs or periods in which Third World countries were incorporated
into the world capitalist system. These differences among peripheral countries notwithstanding, it is the author's contention that there is a convergence towards a typical model characterized by the dominance of agrarian capital and comprador or commercial capital. More importantly, the domination of central capital over the global capitalist system has subjected development of peripheral capitalism to strict limitations "which are ultimately dependent upon political relations."  

Amin's dependency perspectives have been applied to specific Third World regions including Africa* where the beginning of the process of integration into the world capitalist system is traced to the mercantilist period when a great part of the African continent became a periphery supplying slave labor for the mercantilist-based economies of Western Europe. This process of integration was strengthened during the period of colonization when the partitioning of Africa in the 19th century resulted in an economic organization designed to satisfy foreign

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*Specific case studies of some African countries based on this perspective are provided in Samir Amin, Neo-Colonialism in West Africa, trans. Francis McDonagh (New York: Monthly Review Press, 1973), pp. 3-274.
requirements. Specifically, this organization mobilized domestic resources towards large-scale production of tropical agricultural products for export to European countries in the center of the world capitalist system. In the process of this mobilization, dominant trade monopolies were established by the European powers while the local peasants were forced to produce what the monopolists wanted to buy. A steady pool of labor reserves employed in "plantation zones" was maintained through "the organization of internal migrations" and political alliance with members of the privileged social classes who appropriated local lands. Because of these processes, the traditional societies of Africa were greatly distorted and deprived of their autonomy and much like their counterparts in Latin America, they became in effect "a dependent society, a peripheral one and hence a dead end."

The above dependency perspective on Africa is augmented by the views of Andre Frank whose work also explicates the historical process that drew much of Black Africa into the development of world capitalism by turning it into a single-product export economy of slaves supplier for the development of the plantation economies of the New

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41 Ibid., p. 190.
World from the 16th century to the first half of the 19th century. It is the arrangement of this single-product export economy by European slave traders and their local collaborators that caused the destruction of the traditional mode of production and social organization in Africa, thus paving the way for the "productive and social foundations of a self-sustaining process of development of underdevelopment in Latin America and Africa." Asia was spared this initial destruction of traditional institutions and means of production because its limited role during this particular period of capitalist development (1500-1770) was restricted to the exchange of agricultural and manufactured products for gold and silver from European traders.* This situation was reversed in the second stage of world capitalist development (1770-1870) when a few Asian countries, especially India, became more fully incorporated into this developmental process. This later phase witnessed the transformation of Indian's traditional mode of production and the destruction of her industries

*It is assumed that the limited integration of Asia into the world capitalist economy during this period was due to the small number of products which Europe could offer Asians who were ahead in industrial skills. Moreover, Europe did not possess or was unable to finance adequate military power to enforce or enlarge trade with Asia during this time. The source of this information is Ibid., pp. 17-18.

coupled with the disruption of the equilibrium between Indian manufacturing and her rural-based agriculture. As local resources were shipped from the Indian subcontinent to Britain, the stage was gradually set for "the underdevelopment and de-industrialization of India."43

**Fernando Cardoso and "Associated-Dependent Development"**

The many criticisms directed against the central ideas and assumptions of dependency in the 1970s and 1980s have contributed to the emergence of some new perspectives within the dependency school of thought.* These new perspectives are reflected in the works of Fernando Cardoso who, like other dependency theorists, has accepted the principle that the national economies of dependent countries have been integrated into the world capitalist system through an historical process limiting their

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43 Ibid., pp. 87-91.

*Some of the criticisms raised against the dependency school are centered on charges of tautology, the masking of science under ideology, an exaggeration of the role of external forces in the development process of Third World countries, and the tendency to apply the ideas of dependency to an analysis of all problems in these countries. Some of the works dealing with these criticisms include David Ray, "The Dependency Model of Latin American Underdevelopment: Three Basic Fallacies," *Journal of InterAmerican Studies and World Affairs* 15 (February 1973): 4-20; Palma, "Dependency: A Formal Theory of Underdevelopment or a Methodology for the Analysis of Concrete Situations of Underdevelopment?," pp. 881-923; and Alejandro Portes, "On the Sociology of National Development: Theories and Issues," *American Journal of Sociology* 82 (July 1976): 55-85.
potentials for growth. However, Cardoso's approach is a "historical-structural" one which attempts to modify certain views of dependency by emphasizing the relationship between external and internal structures, differences and diversities among dependent countries, and the possibility that the dynamics of dependent capitalism is capable of producing "associated-dependent development" in some Third World countries. According to Cardoso's model of "associated-dependent development," economic growth and social mobility, "at least for the urban-industrial sector," could occur through the dynamics of dependent capitalism because of the replacement of the traditional international division of labor whereby peripheral countries exported raw materials and imported manufactured goods with a new division of labor that has witnessed the transfer of part of the industrial system of the advanced capitalist countries to Third World countries already in a

44The concept of "associated-dependent development" was initially applied to an analysis of the development process in specific countries, especially Brazil, in Fernando Henrique Cardoso, "Associated-Dependent Development; Theoretical and Practical Implications"; in Authoritarian Brazil: Origins, Policies, and Future, ed. Alfred Stepan (New Haven: Yale University Press, 1973), pp. 142-176. This concept and the above modified views of dependency were later extended to the study of the development process in Third World countries in general. The major work following this later approach is Fernando Henrique Cardoso and Enzo Faletto, Dependency and Development in Latin America, trans. Majory Mattingly Urquidi (Berkeley, Los Angeles: University of California Press, 1979).
"relatively advanced level of industrial development."
This transfer, carried out through the activities of multinational corporations, has brought the "technological, financial, organizational, and market connections" crucial to the economic growth of dependent capitalism to some Third World countries. With these foreign inputs, associated-development is possible when foreign capital is directed at the manufacturing sectors of dependent countries for the production and sale of consumer goods to the growing urban and upper classes. In Cardoso's view, this process has resulted in "an internationalization of the internal market" of some dependent countries brought about by the compatibility of the interests of multinational corporations with "the internal prosperity" of these countries. This process signifies a new kind of dependency by replacing the interests of those previously engaged in the export of raw materials with the internal interests of those producing for the internal markets. With this new arrangement, the effects of the "typically colonial exploitation" of the past are diminished through the incorporation of different social groups such as local wage earners, technicians, entrepreneurs, and bureaucrats,

45 Cardoso, "Associated-Dependent Development: Theoretical and Practical Implications," p. 149.
along with the dominant classes, into the emerging industrial economies.\textsuperscript{46}

In spite of the possibility of growth with the associated-dependent development model, dependent countries are still faced with some negative consequences of their dependent status as evident in the fact that this new situation of dependency can lead to "an increase in development while maintaining and redefining the links of dependency" at the same time.\textsuperscript{47} Besides, specific case study of associated-dependent development in Brazil has indicated that the costs of this kind of development include a widening of inequality because of income concentration, an increase in "relative misery," it contributes to an increase in foreign debt, emphasizes the production of consumer goods instead of "basic necessities," and contributes to social marginality and the underutilization and exploitation of manpower resources.\textsuperscript{48} Class attrition is sharpened by this kind of development through the exclusion of the masses and those in the social strata who were economically important during the earlier stage of economic development but "are now obliged to try

\textsuperscript{46}Cardoso and Faletto, \textit{Dependency and Development in Latin America}, p. 175.

\textsuperscript{47}Ibid., p. 174.

\textsuperscript{48}Cardoso, "Associated-Dependent Development: Theoretical and Practical Implications," p. 149.
and find a subordinate place in the modern monopolistic sector." Moreover, the bonds of dependency are deepened and strengthened through the continued reliance of the peripheral countries on the technological knowledge of the advanced capitalist countries.49

The World-System Perspective

Many of the changes occurring within the international economy since the early 1970s and the observation by some development theorists that these changes could not be explained within the framework of either the modernization or dependency perspective have led to the emergence of yet another school of thought on the workings of the global economy, the world-system perspective.50 This school of

49Cardoso and Faletto, Dependency and Development in Latin America, p. 164.

50The spectacular economic growth of the "newly industrializing" Asian countries of North Korea, South Korea, Singapore, and Taiwan, as well as Hong Kong and the industrialization drive in Mexico and Brazil are examples of profound changes occurring within the global economy. The ability of these countries to export manufactured goods to the developed countries has led some to reject the claim of some dependency scholars that these are merely "special cases." The term "newly industrializing" and the countries listed here are from H. Peter Gray, International Economic Problems And Policies (New York: St. Martin's Press Inc., 1987), pp. 189-190. Other changes often cited as stimulants of the world-system perspective are the economic stagnation of the socialist countries which have led some radical scholars to reconsider their principle of "delinking" Third World countries from the capitalist world-economy as a necessary step that could pave the way for indigenous development and the rise of Japan as a major economic power which has reduced American hegemony in the global capitalist-economy. These changes are reviewed in
thought, represented by the prodigious and prolific writings of an outstanding sociologist, Immanuel Wallerstein,* has modified some assumptions of the dependency school like its bimodal theoretical structure of core-periphery countries while successfully weaving some of its key concepts such as those of unequal exchange, core-periphery exploitation, and its historical-structural approach, into a new perspective emphasizing the holistic nature of a capitalist world-economy characterized by "a

So, Social Change and Development: Modernization, Dependency, and World-System Theories, pp. 170-171.

*Immanuel Wallerstein, who became a Distinguished Professor of Sociology at the State University of New York at Binghamton in 1976, has been credited with the revival of "theoretically informed historical research" methods in the social sciences. He was awarded the prestigious Sorokin Award in 1975 for one of his works, The Modern World-System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century (New York: Academic Press, 1974), which has also been translated into nine languages and Braille. This book is the first of the three volumes dealing with the evolution of the capitalist world-system.

Wallerstein's use of the phrase "world-economy" is different from conventional usage which implies the existence of separate national economies that become international by virtue of trade with each other. In contrast to this, Wallerstein's conception of the "world-economy" assumes the existence of "an economy" wherever (and if but only if) there is an ongoing extensive and relatively complete social division of labor with an integrated set of production processes which relate to each other through a 'market' which has been 'instituted' or 'created' in some complex way." Conceptualized in this way, Wallerstein is able to assume the existence of a capitalist world-economy "in at least part of the globe" as early as the 16th century. The discussion of this concept is found in Immanuel Wallerstein, The Politics of the World-Economy: The States, the Movements, and the
single division of labor and multiple cultural systems." Within this single world-economic system is a trimodal stratified structure of core, semiperiphery, and periphery countries perceived by Wallerstein as a structural outcome of the modern world-economy which emerged in 16th century Europe when Northwestern Europe was the core region specializing in agricultural production requiring higher skills and predominant in certain industries such as textiles, shipbuilding, and metal wares; Mediterranean Europe, the semi-peripheral area specializing in high-cost industrial products, credit, and specie transactions; while Eastern Europe (excluding Russia) and the Western Hemisphere served as peripheral regions specializing in the export of cash crops produced on large estates by coerced labor.52 Through the development of stronger state mechanisms in the core region of Northwestern Europe, a mechanism of "unequal exchange" was set into motion whereby this region appropriated much of the surplus of the whole world-economy. Since then, stronger state mechanism has remained a cardinal principle of the world-economy allowing groups to pursue their economic interests within a unified world market while attempting to exploit this market for

their own self-interest and benefit "by organizing to exert influence on states, some of which are far more powerful than others but none of which controls the world market in its entirety." 53

The next stage in the evolution of the world capitalist system (1650-1730) was brought about by the system's wide recession of this period that culminated in the eventual ascendency of England over The Netherlands as the principal core country. Thereafter, the system evolved into a stage of industrial capitalism stimulated by Britain's industrial revolution in the 18th century. This third stage in the evolution of world capitalism witnessed a renewed geographic expansion necessitated by the desire to acquire access to new sources of raw materials and made possible by improved technology of the industrial revolution in terms of military firepower and shipping facilities. The newly independent countries of Latin America and large regions of Asia and Africa were incorporated into the system during this third stage of evolution in the 19th century. 54 The fourth stage of this evolution, set into motion by events of the First World War and the Russian Revolution of 1917, resulted in the consolidation of industrial capitalism with the United

53 Ibid., p. 25.

54 Ibid., pp. 26-27.
States assuming the role of the principal core nation for a brief period (1945-1965). Many contemporary events in the world-system including the resurgence of Western Europe as an economic power, the successful industrialization efforts of the Soviet Union, and "the cumulated Third World pressures" have led to a new arrangement based on a "quadripartite division of the larger part of the world surplus by the U.S., the European Common Market, Japan, and the USSR."55

From the above historical analysis, Wallerstein presents a thoughtful and insightful analysis on the developmental prospects of states within a unified world-economy indicating in the process the conditions that can lead to upward and downward movement as well as "the limited possibilities of transformation" in the system. The prism to this analysis is Wallerstein's conceptualization of the world-system as a three-layered system with the middle layer of semiperipheral countries serving as a buffer against potential disintegrating struggles which would otherwise occur in a bimodal and polarized system comprising only of a few wealthy core countries facing a relatively homogeneous and numerous poor countries. Semiperipheral countries also prevent economic and political crises within the world-system by performing

55Ibid., pp. 30-32.
an additional function of absorbing the wage-productivity squeeze of core countries when the semiperipheral region serves as a fertile sector for new investments during cyclical shifts in the world-economy. Because of these two important functions, countries in the middle layer of the world-system have the distinctive feature of trading in two directions with both the core and periphery regions while the countries in these two regions tend to favor a balanced trade between one region and another. It is in the interest of semiperipheral countries to reduce their external trade in order to increase their aggregate profit margin by capturing "an increasingly large percentage of its home market for its home products." Another distinctive feature of semiperipheral countries is reflected in the more pronounced control of the market by the state through its political machines. A judicious utilization of policies derived from these distinctive features could transform a country's economy from a semiperipheral to core status especially during periods of contraction in the world-economy.*

56 Ibid., pp. 69-70.
57 Ibid., pp. 70-71.

*Examples of countries cited by the author as having successfully made the transition from semiperipheral to core status include England in the 17th century, and the United States and Germany in the 19th century. The Soviet Union was believed to be on the path of this transition to a core status in the 20th century.
For the peripheral countries, advancement to a semiperipheral status could be achieved through one of three possible strategies: "seizing the chance," "promotion by invitation," and "self-reliance." "Seizing the chance" is an aggressive developmental state policy of "import substitution" capable of transforming a peripheral economy into a semiperipheral one during moments of contraction in the world-economy when the economic position of domestic opponents to such policy and the political position of core countries are considerably weakened. Transformation by means of "promotion by invitation" is a developmental strategy based on foreign investment activities through the instruments of multinational corporations. This strategy is more likely to be adopted during periods of expansion in the world-economy when multinational corporations can readily expand their investment activities to peripheral countries especially those at lower levels of industrial development.\(^{58}\) The third strategy for transformation to a semiperipheral status, self-reliance, is a function of internal developmental policies with less emphasis on external collaboration. All these three strategies are characterized by inherent problems that have inhibited transformation within the capitalist world-system. The juxtaposition of these problems with the basic framework of

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58Ibid., pp. 76-83.
the world-economy based on a disparity of rewards has led Wallerstein to the observation that:

To be very concrete, it is not possible theoretically for all states to 'develop' simultaneously. The so-called 'widening gap' is not an anomaly but a continuing basic mechanism of the operation of the world-economy. Of course, some countries can 'develop.' But the some that rise are at the expense of others that decline.59

Commonality and Differences in the Theoretical Assumptions of the Various Schools of Thought on Development

The preceding review of the writings of the respective schools of thought indicates that both common themes and profound differences can be identified in their respective theoretical approaches. Evidence of commonality in their themes is deduced from the fact that, in a general sense, they are all concerned with factors capable of stimulating and sustaining growth and development in developing societies. Foreign resources have been identified by the various schools as crucial variables with potential of affecting the growth and development process of host countries either in positive or negative ways. The Marxian perspective and that of the early theorists of imperialism seem to reach the same conclusion as the neo-classical and the modernization/diffusion approach with respect to the potential benefits of foreign resources. Their common conclusion is that foreign resources are beneficial and

59 Ibid., p. 73.
capable of promoting growth and development in host developing societies. The Marxian perspective postulates that such beneficial effects will be caused by the ability of the bourgeois mode of production to destroy the traditional mode of production in those societies that will be replaced with new economic and technological infrastructures more conducive to higher stages of development. An in-depth explanation of how these higher stages of development can be brought about is provided by the neo-classical approach through its emphasis on how foreign resources can provide the essential ingredients of development including capital and foreign exchange as well as managerial skills and technology. In the view of neo-classical economists, the importance and effectiveness of foreign resources are demonstrated by their function as providers of the differences between the levels of available domestic development resources and that required for sustained growth and development. Particular emphasis is given in the neo-classical approach to the role of foreign capital in meeting the development needs of host countries. An additional positive emphasis on the role of external factors of development is provided by the modernization/diffusion sociological approach that perceives the transfer of modern attitudes and traits from the developed to developing societies as stimulants for growth and development in the latter. Thus, both the
neo-classical and modernization/diffusion approaches regard the lack of development resources within developing societies as impediments to growth that can be overcome through the infusion of foreign resources by means of direct foreign investment. It is further assumed by exponents of neo-classical and modernization/diffusion approaches that following the infusion of appropriate levels of development resources into these societies, their economies will witness a gradual and progressive development process similar to that of many developed societies.

Contrary to the above views, the dependency school of thought presents a view of foreign investment as an instrument of exploitation that can only exacerbate the socioeconomic problems of host developing countries. The rationale for this perspective is deduced from an historical account relating the colonial penetration of developing societies by Western Europeans to the structural problems that continue to hamper the former's efforts at development. Foreign resources attracted into developing economies have not contributed to sustained development because the investment activities associated with them tend to take out a greater amount of resources from the developing societies than the amount of initial investment. Based on these assessments, the Marxian analysis of a positive outcome of the extension of the capitalist mode of
production to the developing societies is rejected by many dependency scholars who portray this extension as a significant barrier to development by virtue its destruction of the self-sufficient traditional modes of production in colonized societies without effective replacements. Within this context, direct foreign investment becomes an instrument for the continued penetration of developing societies that integrate them into a global economy composed of a few core countries deriving the greatest benefits from this arrangement and a greater number of peripheral countries deriving few benefits. Consequently, the beneficial effects of foreign investment espoused by the neo-classical and modernization/diffusion theorists are rejected by dependency scholars whose theoretical propositions relate investment activities to various forms of dependency detrimental to growth and development in developing countries.

