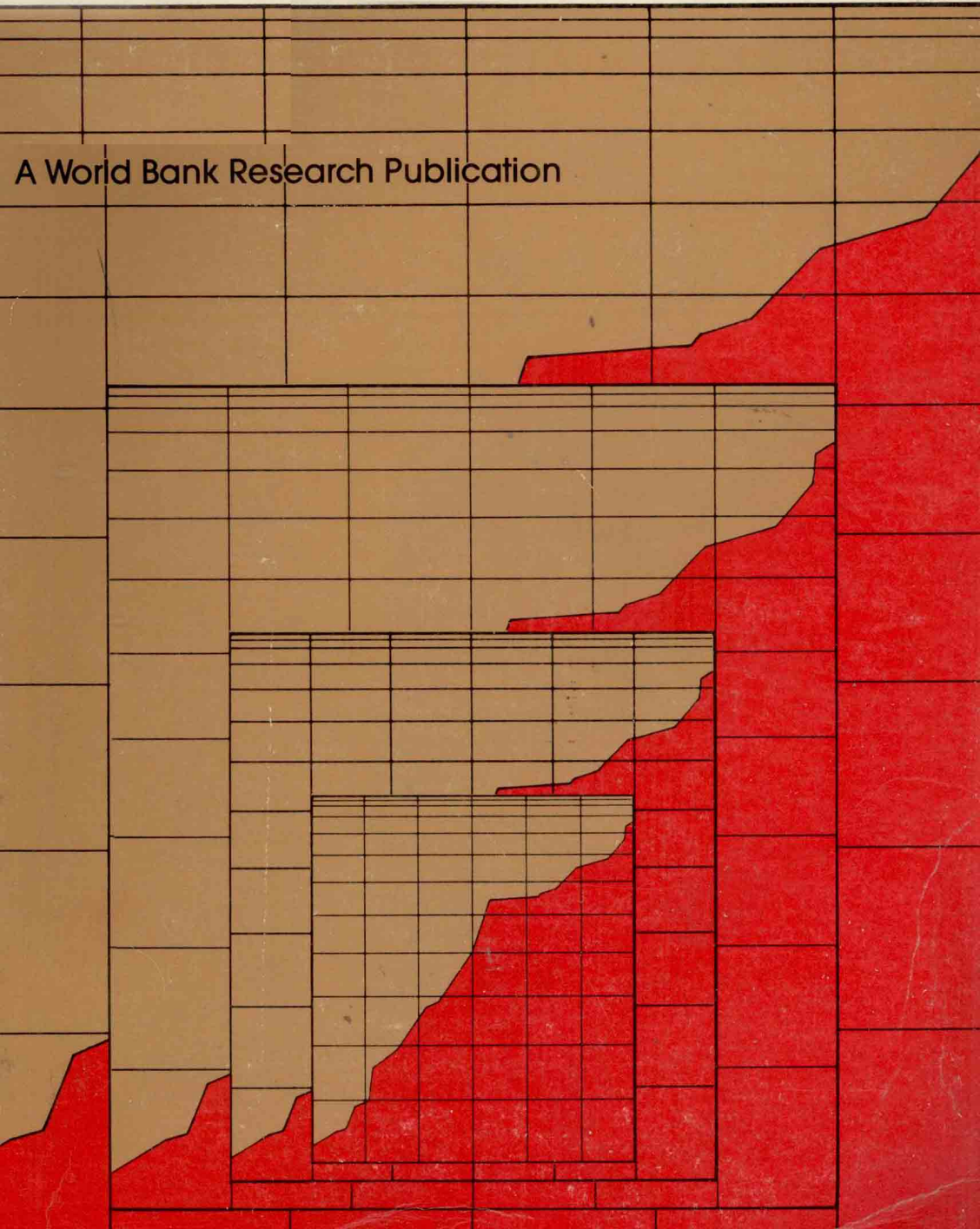


# Patterns of Development 1950-1970

Hollis Chenery and Moises Syrquin



**PATTERNS  
OF DEVELOPMENT,  
1950-1970**

**HOLLIS CHENERY AND MOISES SYRQUIN**

**with the assistance of**

**HAZEL ELKINGTON**

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## FOREWORD

Better understanding of the economic and social changes in the development process is essential to continued progress in the less developed countries. This is what the World Bank is attempting to achieve through its own research, as well as by participation with other institutions engaged in the same effort.

