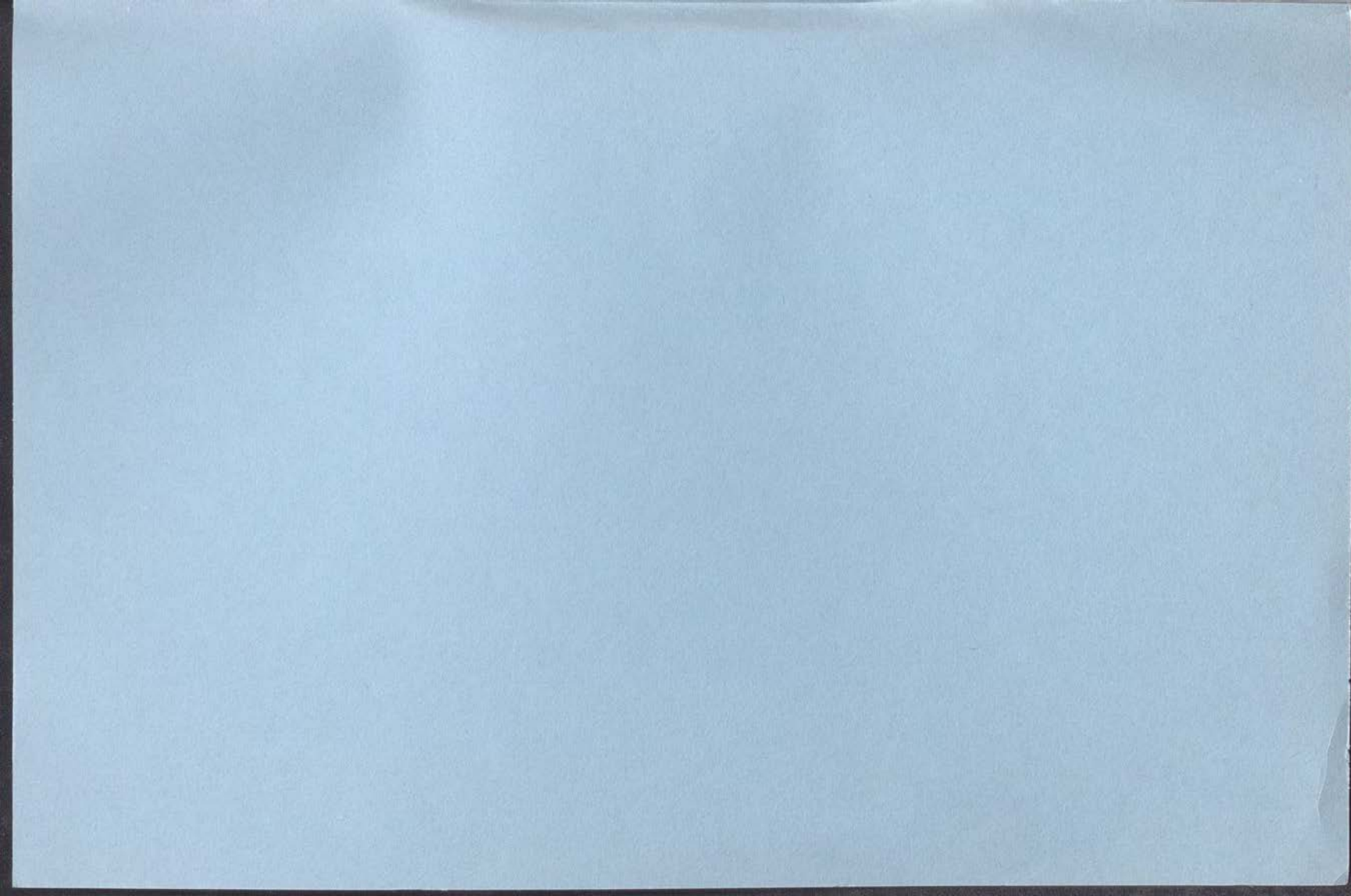


**The  
Economic Growth Center  
Yale University**



**Report 1970-1973**



THE ECONOMIC GROWTH CENTER

YALE UNIVERSITY