The proposition that the process of integration of developing economies into the global economy influences their attempts at growth and development is supported by the world-system perspective that extends the bimodal system of the dependency school to a trimodal one composed of core, semiperipheral, and peripheral countries. According to the world-system perspective, it is the position and role of countries within the single world's
division of labour that determine the outcome of their efforts at development. The role of internal and external resources of growth and development emphasized by the neo-classical and modernization/diffusion theorists are perceived by the world-system perspective to be more meaningful when viewed in the context of the dynamics of the whole global economy which is very crucial to the achievement of upward or downward mobility within the world stratification system. The specific mechanisms that may constrain the developing countries from achieving a greater degree of upward mobility within the global economy are examined in the next chapter.
CHAPTER III

TESTABLE PROPOSITIONS ASSOCIATED WITH THE DEPENDENCY/WORLD-SYSTEM PERSPECTIVES

Many studies aimed at quantifying the effects of dependency have derived certain testable propositions from the dependency/world-system perspectives\(^1\) offering distinct explanations on how the various aspects of dependency actually affect economic growth and development. These propositions, based largely on the underlying assumption that it is the process of integration of the developing nations into the world economy that creates certain peculiar features affecting the economies of dependent countries, are generally concerned with the

\(^1\)The use of the phrase "dependency/world-system perspectives" reflects the fact that testable propositions derived from the dependency and world-system schools of thought are very similar in nature as evident in the use of identical measures of variables in studies using the assumptions of either school as the theoretical framework. There is therefore no significant difference between the dependency and world-system approaches when testing the validity of their assumptions. The use of the above phrase is also supported by the view that, "there are no basic disagreements between the dependency school and world-system analysis; indeed the dependency school provided the insights which enable authors . . . to reinterpret the history of capitalist development in light of the unity of the world-system." Volker Bornschier and Christopher Chase-Dunn, Transnational Corporations and Underdevelopment (New York: Praeger Publishers, 1985), p. 4.
effects of investment dependence, trade dependence, and social stratification. One of the major propositions dealing with the peculiar features of the three preceding aspects of dependency is concerned with the structural blockage introduced into or exacerbated in dependent economies by mechanisms of dependency.

**Investment Dependence and the Structural Blockage Proposition**

According to the structural blockage proposition, it is the structural features of foreign investment as exemplified in the activities of multinational corporations which produce adverse effects on the economic growth and development of host developing countries.* The structural flaws inherent in investment dependence are reflected in the decapitalization thesis or the loss of domestic capital accumulation to foreign investors through the repatriation of profits, royalties, license and management fees, and

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*Some of the propositions stated in this chapter of the study may seem repetitious and similar to things already discussed in the previous chapter. However, the purpose of this chapter is to offer a more detailed explanation of how the testable propositions of dependency are actually related to the issues of growth and development. There is an emphasis on those propositions which are testable and have actually been tested in the studies reviewed at the end of this chapter. It should also be noted that some of these propositions are not deduced directly from existing literature on dependency but have been independently arrived at by scholars using the dependency/world-system approach as a framework of their studies.
over-pricing of intermediate goods. The outflow of resources through these mechanisms has the potential of increasing the accumulation of foreign public debt in host countries due to the reliance on external borrowing to replenish the foreign exchange reserves exhausted by such capital transfers. This process is compounded by continuous borrowing by host countries which attempt to secure enough foreign exchange for the purchase of foreign inputs including the technology required for investment activities in areas neglected by foreign investors.\textsuperscript{2} The preference of multinational corporations to invest in "technologically advanced and highly concentrated sectors and branches" of host countries' economies is another hypothesized structural feature purported to absorb much of the domestic capital normally available for investment activities in sectors and branches of the economy not penetrated by foreign investment. The adverse effect of this practice is assumed to be manifested in local borrowing by multinational corporations which significantly reduces domestic capital formation and creates the need for increased public capital expenditures for infrastructure in the neglected areas and regions of investment thus adding

Decapitalization is often accentuated by the transfer of profits "to extranational fields of investment" instead of re-investment in specific host countries where the profits originate.*

The net drain of capital through the decapitalization process is often associated with the proposition that investment in developing countries tends to produce higher profits than similar investment in developed countries. On the average, the annual inflows of new investment expenditures are much less than the annual outflows of investment income generated by these expenditures and

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4 Ibid., p. 195.

transferred to the home countries of foreign investors. An often quoted assessment supporting the validity of this structural aspect of dependency indicates that:

From 1960 to 1968, when approximately $1 billion fresh capital was being transferred annually to U.S.-controlled subsidiaries in the less-developed areas, approximately $2.5 billion was being withdrawn annually in the form of income alone. If withdrawals in the form of royalties and of overpricing of intermediate goods were added, the figure would still be larger.5

A positive correlation is usually asserted to exist between the above kind of excessive transfer of incomes and external debt accumulation in host developing countries.

Possible displacement of indigenous investment or denationalization of domestic firms is the second major hypothesized mechanism that is used to explain the negative impact of investment dependence. In some cases, this

5Raymond Vernon, Sovereignty at Bay: The Multinational Spread of U.S. Enterprise (New York: Basic Books, 1971), p. 172. It should be stated that in Vernon's opinion this kind of figure is a misleading generalization because the presence of foreign-owned subsidiaries in host countries can still lead to positive increases in foreign exchange due to the impact of foreign investment activities on other items of balance-of-payments account besides capital inflows and remission outflows. A mathematical model supporting this assumption is provided in Ibid., p. 174. However, other measures have shown that the excessive transfer of profits from host developing countries tends to make the net contribution of foreign investment negative. Such a view is presented in Richard B. Du Boff, "Transferring Wealth from Underdeveloped to Developed Countries Via Direct Foreign Investment: Comment," The Southern Economic Journal XXXVIII (July 1971): 118-120, where it is also indicated that $25.6 billion of income was transferred to the United States against the $9 billion invested by American multinational corporations in developing countries between 1950 and 1965.
process of displacement may be made possible by the concentration of foreign investment activities in industries where market imperfections and other inhibiting factors such as high costs in research and development as well as elaborate advertising efforts pose the greatest barriers to entry by domestic firms. When that happens, direct competition for entry between foreign and domestic firms is likely to result in the squeezing out of the latter because of the unfair advantage of superior competitive position enjoyed by the foreign firms through their "superior knowledge, worldwide contacts, and advertising skills." Denationalization could also occur following an initial merging of foreign firms with domestic firms already equipped with the necessary skills and contacts indispensable to successful operation in domestic markets. Such initial mergers become an important step in the linkage of indigenous investors with the operations of subsidiaries of multinational corporations which produce goods first for export and then for sales in the host countries. Often this kind of linkage is very temporary because the next step in this process, the integration of the operations of subsidiaries by parent corporations into an effective worldwide operation, tends to put local partners on a collision course with the foreign investors

6Todaro, Economic Development In The Third World, p. 439.
because of different interests. The end result of this process is the possible displacement of indigenous investors by multinational corporations by means of buying up stocks or even forcing out independent stockholders of host countries in order to integrate successfully the local production of their subsidiaries.\(^7\) Investment dependence can also cause denationalization of domestic firms through outright takeover or purchase without any initial merging with local investors. Because such outright takeovers may be financed in part by local resources, the net effect on total investment of host countries may be negative.\(^8\)

In combination with other aspects of investment dependence, denationalization has the potential of disrupting or destroying the local entrepreneurial class thus giving a commanding economic control of host countries' economies to foreign investors. Foreign control


\(^8\)In Brazil where foreign investment seems to have produced the above negative effects, figures indicate that between 1966 and 1970, 52 percent of new U.S. manufacturing affiliates were established by acquisition of domestic firms. Between 1971 and 1973, the figure had risen to 61 percent. These figures are taken from Sylvia Hewlett and Richard S. Weinert, \textit{Brazil and Mexico: Patterns in Late Development} (Philadelphia: Institute for the Study of Human Issues, 1982), p. 141. Other detrimental effects of foreign investment activities in Brazil are provided in Peter Evans, \textit{Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil} (New Jersey: Princeton University Press, 1979), pp. 14-54.
is usually reinforced by the role of multinational corporations in making decisions of great consequence for the developmental process of host countries from their headquarters in advanced industrial nations. Host developing countries can be deprived of their fair share of benefits emanating from foreign investment activities because of a lack of access or input into the decision-making circles of these corporations. Moreover, host governments may be severely limited in their ability to control the activities of the subsidiaries of these corporations because of their "size and international connections" which make it possible to escape "regulations imposed in one country."9

A high concentration of foreign investment in modern sectors of the economy such as manufacturing, transportation, and communications is another structural feature capable of causing sectoral distortion in the economic growth of developing nations. Investment dependence studies indicate that such sectoral distortion leads to uneven development due to the diversion of resources from the agricultural to non-agricultural sectors of the economy. Faced with this diversion, the rural population tends to respond by migrating to urban centers

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in search of better wages with the result that there is a general decline in agricultural productivity. Further consequence of investment concentration in the industrial sectors of the economy is that it may contribute to the process of "dependent industrialization" by focusing investment in highly concentrated industries. High industrial concentration, in turn, is said to lead to monopolization and extra profits that can contribute to economic stagnation.\textsuperscript{10}

Sectoral distortion and uneven development may also emanate from the concentration of foreign investment in the primary and extractive sectors of the economy. It is frequently hypothesized that there is a positive relationship between this kind of concentration and trade dependence because industrialization of raw materials and production of primary goods for export tend to obstruct the differentiation and integration of the economies of host countries. The existence of few links between foreign enterprises directing their output towards external markets and their local manufacturing counterparts mostly concerned with internal market opportunities is a typical example supporting this hypothesis. Lack of integration of host economies induced by high levels of foreign investment in

extraction may ultimately be associated with lower levels of growth in infrastructure and manufacturing, especially in poorer developing nations.\textsuperscript{11} Additional factors that may contribute to this perceived association include the fact that natural resource industries are "sometimes highly oligopolistic" and, as such, the multinational corporations that dominate in those industries can use their dominant position to pay host countries less than the fair price of their raw materials.\textsuperscript{12} Possibilities of sectoral distortion and uneven development are sometimes blamed on the structures of the multinational corporations themselves which represent a new economic system favoring:

The development of local segments integrated into the internationalized nucleus of the capitalist system, in particular, those segments which are more directly connected with the Trancos, while at the same time tending to disrupt the rest of the economy and society, segregating and marginalizing significant sections of the population.\textsuperscript{13}

On the relationship between investment dependence and technology it is postulated that the kinds of technology transferred to host countries are oriented towards the specific needs of foreign investors and therefore rarely


\textsuperscript{12}Sunkel, "Transnational Capitalism and National Disintegration In Latin America, p. 166.

\textsuperscript{13}Ibid., p. 163.
adjusted to local needs. Because of this, foreign investors do not participate in significant research and development activities in host countries since the technologies utilized in their activities are designed primarily on the basis of "the engineering involved in scaling down production techniques for markets of more limited size and making modest adjustments to consumer tastes."\(^1\) In addition, foreign investors are more likely to rely on capital-intensive methods of production that can only exacerbate the unemployment problems of host countries by contributing to "absolute direct labour displacement." Technological transfers may also serve as part of the price transfer mechanism that enables parent corporations to inflate the prices of used equipment sent to their subsidiaries in order to evade attempts by host governments to control profit repatriation. When appropriate technology could be obtained through direct purchase, the price and conditions such as licensing requirements make it too costly for host countries to acquire the technology. Some studies of technological dependence have generated findings suggesting that technological transfer is further inhibited by the overwhelming concentration of foreign firms in the

industrial sectors of the economy where "technological complexity and volatility" make it possible to obtain monopoly rents and prevent the assimilation of foreign technology into the social structures of host countries. The prospect of technological self-reliance was found only in local corporations where the citizens owned about 80 percent of the shares. Failure to absorb foreign technology into the socioeconomic structures of host countries constitutes a hindrance to the realization of the "windfall profits" often derived from the product life cycle* by enabling foreign corporations produce innovative new products and get returns for an extended period of time. Host countries cannot benefit from the comparative advantage of the product life cycle when they continue to rely on the

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*The product life cycle is a concept implying that increases in demand for new products and subsequent standardization in production techniques will lead to expanded demand outside the country where the product was originally produced. Standardized output makes it more cost effective to shift the location of manufacturing such products to developing countries where they will in turn be exported as manufactured goods. The favourable terms of trade likely to result from this process and the factors which may prevent the realization of the potential advantages of this concept are discussed in Raymond Vernon, "International Investment and International Trade In The Product Cycle," Quarterly Journal of Economics LXXX (May 1966): 190-207.
use of unskilled or semi-skilled labour for the production of goods requiring the use of routinized technology.\textsuperscript{16}

Other interlocking effects of investment dependence that can impact negatively on the developmental process of dependent countries include the skewing of income distribution,* perversion of culture, and subversion of the political processes of these countries. The culture of dependent countries is vulnerable to perversion when the orientation of product design, innovation, and marketing strategies of foreign investors are based on the tastes and consumption patterns of their home countries. In such a situation, the affluent consumption patterns of the developed countries are emphasized to the detriment of local customs and values. An assessment of the extension of this "consumption culture" to dependent countries indicates that although it is usually aimed primarily at the small minority at the higher levels of the socioeconomic structure, its "demonstration effect" does trickle down to those at the lower level of this structure. The potential adverse effects of this process are not unconnected with the possible introduction of "serious


*This assumption is more fully explored under the sub-heading of "Dependency and the Structures of Stratification" on pages 83 through 91 of this study.
distortions and irrationalities in the structure of demand and in the allocation of private and public investment resources." Typical examples that support this assessment include advertising strategies emphasizing the formula feeding of infants instead of breast feeding and the promotion of mechanized farming techniques in the place of conventional labour-intensive agricultural production. The hypothesized relationship between investment dependence and host countries' political process reflects the view that the governmental structures of these countries can be subverted by co-opting local segments of the population directly connected with the activities of multinational corporations into the "international nucleus of the capitalist system." Foreign investors can therefore put the political sovereignty of dependent countries in jeopardy by relying on the influence of their home governments and the co-opted local elites to bring pressure on host governments to stay "in line" when host policies are considered detrimental to foreign investment. The involvement of ITT in the overthrow of the Chilean government in 1973 is often cited in investment dependence studies as an extreme form of this subversion process.

Taken together, the preceding negative effects of investment dependence seem to find their ultimate

\[17\text{Sunkel, "Transnational Capitalism and National Disintegration In Latin America," p. 167.}\]
expression in the long-run when stocks of foreign investment have been shown to have "an overall negative effect on economic growth which is statistically extremely unlikely to be by chance." However, there may be positive short-term effects of foreign investment on economic growth due perhaps to the building of new infrastructure, production of new products, creation of new jobs, and other positive factors emanating from the initial phase of investment activities. The least developed countries of the periphery are more likely to benefit from these factors than are their more developed counterparts because in such societies, foreign investment can induce development "by stimulating infrastructural improvements and by removing precapitalist obstacles to development." Besides, foreign investment can initially accelerate the developmental process of such societies by stimulating productive forces through the workshop division of labour* and by facilitating increased capital accumulation. Thus

18 Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, p. 94.


*As used by Karl Marx, this concept, involving "the decomposition of a process of production into its various successive steps" in a factory under the control of a single authority was a unique feature of capitalism which contributed to economic development in Western Europe by generating surplus value, stimulating "new productive
the initial participation of developing countries in the world economy may lead to increases in "overall productivity" in accordance with the principles of comparative economic advantage and other positive factors emphasized in the neo-classical and modernization schools of thought. However, these gains, when they occur, may be punctiliously countered in the long-run when the potential adverse effects of investment dependence described in this section of the study manifest themselves.

The Structural Features of Trade Dependence

Participation in world trade via specialization in the export of primary products and/or a small number of commodities constitutes the second major type of dependence capable of distorting the internal structures of developing countries considered crucial to the emergence and progression of the societal division of labour and one of its most fundamental by-products, structural differentiation. The societal division of labour, which involves the movement of goods from one economic unit to another, is generally regarded as a sine qua non for

economic growth and development because of its multiplier effects of creating further expansion of economic activities by means of increased intermediary social roles, the creation or expansion of adjudicatory institutions for economic disputes, and the growth of general service institutions including universities. The contributions of these and other spin-over effects of the societal division of labour to economic development are elaborated by Johan Galtung in his analysis of the "structural theory of imperialism." In this analysis, the author explicates the process whereby the existing structures of the international division of labour promote development in nations specializing in the manufacturing of "the most refined, processed products" by virtue of spill-over effects from research activities that extend to the "social, political, and military domains" of these nations. These spin-off effects become lubricants for further development when, for example, infrastructures such as communication and transportation networks are developed as a result of increases in the societal division of labour

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or when new means of production emerge from research activities stimulated by such division of labour. Through these processes, structural differentiation emerges and contributes to economic development by creating efficiency through the release of people and resources from their traditional fixations. Dependent countries are unable to derive the optimum benefits from these processes because of the distortion of their internal structures by the vertical and feudal interaction structure induced by the international division of labour. Galtung's vertical interaction structure deals with the unequal exchange and inequality in the international division of labour which permits the developed countries to produce and export manufactured goods while the developing countries produce and export raw materials. This pattern of unequal exchange is reinforced by the feudal interaction structure which ties the developing countries to the developed ones through trade dependence in the form of commodity and trade partner concentration. 22

Trade partner concentration minimizes the gains from trade normally obtained from a trade structure involving diversified trade partners. Metropolitan countries can therefore receive greater gains from trade through engagement in extensive trade among themselves and their

22 Ibid., pp. 85-91.
respective satellites in the periphery while the peripheral
countries receive only limited gains because of limited
interaction among themselves. The lopsided trade relations
between the United States and the developing nations of
Central America as well as those existing between Britain
and France and their former colonies in Africa are examples
of these extant feudal interaction patterns in world
trade.\textsuperscript{23} In a broad sense, trade partner concentration is
viewed as an obstacle to development in countries of the
periphery because it prevents the formation of alliances
among these countries "which could alter the asymmetrical
flow of goods" to the metropolitan countries. With the
reduced possibility of forming such alliances, these
countries cannot compete with their powerful metropolitan
trade partners.\textsuperscript{24}

Other negative effects of trade dependence are deduced
from an application of the labour theory of value to the
terms of trade between the developed and developing
countries. Trade between these countries is believed to be
based on a pattern of unequal exchange in which peripheral
countries receive lower prices for their products because

\textsuperscript{23}Erich Weede and Horst Tiefenbach, "Three Dependency
European Journal of Political Research 9 (December 1981):
392.