*Patterns of Development* is a prime example of the work now being done under an expanded program which includes a series of comparative analyses of various aspects of structural change and development policy. Together with other studies planned and in progress, this volume should help both the Bank and its member governments come to grips more effectively with the problem of "absolute poverty" which continues to degrade the lives of some 800 million human beings in the developing world, in spite of the relatively rapid growth of their national economies.

ROBERT S. MCNAMARA  
President  
The World Bank

## PREFACE

The past forty years have seen numerous attempts to discover uniformities in economic behavior by a comparison of economies at different levels of income. Among the most fruitful have been Colin Clark's analysis of the changes in use of labor with rising income (*The Conditions of Economic Progress*, 1940) and Simon Kuznets's series comparing elements of the national accounts ("Quantitative Aspects of the Economic Growth of Nations," I-X, 1956-1967). Kuznets demonstrates the similarities between historical growth patterns and the intercountry patterns of the 1950s.

Many detailed comparisons have focused on individual characteristics of developing countries, notably consumption, savings, investment, taxation, industrialization, and population growth. These studies apply a variety of statistical methods to different country samples and time periods, so their results are not generally comparable. However, they do demonstrate the value of comparative analysis for a variety of purposes.

Our main objective is to provide a comprehensive description of the structural changes that accompany the growth of developing countries and to analyze their interrelations. The great increase in statistical information since 1950 makes it possible to employ a combination of cross-section and time-series analysis that was not feasible as recently as ten years ago. By comparing intercountry and intertemporal patterns, we can respond to several important questions left unanswered in previous studies—notably those concerning the stability of the observed patterns and the nature of the time trends. To these ends, a uniform statistical procedure has been developed for measuring variations in different aspects of the economic structure in relation to income level and other factors.

To achieve broad coverage of the various features of development, we selected twenty-seven variables that are included in the IBRD economic and social data bank for a large number of countries. These variables describe ten basic processes of accumulation, resource allocation, and income distribution. Analysis of these processes suggests the "stylized facts" of development that can be used in testing theoretical hypotheses as well as in policy analysis.

The first phase of the present study was completed under the Project for Quantitative Research in Economic Development at Harvard University. The Harvard-based research is reported in Chenery and Taylor ("Development Patterns: Among Countries and Over Time," 1968) and Chenery, Elkington, and Sims ("A Uniform Analysis of Development Patterns," 1970). Transferring the study to the World Bank has allowed us

to integrate data collection, computation, and analysis in a way that is rarely possible in academic research.

We are indebted to a number of persons for assistance at various stages of our research. Lance Taylor and Christopher Sims collaborated in the first phase of the work and advised us on the methodology used in the present analysis. Hazel Elkington has been responsible for the collection and processing of data over the past six years and has prepared the Statistical Appendix to this volume, with generous support from the Economic Analysis and Projections Department of the World Bank. Jon Eaton provided valuable help in research and computation. We have had the benefit of criticism and comment from Irma Adelman, Manmohan Agarwal, Bela Belassa, Nicholas Carter, Simon Kuznets, Jacob Paroush, William Raduchel, Lance Taylor, Wouter Tims, Larry Westphal, Ross Williams, and Jeffrey Williamson. Teresita Kamantigue typed various drafts of the manuscript with speed and accuracy. Jane Carroll and Brian Svikhart lent editorial guidance aimed at improving the book's style and readability. The index was prepared by Arthur Gamson.