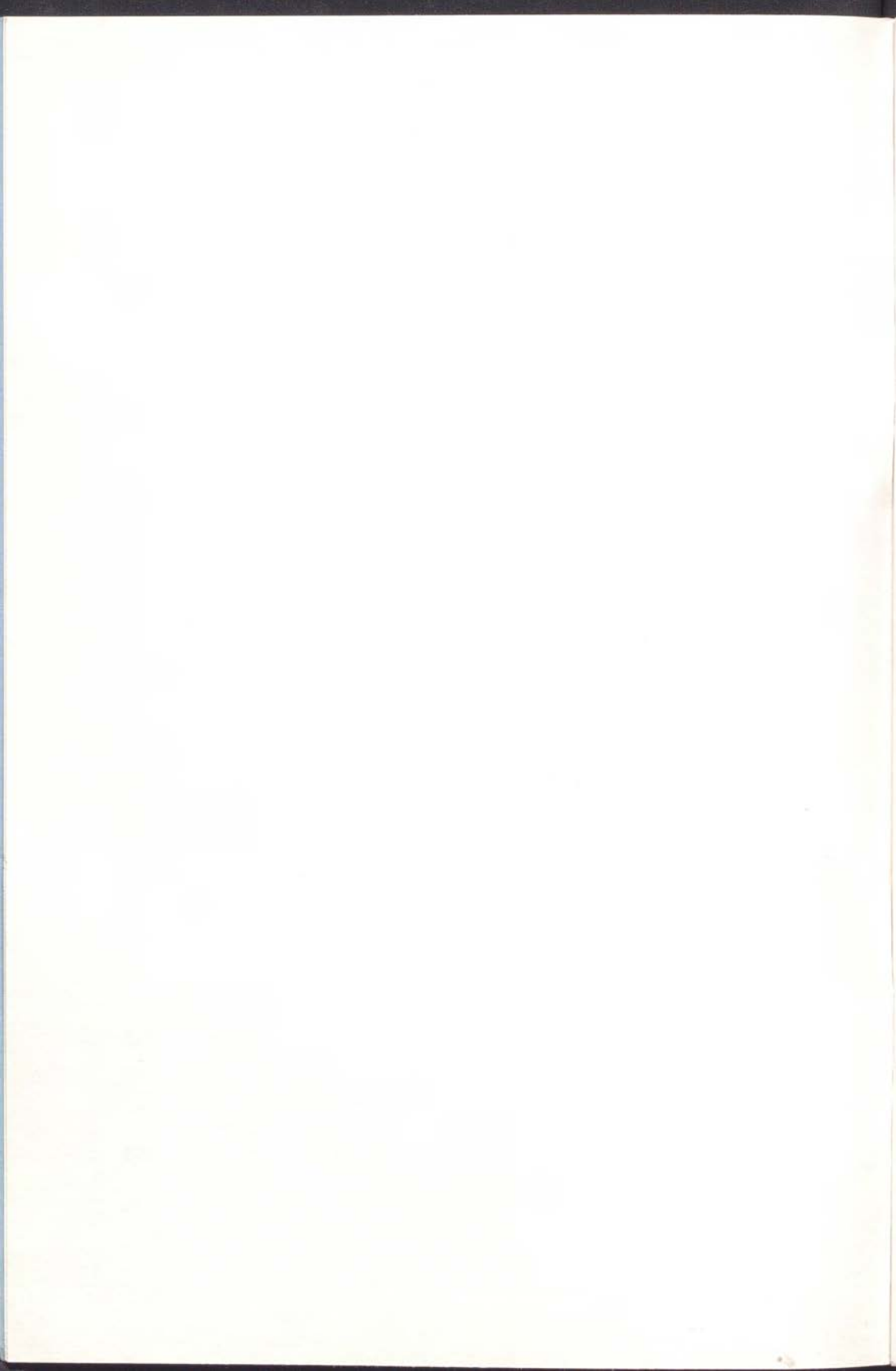
REPORT 1970-1973

New Haven, Connecticut      December 1973

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ECONOMIC GROWTH CENTER  