\textsuperscript{24}Lawrence R. Alschuler, "Satellization and Stagnation
in Latin America," International Studies Quarterly 20
of unequal quantities of labour vis-a-vis that contained in products from the developed countries. Unequal exchange resulting from labour differential presents a hindrance to growth and development because:

The exchange of commodities produced in conditions of a higher productivity of labour against commodities produced in conditions of a lower productivity of labour [is] an unequal one; it [is] an exchange of less against more labour, which inevitably led to a drain, an outward flow of value and capital from [peripheral] countries to the advantage of Western Europe.25

The above pattern of unequal exchange is likely to be reinforced by the injection of external capital into segments of peripheral economies encouraging the production of complementary goods primarily in the form of labour-intensive raw materials. Through these processes, unequal exchange constitutes "the elementary transfer mechanism" responsible for "that unevenness of development that sets in motion all the other mechanisms of exploitation and fully explains the way that wealth is distributed."26

Trade, dependent on commodity concentration, in the form of primary product exports also makes developing economies susceptible to low and declining value of these products relative to the prices of manufactured goods.


Price fluctuations reduce the opportunities for economic growth by impairing the capacity of developing economies to import capital goods due to a reduction in export earnings. Because of the heavy reliance of these economies on export earnings, price fluctuations have the potential of reducing capital accumulation and investment. In other instances, price fluctuations may lead to an instability in export growth and consequently a decline in fiscal spending due to the reliance of developing economies on revenues generated through taxes on import and export products. It is further believed that export instability is capable of inhibiting development by causing "a significant negative effect on the real per capita income growth rate" of dependent economies.27 Price and export instability could also be caused by bad harvests, overproduction, and the inelasticity of the international demand for raw materials.* The vulnerability of developing countries to these factors distorts economic growth and development


*The inelasticity of international demand for raw materials is usually attributed to various factors beyond the control of developing countries. Included in these factors are the moderate population growth in industrialized countries which are principal buyers, and the ability of these countries "to perform more and more processing operations on the same quantity of raw material." A brief review of these factors is provided in Jacques Delacroix, "The Export of Raw Materials And Economic Growth: A Cross-national Study," American
by making long-range planning very difficult if not impossible.

Trade dependence via the extraction of raw materials has been known to produce many more disruptive effects in dependent countries beyond those suggested by the postulates of the labour theory of value and price instability. These disruptive and accumulative effects, which cannot be measured completely in terms of labour and capital, involve "the socioeconomic and ecological" consequences of an extractive economy producing and exporting commodities that attract an increased value where they are consumed or transformed but "a loss of value in the region of origin." Initially, the modes of extraction of these economies may lead to rapid increases in regional incomes due to "extremely low ratio of both labour and capital to value" but such increases do not last very long because of the rapid rise in the unit costs of

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Sociological Review 42 (October 1977): 797. Developing countries are more vulnerable to price and export instabilities than the developed nations because of lower levels of per capita income in the former, heavy reliance on export and import taxes, and "less potent" monetary and fiscal tools to deal with the problems associated with these kinds of fluctuations. The vulnerability of developing countries to these instabilities is discussed in Hossein Askari and Gordon Weil, "Stability of Export Earnings of Developing Nations," Journal of Development Studies 11 (October 1974): 86-87.

extractive goods brought about by expansion in the scale of
eextraction and the exhaustion of easily accessible
resources. The impoverishment of the environment and the
destruction of its human carrying capacity with a resultant
dislocation of regional population are often the ultimate
consequence of this kind of exploitation of resources.
These social and ecological consequences of extractive
economies tend to produce "multiple inequalities in inter-
national exchange" and not a single inequality as postulated
by the unequal exchange proposition of the labour theory of
value. Included in these kinds of inequalities are those
resulting from "the differential wages of labour, the
transfer of the natural value contained in the raw,
unlaboured resources from the periphery to center," and the
transformation of these resources in the center which
brings about "the full realization of value in the center
rather than in the peripheral sources of the material
commodities."29 Depletion of resources that cannot "renew
themselves naturally" serves as a further source of
inequality in international exchange.

Some of the mechanisms responsible for the above
inequalities appear to be inherent in the "enclave" nature
of extractive economies sustained by the location of
infrastructures at sources of extraction which may be far

29Ibid., p. 1054.
removed from "important demographic and economic centers," the response to increased and punctuated external demand for extractive commodities, as well as technological dependence. Extraction of raw materials in locations removed from demographic and other economic centers contributes not only to greater degrees of sectorial distortion but may also prevent the rise of local communities with effective organizations capable of mobilizing labour to oppose exploitation.30 Response to increased external demand has the detrimental effects of depleting non-self-renewing resources or extracting those resources capable of self-renewal beyond the point of regeneration and thus making the search for alternative resources cost effective in other regions of the world economy. Punctuated cycles of external demand produce other adverse effects by contributing to the discontinuity "in time and space" that characterizes "economic and social development based on extractive economies."31

Dependency and the Structures of Stratification

Conceptual propositions explicating the relationship between dependency and stratification are derived from the peculiar features of the world division of labour that

30Ibid., p. 1057.
31Ibid., p. 1058.
creates a stratified international community composed of core, semi-core, and peripheral countries and contributes to stratification and inequality within dependent countries. These propositions relate the external stratification system of the global economy to a vertical interaction structure giving the greatest advantages and prestige to core countries producing and distributing goods and services with the highest technological content, few advantages and less prestige to semi-core countries involved in the production and distribution of semi-processed or intermediate goods and services, and marginal or no advantage or prestige to peripheral countries engaged in the production of raw materials or manufactured goods with minimal technological content. Internally, the feudal interaction structure of the world division of labour contributes to stratification and inequality in dependent peripheral countries by linking certain socioeconomic segments of these countries to the nucleus of the global capitalist economic system. An elaborated version of the preceding structural features of stratification and their manifestations are provided in Galtung's analysis based on a division of the world system into four classes composed of the elite representing the center in core countries, the elite representing the center in periphery countries, the masses making up the periphery in core countries, and the masses making up the periphery
in peripheral countries. What sustains this stratified class structure is a system of imperialism or "a relation between a Center and a Periphery nation" with the following characteristics:

(1) There is harmony of interest between the center in the Center nation and the center in the Periphery nation, (2) There is more disharmony of interest within the Periphery nation than within the Center nations, (3) There is disharmony of interest between the periphery in the Center nation and the periphery in the Periphery nation.\(^\text{32}\)

In the above scenario, powerful core countries establish a bridgehead in peripheral countries by linking the elites in these countries with those of the core in such a way that the elites in both camps "go up together and down, even under, together." The disharmony of interest between core and periphery countries results from the fact that the elites in the latter serve as conduit for the transfer of resources to the former where the benefits usually trickle down to the masses and help in reducing the disharmony of interest within core countries. In contrast to this, there is more disharmony of interests within the periphery countries because of increased inequality emanating from the enrichment of the elite class through its link to the center in core countries and its monopoly of domestic socioeconomic resources at the detriment of the masses. There is also an increased inequality between core

and periphery countries emanating from the linkage of their respective elites which locks periphery countries into the structure of the world division of labour as suppliers of raw materials and/or semi-processed goods. Increased disharmony of interest and inequality between nations therefore reflect a vertical interaction pattern based on the gap in the processing level of manufactured goods. The economic advantages enjoyed by core countries because of this gap also extend to the "political, military, communication, and cultural" aspects of interaction through which these countries transmit their values to the periphery through linkage with its elite class.\textsuperscript{33} This stratified structure and its attendant advantages for the core are sustained and reinforced:

By isolating the Periphery parts from each other, by having them geographically at sufficient distance from each other to impede any real alliance formation, by having separate deals with them so as to tie them to the Center in particularistic ways, by reducing multilateralism to a minimum with all kinds of graded membership, and by having the Mother country assume the role of window to the world.\textsuperscript{34}

The internal and external dimension of Galtung's analysis are further illustrated in other theoretical propositions linking inequality in dependent countries with foreign investment activities via multinational corporations. Proponents of this hypothesized association

\textsuperscript{33}Ibid., pp. 91-94.
\textsuperscript{34}Ibid., p. 90.
conceptualize that the capital-intensive production techniques of multinational corporations contribute to and perpetuate income inequality by creating some structural distortions in the tertiary sector of the economy. In the agricultural sector of the economy, the application of this kind of production techniques means the underutilization of rural labourers who are likely to migrate to urban areas where they contribute to a bloating of the tertiary sector of the labour force. The few migrants who are lucky to find employment in the cities are likely to be employed in marginal jobs with low income thus further exacerbating gross income inequality within the tertiary which "includes everyone from the most highly paid doctors and lawyers to the most poorly paid domestic servants and street vendors." A bloated tertiary sector of the economy can also contribute to inequality by providing a "reserve army of labor" that may weaken "the bargaining power of unskilled and semi-skilled" workers in industries vis-a-vis their employers. Such a process will be at work when employers use the presence of the "reserve army of labor" in the tertiary as a possible means of replacing workers who do not agree to their demands. With a weakened bargaining position of these workers, lower income levels

can be enforced and accepted thereby paving the way for "increased inequality within the secondary sector."\textsuperscript{36}

The preceding stratification of occupational structure in dependent countries is magnified by the existence of elite groups such as the "comprador class" and "the labour aristocracy" whose members command high incomes and other forms of wealth through their connection with foreign investors. These groups tend to support policies favourable to foreign investment including but not limited to tax concessions, guarantees of profit repatriation, low labour costs and minimal labour unrest, favourable exchange rate policies, and anti-inflationary government policies. It is frequently hypothesized that these kinds of policies are usually associated with lower levels of domestic investment in manufacturing and industry which are subsequently dominated by foreign investors. The dominance of foreign investment in these sectors of the economy contributes to the existence of a dual economic structure by concentrating productive capacities in a few segments of the economy. From this dualism emerges adverse changes in occupational structures and composition of the labour force that brings about income inequality. Some assessments supporting this process indicate that "more recently" foreign investment is becoming more predominant in

\textsuperscript{36}\textit{Ibid}.
manufacturing industries and selective areas of the service industry such as tourism where the application of capital-intensive and modern methods of production may result in higher productive levels. At the same time, "most of the service sectors and traditional agriculture" do not attract comparable external capital and are therefore dependent on labour-intensive methods of production that makes these segments of the economy relatively unproductive and backward.* The result of this disparity is an uneven development responsible for increased income inequality that creates higher levels of remuneration and the embourgeoisement of the small segment of the population connected with the limited productive segments of the economy and linked to the external elites of the global economy.37

*There is the dilemma that the attraction of foreign capital to these sectors of the economy may also contribute to increased income inequality if a highly capital-intensive method of production is utilized as is normally the case. In such a situation, it is likely that "only a tiny fraction of the total work force" will be employed with the result that the few who receive wages higher than the going rate will help in suppressing "demands from below for redistribution of the national wealth." This process and studies confirming its validity are discussed in Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, pp. 120-121.

An additional proposition that seeks to explain how external capital contributes to inequality in dependent economies is concerned with the consequences of producing manufactured goods by subsidiaries of multinational corporations for sale in the domestic markets of host countries. Because these subsidiaries operate in capital-intensive industries, they may actually offer wage rates higher than the going rates in these countries. The consequence is more often than not the concentration of income within a "labour aristocracy" which creates a favourable market for the products of these subsidiaries. Although the market size created by such income concentration is small, it is still profitable to market products to the tiny minority with high incomes because "the marginal profitability in new markets is thus high" when selling goods produced at the later stages of the product life cycle. In short, subsidiaries of multinationals operating in these market conditions stand to benefit from the advantages "of economies of scale on a world level." This has led some proponents of this view to assert that:

For industrial transnationals oriented toward domestic market in the periphery an increase in income concentration can be expected to be more favorable than an even growth of income since they are interested in only a small minority of the population of peripheral countries as customers. Due to their short-term market logic their interests are in harmony with the integrated
minority which tries to maximize its income at the expense of the marginalized majority.  

A list of studies which have tested the preceding propositions of the dependency/world-system perspectives is provided in Table 1. As the results of these studies indicate, there is clear and convincing evidence that dependency is associated with increased income inequality in host dependent countries. However, studies dealing with investment and trade dependence tend to produce contradictory results on these aspects of dependency.

The Research Designs and Findings of Previous Dependency Studies

In five of the six studies in Table 1 showing positive relationship between investment dependence and economic growth, cross-sectional test designs are used by the authors to examine this relationship in specific geographic areas representing African, Asian, and Latin American countries.  

For example, McGowan's (1976) study attempts to test the effects of dependency by examining "the simple correlations" between three measures of economic dependence in 1967 and twenty-three economic indicators between 1965

38 Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, p. 133.

39 The notable exception among these studies is that of Robert W. Jackman, "Dependence on Foreign Investment and Economic Growth in the Third World," World Politics 34 (January 1982): 175-196, who uses a large sample of 72 countries unrestricted by geographic region.
TABLE 1

QUANTITATIVE STUDIES DEALING WITH THE EFFECTS OF DEPENDENCY ON ECONOMIC GROWTH AND INEQUALITY AND DIRECTION OF THEIR RESULTS*

<table>
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<th>Investment Dependence and Growth</th>
<th>Trade Dependence and Growth</th>
<th>Dependency and Income Inequality</th>
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<tbody>
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<td>Positive</td>
<td>Negative</td>
<td>Positive</td>
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*A more comprehensive listing of these studies, 36 of them, is provided in Bornschier and Chase-Dunn, *Transnational Corporations and Underdevelopment*, p. 70. It should be indicated that the 36 studies listed in the preceding source do not include some of the studies listed in the present study and vice versa. The ones listed here are only those whose contents have been effectively utilized in the process of this study.
and 1968 in 30 black African countries. His three measures of economic dependence include the percentage of total official bilateral aid coming from the major donor country in 1967 (Aidcon), the percentage of exports going to the most important trading partner in 1967 (Tradecon), and the three leading commodity exports as a percentage of total exports in 1967 (Commcon). Nine of the author's twenty-three economic indicators deal specifically with measures relating to economic growth including the average annual growth rate of GNP per capita, 1961 to 1968; growth in electricity production, 1963 to 1968; percentage change in secondary-school enrollment per capita, 1962 to 1966; percentage change in commercial vehicles per 100,000 population, 1958 to 1966; percentage growth in government revenue, 1963 to 1965; and percentage growth in central government revenue, 1963 to 1965. The remaining three factors affecting growth, percentage of equipment imports, gross domestic capital formation as percentage of GDP, and consumer price index, are measured for specific years in 1962, 1963, and 1965, respectively. Each of the nine indicators of economic growth and the other indicators of economic performances are regressed on the three measures of economic dependence. Deriving his evidence from the

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correlation coefficients indicating the relationship between the dependence and economic performance indicators. McGowan concludes that, "the proposition that economic dependence is associated with underdevelopment, and hence with poor economic performance, is simply not supported by the evidence."41

Another cross-sectional study, McGowan and Smith (1978), uses partial correlation and multiple regression analyses to investigate the effects of three indicators of economic market dependency on the economic performances of 30 African countries in the 1960s. For the partial correlation analysis, the ratio of total foreign trade to GNP in 1965, direct foreign investment per capita in U.S. dollars in 1967, and the total direct private investment in millions of U.S. dollars in 1967 constitute the three indicators of dependency while GDP in 1965, GNP per capita in 1968, gross domestic capital formation as percentage of GDP in 1963, and energy consumption per capita in 1966 are among the six indicators of growth.42 The authors are led to the conclusion that the positive partial correlations in their research findings ranging from .42 to .82 provide evidence for cross-national variations in economic

41Ibid., p. 35.

performances suggesting that, "economic development potential directly enhances performance, and potential leads to market dependency or integration into the international capitalist economy--and this pattern in turn enhances economic performance." 43

For the multiple regression analysis, eleven economic growth indicators including the average annual growth rate of GNP per capita from 1961 to 1968 are regressed on some measures of economic power and economic market dependence. Through the use of a constrained stepwise regression procedure, only three or four independent variables are included in each of the seventeen estimated equations. In addition to the dependency measures used in the partial correlation analysis, the three or four independent variables in each equation model include a combination of the following measures of dependence: the three leading commodity exports as a percentage of total exports, the percentage of total official bilateral economic and technical assistance from the major donor, the percentage of exports going to the most important trading partner, the percentage of direct foreign private investment coming from the major investing country, all measured for a specific year 1967, and "an ordinal measure" representing the

43Ibid., pp. 227-228.
structure of foreign trade between 1961 and 1963.\textsuperscript{44} Analysis of the research findings by the authors indicates that four of their nine measures of economic growth "are not significantly related to any of" their "measures of dependency." Based on this assessment, the authors conclude that the pattern of the population parameters, "does not support dependency theory."\textsuperscript{45}

The third study, done by Kaufman, Chernotsky, and Geller (1975), examines the relationship between four indicators of capital dependency and three measures of economic performances in 17 Latin American countries. The indicators of dependency employed by the authors include the current foreign public and private investment per capita in 1967 (Inv/Cap67); current foreign public and private investment as a percentage of GNP in 1967 (Inv/GNP67); book value of accumulated U.S. private investment per capita in 1959 (Capital 59); and book value of accumulated U.S. private investment per capita in 1929 (Capital 29). These indicators are used as the independent variables in the analysis while the average annual percentage increase in GNP from 1961 to 1969 (growth rates); cumulated trade balances between 1960 and 1969 (balance of trade); and yearly GNP growth rates from 1961

\textsuperscript{44}Ibid., pp. 208-232.