HOLLIS CHENERY  
MOISES SYRQUIN

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**PATTERNS  
OF DEVELOPMENT,  
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## Chapter 1

### BASES FOR COMPARATIVE ANALYSIS

INTERCOUNTRY COMPARISONS play an essential part in understanding the processes of economic and social development. To generalize from the historical experience of a single country, we must compare it in some way to that of other countries. Through such comparisons, uniform features of development can be identified and alternative hypotheses as to their causes tested.

Comparative analysis is equally important to the formulation and evaluation of development policy. Since theoretical bases for determining a range of feasible policies are limited, comparative studies provide the main source of information about possible levels of savings and taxation, the requirements for capital and labor, and achievable rates of growth. Whether acquired from personal observation or more systematic comparisons, international experience is a major ingredient in development policy in all countries.

The value of quantitative comparisons for economic analysis and policy has been recognized in a variety of separate fields, such as saving and investment, trade, taxation, industrialization, urbanization, and employment. Up to now these analyses have been made independently, using different methodologies, hypotheses, and basic data. It has therefore been difficult to combine their results into a consistent picture of development as a whole or to trace interrelations among separate processes.

The present study attempts to provide a uniform analysis of the principal changes in economic structure that normally accompany economic growth. The focus is on the major features of resource mobilization and allocation, particularly those aspects needed to sustain further growth and therefore of primary interest for policy. By treating these aspects in a uniform econometric framework, it is possible to provide a consistent description of a number of interrelated types of structural change and also to identify systematic differences in development patterns among countries that are following different development strategies.

The starting point for this study is the pioneering work of Simon Kuznets, who first demonstrated the value of quantitative intercountry analysis of economic structures.<sup>1</sup> Since ten years ago there were few significant time series for developing countries, Kuznets was properly skeptical of applying his cross-country results to the analysis of change over

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<sup>1</sup>In a series of ten articles published in the journal *Economic Development and Cultural Change* (1956-67), Kuznets analyzed the intercountry variation in the principal components of the gross national product (GNP) and compared these results to historical changes in the developed countries over the past century or more.



time. With the benefit of the great increase in data that has taken place over the past decade, we are able to compare cross-country and time-series estimates and to establish some useful relationships between them.<sup>2</sup>

The establishment of a more uniform and comprehensive description of structural change opens up the possibility of identifying countries that have been following similar development strategies. The choice of a development strategy is affected not only by the structural characteristics of the economy but also by the government's social objectives and willingness to use various policy instruments. Our analysis leads to the identification of three main patterns of resource allocation, which are identified in Chapter 4 as: *large country, balanced allocation; small country, primary specialization; small country, industry specialization*. By comparing countries that are following similar development patterns, it is possible to derive more valid performance standards and also compare the policies chosen by countries under similar conditions. A basis for this type of study is provided by a typology of development patterns in Chapter 4.

### CONCEPTUAL FRAMEWORK

In general terms, a development pattern may be defined as a systematic variation in any significant aspect of the economic or social structure associated with a rising level of income or other index of development. Although some variation with the income level is observable in almost all structural features, we are primarily interested in those structural changes that are needed to achieve sustained increases in per capita income. Since one can rarely prove that a given aspect of development is logically "necessary," we start with those for which a plausible case can be made on empirical grounds.

Kuznets's approach to the identification and measurement of development patterns is largely inductive. Starting with the elements of the national accounts that are recorded in a number of countries, he measures the changes in the composition of consumption, production, trade, and other aggregates as income rises. His observations are either for individual advanced countries over time or for groups of countries classified by income level. In this way he achieves comparable measures of development patterns both among countries and over time.<sup>3</sup>

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<sup>2</sup>The value of a large-scale statistical analysis of development patterns depends heavily on the quality and comparability of the data on which it is based. This study is therefore undertaken in conjunction with the continuing development of the International Bank for Reconstruction and Development (IBRD) Economic and Social Data Bank.

<sup>3</sup>This methodology is summarized and applied to the analysis of production patterns in Kuznets (1971), chs. 4 and 5.