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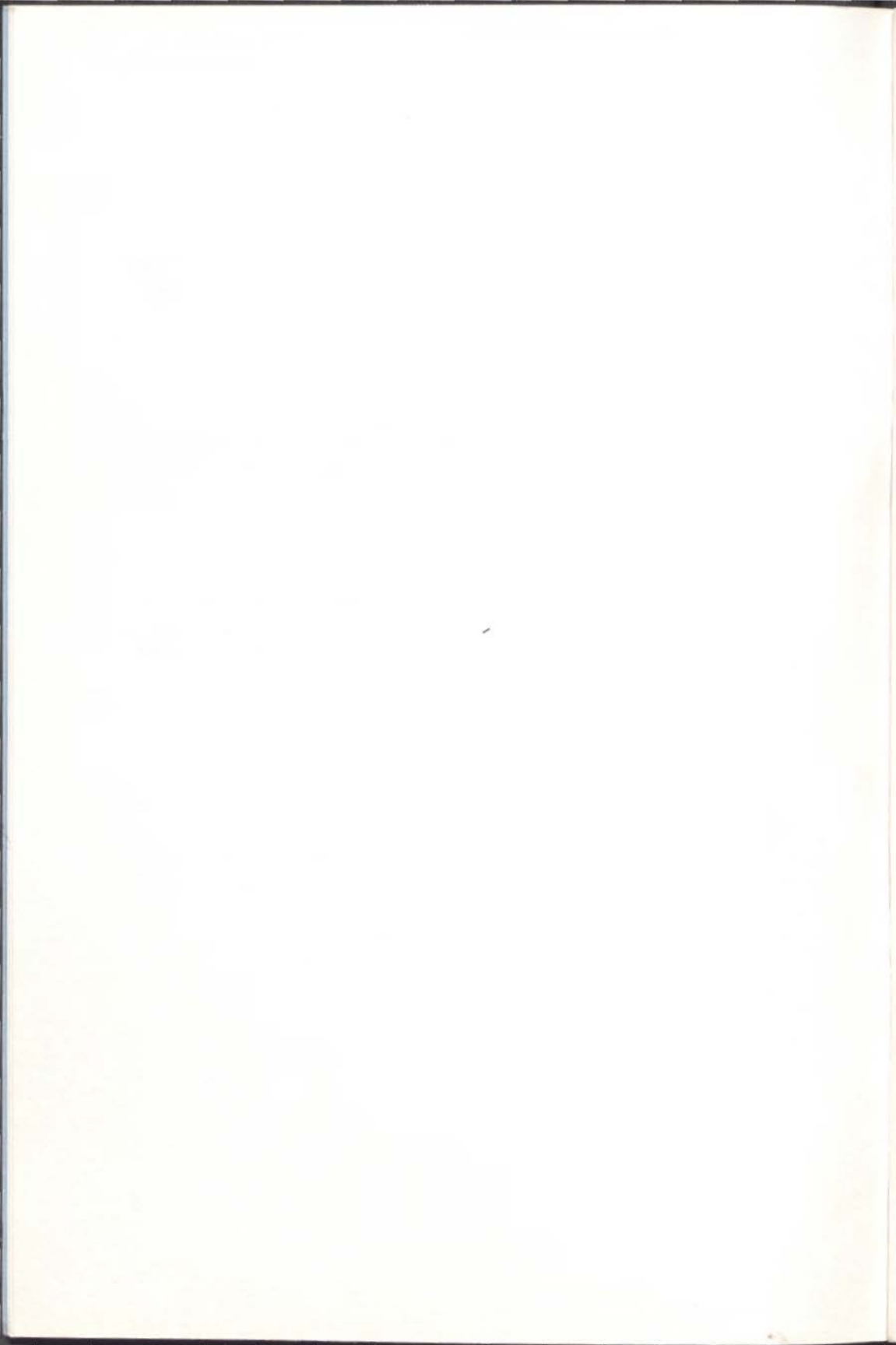
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\*As of July 1, 1973