\textsuperscript{45}Ibid., p. 228.
to 1969 (stability of growth) serve as the dependent variables. The Pearson's r correlation coefficients from the authors' analysis indicate that there are positive associations between growth rates and three of the dependency measures as follows: .51 for Inv/GNP67, .44 for Inv/Cap67, .40 for capital 59, and .21 for capital 29. For the stability of growth measure, statistically insignificant negative associations are obtained as follows: -.17 for Inv/GNP67, -.04 for capital 59 while insignificant positive coefficients of .12 and .02 are found for Inv/Cap67 and Capital 29, respectively. With respect to the balance of trade, all the coefficients are negative and statistically insignificant: -.04, -.18, -.17, and -.08 for Inv/GNP67, Inv/Cap67, Capital 59, and Capital 29, respectively. From the preceding mixed results the authors conclude that "in some areas, the relationships show a pattern of support for the dependency hypotheses; in others, the associations are weak and in different directions; in still other cases, the correlations run consistently opposite to the direction hypothesized" in their dependency propositions.


48 Ibid., pp. 316-318.
The findings generated from Kaufman et al.'s analysis are reanalyzed by Ray and Webster (1978) in a separate study using the same indices of dependency and the same group of 17 Latin American countries plus Venezuela. Two additional indices of economic growth, per capita changes in GNP and a deviational change measure of economic growth obtained from a regression of GNP per capita in 1970 on GNP per capita in 1960, are used in the reanalysis to examine the relationship between dependency and growth from 1960 to 1970. Results of the reanalysis confirm the existence of positive associations between deviational changes in GNP per capita from 1960 to 1970 and the three measures of dependency employed by Kaufman et al.49

The positive association found in Papanek's (1973) study is based on the relationship between the annual rate of increase in gross domestic product GDP, and four independent variables including foreign private investment measured as private long-term borrowing plus net private

49James Lee Ray and Thomas Webster, "Dependency and Economic Growth in Latin America," International Studies Quarterly 22 (September 1978): 409-434. The authors' motive for the reanalysis is derived from their desire to investigate the "possible explanations" for the different results obtained in two separate studies dealing with the effects of dependency in "virtually the same states" in Latin America. The two original studies with the different results are, Kaufman, Charnotsky, and Geller, "A Preliminary Test of the Theory of Dependency," pp. 303-330; which finds positive correlation and Alschuler, "Satellization and Stagnation in Latin America," pp. 39-82, which finds negative correlation.
direct investment expressed as percentage of GDP. Three of the six regression equations employed by the author investigate the effects of dependency among 31 Asian countries, 38 Asian and Mediterranean countries, and 37 Latin American countries. The foreign investment coefficients for the three geographic groupings are all positive but only modestly significant in the Asian region with a coefficient of .35. For the Asian and Mediterranean countries the coefficient is .21 while a coefficient of .19 is found among the Latin American countries. The foreign resource variable having a significant positive effect on growth is foreign aid with coefficients of .46 for Asia, .47 for Asia and Mediterranean, and .29 for Latin America.  

The sixth study finding positive association between dependence and growth, Jackman (1982), utilizes a sample of 72 countries and a regression model with annual average percent growth in GNP per capita between 1960 and 1978 as the dependent variable while the accumulated stock of foreign investment by year end 1967 expressed as a ratio of GDP of host countries is used as the independent variable. Five control variables are used in the model including gross domestic investment from 1960 to 1973, a logarithmic

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transformation of inflows of direct foreign investment between 1967 and 1973, log total population of host countries in 1960, and log changes in crude birth rate between 1960 and 1977. The regression analysis for Jackman's study indicates that accumulated stock of foreign investment in 1967 is negative but statistically insignificant for all the countries in the model as reflected in a coefficient of -.007. However, for 33 poorer developing countries defined as those with GNP per capita of less than $150 in 1960 there is a positive association with a coefficient of .077 between investment dependence and growth. In a sample of 39 countries with GNP per capita greater than $150 in 1960 there is an insignificant negative association between investment dependence and growth with a coefficient of -.011. With these results Jackman concludes that, "the impact of foreign investment on economic growth rates within the Third World is limited" despite the fact that positive correlations are found between inflows of foreign investment and economic growth in the richer and poorer groups of countries as well as the complete sample of 72 countries.

Seven of the nine studies in Table 1 indicating negative associations between dependence and economic

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52 Ibid., p. 195.
growth employ the accumulated stock of direct foreign investment by year end 1967 weighted by various measures as their indicator of dependence, while two of the studies employ the average debits (profits) on investment income for five-year intervals weighted by the population of host countries as their indicator of investment dependence. In Bornschier, Chase-Dunn, and Rubinson's (1978) study, the accumulated stock of foreign investment by year end 1967 is weighted by the square root of the product of energy consumption and total population and used as the independent variable in a regression equation estimating the effect of this variable on the economic growth of 76 developing countries between 1960 and 1975. The dependent variable for this time interval, economic growth, is measured as the growth rate of gross national product per capita, GNP per capita. With three control variables in the model, the results of the analysis indicate that the accumulated stock of foreign investment is negatively related to growth with a coefficient of -.004 at a significant t-statistic of 3.76. Negative associations are also found in separate analyses involving richer and poorer

developing countries as well as those involving Latin American, African, and Asian countries. The authors interpret the negative association for 39 richer developing countries as "very strong negative effect (b = -.005, t = 4.26)" while a beta of -.003 with a t-statistic of 1.50 is considered a "weaker" association among the 37 poorer developing countries. With respect to geographic regions, only in the Asian subsample with 17 countries is the negative association considered statistically significant with a beta of -.007 at a t-statistic of 2.04. One of the control variables, the recent flow of foreign investment, has "small positive effect" on economic growth for all the separate units of analyses.

In Bornschier (1981), the independent variable employed is the ratio of the total stock of foreign direct investment to the total stock of capital and total population of host countries in 1967. The dependent variable, economic growth, is measured as the compound annual real percentage growth of GNP per capita from 1965 to 1977. The results of the regression analysis involving five control variables also indicate a negative association

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55Ibid.
(-.0277 unstandardized regression estimate) between investment dependence and growth for the total population of 103 developed and developing countries. When the regression model is applied to a group of 88 developing countries, the negative association between the independent and dependent variables is confirmed by a regression coefficient of -.031 with an F-value of 15.61.6

Bornschier and Chase-Dunn (1985) also use a measure of the total stock of foreign direct investment weighted by the square root of the total stock of capital and total population of host countries in 1967 as the independent variable in a regression equation with six control variables. The dependent variable and sample sizes are equivalent to those in the preceding study, Bornschier (1981). For the 1985 study, the unstandardized regression estimate conforming negative association between investment and economic growth in the 103 developed and developing countries is -.0262 with an F-value of 16.15. For the 88 developing countries the regression estimate is -.031 with an F-value of 15.61. Negative associations are also found in all separate analyses involving geographic subsamples and a division of the countries into groups of richer and

poorer developing nations on the basis of their GNP per capita. New inflows of direct foreign investment is positively related to growth in all the separate analyses except in the developed countries with a sample size of 15 where there is a negative association. The authors are prompted by these results to conclude that, "this is further evidence of the conclusion drawn from our comparison of earlier studies that stocks and flows have opposite effects on economic growth."

Dolan and Tomlin (1980) also employ a multiple regression analysis method in their examination of the relationship between investment dependence and economic growth in a group of 66 developing countries. The independent variable is expressed as foreign investment per capita on the basis of the accumulated stock of direct foreign investment at year end 1967 while growth is measured as the average rate of real gross domestic product per capita growth from 1970 to 1973. The results of this study indicate that the per capita stock of direct foreign investment is also negatively related to growth with a beta weight estimate of -.543 at an F-statistic of 7.93. Negative associations are also found in separate analyses of richer and poorer developing countries on the basis of

58 Ibid., p. 94.
their per capita GNP as well as among geographic subsamples of 22, 20, and 22 for Latin American, Asian, and African countries, respectively.\(^5^9\) Two other studies using multiple regression analysis method and finding negative association between investment dependence and economic growth are Rothgeb, Jr. (1984) and (1984/85). In both studies, the author uses a cross-sectional and time lagged methods in examining the immediate and long-term effects of accumulated stock of foreign investment on economic growth for time intervals representing 5, 10, and 15 years. The results of the 1984 study based on a sample of 18 developing countries indicate that stock of foreign investment with a coefficient of \(-.59\), "has relatively strong negative effects after 15 years."\(^6^0\) This negative result is duplicated in the 1984/85 study in which the stock of foreign investment has a negative coefficient of \(-.50\) among developing countries after 9 years.\(^6^1\)

A different test design, panel regression analysis, is used in three other studies, Delacroix and Ragin (1981),


\(^6^1\)Rothgeb, Jr., "The Contribution of Foreign Investment to Growth in Third World States," pp. 3-37.
Gobalet and Diamond (1979), and Chase-Dunn (1975), to test the effects of dependence on economic growth. With this method of analysis the dependent variable, economic growth, is measured at two points in time, T-1 for the early time period and T for the later time period, while the independent variable is measured only at one point or one time period. In accordance with these measurement periods, Chase-Dunn (1975) uses a measure of log gross national product per capita in 1950 and 1970 as the dependent variable while the independent variable is measured as the average debits (profits) on investment income between 1950 and 1955 weighted by the population of host countries. The dependent variable in 1970 is then regressed on the logged dependent variable (the 1950 measure of log GNP per capita), the independent variable, and two control variables. The results of the panel regression confirms a negative relationship between investment dependence and economic growth in a group of 38 developing nations with a beta of -.22 statistically significant at the .05 level.62

The panel regression estimates from Gobalet and Diamond's (1979) study also show negative effects of investment dependence on economic growth of 44 countries measured as the log per capita GNP for two time intervals, 

1955 to 1965 and 1965 to 1975. The effects of investment dependence between 1950 and 1955 on economic growth between 1955 and 1965 has a negative panel coefficient of -.023 while dependence between 1960 and 1965 has a stronger negative effect on growth between 1965 and 1975 with a coefficient of -.055. Separate analyses on the basis of richer and poorer developing countries indicate that the adverse effects of investment dependence is stronger in countries with low per capita incomes probably because these countries are, "significantly less able than richer nations to resist the retarding effects of investment dependence on economic growth." Strong negative association is also found in Delacroix and Ragin's (1981) study in which the authors observe that, "investment dependence (IVS67) has a periphery-wide, significant negative effect on GNPC 75" when primary product specialization and commodity concentration are not controlled in the model." When these two variables are controlled in separate equations, the results show that, "either measure of form of participation in the world economy annuls the negative effect of INVS67 on GNPC75." This annulment

notwithstanding, the preceding results and assessments tend
to contradict those of Bornschier et al. (1978) in which a
"very strong negative effect" is found among richer
developing countries.65

The review of the test designs of investment
dependence studies undertaken in the preceding pages
suggests that differences in their results may be caused by
factors like the measure of dependence utilized, the sample
sizes of countries used in each analysis, the kinds and
number of control variables in the equation models, and
whether the test is based on a simple cross-sectional or
longitudinal analysis.66 The studies finding positive
association between investment dependence and economic
growth tend to use new inflows of foreign resources as
their measure of such dependence in contrast with the use
of accumulated stock of foreign resources in studies

65 Bornschier, Chase-Dunn, and Rubinson,
"Cross-National Evidence of the Effects of Foreign
Investment and Aid on Economic Growth and Inequality: A

66 Previous reviews of quantitative studies of
dependency have also identified some of these factors as
possible reasons for the different results in such studies.
These previous reviews are undertaken by Bornschier,
Chase-Dunn, and Rubinson, "Cross-National Evidence of the
Effects of Foreign Investment and Aid on Economic Growth
and Inequality: A Survey of Findings and a Reanalysis," pp. 651-670; Vincent A. Mahler, Dependency Approaches to
International Political Economy: A Cross-National Study
(New York: Columbia University Press, 1980), pp. 16-27; and
Bornschier and Chase-Dunn, Transnational Corporations and
Underdevelopment, pp. 55-79.
finding negative association in their results. This observation is supported by the fact that studies using stock of foreign resources as a measure of dependence have also found positive associations between inflows of foreign resources and economic growth when the flow measure is used as an additional independent or control variable. The difference between these two measures of investment dependence is crucial to a good test of the assumptions of the dependency and world-system schools of thought because of their dynamic character which emphasizes the historical process and progressively long-term effects of the integration process into the global economy. Based on these assumptions, the use of new inflows of foreign resources as a proxy for investment dependence does not accurately reflect the degree of dependence on foreign capital. One of the authors finding positive correlation in his study, McGowan (1976), recognizes the validity of this assessment by indicating that:

Thus, if it is objected that the reason why I have found essentially no support for dependency theory is because I have not used 'good' indicators of dependence, I would certainly admit this as a possibility, and urge further work on the quantitative description of economic dependence.67

In terms of the sample sizes of the studies reviewed, those finding negative association between dependence and

growth appear to use larger sample sizes ranging from 38 to 103 in contrast with studies finding positive association whose sample sizes range from 17 to 38. The use of large sample sizes contributes not only to a more statistically powerful test but also reflects more accurately the assumptions of the dependency/world-system perspectives concerning the holistic process of integrating the developing countries into the global economy. Small sample sizes can lead to serious distortions in test results because, "small number of observations are rather problematic for correlation and regression analysis, since differences in one or two cases can affect the magnitude and direction of estimates." Differences in test results based on geographic subsamples and a division of the countries into subsamples of richer and poorer developing countries may also be due to the number of countries employed in these subgroups.

The difference in results between studies using a simple cross-sectional analysis and those using a longitudinal approach may be due to the fact the former method tends to test the effects of dependency as a static

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68There are two exceptions to this general trend as reflected in the use of a sample size of 72 countries by Jackman (1982) who finds a positive correlation and the use of a small sample size of 18 countries by Rothgeb, Jr. (1984) who finds negative correlation.

69Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, p. 89.
concept thereby ignoring the dynamic character of dependency. The importance of taking this dynamic character of dependency into consideration is demonstrated by the fact that the negative effects of investment dependence tend to become more significant when test analyses are extended to cover longer time intervals.\textsuperscript{70}

Moreover, some authors finding a positive correlation between dependency and growth have acknowledged the limitations of cross-sectional test designs of dependency by emphasizing that, "theoretically, the condition of dependency and the alleged results of that condition should both be considered as aspects of an unfolding, historical process, the full dimensions of which should be measured longitudinally as well as synchronically."\textsuperscript{71}

The use of a limited number of control variables in some of the reviewed studies may lead to differences in test results because of the weakness inherent in such test designs. This weakness is evident in the studies in which simple bivariate analyses are used to test the relationship between single measures of dependency and those of economic performances. When other important determinants of economic performances are excluded from the models, it is

\textsuperscript{70}A good example of such a test design is that of Rothgeb, Jr. (1984) and (1984/1985) who uses time lagged of 5, 10, and 15 years.

not possible to specify the effects of the excluded variables on the relationship between indicators of dependency and growth in GNP or GDP. In the face of such a situation, it is very difficult if not impossible to measure the true relationship between dependency and economic performances of dependent countries. This problem has affected some of the test designs of the reviewed studies as evident in the observation by one of the authors that, "the correlations found may be due to excluded variables and may be quite unrelated to causality." 72

Some of the studies in both groups tend to use wrong time specifications in examining the relationship between the dependent and independent variables. In many cases, the independent variable serves as an indicator of dependence in a particular year, for example 1967, while the dependent variable is measured for a time interval overlapping 1967, for example 1960 to 1975. Previous critics of this kind of time specifications maintain that a variable measured in 1967 could not logically be assumed as the cause of changes in growth in previous years. 73


Besides, it is difficult to establish the direction of causality when the time periods of the measured variables are specified in such an overlapping manner. The preceding discrepancies in the test designs of the reviewed studies are rectified in the next chapter of this writing dealing with a test of the short-term and long-term effects of investment dependence in developing societies.
CHAPTER IV

THE RESEARCH METHODOLOGY, DATA SET, AND
METHOD OF ANALYSIS

The research design utilized in this study is necessitated in large part by the nonexperimental nature of the attempt to examine the effects of investment dependence on economic growth and development in accordance with the theoretical propositions of the dependency/world-system perspectives.* Unlike experimental research designs,

*Conventional literature dealing with the subject of development economics usually emphasizes the distinction between economic growth and development. More often than not, economic growth is perceived as changes in measures like gross national product (GNP) or gross domestic product (GDP) while economic development is a more encompassing concept implying changes in these measures as well as significant and fundamental changes in the structure of a nation's economy. Examples of such fundamental changes are provided in Malcolm Gillis, Dwight H. Perkins, Michael Roemer, and Donald R. Snodgrass, Economics of Development (New York: W. W. Norton and Company, 1983), pp. 7-13. This researcher recognizes the need for a distinction between these two concepts and emphasizes the important fact that the effects of investment dependence examined in this study deal specifically with economic growth as reflected in the use of changes in GNP per capita as the dependent variable. However, many of the variables used in this study and described in the next section can provide useful insights into factors that can lead to fundamental structural changes in a nation's economy. Along with measures of GNP, these variables can therefore reveal something about the developmental performances of developing countries. Consequently, the use of the concepts of growth and development is supported by the inclusion of these
nonexperimental research techniques do not allow for the observation and measurement of the effects of independent variables on dependent variables through the use of a control group. For example, an experimental research design dealing with the effects of investment dependence (the independent variable) on economic growth (the dependent variable) will allow the researcher to use countries without direct foreign investment as the control group while the relationship between this kind of investment and economic growth is examined in the experimental group of countries receiving foreign investment. Findings generated from such a study can then be used as evidence supporting the assertion that all things being equal, differences in economic growth between these two groups of countries are due to investment dependence. In non-experimental studies, one of the research techniques often employed to

variables in the regression models of this research. An excellent discussion of the measurement problems inherent in the distinction between these two concepts is provided in Nancy Baster, ed., *Measuring Development: The Role and Adequacy of Development Indicators* (London: Frank Cass and Co., Ltd., 1972), pp. 1-178.

achieve this same purpose is that of regression analysis, a statistical technique that allows researchers to employ control variables while estimating the causal relationships between the independent and dependent variables in a population of interest. The specific type of regression used in the present study, multiple regression analysis, has the advantage of allowing researchers to examine causal propositions within a multicausal framework relating the dependent variable to the independent variable while controlling other variables. This approach is adopted in light of the fact that the basic assumption of a regression analysis about correlational associations between or among variables is satisfied by means of hypothesized causal propositions relating investment dependence to other factors of economic growth and development.*

Throughout this study, the term causality is used in a very restrictive sense to refer to asymmetric or dependent relationships between or among variables. This cautious approach is adopted in view of the philosophical questions concerning the determination of causality when interlocking events in a very complex social world tend to affect each other in very complex ways. I am very grateful to one of my teachers, Dr. Wolfe H. Lubecke of the Management Science Department, who has made me sensitive to the fact that asymmetric or dependent relationships are not evidence of causality since there are presently no known statistical proofs of causality.

*Another reason for using a multiple regression technique in this research is that previous studies of dependency using this method have produced estimates of the effects of dependency more statistically significant than those based on other methods. A good example of such a study is Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, pp. 90-106.
An important consideration in a regression analysis is its inherent assumptions concerning linearity in the relationship between the independent and dependent variables, lack of errors in measuring variables, and other assumptions concerning the error term, $e$. When all these assumptions are met, reliable estimators of the population parameters could be obtained by means of a least squares method that makes such parameters the best linear unbiased estimates (BLUE). In situations where these requirements are violated, certain statistical techniques are usually applied to make the regression model suitable for a linear regression analysis. With respect to this study, deviations from the preceding assumptions are anticipated because of the nature of the data set employed.

Deviation from the assumption of linearity is almost inevitable in a cross-national comparative study of this nature due to the fact that some of the variables affecting economic growth and therefore requiring their inclusion into the regression models tend to affect each other in a curvilinear manner. In some situations this problem may be compounded by bi-directional causality between these variables that makes it impossible to establish which of the variables is causing change in others. Establishing a one-directional causality, a condition known as recursiveness, is of paramount importance to this research
because of its main objective of determining the effects of
the independent variable on the dependent variable. In
order to achieve this objective, specific measures will be
adopted for the purpose of creating a recursive equation
model suitable for a multiple regression analysis in which
the parameters can be estimated with the least squares
method. These measures include the transformation of the
data generated from some of the variables into a
logarithmic function and the use of interaction terms to
account for a nonlinear relationship between the
independent and dependent variables.3

Measurement errors associated with the estimation of
variables used in cross-national comparative studies are
usually attributed to the sources of data collection which
are mainly international organizations such as the United
Nations and the World Bank. This problem tends to be
magnified by the fact that, in many instances, these
organizations themselves rely on respective national
governments for collection of data on measures such as
gross national product (GNP), population size, natural

3Among the sources recommending the use of these
procedures are J. Johnston, Econometric Methods (New York:
McGraw-Hill Book Company, 1984), pp. 61-74; Jan Kmenta,
Elements of Econometrics (New York: Macmillan Publishing
Company, 1986), pp. 503-526; and William Mendenhall and
Terry Sincich, A Second Course in Business Statistics:
Regression Analysis (San Francisco: Dellen Publishing
resource endowments, amount of foreign investment, school enrollments, and trade figures. Errors in the measurement of these variables have been known to create biases in estimates of regression parameters even when such errors tend to be random.\(^4\) However, the data associated with the variables in the present study are from the most recent publications of the respective international organizations or from sources which have revised and improved the original data on these variables. These recent publications are believed to contain a more reliable and complete set of data because of the new techniques used in measuring the variables assumed to affect national development.\(^5\) Consequently, the improved data set used in this study is relatively free of measurement errors when compared to those used in previous studies of this nature.

Studies using time-series data are also frequently plagued by the presence of autocorrelation, primarily


\(^5\)Another author who supports this observation has recommended the use of measures of economic growth from such organizations as the International Bank for Reconstruction and Development because of improved measuring techniques. The recommendation is given in Robert W. Jackman, "A Note on the Measurement of Growth Rates in Cross-national Research," American Journal of Sociology 86 (November, 1980): 606.
through the inclusion of lagged dependent variables in the model and the omission of variables consequently forced into the error terms. Autocorrelation resulting from lagged dependent variables is usually due to the fact that the disturbance or error associated with later measures of the dependent variables may be correlated with the errors of the previous measures of these variables. Omitted variables in the equation models of this research which can produce autocorrelation include material infrastructures such as transportation and communication systems, technology, and other factors of economic development such as national history and peoples' work habit which defy easy quantification.\(^6\) This problem has confronted all researchers attempting quantitative analyses of economic growth as reflected in the observation that, "no social scientist can seriously claim to have included all the determinants of economic growth in his equations."\(^7\) A serious problem connected with these omissions is that the causal effects of the excluded variables are forced into the error terms where they may be correlated. Often, the result of this kind of autocorrelation is that:

\(^6\)These assumptions are also made by Hannan, "Issues in Panel Analysis of National Development: A Methodological Overview," p. 27.

Nations with unobserved characteristics that generate exceptionally high levels of some outcome in one period will tend to have exceptionally high levels in the next period. The more enduring the causal forces, the stronger will be the autocorrelation of the disturbances and the dependence from period to period.\(^8\)

The Durbin-Watson d-statistic will be used to test for the presence of autocorrelation in this study. This statistic, which ranges from 0 to 4\(^*\), will be obtained from the output of the Statistical Analysis System (SAS) computer program that will be used for the regression analysis. In the event that the presence of autocorrelation is detected, a two-stage least squares (2SLS) method will be utilized in rectifying this situation. This method involves the creation of an instrumental or surrogate variable by regressing the lagged dependent variable on later measures of the dependent variables and all other variables included in the model. The estimated instrumental variable, for example \(Y_1\), obtained from this regression will then be substituted into the original model before a new regression analysis is


\(^*\)A d-statistic of 2 indicates that the residuals are uncorrelated, d of less than 2 is an indication of positive correlation usually considered as very strong if d is equal to 0. A d of greater than 2 indicates a negative correlation which is considered very strong if d is equal to 4. These indicators are from Mendenhall and Sincich, A Second Course in Business Statistics: Regression Analysis, p. 307.
conducted. The transformation of many of the variables of this study into logarithmic function and the inclusion of many variables hypothesized to affect economic growth in the equation models should also help in reducing significantly the problem of autocorrelation. The advantage of including many hypothesized variables into the equation models is that it reduces the number of unspecified variables that are forced into the error term where they may be correlated.

Heteroskedastic disturbances will be controlled by using the percentage growth rates of some of the variables and/or their logarithmic transformation when they are skewed as described in the section of this chapter dealing with conceptualization and measurement of variables. These approaches are recommended by Robert W. Jackman whose review of two cross-national studies of economic growth indicates that they are effective procedures for minimizing "the chances of observing heteroskedastic

---

9This method is generally considered as one of the most effective methods that can solve the problem of autocorrelation and maintain the reliability of the population parameters derived from a multiple regression analysis. The transformation procedures are explained in the following sources where practical examples of using transformed variables are also given: Gregory B. Markus, Analyzing Panel Data (Beverly Hills, CA: Sage Publications, Inc., 1971), pp. 51-54; Mendenhall and Sincich, A Second Course in Business Statistics: Regression Analysis, pp. 515-530; and Ronald C. Kessler and David F. Greenberg, Linear Panel Analysis: Models of Quantitative Change (New York: Academic Press, 1981), pp. 97-98.
disturbances." The application of these procedures to the two studies reviewed by the said author reveals that the presence of heteroskedastic disturbances had led to biased population parameters which in turn led to misleading conclusions by the original researchers about the negative effects of their variables on economic growth. When appropriate measures were adopted to correct for these disturbances, the independent variables as defined in one of the original studies were shown to have "no systematic effect on the economic growth of nations."

Operational Hypotheses

In many social science studies, operational or working hypotheses are instruments of converting theoretical propositions into statements containing measurable concepts.

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12 Jackman, "A Note on the Measurement of Growth Rates in Cross-national Research," p. 610. This conclusion is contrary to the one reached by Snyder and Kick in their original study cited in the preceding footnote. Different population parameters were also produced by Jackman's review of Delacroix and Ragin's study also cited in the preceding footnote.
with clear empirical referents. They are therefore very useful in helping researchers establish the epistemic relationships between abstract theoretical concepts and corresponding operational measurements which in turn provide an opportunity to examine specific relationships among concrete indicators. Accordingly, four specific operational hypotheses derived from the theoretical propositions of the dependency/world-system perspectives relating investment dependence to economic performances of host countries will be tested in this study. This test will involve an examination of the relationships among concrete economic indicators.

H1: In the long-run, there is a negative association between investment dependence and economic growth of developing dependent countries.

This hypothesis takes into account the emphasis of the dependency and world-system schools of thought on the historical process of integrating developing countries into the world economy. Given this emphasis, the negative effects resulting from the different aspects of this integration, such as investment dependence, should be more pronounced in the long-run. An appropriate test of this hypothesis requires that concrete economic indicators be measured over long time intervals.* Accordingly, this

*Given the emphasis of both the dependency school of thought and the world-system perspectives on the historical
hypothesis will be tested by examining the relationship between the accumulated stock of direct foreign investment and changes in the per capita GNP of host countries during different time periods.

H2: In the short-run, there is a positive association between investment dependence and economic growth in developing dependent countries.

The second hypotheses is based on the premise that some factors of economic development such as technology, capital, and the managerial skills associated with initial investment activities may contribute to economic growth by stimulating productive forces before the structural blockage of investment dependence becomes an impediment to growth. This positive association may be caused by the new inflows of direct foreign investment rather than by the accumulated stocks of foreign investment. In testing this hypothesis, the relationship between new inflows of foreign investment and changes in per capita GNP of host countries will be examined independently of the process of integrating developing societies into the world economy, it must be noted that the time intervals of 7, 14, and 23 years used in examining the effects of dependency in the present study are not long enough to account for this historical process. However, the time intervals used in this and other studies of dependency are constrained by the availability of data on measures of dependency such as investment dependence.
relationship between such changes and accumulated stocks of foreign investment.

H3: The long-run asymmetrical relationship between investment dependence and economic growth is stronger in rich developing countries than in poor developing countries.

Hypothesis 3 is based on the rationale that poor developing countries may benefit more from the workshop division of labour that destroys the precapitalist obstacles to development while the rich developing countries which have already passed this phase of development tend to experience greater negative effects of dependency on economic growth. This assumption dictates that the level of a country's wealth be taken into account when examining the effects of investment dependence on growth. In accordance with this requirement, dummy variables will be included in some models of this study representing rich and poor developing countries as defined below.*

*The distinction between rich and poor developing countries made in this study is based on measures of gross national product (GNP) per capita. Countries whose per capita GNP is less than the average in a given year are considered poor while those with average and greater than the average per capita GNP in the same year are considered rich. Consequently, this distinction is employed strictly as a heuristic device with no value judgements on the developmental performances of these countries. Other authors have used this device in previous cross-national comparative research including John W. Meyer, Michael T. Hannan, Richard Rubinson, and George M. Thomas in their, "National Economic Development, 1950-1970: Social and
H4: The asymmetric effects of investment dependence differs with respect to the geographic location of dependent countries.

This hypothesis is derived from the theoretical assertion that, historically, the degree of integration of developing societies into the world economy mediates the effects of dependency. Countries more tightly integrated into the world economy, such as those where Europeans presently constitute significant proportions of the national populations, should experience more unequal relationship between investment dependence and growth.* Geographic location may also mediate the effects of investment dependence through the proportion of rich versus poor developing countries in a specific geographic area. In other words, geographic regions with more rich countries than poor ones should experience stronger negative effects of dependence than geographic regions with more poor countries than rich ones. A test of this fourth hypothesis also requires the use of dummy variables representing specific geographic regions.


*Many of the Latin American Countries are those which will fit this description.
Conceptualization and Measurement of Variables

Because this study is designed to examine the effects of investment dependence on the economic growth of host countries, the main independent variable utilized is that of multinational corporate penetration, operationalized as an indicator of the accumulated proportion of the total stock of a host country's capital controlled by transnational corporations. The choice of this variable is not unconnected with the theoretical concepts of investment dependence and the preceding hypotheses formulated for this research. In order to capture the principal feature of investment dependence, it is necessary to employ the concept of multinational corporate penetration since most direct foreign investment activities in developing countries are related in one form or another to the activities of transnational corporations. A measurement reflecting the accumulated stock of multinational corporate investment therefore seems appropriate for an analysis of investment dependence because of assertions on its historical process and purported long-term effects on economic growth.13

It should be noted that the measurement of transnational penetration utilized here does not reflect all aspects of this penetration such as the interactions between such penetration and the sociopolitical structures of host countries as well as the role of multinational corporations in the distribution of goods and services within these countries. These limitations and other measures of multinational corporate penetration employed in
The basic data source for multinational penetration is the Organization for Economic Cooperation and Development (OECD) whose publication provides the most valuable estimates of the accumulated stock of capital by multinational corporations in developing countries. The OECD has become an invaluable data source for many dependency studies because it is the first organization which provided measures of the total book value of the accumulated stock of foreign direct investment for the year end 1967. This data set has been utilized in the Compendium of Data for World-System Analysis in estimating transnational penetration with a formula that weights the stock of foreign direct investment with total population and total stock of capital of a penetrated country. An improved and most recent measures of this estimate is provided in Transnational Corporations and Underdevelopment based on the formula below:

\[
PEN = \frac{\text{Total Stock of FDI}_{67}}{\sqrt{\text{Capital Stock} \times \text{Labour Force}}}
\]

other studies are discussed in Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, pp. 71-73.

Where PEN is multinational penetration; Total Stock of FDI$_{67}$ is the total stock of foreign direct investment at year end 1967 in million of U.S. dollars; Capital Stock is the estimated total stock of a penetrated country's capital in billion of U.S. dollars; while a penetrated country's population in millions was used as a proxy for the Labour Force.\textsuperscript{15} The values of the independent variable in the present study, transnational penetration at year end 1967, are taken in calculated form from the preceding source and logarithmically transformed to reduce skewness.

The Dependent Variable

Because this research is designed to examine the relationship between investment dependence and economic growth, the main dependent variable employed is the growth rate of Gross National Product per capita (GNP per capita), the most common measure of national economic growth and developmental performances. This variable seems to be the most appropriate indicator of economic growth in spite of certain limitations associated with its measurement. These limitations include the fact that measures of GNP do not include exchanges of goods and services among unpaid members of households, such as housewives and servants, because such undertakings do not meet the requirements that

\textsuperscript{15}Bornschier and Chase-Dunn, \textit{Transnational Corporations and Underdevelopment}, p. 91.
the final goods and services included in measures of GNP be sold in the market and valued at market prices. These requirements can distort GNP figures and by implication their growth rate since many activities of an economic nature tend to take place outside of the monetized sector of developing societies. This observation is supported by the fact that in many developing countries, "much of what is produced by the agricultural sector, to take the most important example, is consumed by the farm household and never reaches the market." It is this kind of limitation that has led some authors to adopt different measures of economic growth and developmental performances such as changes in energy consumption, occupational structure, and literacy rates. When used as measures of the dependent variable, these other measures of growth have been shown to be correlated with per capita GNP. Against the background of this correlation, the averaged yearly growth rate of per capita GNP, a compound growth rate, is used as


the dependent variable in this study. This variable will be logarithmically transformed in order to eliminate skewness and reduce heteroskedastic disturbances in the regression models as discussed in the preceding section of this study. It will be calculated for the following time periods: 1967-1973, 1967-1980, and 1967-1989, based respectively on the formulas below:

\[
\begin{align*}
\log \text{ per capita GNP}_{1973} &- \log \text{ per capita GNP}_{1967} \\
\log \text{ per capita GNP}_{1980} &- \log \text{ per capita GNP}_{1967} \\
\log \text{ per capita GNP}_{1989} &- \log \text{ per capita GNP}_{1967}
\end{align*}
\]

The above time periods are designed for an examination of the progressively long-term effects of the independent variable, multinational penetration, on economic growth during time intervals of 7, 14, and 23 years. An important consideration in choosing these time intervals is the prevention of the pitfall of "wrong time specification" of some earlier investment dependence studies discussed in Chapter III.

Control Variables

The control variables employed in this research are designed to include some important determinants of economic growth in the regression equations in an attempt to specify as clearly as possible the true relationship between the dependent and independent variables through the elimination
of spuriousness in this relationship. Spuriousness in regression analysis refers to a situation where the covariation between two variables, for example \( Y \) and \( X \), is caused by the effect of another or other variables on \( Y \) or \( X \) or on the two of them simultaneously. When variables capable of causing such spuriousness are included in the equation models as control variables, it is possible to isolate their effects on the dependent variable and establish the true relationship between the independent and dependent variables.\(^{19}\) It should be noted that variables included in equation models either as control or independent variables can still distort their relationship with the dependent variable if the former are correlated between or among themselves. This situation, known as multicollinearity, often leads to redundant information concerning the effects of the correlated variables on the dependent variable. The problem of multicollinearity will be controlled in this study by pretesting the models and examining the correlations between or among the independent and control variables. Through the preceding procedure, variables contributing redundant information will be

\(^{19}\) Such isolation is possible because the coefficients of the control variables subsequently serve as a measure of their relationship with the dependent variable. A good discussion of the role of control variables in a regression analysis is provided in George W. Bohrnstedt and David Knoke, *Statistics for Social Data Analysis* (Itasca, Illinois: F. E. Peacock Publishers, Inc., 1988), pp. 350-366.
eliminated from the final equation models utilized in the study.