‡During part or all of the period July 1, 1970-June 30, 1973

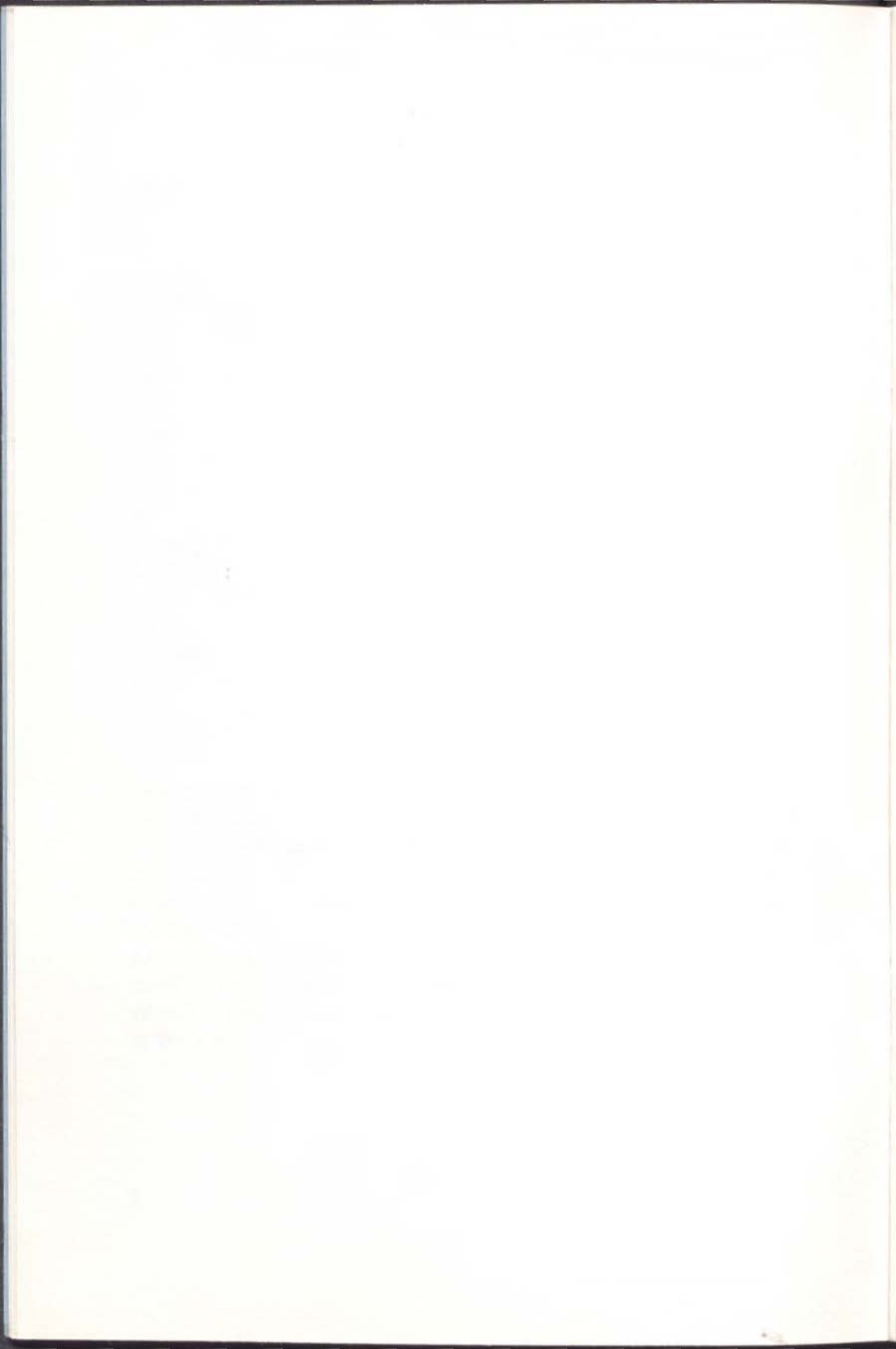




## THE ECONOMIC GROWTH CENTER

The Economic Growth Center, established as an activity of the Department of Economics in 1961, is a research organization focusing on the problems of the developing world. Its research interests are defined in terms of both method of approach and subject matter. In terms of method, the Center sponsors studies designed to test general hypotheses concerning the problems of economic growth and drawing on quantitative information from national economic accounts and other sources. In terms of subject matter, the Center's research interests include: (1) theoretical analysis of economic structure and growth; (2) quantitative analysis of a national economy as an integral whole; (3) comparative cross-sectional studies using data from a number of countries; (4) efforts to improve the techniques of national economic measurement. In the past the research program has included field investigation of recent economic growth in 25 developing countries. More recently, using this work as a base, the main thrust of the program has been towards comparative work and the analysis of specific problems such as technology transfer, unemployment, the maldistribution of income, and population growth, in the context of different types of developing economies. The Center's research staff includes approximately 16 members of the Yale Department of Economics as well as 2-3 visiting scholars from abroad invited normally for a one-year period.