The choice of the control variables included in the regression models is guided by the theoretical propositions of the dependency/world-system perspectives and the assumptions of development economists on factors of economic growth and development. Because there is no general agreement on the relative importance of each factor of economic growth and development, different authors have utilized different control variables in their quantitative studies on this subject. This lack of agreement notwithstanding, the control variables chosen for the present study are those which have been shown in other studies to have some effects on economic growth.

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20The importance of using theory as a guide in the selection of control variables is emphasized by an author who observes that, "failure to specify the theoretical context creates ambiguity as to the level of distinctness, and leads to the partiailling fallacy, in which one controls for variables that are not distinct in terms of approximate theory." Robert A. Gordon, "Issues in Multiple Regression," American Journal of Sociology 73 (March 1968): 592-616.

21The different control variables utilized by various authors are reviewed in Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, pp. 74-77.

Accordingly, the following control variables will be included in the initial equation models: domestic capital formation, population, terms of trade, specialization in the extraction of mineral resources, flows of direct foreign investment, and the relationship between foreign capital and prior level of development.

**Domestic Capital Formation (DCF)**

Domestic capital formation is included in the equation models because of its potential effects on both the level of direct foreign investment and economic growth. Such potential effects are derived from assumptions that local capital accumulation is one of the most important determinants of economic growth capable of reducing the effects of investment dependence through a reduction in the need for foreign capital. Some authors making similar assumptions about this variable have emphasized the importance of controlling it because, "low levels of domestic capital formation may cause foreign capital to flow in to take up investment opportunities."²³

For the purposes of this research, two indicators of this variable considered as the "central measure of capital

The first measure indicates the total amount of gross domestic investment for each country in 1967 measured in millions of U.S. dollars and logarithmically transformed to reduce skewness. The second measure reflects the averaged annual growth rate or decline in total amount of gross domestic investment as percentage of GDP corresponding with the time periods of increases or decreases in the dependent variable, per capita GNP. This second measure therefore represents $dDCF_{1967-73}$, $dDCF_{1967-80}$, and $dDCF_{1967-89}$, where $d$ is delta indicating changes in the variable.

Population (POP)

The total population of host countries and its growth or decline rates are used as control variables because of assumptions regarding the effects of a country's size on its economic growth and attraction of direct foreign investment. It is generally assumed that states with larger populations and, in effect, larger internal markets, are more attractive to multinational penetration seeking to take advantage of these markets. Moreover, larger populations are also perceived as a potential growth factor capable of facilitating national development "more

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independently" from the global economy under certain conditions. In attempting to isolate the impact of this variable on growth and multinational penetration, changes in population rates will be measured to correspond with the time periods on the dependent variable using the formula below:

\[
\frac{V_{tn}}{\text{POP}} = \ln \frac{V_{t1}}{n}
\]

where \( \ln \) is the natural logarithm, \( V_{tn} \) is the value of the variable in the last year of the time period, \( V_{t1} \) is the value of the variable in the first year of the time period, and \( n \) is the number of years between \( t_1 \) and \( t_n \). The resultant indicators from this formula will represent: \( d\text{LogPOP}_{1967-73} \), \( d\text{LogPOP}_{1967-80} \), and \( d\text{LogPOP}_{1967-89} \). The initial population size in 1967 will be used as a variable after transforming it logarithmically because of its skewness.

**Terms of Trade (TOT)**

An additional control variable included in the equation models is concerned with changes in the terms of trade of host countries during the time periods under examination. The importance of this control variable is

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derived from the assumption by some authors that unfavourable changes in a state's terms of trade may lead to adverse effects on its economic growth by limiting or blocking access to badly needed hard currency among other things. Following the procedure employed by some of these researchers, changes in the terms of trade are designed to reflect shifts "over time in the relative value of each host country's exports and imports." To measure this variable, the figure for the terms of trade in the first year of the time period examined will be subtracted from the figure for the last year of the time period. Changes in the terms of trade will therefore be calculated for the following time periods: \( \Delta TOT_{1967-73} \), \( \Delta TOT_{1967-80} \), and \( \Delta TOT_{1967-87} \). The cutoff year of 1987 in the third time period is due to the lack of availability of data on this variable beyond 1987 for many of the countries included in the study.

**Specialization in the Extraction of Mineral Resources (SEMR)**

Specialization in the extraction of mineral resources is controlled because of purported correlation between this kind of activity and economic growth in developing nations.

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*This method of calculating changes in a nation's terms of trade is similar to the one used in ibid.*
It is generally assumed that the mobilization of such natural resource endowments tend to require greater capital and technological inputs than other forms of specialization thereby making dependent nations more likely to require foreign investment. The inclusion of this variable in the equation model of other studies has also been known to control the "special effects" that investment dependence may have on economic growth through undertakings in the oil-producing sectors of some host country economies that tend to require a higher amount of capital and technology. Following the example of some of these studies, SEMR is employed here as a measure of a host country's "position within the worldwide production of the most important raw materials." The values of this variable are taken in calculated form from the Compendium of Data for World-System Analysis.

**Flows of Direct Foreign Investment (FDFI)**

The new inflows of direct foreign investment are used as additional control variables because of empirical

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29Ibid., p. 177.
evidence from several studies indicating a positive relationship between new inflows of foreign resources and economic growth. Measures of flows of foreign investment indicate new inflows of foreign capital which are different from accumulated stock of foreign capital as represented by multinational corporate penetration in this study. The formula used in measuring this variable is similar to the one used in measures of changes in population growth rates:

$$\frac{V_{tn}}{FDFl} = \ln \frac{V_{t1}}{n}$$

where $\ln$ is the natural logarithm, $V_{tn}$ is the value of accumulated stock of direct foreign investment in 1973, $V_{t1}$ is the value of accumulated stock of direct foreign investment in 1967, and $n$ is the number of years between $t_1$ and $t_n$. This measure, representing $\text{dlog}FDFl_{1967-73}$, is believed to be one of the best approximations of a compound growth rate of this variable since annual figures are not available for many host countries.

30The list of studies finding such a positive relationship between flows of direct foreign investment and growth is provided in Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, p. 84.

31Other authors making similar assumption about this measure include, Jackman, "Dependence on Foreign Investment and Economic Growth in the Third World," pp. 188-189; and Rothgeb, Jr., "The Effects of Foreign Investment on Overall and Sectoral Growth in Third World States," pp. 8-9.
Relationship Between Foreign Capital and Prior Level of Development (FCPLD)

The relationship between foreign capital and prior level of development is controlled because of the assumption that host countries at relatively higher levels of development will attract more foreign capital due to increased investment opportunities. The support for this assumption is provided in empirical findings indicating a positive relationship between foreign capital and initial level of higher wealth of dependent countries. Some authors who recommend the control of this variable maintain that such a control will reveal the unbiased effects of foreign capital on later growth of host economies by isolating the initial positive correlation between economic development and multinational penetration due to initial levels of wealth. The measure of this variable is the log per capita GNP in 1967 which is represented in the equation models as $\log Y_{n1967}$.

Method of Analysis

The unit of analysis in this study is that of nation-states, the most frequently used units that allow

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32 Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, p. 95.

for a cross-national comparison of the effects of direct foreign investment on economic growth. The complete list of the 50 countries included in the sample of this research is provided in the appendix along with the sources of data for the respective countries. The analysis of research findings is based on the results obtained from probabilistic regression models which allow for the incorporation into their error components random phenomena of economic growth which are difficult to quantify or explain. Accordingly, the three probabilistic models below are tentatively hypothesized for examining the short-term and long-term effects of multinational penetration on economic growth. These three equation models will consequently be used for a test of the first and second hypotheses of this research dealing with the effects of investment dependence on growth. Using the measure of multinational penetration in 1967 to test for its effects on growth during later time intervals of 7, 14, and 23 years should establish the fact that changes in economic growth are affected by the independent variable and not vice versa. In short, the recursive models of this study will establish the fact that changes in per capita GNP in subsequent years do not influence the amount of accumulated stocks of investment in earlier years.
**Equation 1**

\[
d\log \text{Per Capita GNP}_{1967-73} = B_0 + B_1 \log \text{PEN}_{1967} + \\
B_2 \log \text{DCF}_{1967} + B_3 d\text{DCF}_{1967-73} + B_4 \log \text{POP}_{1967} + B_5 d\log \text{POP}_{1967-73} + \\
B_6 d\text{TOT}_{1967-73} + B_7 \text{SEMR} + B_8 d\log \text{FDI}_{1967-73} + \\
B_9 \log \text{YN}_{1967} + E
\]

where \(ds\) are deltas indicating changes in the variables, \(B_0\) is the constant or intercept, \(Bs\) are the regression coefficients for the effects on the dependent variable, \(E\) is the error term, and the acronyms are as described in the preceding pages.

**Equation 2**

\[
d\log \text{Per Capita GNP}_{1967-80} = B_0 + B_1 \log \text{PEN}_{1967} + \\
B_2 \log \text{DCF}_{1967} + B_3 d\text{DCF}_{1967-80} + B_4 \log \text{POP}_{1967} + B_5 d\log \text{POP}_{1967-80} + \\
B_6 d\text{TOT}_{1967-80} + B_7 \text{SEMR} + B_8 d\log \text{FDI}_{1967-73} + \\
+ B_9 \log \text{YN}_{1967} + E
\]

where the acronyms the same as those in Equation 1.

**Equation 3**

\[
d\log \text{Per Capita GNP}_{1967-89} = B_0 + B_1 \log \text{PEN}_{1967} + \\
B_2 \log \text{DCF}_{1967} + B_3 d\text{DCF}_{1967-89} + B_4 \log \text{POP}_{1967} + \\
+ B_5 d\log \text{POP}_{1967-89} + B_6 d\text{TOT}_{1967-87} + \\
B_7 \text{SEMR} + B_8 d\log \text{FDI}_{1967-73} + B_9 \log \text{YN}_{1967} + E
\]

where the acronyms are the same as those in Equations 1 and 2.
Interaction Terms

Testing hypotheses 3 and 4 of this research requires the creation of some interaction terms dealing with the effects of multinational penetration on the level of wealth and geographic location of host countries. The level of wealth and geographic location are treated as qualitative variables included in the complete equation models after coding them as dummy variables. For the level of wealth, the dummy variable used in the coding process is as follows:*

\[
X_1 = 1 \text{ if a poor country} \\
0 \text{ if a rich country}
\]

To examine the relationship between this dummy or binary variable and multinational penetration, \( \text{PEN}_{1967}X_1 \), will be included in the complete equation models as the interaction term. This interaction term is designed for the examination of the effect of penetration on changes in per capita GNP of both rich and poor developing host countries.

*The classification of rich and poor developing countries is based on the description given on page 126 of this study.
With respect to geographic location the dummy variables used in coding are as follows:

\[ X_2 = 1 \text{ if Latin America} \]
\[ 0 \text{ if not} \]

\[ X_3 = 1 \text{ if Africa} \]
\[ 0 \text{ if not} \]
where 0 is also used as the base representing "others" or countries not located in Africa or Latin America.

\( \text{LogPEN}_{1967}X_2 \) and \( \text{LogPEN}_{1967}X_3 \) are the interaction terms involving these dummy variables.

The equation models involving the preceding dummy variables and the independent as well as the dependent variables are as indicated below:

**Equation 4**

\[
d\text{Log Per Capita GNP}_{1967-73} = B_0 + B_1\text{LogPEN}_{1967} +
B_2X_1 + B_3X_2 + B_4X_3 + B_5\text{LogPEN}_{1967}X_1 +
B_6\text{LogPEN}_{1967}X_2 + B_7\text{LogPEN}_{1967}X_3 + E
\]

where \( d \) is delta indicating changes, \( B_0 \) is the constant or intercept, \( B_s \) are the regression coefficients for the effects on the dependent variable, \( E \) is the error term, and the acronyms are as described in the preceding pages.
Equation 5

\[
d\text{Log Per Capita GNP}_{1967-80} = B_0 + B_1\text{LogPEN}_{1967} + B_2X_1 \\
+ B_3X_2 + B_4X_3 + B_5\text{PEN}_{1967}X_1 + B_6\text{LogPEN}_{1967}X_2 \\
+ B_7\text{LogPEN}_{1967}X_3 + E
\]

where the acronyms are the same as those in Equation 4.

Equation 6

\[
d\text{Log Per Capita GNP}_{1967-89} = B_0 + B_1\text{LogPEN}_{1967} + B_2X_1 \\
+ B_3X_2 + B_4X_3 + B_5\text{LogPEN}_{1967}X_1 + \\
B_6\text{LogPEN}_{1967}X_2 + B_7\text{LogPEN}_{1967}X_3 + E
\]

where the acronyms are the same as those in Equations 4 and 5.

It should be noted that although the initial regression analysis was based on Equations 1 through 6, some of the variables in these equations were eliminated as they were found to be correlated following the pretest of these models. The final and complete models used for the regression will be presented in the next chapter where the research findings are analyzed.
CHAPTER V

ANALYSIS OF RESEARCH FINDINGS

In analyzing the empirical results obtained from the six models of this study, primary emphasis is given to those variables showing strong and statistically significant association with the dependent variable, changes in per capita GNP. Accordingly, the interpretation will focus on regression coefficients that are significant at the 10 percent level. All the regression coefficients at significance levels above 10 percent are considered statistically insignificant, and statements about such coefficients are designed primarily for making inferences about the hypotheses and theoretical propositions of this study.

As reflected in the regression results presented in Table 2, the final equation models utilized in the empirical analysis are different from the models presented in the preceding chapter. The differences are caused by adjustments in the models designed to eliminate multicollinearity which was detected following the initial regressions pretesting the full models. The
regressions of average growth rates of log per capita GNP 1967 to 1973; 1967 to 1980; and 1967 to 1989 on the independent and control variables (N = 50 in all equations)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log PEN</td>
<td>.0567 (.2335)</td>
<td>.1531 (.1485)</td>
<td>.1043 (.4102)</td>
</tr>
<tr>
<td>Log DCF</td>
<td>.0840*** (.0009)</td>
<td>.1208** (.0250)</td>
<td>.1230 (.1190)</td>
</tr>
<tr>
<td>dDCF</td>
<td>.0195* (.0524)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dLogPOP</td>
<td>-.6513** (.0383)</td>
<td>-.8803 (.1466)</td>
<td></td>
</tr>
<tr>
<td>dTOT</td>
<td>.0006 (.6909)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEMR</td>
<td>-.0024 (.5022)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dLogFDFl</td>
<td>.1565*** (.0077)</td>
<td>.4467*** (.0010)</td>
<td>.3728*** (.0076)</td>
</tr>
<tr>
<td>LogYn</td>
<td>-.1109* (.0842)</td>
<td>-.2176 (.1221)</td>
<td>-.1640 (.3702)</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.0275 .0006)</td>
<td>-1.5779 (.0015)</td>
<td>-1.9002 (.0025)</td>
</tr>
<tr>
<td>F</td>
<td>5.400 (.0006)</td>
<td>5.231 (.0015)</td>
<td>3.688 (.0025)</td>
</tr>
<tr>
<td>R²</td>
<td>.38</td>
<td>.32</td>
<td>.42</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.31</td>
<td>.26</td>
<td>.30</td>
</tr>
</tbody>
</table>

The indicators in the first row of each variable represent the regression coefficients for the respective variables while those in parentheses in the second rows are the p-values indicating the significance levels.

*Statistically significant above 5% but less than 10%.
**Statistically significant at less than 5% but above 1%.
***Statistically significant at 1% or less.
regression results presented in Table 2 are therefore derived from the following models:

**Equation 1**

\[
d\text{Log Per Capita } \text{GNP}_{1967-73} = B_0 + B_1 \text{LogPEN}_{1967} + B_2 \text{LogDCF}_{1967} + B_3 d\text{LogPOP}_{1967-73} + B_4 d\text{LogFDFl}_{1967-73} + B_5 \text{LogYN}_{1967} + E
\]

where the acronyms are the same as those in Chapter IV.

**Equation 2**

\[
d\text{Log Per Capita } \text{GNP}_{1967-80} = B_0 + B_1 \text{LogPEN}_{1967} + B_2 \text{LogDCF}_{1967-80} + B_3 d\text{LogFDFl}_{1967-73} + B_4 \text{LogYN}_{1967} + E
\]

where the acronyms are the same as those in Equation 2 in Chapter IV.

**Equation 3**

\[
d\text{Log Per Capita } \text{GNP}_{1967-89} = B_0 + B_1 \text{LogPEN}_{1967} + B_2 \text{LogDCF}_{1967} + B_3 d\text{DCF}_{1967-89} + B_4 d\text{LogPOP}_{1967-89} + B_5 d\text{TOT}_{1967-87} + B_6 \text{SEMR} + B_7 d\text{LogFDFl}_{1967-73} + B_8 \text{LogYN}_{1967} + E
\]

where the acronyms correspond to those in Equation 3 in Chapter IV.

The F-values of 5.400, 5.231, and 3.688 at significance levels of .0006, .0015, and .0025 for Equations 1, 2, and 3, respectively, indicate that the final models utilized in the study have contributed valid
information for the relationship between the dependent and independent variables. This assessment is derived from the fact that the probability of getting the above values of F-statistics by chance is very low as reflected in these corresponding significance levels.

For the seven-year period, 1967 to 1973, the regression results indicate that there are positive associations between the average growth rates of per capita GNP and the following variables: PEN, DCF, and dFDFl. Negative associations are found between the average growth rates of per capita GNP and two variables; dPOP and Yn. However, a closer examination of these results indicates that strong and statistically significant associations are established only between the dependent variable and DFC, dFDFl, and dPOP as reflected in their p-values of .0009, .0077, and .0383, respectively. A statistically significant but modest association is established between the dependent variable and Yn with a p-value of .0842. With respect to DCF, the regression coefficient of .0840 and p-value of .0009 indicate that domestic capital formation is positively related to the growth of per capita GNP of developing countries. It appears therefore that countries with higher amounts of domestic capital formation devoted to domestic investments will experience growth rates in their per capita GNP, all things being equal. The positive association between new inflows of direct foreign
investment and per capita GNP found in previous studies reviewed in Chapter III of this study has also been confirmed with a regression coefficient of .1565 and a p-value of .0077. Given this new finding, there is strong evidence that new inflows of direct foreign investment do contribute to growth of per capita GNP in developing countries.

The negative relationship between changes in the population rates of host countries and their per capita GNP suggests that this variable may retard the growth rate of per capita GNP in countries experiencing high growth rates in their populations. Prior level of development may also retard the growth rate of per capita GNP as suggested by the modest negative association between this variable and the former. The accumulated stock of foreign direct investment (PEN), has been shown to have no statistically significant effect on the growth rate of per capita GNP as demonstrated in the regression coefficient of .0567 and a p-value of .2338.

In the second time period, 1967 to 1980, only two variables have shown strong and statistically significant association with the growth rate of per capita GNP. The two variables are DCF and dFDFl with regression coefficients of .1208 and .4467 at p-values of .0250 and .0010, respectively. Given these figures, there is strong
evidence that domestic capital formation has strong positive effects on the economic growth of developing countries. It is reasonable to infer from this result that countries which utilize a greater percentage of their GDP for domestic investment will experience higher growth rates in per capita GNP, all things being equal. It is also reasonable to infer that countries attracting higher inflows of new direct foreign investment will experience higher growth rates in per capita GNP, all things being equal. For this second time period of 14 years, the accumulated stock of foreign direct investment (PEN) and the prior level of development (Yn) do not seem to have any appreciable effects on the growth rate of per capita GNP as evident in their statistically insignificant regression coefficients of .1531 and -.2176 at p-values of .1431 and .1221, respectively.

In the third time period of 23-year interval, two variables have been shown to have strong and statistically significant long-term impact on the dependent variable and therefore potentially profound consequences for the socioeconomic development of developing societies. The two variables are changes in domestic capital formation (dDCF) and new inflows of direct foreign investment (dFDFl), with regression coefficients of .0195 and .3728 at p-values of .0524 and .0076, respectively. The assumptions made in the
preceding paragraph about the potential impact of domestic investments and new inflows of foreign investment on the growth rates of GNP in developing countries appear to be validated by these long-term results. No other variable in the third equation seems to have any statistically significant effect on the growth rates of per capita GNP as evident in their values in Table 2. The effect of the accumulated stock of foreign direct investment (PEN), is positive but not statistically significant with a regression coefficient of .1043 at a p-value of .4102. The effect of domestic capital formation (DCF) in 1967 is also positive but statistically insignificant with a regression coefficient of .1230 at a p-value of .1190.

In examining the relationship between the average growth rates of per capita GNP and the interaction terms, the final equation models utilized are as follows:

Equation 4

\[
\begin{align*}
d\text{Log Per Capita GNP}_{1967-73} & = B_0 + B_1\text{LogPEN}_{1967} + \\
& B_2d\text{LogFDFl}_{1967-73} + B_3\text{LogPEN}_{1967}X_1 + \\
& B_4d\text{LogFDFl}_{1967-73}X_1 + B_5\text{LogPEN}_{1967}X_2 + \\
& B_6d\text{LogFDFl}_{1967-73}X_2 + B_7\text{LogPEN}_{1967}X_3 + \\
& B_8d\text{LogFDFl}_{1967-73}X_3 + E
\end{align*}
\]

where the acronyms are the same as those in Equation 4 in Chapter IV.
Equation 5
\[ d \log \text{ Per Capita GNP}_{1967-80} = B_0 + B_1 \log \text{PEN}_{1967} + \]
\[ B_2 d \log \text{FDF}_{1967-73} + B_3 \log \text{PEN}_{1967} X_1 + \]
\[ B_4 d \log \text{FDF}_{1967-73} X_1 + B_5 \log \text{PEN}_{1967} X_2 + \]
\[ B_6 d \log \text{FDF}_{1967-73} X_2 + B_7 \log \text{PEN}_{1967} X_3 + \]
\[ B_8 d \log \text{FDF}_{1967-73} X_3 + \epsilon \]
where the acronyms are the same as those for Equation 5 in Chapter IV.

Equation 6
\[ d \log \text{ Per Capita GNP}_{1967-89} = B_0 + B_1 \log \text{PEN}_{1967} + \]
\[ B_2 d \log \text{FDF}_{1967-73} + B_3 \log \text{PEN}_{1967} X_1 + \]
\[ B_4 d \log \text{FDF}_{1967-73} X_1 + B_5 \log \text{PEN}_{1967} X_2 + \]
\[ B_6 d \log \text{FDF}_{1967-73} X_2 + B_7 \log \text{PEN}_{1967} X_3 + \]
\[ B_8 d \log \text{FDF}_{1967-73} X_3 + \epsilon \]
where the acronyms are the same as those in Equation 6 in Chapter IV.

The regression results generated from the preceding equations are presented in Table 3. With F-values of 2.677, 2.767, and 3.847 at significance levels of .0183, .0153, and .0019 for equations 4, 5, and 6, respectively, there is strong evidence that these three models have contributed valid information concerning the relationship between the dependent variable and the interaction terms. Such validity is supported by the fact that the probability
<table>
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<tr>
<td>LogPEN</td>
<td>-.0237 (.5842)</td>
<td>.0291 (.7561)</td>
<td>-.0476 (.6082)</td>
</tr>
<tr>
<td>dLogFDFl</td>
<td>.3204* (.0985)</td>
<td>.4486 (.2809)</td>
<td>.5937 (.1515)</td>
</tr>
<tr>
<td>LogPENX1</td>
<td>-.0202* (.0921)</td>
<td>-.0357 (.1668)</td>
<td>-.0162 (.5217)</td>
</tr>
<tr>
<td>dLogFDFlX1</td>
<td>.0636 (.6887)</td>
<td>.3907 (.2594)</td>
<td>.2663 (.4353)</td>
</tr>
<tr>
<td>LogPENX2</td>
<td>.0199 (.2352)</td>
<td>.0311 (.3912)</td>
<td>.0146 (.6823)</td>
</tr>
<tr>
<td>dLogFDFlX2</td>
<td>-.2613 (.1066)</td>
<td>-.2762 (.4254)</td>
<td>-.4921 (.1547)</td>
</tr>
<tr>
<td>LogPENX3</td>
<td>.0248 (.1225)</td>
<td>.0462 (.1835)</td>
<td>.0039 (.9074)</td>
</tr>
<tr>
<td>dLogFDFlX3</td>
<td>-.2542 (.1180)</td>
<td>-.3692 (.2906)</td>
<td>-.6374* (.0689)</td>
</tr>
<tr>
<td>Constant</td>
<td>.4554</td>
<td>.6416</td>
<td>1.4897</td>
</tr>
</tbody>
</table>

\[
F = 2.677 (.0183) = 2.767 (.0153) = 3.847 (.0019) \\
R^2 = .34 = .35 = .43 \\
\text{Adjusted } R^2 = .21 = .22 = .32
\]

1The indicators in the first row of each variable represent the regression coefficients while those in parentheses in the second rows are the p-values indicating the significance levels.

*Statistically significant at above 5% but less than 10%.
of observing these F-values by chance is very low as evident in the respective significance levels.

The results in Table 3 indicate that for the seven-year period, 1967 to 1973, there are statistically valid associations between new inflows of direct foreign investment (dFDFI) and the dependent variable as well as between the latter and LogPENX₁ although no variable in that model is significant at .05 or less. New inflows of direct foreign investment continue to impact positively on average growth rate of per capita GNP with a regression coefficient of .3204 at a p-value of .0985. However, the interaction term involving LogPEN and X₁ indicates that the accumulated stock of direct foreign investment has a negative relationship with growth rate of per capita GNP in poor developing countries as reflected in the regression coefficient of -.0202 and a p-value of .0921. In other words, the interaction of accumulated stock of foreign investment with levels of wealth below the average per capita GNP in 1967 has a negative relationship with the growth rate of host countries.* In Equation 5 representing the time interval between 1967 to 1980, no variable generates a statistically significant result. In Equation 6, the results of the interaction involving FDFI

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*The average per capita GNP in 1967 for the countries included in the sample of this research is $242.49.
and $X_3$ indicate that this term is negatively related to growth rate of per capita GNP in African countries with a regression coefficient of $-0.6374$ at a p-value of $0.0689$. It seems reasonable to infer from this result that new inflows of foreign investment are negatively related to growth in African countries.

Although the other results presented in Table 3 are statistically insignificant, a very interesting pattern seems to have emerged from these results. The new inflows of direct foreign investment tend to show a negative impact on the dependent variable when interacted with the regional variables during all the three time periods under examination. Interacting the accumulated stock of foreign investment with the dummy variable representing the level of wealth reveals a negative association with the dependent variable in poor developing countries during all the three time periods but positive association in rich developing countries during the same time periods. There may therefore be a threshold above which the accumulated stock of foreign investment produces positive association with growth in host countries. The geographic location of developing countries does not seem to affect the directional effects of penetration on the dependent variable. In all three geographic regions of Latin America, Africa, and Asia, penetration shows a pattern of
positive association with the growth rate of per capita GNP. It must be noted however, that except in two cases, the patterns of the regression results involving the interaction terms are not statistically significant. These two cases are related to the negative association between penetration and the dependent variable in poor developing countries for the 7-year period, 1967 to 1973, and another negative association between new inflows of direct foreign investment and the dependent variable in African countries for the 23-year period, 1967 to 1989. The results of the other interaction terms in the models have shown no significant impact on the growth rate of per capita GNP.

Given the regression results of this study and the analysis presented in the preceding pages, the first hypothesis of the study assuming a long-term negative association between investment dependence and economic growth of developing dependent countries has not been confirmed. In five of the six equation models utilized in this study, the accumulated stock of direct foreign investment (PEN) has shown no statistically significant result with respect to its effects on or associations with per capita GNP. The one exception to this general trend is the negative association found between per capita GNP and the interaction term involving PEN and X1 in Equation 4 representing the 7-year period between 1967 and 1973.
Interacting PEN with poor developing countries in that equation resulted in a regression coefficient of -.0202 at a p-value of .0921, suggesting that penetration is negatively related to growth in this group of countries. Findings of previous studies indicating statistically significant positive and negative long-term effects of accumulated stock of direct foreign investment, as shown in Table 1 in Chapter III of the present study, have not been confirmed.

The second hypothesis of this study asserting a short-term positive association between investment dependence and economic growth in developing dependent countries has been confirmed. This confirmation is derived from the strong relationship found between new inflows of direct foreign investment and per capita GNP in Equations 1, 2, and 3. The regression coefficients for this variable are .1565, .4467, .3728, at significant levels of .0077, .0010, and .0076, respectively. There is, therefore, statistically valid evidence that new inflows of direct foreign investment has a salutary effect on per capita GNP while controlling for the accumulated stock of foreign investment. Findings of previous studies reviewed in Chapter III of this writing have therefore been confirmed with respect to the positive short-term effects of new inflows of direct foreign investment.
In the third hypothesis in Chapter IV, it was asserted that the long-run asymmetrical relationship between investment dependence and economic growth is stronger in rich developing countries than in poor developing countries. The results of this study have not confirmed this hypothesis. As shown in Table 3, the interaction effects of accumulated stock of direct foreign investment and poor developing countries are the ones showing negative association with per capita GNP while interaction with rich developing countries shows positive effect. It appears, therefore, that there is a long-term asymmetrical relationship between investment dependence and economic growth in poor developing countries. It should be noted that it is only in one case, in Equation 4 dealing with a 7-year period, that this negative association is statistically significant.

The fourth hypothesis of this study has not received support from the regression results. Interacting PEN with the dummy variables representing the geographic locations of developing countries included in the sample of this study shows that the regression coefficients are all positive and generally insignificant. When new inflows of direct foreign investment is interacted with the dummy variables, negative associations are found for Latin American and African countries. Although these
relationships are also statistically insignificant except in one case where interaction of new inflows of direct foreign investment with African countries shows a negative association of -.6374 at a significance level of .0689 during a 23-year period, it could be cautiously inferred that the effects of direct foreign investment do not differ with respect to geographic locations of host countries.

Among the domestic factors of development included in the equation models, two variables have produced significant results worth noting. Domestic capital formation and changes in domestic capital formation are both positively related to growth of per capita GNP. For the 7-year period, 1967 to 1973, domestic capital formation has a regression coefficient of .0840 at a significance level of .0009. In the 14-year period, 1967 to 1980, this variable has a regression coefficient of .1208 at a p-value of .0250. For the 23-year period, 1967 to 1989, changes in domestic capital have a regression coefficient of .0195 at a significance level of .0524. Against the background of these results, domestic capital formation and changes in that variable, which represent the amount of domestic investment, are the best predictors of growth in the models of this study along with new inflows of direct foreign
investment.* The findings of another study that led the author to conclude that the real growth in gross domestic fixed capital formation "is very important determinant of growth for all Third World states and for the American states" are confirmed in the present study.¹

¹Rothgeb, Jr., "The Effects of Foreign Investment on Overall and Sectoral Growth in Third World States," p. 10.
CHAPTER VI

THEORETICAL INTERPRETATIONS AND POLICY IMPLICATIONS OF RESEARCH FINDINGS

The theoretical propositions of neo-classical economics and those of the modernization or diffusion approach in sociology reviewed in Chapter II of this research suggest that the expansion of capital from the developed countries to the developing ones will help stimulate economic development in the latter by supplying production factors such as technology, foreign exchange, and the required levels of other resources crucial to the achievement of development targets. Development theorists espousing these views further assume that the expansion of the capitalist mode of production to the developing societies will bring with it modern, rational forms of organization; "modern" attitudes complementary to socioeconomic development; and technical assistance that can provide sound advice on fiscal and development policies. There is also an emphasis in this school of thought on the internal factors which can promote growth and development in developing societies. As a matter of fact, it is in situations where such internal factors of
development fail to meet the required levels of investment resources for self-sustainable growth that foreign resources are considered most crucial for meeting development goals. Based on this assumption, scholars in the neo-classical and modernization schools of thought advocate the use of direct foreign investment as a vehicle capable of bringing about growth and development in developing countries by supplying the resources that will fill the gaps between available domestic resources and the appropriate levels of resources needed for productive investment.\(^1\)

In contrast to the above views, the dependency/world-system perspectives perceive the integration of developing societies into the global economy, via the instrument of foreign investment, as a development strategy that has only exacerbated the socioeconomic problems of these societies. Foreign investment in this case becomes an instrument which creates dependency and retards growth and development through various mechanisms including the loss of domestic capital accumulation to foreign investors through the repatriation of profits, royalties, and the over-pricing of

\(^1\)A more specific policy recommendation based on this assumption is that of W. W. Rostow who believes that 10 percent of national income should be used for productive investment activities in order to ensure a self-sustained growth. The source of this information is W. W. Rostow, "The Takeoff into Self-Sustained Growth," in Social Change, eds. Amitai Etzioni and Eva Etzioni (New York: Basic Books, 1964), pp. 285-300.
intermediate goods. These adverse effects of dependency are believed to be accentuated by the potential for increased public debts in host developing countries which may attempt to rely on external borrowing to replenish their foreign exchange reserves likely to be exhausted by foreign investors through the preceding mechanisms. Because of these perceived adverse effects of dependency, some proponents in this school of thought advocate a social revolution in developing countries that will mobilize domestic resources for development, restrict the outflow of their resources to the core countries, and restructure the global economy in ways that can make for their gainful participation in it.  

Given the assumptions of these various schools of thought on the developmental prospects of developing societies, it will appear that direct foreign investment has the potential for either a negative or positive effect on the gross national product (GNP) of host developing countries since this measure is the most commonly used measure of economic growth. The regression models of the present study and the results obtained from them have produced significant evidence that can confirm or refute the assertions made by these schools of thought regarding

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2 Part of the restructuring process often advocated by proponents of this view is the creation of effective mechanisms for increased trade among the developing countries.
the potential effects of direct foreign investment. The results generated from Equations 1, 2, and 3* of this study have shown that new inflows of direct foreign investment have significantly contributed to the growth rate of per capita GNP in developing countries throughout the periods under examination. A plausible theoretical interpretation of the positive effect of this factor on the growth rate of per capita GNP is that in the short-run, new inflows of direct foreign investment have contributed to the productive factors of development in host countries. It could therefore be said that the assumptions of neo-classical economics and the modernization approach in sociology on the potential effects of foreign resources on the developmental process of host developing countries are justified with respect to new inflows of direct foreign investment. However, a difficult theoretical interpretation of the assumptions of these two approaches to development emerges when the accumulated stock of direct foreign investment is taken into account.

Because the accumulated stock of direct foreign investment has been shown in the results of this study to

*The theoretical interpretation offered in this chapter is based primarily on the results obtained from Equations 1, 2, and 3 in view of the fact that these three equations are those producing many statistically significant findings.
have no effect on the growth rate of per capita GNP*, it is difficult to offer a theoretical interpretation for this condition within the confines of neo-classical economics and the modernization/diffusion sociological approach. One possible explanation is that accumulated stock of direct foreign investment may suffer from depreciation in the value of capital and machinery associated with long-term investment activities, and, therefore, the stock of investment is unable to contribute to growth in host countries because of such incapacitation.  

This explanation is not satisfactory in view of the fact that new inflows of direct foreign investment have been shown to have positive impact on growth even in a 23-year period. This observation is also consistent with the results obtained for the effects of changes in domestic capital formation during the same time period of 23 years. A much more plausible explanation of this condition is that depreciation is not the crucial factor leading to the neutralizing effect of accumulated stock of foreign investment.

*It should be recalled that it is only in one case involving Equation 4 that a statistically valid association between penetration and changes in per capita GNP has been found in this study.