The Center administers, jointly with the Department of Economics, the training program in International and Foreign Economic Administration. It also presents a series of seminar and workshop meetings throughout the year. The Center Library endeavors to assemble significant economic and statistical publications from about 80 of the larger developing countries. This collection is open on request to scholars from other institutions. Book-length studies by the Center staff are printed and distributed by Yale University Press. Reprints of journal articles by staff members are circulated as Center Papers. Preliminary research results are distributed in the form of Center Discussion Papers.



## 1. CENTER APPROACHES TO RESEARCH

The Center's approach to development is distinguished by four main characteristics. First, the research aims at exploring problems within the context of an overall framework of analysis rather than attempting to give "intuitive" answers to a miscellaneous series of policy issues. Second, there is considerable emphasis on the measurable aspects of economic growth and structure, even though the importance of qualitative and non-economic information is increasingly appreciated. Third, the Center emphasizes international comparisons in order to facilitate the extension from case studies to generalizations. Finally, there has been further development of rigorous analytical models for various types of developing countries. It is our belief that the repeated interaction between theoretical work and empirical studies has provided a considerable payoff in the past and that the investment of that period will continue to enrich substantially all future research efforts.

Major research activity in the early years of the Growth Center was focused on the country analysis program, including field research on the development process in 25 countries around the world, leading to the publication of country-specific monographs and journal articles. A statement concerning the analytic objectives and thrust of that program was included in earlier reports. It was felt that, without detailed statistical investigation of the major economic variables involved and without a framework of multi-sectoral analysis to trace crucial interactions over time, no firm base would be available either for the interpretation of a country's development or for the many cross-country studies needed to test more far-reaching hypotheses. As anticipated, the country analysis program has led fairly naturally into cross-country historical studies of development and to more detailed studies of specific sectors, policies, or other aspects of development in individual countries—with the country analyst usually continuing to pursue these issues in the country of his own specialization.

Other members of the faculty, working on more general interpretations of the development process, have benefited from the substantial wealth of information built up on a country basis. A major out-growth of this effort, for example, has been the analysis of the labor surplus economy model by Fei and Ranis and the elaboration

of other typologies for countries undergoing development. One evolving typology relates to the initial resource endowment in an economy, with the land surplus case and the labor surplus case being useful polar constructs; another leans heavily on country size and the relative importance of trade. Our analysis, moreover, pays special attention to the existence of distinct historical phases in the growth process, e.g., import substitution, export promotion, etc. Finally, some characteristics of a country and of its growth problems may be related to the particular type of colonial rule it experienced at an earlier stage.

As more information has become available on the economic structure and other characteristics of less developed countries, some shifts in the major emphasis of research have occurred. Both previous research and current developments in many less developed countries have led to increasing doubts as to whether rapid rates of growth could, in themselves, provide the solution to such fundamental problems as unequal distribution of income and unemployment. As a result there has been, at the Center, a gradual increase in the direct research emphasis on these issues, but always in relation to the question of the growth of output itself and the extent of the necessary trade-off, if any, among the various objectives. The causes of population growth and, in turn, its implications for growth, distribution, and employment are coming in for increased emphasis. Moreover, partly because of their complex roles and their impact on the joint determination of output growth and income distribution, issues of foreign investment and of the nature of technological transfer and adaptation are receiving increased attention.

Two multi-country research programs have followed in the wake of the original Country Analysis Program: a study of unemployment in ten developing countries now in its final stages and a smaller pilot study of income distribution in three countries which is just beginning. In both cases, the countries selected have represented typologically different economic structures and regions of the world. A major focus of these projects has been to view the income distribution and employment problems in relation to both the initial factor endowment characteristics and the different historical phases in which the several types of economies find themselves in the effort at transition to modern growth.

Another aspect of the Center's gradual shift in research emphasis is reflected in the increased attention paid to Mainland China, Cuba, and a number of socialist developing countries in Eastern Europe. Moreover, the interesting historical case of Japan has been receiving increased attention.



## II. NEW DIMENSIONS OF DEVELOPMENT

### *Population*

The program in the economics of population growth has encompassed three main areas. The first concerns the relationship of economic and other modernization variables to demographic variables, in particular fertility; the second involves the effects of the demographic transition on the rate and structure of economic growth; the third consists of an evaluation of factors determining migration and the effects of migration, in turn, on urban and rural fertility.

Simon Kuznets has completed studies of differences in rates of natural increase by per capita income group and by region. His study of rural/urban differentials in fertility, viewed in an international cross section, takes advantage of the recent spread of census data to a larger number of developing countries. The comparisons for the late 1950s show that the internal rural-urban comparison within the developing countries or within the developed countries, while persistently showing a lower fertility in the urban areas, reveal only narrow differences. These internal differences serve to explain only a minor portion of the international differences in fertility between the developed, more urban, and the developing, more rural, societies. An intriguing implication of the findings is the evidence that, in such a developing area as Latin America, where substantial urbanization has taken place during the last few decades and where rural-urban differentials are wider, the failure of the aggregate fertility measures to *decline* indicates a *rise* in fertility either in the urban areas, or in the rural areas, or both.

A study by Ghazi Farooq and Baran Tuncer represents an attempt to determine the effects of modernization on the observed fertility pattern in the 62 provinces of Turkey over the 1935-65 period. This analysis shows a definite negative relationship between socio-economic advancement and the level of fertility. On the regional level, there emerges an interesting geographical grouping of the provinces, with the westernmost (closer to Europe) typically more economically advanced and with lower fertility. In the chain relationship model, the variables immediately affecting fertility are female literacy and marital rates, with the influence of the former consistently stable

and more important over time. The literacy or education level variable emerges as a composite variable of both fertility control knowledge and the effects of modernization, and can be expected to continue its negative and substantial influence upon fertility in the future.

The research on migration has centered around two studies: one by Gary Fields has attempted to explain the fact that, despite rapid urban-rural migration in developing countries, wage income per laborer in urban exceeds that in rural areas by a considerable margin. James McCabe has been working on factors affecting an urban household's willingness to accept unemployed migrants.

Further research will be conducted by Simon Kuznets, James McCabe, Mark Rosenzweig, and Daniel Siever. The topics will include an expanded investigation of fertility differentials across income and regional categories, the demographic transition in Tropical Africa, and determinants of fertility in the agricultural sector with emphasis on migration.

### *Employment and Unemployment*

A major organized research effort of the Center over the past three years has focused on the employment experience of ten developing countries: Ghana, Kenya, and Zaire in Africa; Brazil, Chile, Colombia, and Mexico in Latin America; and South Korea, Taiwan, and historical Japan in Asia. These countries represent major typological differences in both size and factor endowments. One phenomenon common to all during one historical period or another (later, in the case of the relatively land-rich African type) is their labor surplus condition which has often been referred to as a situation of "disguised" unemployment or "underemployment." It is associated with a situation in which, in some substantial parts of the economy, labor is paid more than what it actually contributes to output at the margin. Such a phenomenon is often characteristic of the family farm where family members' income shares are likely to be determined institutionally. As an institutional arrangement it may be inefficient, but it is sometimes necessary, from a social point of view, in order to ensure that a certain percentage of the population receives at least a minimum subsistence income. This is the situation found in



such countries as South Korea, Taiwan, Colombia and Japan in the post-Meiji period.

Ghana and Zaire operate differently, to the extent that labor and land are both in surplus at the same time. In these countries, where there is still a great deal of cheap unutilized land, the minimum real wage may not be institutionally determined as in the pure labor surplus case just described. Rather, it may reflect the maximum amount that a representative individual can produce on a plot of land of any dimension. In the Ghanaian case, the existence of a real wage specified in this manner, combined with the institutional sharecropping arrangement (in this case, for cocoa) causes a labor surplus phenomenon to exist. This arrangement is such that labor is paid a proportion of its average product, which may well be significantly above its marginal product. The degree to which a distortion exists depends on the availability of surplus land and the marginal product of labor on that land. In the case of the plantation sector in Zaire, labor may be paid more than its actual marginal product to compensate for the high relative risk of being laid off because of the wide fluctuations in crop prices and unstable management conditions in this sector.