3Some authorities writing on the subject of direct foreign investment estimate that the average time in which capital stock of investment depreciates is 18 years or less. This time period for depreciation of stock is also confirmed in Bornschier and Chase-Dunn, Transnational Corporations and Underdevelopment, p. 103.
investment on per capita GNP but, rather, the addition of new inflows of foreign capital to existing stock of foreign investment appears to be the culprit. This interpretation can therefore explain the discrepancy between the effects of these two factors on growth in developing countries. It should be recalled that the measure of new inflows of direct foreign investment adopted in this study is simply the difference between the accumulated stock of foreign investment in 1973 and 1967. When that difference is used as a variable in the models, statistically significant results are found for positive effects on per capita GNP, but when the stock of foreign investment is used as a variable, the results do not show any contribution to growth in per capita GNP. The explanation offered here on the nonfeasance effects of accumulated stock of foreign investment is supported by the assessment that:

Studies using both flow and stock measures in the same analysis report that high transnational penetration has the consequence of lowering the economic growth rate of host country. And high flows of new foreign investment have a positive consequence for growth, even when penetration is high. This means that new investment of transnational corporations can mitigate and compensate the effect of penetration.4

The mitigating and compensatory effects of new investment are evident in the findings of this study as reflected in the positive associations between new inflows of direct

4Ibid., p. 85.
foreign investment and growth in per capita GNP for all three time periods involving Equations 1, 2, and 3.

Another possible interpretation concerning the lack of statistically valid association between the accumulated stock of foreign investment and growth in host countries is that there may be a threshold above which this variable produces positive effects on per capita GNP. Such an interpretation would be validated by the result obtained from Equation 4 of this study in which the interaction of accumulated stock of foreign investment with poor countries produces a negative association with per capita GNP at a significance level of .0921 during a 7-year period. Judged against the background of such result, it is not unreasonable to infer that the potential positive effects of stock of foreign investment may be mediated by the lower levels of wealth of some host countries. With this interpretation, the productive factors of foreign investment espoused in the neo-classical economics and the modernization/diffusion schools of thought could be expected to show positive effects on the growth rates of host countries with higher levels of wealth.

From the dependency/world-system perspectives, the lack of statistically significant results relating accumulated stock of foreign investment to growth in five of the six models in this research could be interpreted as an indication of the structural blockage that prevents this
variable from making positive contributions to per capita GNP. An argument could therefore be made that other activities of foreign investment not clearly specified in the models of the present study are detrimental to the growth rates of per capita GNP in host countries. From the structural blockage propositions of the dependency school of thought, it could be inferred that it is through the accumulated stock of foreign investment that an increasing amount of domestic capital will be lost due to the long-term effects of continued repatriation of profits, royalties, license and management fees, and over-pricing of intermediate goods. As indicated in Chapter III of this study, multinational corporations have been known to extract from host countries much more profits than their amounts of investment. The addition of new inflows of foreign capital to existing stock in developing countries can also strengthen the financial and bargaining positions of multinational corporations which can then use such resources to buy domestic firms as some dependency scholars contend. The denationalization of domestic firms, as explained in the structural blockage of the dependency perspective, has the potential of giving a commanding control of host countries' economies to foreign investors by virtue of its displacement of the local entrepreneurial class. These and other adverse structural mechanisms of foreign investment asserted in the dependency school can
therefore be used as explanatory tools for the lack of significantly valid positive association between accumulated stock of foreign investment and growth rate of per capita GNP in host countries. With this interpretation, the significant positive contributions of new inflows of foreign investment to growth could be perceived as a situation in which the accumulated stock of foreign investment is taking away with one hand what new inflows is giving with another.

The theoretical interpretation offered in this writing on the basis of the results of the research findings has demonstrated that the assumptions of neo-classical economists and those of modernization/diffusion theorists on the subject of direct foreign investment have received adequate support when those assumptions are restricted to the outcome of new inflows of direct foreign investment in developing countries. However, it should also be noted that predictions of positive association between growth in GNP and new inflows of foreign investment are not the exclusive function of the predictive abilities of scholars in these two schools of thought. This assessment is based on the observation that scholars working within the dependency/world-system perspectives have also acknowledged the positive relationship between growth and new inflows of foreign resources as the references cited in this study.
On the relationship between accumulated stock of foreign investment and growth, different interpretations are possible because of the lack of statistically valid results.

The results of two other factors of growth in the models of the present research that require a theoretical interpretation are those related to the effects of domestic capital formation and changes in domestic capital formation. Because of the statistically significant positive association between these two variables on the growth rate of per capita GNP, it is reasonable to extrapolate that increases in domestic capital formation which represent increases in the amount of domestic investment are very crucial to the economic growth of developing countries. Although some development theorists have de-emphasized the crucial role of capital in the development process of developing countries, the results of this study strongly indicate that capital formation and increases in this factor of growth are important determinants of development and growth in developing societies. What needs to be examined are the levels of domestic capital formation that can lead to higher growth rates in these societies.

Other results of the internal variables of development generated from the models of this research suggest that

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5A listing of studies dealing with this issue is provided in Ibid., p. 84.
some of these variables are not as crucial to growth in per capita GNP as some theorists project. For example, specialization in the extraction of mineral resources, changes in population rate, and changes in terms of trade are all shown in the results of this study to have no significant or known effects on the dependent variable. This situation, in combination with other results of the present study, have presented some profound dilemma in relation to their policy implications. Because these internal variables of development have shown no statistically significant association* with the growth rate of per capita GNP, it appears that development policies in developing societies may bring about desired levels of growth without the contributions of these variables. However, such optimism must be weighed against the background of the fact that other important determinants of growth are unidentified in the models of the present study as reflected in the low $R^2$s.

Three factors have emerged from the research findings as important determinants of growth which cannot be ignored by policy makers and development theorists. Domestic capital formation and changes in this factor, along with new inflows of direct foreign investment, have been

*The only exception to this general trend is the statistically significant negative association between changes in population and growth for the 7-year period, 1967 to 1973.
identified as factors capable of promoting growth in developing societies. With respect to the first two factors, the policy implication is that developing countries should devote a greater amount of their domestic resources to domestic investment activities because these variables have been shown to possess the lubricants for growth. More specifically, an increased share of the gross domestic product (GDP) of these countries should be utilized for domestic investments because that is the measure of changes in domestic capital formation used in this study.

It might also be tempting to rely on new inflows of direct foreign investment to bring about growth and development because of the impressive contribution of this factor to the growth rate of per capita GNP. However, developing countries relying on this factor to induce growth should try to identify the mechanisms whereby when new inflows of foreign investment turns into accumulated stock, the latter does not make significant contributions to the growth rate of per capita GNP. Reliance on external sources of capital for development strategies may also place the economic control of developing countries in the hands of foreign investors as the share of investment activities owned by the latter increased in size relative to the share owned by citizens of the respective host countries. Because the interests of foreign investors have
been known to be radically different from those of host countries, reliance on external sources of capital may not be an effective tool of development. Moreover, there can never be any certainty that there will be a consistent inflow of new foreign resources to meet the required levels of capital necessary for self-sustainable growth. Such uncertainty is confirmed by the fact that some of the countries included in the sample of this study have experienced negative new inflows of foreign investment between 1967 and 1973. Against the background of these uncertainties and the other problems of direct foreign investment identified in this research, the promotion of domestic investment activities with local resources appears to be the most viable vehicle of development for developing countries.
CHAPTER VII

CONCLUSION

In the introductory chapter of this thesis, I have indicated that I was determined to examine the effects of foreign investment on the developmental process of all or most developing societies because of the mixed results found in my first study which dealt with foreign investment activities in Brazil. I was led by that determination to engage in an extensive review of the literature on this subject only to discover that existing evidence in both qualitative and empirical studies of foreign investment activities also tends to show mixed results with respect to the effects of these activities on the growth and developmental process of most developing societies. As reflected in the references cited in the preceding chapters of this research, some previous studies on this subject tend to find positive association between the accumulated stocks of foreign investment and growth in developing host countries while other studies have generated evidence showing negative association between these two variables. In reaction to those mixed findings, a research design that could produce more convincing evidence supporting either
the positive or negative effects of foreign investment on growth was adopted in the present study. More specifically, the major weaknesses found in the designs of previous studies reviewed in Chapter III have been eliminated in the research design of the present study which has incorporated more internal variables of growth into the regression models, utilized data whose qualities have been improved with respect to their measurements, and has avoided the measurement and specification of variables in the models in an overlapping manner. With these improvements, it seems reasonable to infer that the results of this study are more reliable and could therefore be used in evaluations of the effects of direct foreign investment on the developmental process of host dependent countries.

The reliability of the results generated from the models of this research notwithstanding, it appears that the issue of conflicting evidence produced in previous studies on this subject has not been resolved by the present empirical evidence. As can be seen in Tables 2 and 3 in Chapter V, there is strong and statistically valid evidence that new inflows of foreign investment are associated with growth in developing countries. Based on such evidence, the findings of previous studies on this aspect of foreign investment activities have received support and confirmation in the present study. However,
the absence of statistically valid evidence on the association between accumulated stock of foreign investment and growth has created a situation whereby the present empirical evidence related to these two variables can lead to different interpretations depending on one's theoretical perspective. Those who adhere to a strict positivistic interpretation are likely to argue that there is an unknown relationship between the accumulated stock of foreign investment and growth, and therefore, the long-term effects of the former on the latter cannot be determined. Others can also use the evidence of this study to make the assertion that there is a threshold above which the accumulated stock of foreign investment can show some positive association with growth in host countries. Against the background of such interpretations, some of the assumptions of the neo-classical economics and those of the modernization/diffusion approach in sociology concerning the potential positive impact of foreign investment activities on growth could be considered valid. There may also be those who will object to the preceding interpretations in favour of the view that the lack of statistically valid positive association between stock of foreign investment and growth is an indication that this variable is not contributing to increases in the GNP of host countries and, consequently, not doing what it is expected to do. Such an interpretation will receive
support from the fact that the new inflows of foreign investment have been shown to contribute positively to the growth rate of host countries while the accumulated stock of foreign investment has not shown any such contribution.

Because of the possibility of offering different interpretations on the basis of the empirical evidence of this study, I would like to express my personal opinion on this subject by comparing the results of the two internal variables of growth in the study, domestic capital formation and changes in domestic capital formation, with those of accumulated stock of foreign investment and new inflows of foreign investment, respectively. The motive for such a comparison is derived from this researcher's attempt to present a concise picture of the impact of these four factors on growth. As can be seen in Table 4, domestic capital formation in 1967 is positively related to the growth rate of per capita GNP during the 7-year and 14-year periods at significance levels of .0009 and .0250, respectively. When these results are compared with those of the accumulated stock of foreign investment, it becomes evident that the latter has failed to produce statistically valid result showing either positive or negative association with growth. It is tempting to dismiss these results as statistically insignificant and therefore not worthy of scholarly interpretation. However, I have taken exception to this approach by perceiving this situation as
TABLE 4
A COMPARISON OF THE REGRESSION RESULTS OF TWO EXTERNAL VARIABLES OF GROWTH WITH CORRESPONDING INTERNAL VARIABLES\(^1\)

<table>
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</thead>
<tbody>
<tr>
<td>LogPEN</td>
<td>.0567 (.2338)</td>
<td>.1531 (.1485)</td>
<td>.1043 (.4102)</td>
</tr>
<tr>
<td>LogDCF</td>
<td>.0840*** (.0009)</td>
<td>.1208** (.0250)</td>
<td>.1230 (.1190)</td>
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<tr>
<td>dLogFDF1</td>
<td>.1565*** (.0077)</td>
<td>.4467*** (.0010)</td>
<td>.3728*** (.0076)</td>
</tr>
<tr>
<td>dDCF</td>
<td>.0195* (.0524)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)The indicators in the first row of each variable represent the regression coefficients for the respective variables while those in parentheses in the second rows are the p-values indicating the significance levels.

*Statistically significant above 5% but less than 10%.

**Statistically significant at less than 5% but above 1%.

***Statistically significant at 1% or less.
a sign that accumulated stock of foreign investment has no appreciable effects on growth and therefore not salubrious to the socioeconomic development of host developing countries. This perception is based on the fact that this factor, measured in millions of U.S. dollars, represents a prodigious amount of investment, which under conditions of normalcy, should show positive association with growth. Moreover, it is strengthened by the fact that new inflows of foreign investment which is simply the difference between stocks in 1967 and 1973 have produced positive association with growth in this study. That positive association is also consistent with the positive relationship between changes in domestic capital and growth during the 23-year period, 1967 to 1989. In view of the fact that the measure of new inflows of foreign investment adopted in this study is a derivative from measures of accumulated stocks, the lack of statistically valid results from the latter could not be attributed to measurement problems because the existence of such problems should also impact on the results obtained from new inflows of foreign investment.

Another comparison between accumulated stock of foreign investment and domestic capital formation in 1967 indicates that for the 23-year period, 1967 to 1989, these two measures have shown no statistically valid results and, in effect, no appreciable contribution to growth. These
two measures may be suffering from depreciation in their values during this long-time interval which has reduced their utility as stimulants of growth. In such a scenario, the accumulated stock of foreign investment becomes a less desirable instrument of growth and development because, unlike domestic capital formation, the former has the potential of introducing more structural dysfunctions to host countries' economies through the repatriation of profits, royalties, and the over-pricing of intermediate goods. When it is taken into account that new inflows of foreign investment will eventually become accumulated stock, the preceding dysfunctions become a much more serious potential hindrance to growth by virtue of the structural blockage it can introduce into the economies of host countries. As reflected in the empirical evidence of this study, a possible neutralizing agent of such blockage to growth is a consistent and continuous inflows of new foreign investment activities. Because perpetual inflows of foreign investment resources will be needed to counter the lack of appreciable contribution to growth by accumulated stock of foreign investment, this researcher advocates for a new development strategy for the socio-economic development of developing societies. Such a strategy should be one that emphasizes the mobilization of local resources for increased domestic investments in view of the positive impact of these investments on growth.
When these societies are unable to mobilize for investment activities, the required levels of their GDP necessary for growth, the difference should be obtained from international organizations set up for that specific purpose. The funds provided through such organizations should be interest free and unencumbered by the present restrictive conditions that characterize the process of obtaining development funds from international bodies such as the World Bank and the International Monetary Fund. In short, what is needed is a present-day Marshall Plan similar to the one that provided development resources for the rebuilding of Western Europe and Japan following the Second World War. Recent attempts by the developed countries to provide development funds to the former Soviet-bloc countries in Europe through an internationally-coordinated effort should also serve as a model of what needs to be done for the developing societies. It is this kind of practice that makes this researcher question the rationale for advocating the use of foreign investment as a primary instrument of development in the developing societies while the European countries themselves have always benefitted from other development strategies more conducive to socioeconomic progress. It is the opinion of this researcher that the developed countries do owe an obligation of extending these other development strategies, such as the Marshall Plan, to the developing countries in
view of the material and human resources that have been taken out of these countries in the past and present.\footnote{In addition to the sources listed in some sections of the preceding chapters, the consequences of this historic plunder of these societies are provided in J. Forbes Munro, \textit{Africa and the International Economy 1800-1960} (London: J.M. Dent and Sons, Ltd., 1976); Kwame Nkrumah, \textit{Neo-Colonialism: The Last Stage of Imperialism} (New York: International Publishers, 1965); and Walter Rodney, \textit{How Europe Underdeveloped Africa} (Washington, D.C.: Howard University Press, 1974).} In the long run, the adoption of this approach will very likely serve the interests of the developed countries by preventing another outbreak of international hostilities induced by gross inequalities among the peoples of the world community.

This writer recognizes the important fact that the adoption of the above recommendation will not, by itself, serve as a sufficient mechanism for bringing about dynamic growth and development in these countries because of the interplay of various sociocultural variables which influence the developmental process of specific countries. The importance of such sociocultural variables may be the cause of the low $R^2$s obtained in the present study and other works dealing with the subject of growth and development. In view of the fact that the low $R^2$s obtained in these studies suggest that only a small number of the variables accounting for differences in the growth rate of developing societies have been identified, renewed attempts...
should be made to identify and incorporate into new development models more of such sociocultural variables. A postmodern approach will be appropriate in such instances which will require an acknowledgement of the limitations of conventional modern scientific techniques and direct the attention of researchers to the sociocultural variables that affect growth in specific countries or groups of countries. Such an approach would mean that no one development model will be effective for all the developing countries. With this important fact in mind, development theorists and policy makers should be cautious of the current approach whereby an unquestioned faith is now placed on the effectivity of private investments as the only means of stimulating growth in all the developing countries.

The results of the present study and the possible interpretations that could be inferred from them have demonstrated that the neo-classical economics and the modernization/diffusion sociological approaches by themselves cannot provide all the answers to questions concerning the subject of foreign investment in developing countries. Because some insights can be provided into this subject by other theories, including the dependency and world-system perspectives, it will not be unreasonable for mainstream economists to embrace some of the propositions of these perspectives because of their potential in
enhancing our understanding of the problems of development in developing societies. The contributions of this study, by virtue of rectifying some of the discrepancies associated with previous studies using the dependency/world-system perspectives, make the adoption of this recommendation more imperative.
COUNTRIES INCLUDED IN THE SAMPLE

Algeria
Argentina
Benin Republic
Bolivia
Brazil
Burkina Faso
Burundi
Cameroon
Central African Republic
Chile
Colombia
Costa Rica
Dominican Republic
Ecuador
Egypt
El Salvador
Ethiopia
Ghana
Guatemala
Haiti
Honduras
India
Indonesia
Ivory Coast
Jamaica
Kenya
Madagascar
Malawi
Malaysia
Mauritania
Mexico
Morocco
Niger
Nigeria
Pakistan
Panama
Papua New Guinea
Peru
Philippines
Senegal
Sierra Leone
Somalia
South Korea
Sri Lanka
Togo
Tunisia
Uganda
Uruguay
Zambia
Zimbabwe
### SOURCES OF DATA FOR VARIABLES UTILIZED IN THE STUDY

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