The use of such classifications, aside from pinpointing the nature of the unemployment problem and the reasons for its existence, has helped us determine ways of efficiently allocating our own scarce resources for research. To date, we have put relatively little effort into the difficult, and thus far elusive, task of attempting a precise measurement of exactly what portion of the total labor force suffers from underemployment in any particular country case. Instead, most of our effort has focused on the central issue of how to achieve reallocation of this labor force from inefficient (or non-existent) pursuits to areas of efficient utilization, i.e., where compensation and contribution to output tend toward equality.

One important point already established is that the degree of underemployment is closely related to the stage of historical development, as well as the relative factor endowment. High levels of underemployment frequently accompany what has been described as the "import-substitution" stage of development. Policy changes that facilitate the advent of the next phase, involving replacement of the traditional primary product exports by new, labor-intensive industrial ex-



ports, can serve to solve the unemployment problem in a productive fashion, and have been found in such cases as Taiwan, South Korea, and Colombia.

Most of the developing countries analyzed, however, are presently still engaged in the import-substitution phase. There is evidence that this phase of development, provided that it is not excessive or unduly prolonged, may be necessary in the sense that it has beneficial effects with regard to the elimination of underemployment in the long run. This goes beyond the classic infant industry argument for protection. We have shown first that, during this period, managerial and entrepreneurial skills are developed that make indigenous labor-using innovations and the expansion of labor-intensive industrial exports possible later on; second, that one of the main methods of achieving increases in both output growth and the increased efficient utilization of labor seems to be via substantial output mix and adaptive technology change—with enhanced participation by medium and small-scale, including rural, industry. The success of such a restructuring appears to be highly dependent on the evolution of a more “open economy” type of policy package, and the development of a transport infrastructure and adaptive engineering capacities that may but do not necessarily take place during the import substitution phase.

A good deal of work has also been done looking across industry scales within LDCs that are, in the main, still heavily engaged in import substitution policies. For example, though producing the same commodities, Mexico's border industries (facing a competitive international market) show much more labor-intensive technology than do her domestically-oriented industries (facing a protected domestic market). Similarly, our work on Colombia indicates that medium and small firms in the same industry have lower capital-labor ratios and are more productive in the sense of having higher output-capital ratios than do larger firms. This phenomenon, found elsewhere as well, is undoubtedly related to the fact that small firms face more realistic (higher) interest rates and (lower) wage rates than large firms. An important related policy question is the extent to which small scale producers can be linked to international trade in a situation where they are denied, relative to large firms, “fair game” access to credit and to scarce foreign exchange.

## *Income Distribution*

While the study of employment in developing countries is nearing completion, a number of other projects, both group and individual, have been initiated more recently. One such investigation involves the analysis of factors determining the size distribution of income in three developing countries: Taiwan, the Philippines, and Colombia. The main purpose of this research is to arrive at a now almost completely absent understanding of the causal relationships between growth and distribution of income, based on market determination, distortions in the market, the distribution of physical and educational assets, and direct fiscal actions by government. Once we have a clearer picture of how the size distribution of income is determined, we intend to focus on those relationships that are quantitatively more important than others and should therefore be the prime focus of attention for policy makers. The selection of the right policy mix for a particular developing country must again, we believe, be guided by a historically and typologically sensitive approach. Once we understand the appropriate type of growth path for different historical sub-phases in different types of developing countries, the next step is to specify the policy packages that will facilitate moving towards such a path. Ideally such a choice should serve to diminish or eliminate any conflict between growth and income distribution objectives, as the example of Taiwan seems to demonstrate.

The three countries to be studied differ substantially in their development typology as well as in terms of the historical growth phase they have reached. Taiwan is a representative of the labor surplus natural resources poor open dualistic family. The Philippines and Colombia are representatives of the family of the relatively natural resource rich, open dualistic economies—one with a much longer (typically Latin American) experience with import substitution behind it. Kenya, a small open African economy, is at a somewhat earlier stage of human and infrastructural preparedness for the transition to modern growth. The selection has thus been influenced by typological considerations and hoped-for relevance to other members of the same families.

The work we have described thus far is confined to a few sectors particularly relevant to the country being studied. However, some interesting work is also being conducted at the Center involving many



more sectors and the use of input-output models. This includes the work of Richard Weisskoff on Puerto Rico and that of Ronald Soligo on (West) Pakistan.

### *Technology Transfer and Adaptation*

The process of the transfer of technology from developed to developing countries, as well as the environment in which indigenous innovations and local adaptations of imported technology are likely to occur, is being analyzed by Ranis. The nature and location of research and development efforts aimed at "appropriate" technology, the kinds of engineering skills required, the impact of different ownership patterns (as between multinational corporations and indigenous firms, for instance) are all part of the framework of this analysis. A summary paper on the results of this work to date, entitled "Technology Choice, Adaptation and its Impact on Industrial Sector Labor Absorption in Developing Countries: A Review of the Evidence," has been completed.

Labor-using adaptations are often highly efficient in the context of many developing countries characterized by labor surplus. Our analysis has indicated that, while an increase in the price of capital relative to labor is necessary, it is by no means sufficient for the achievement of the required innovative response. In addition to the appropriate price signals, implementation of efficient adaptations depends on entrepreneurial and institutional endowments and the nature of the science and technology infrastructure. For example, because of differences in climate, factor proportions, machine speeds, etc. may differ considerably across countries. Thus, given the country-specific character of a particular process, domestic R&D institutes and adaptive engineering schools may be essential if significant increases in labor-capital ratios are to be achieved. The Center is planning a study of the impact of such factors affecting the spread of adaptive technology in several developing countries.

### *The Multinational Corporation*

A number of Growth Center faculty have been active in the study of the multinational firm (MNC) as such. The main topics of investigation have been: (1) the relevant characteristics influencing

the future effectiveness of foreign subsidiaries, from the point of view of the host country as well as of the mother firm; (2) the effects of nationalization on productivity; (3) the impact of the expansion of international subsidiaries on LDC output growth and employment; and (4) the association of diversification abroad with overall MNC earnings stability.

Several interesting findings concerning the role of the MNC in the development process have already resulted from this research. A study of such firms in Kenya, for example, indicated that, at least in some operations, foreign subsidiaries are not only more productive in the sense of having a higher output-capital ratio, but also employ more persons per unit of capital than do their indigenous competitors. Our analysis has shown that greater benefits may be obtained for the host country by allowing an extractive industry such as copper mining to be foreign owned, and taxing a portion of its profits, than, for example, by nationalizing it. The possibility of a cooperative relationship between U.S. firms and Latin American countries has been shown to be substantial, provided there is a reasonable change in expectation and attitude on both sides. An initial draft of a book examining the empirical evidence relating to multinational subsidiaries in LDCs has been completed by Benjamin Cohen.

Related agri-business investigations by Vahid Nowshirvani examine the impact of past direct foreign investment as well as the potential for such future investments in the agriculturally-related industries in particular. The sectors involved are agricultural inputs industries such as food processing. The basic hypothesis of this study is related to the fact that, until recently, such investment was confined to the production stage and, to some extent, to the processing stage in the higher income regions. With rising incomes, rapid commercialization of agriculture and an increasing pace of technological change within LDC agriculture, the pattern of investment is likely to change, becoming more concentrated in the agricultural supply industries and at the processing stages in LDC subsidiaries of MNCs. The impact of this trend, in terms of altered output, trade and employment patterns will be studied.

The specific aspects of the problem being examined are: (1) possible biases in the technology used, both in the input and in the processing industries; (2) the role of the foreign subsidiaries in inducing

further technological change in the agricultural sector proper; and (3) the possible effects on consumption due to the likely creation of barriers to further entry. The assessment of the costs and benefits from the LDC viewpoint of such investment, together with a knowledge of how the multinational firms view the situation, will hopefully aid both parties in reaching mutually beneficial investment strategies.



### III. SECTORAL STUDIES

#### *The Foreign Trade Sector*

The effects of trade policy on development has been a perennial topic of investigation at the Growth Center. Work is now being conducted not only on the growth effects of import substitution policies, such as tariffs and quotas, but also on whether and how much developing countries can affect the level and composition of their exports. Carlos Diaz Alejandro has been concerned with the relation of promotion policies other than exchange-rate devaluation to industrial export expansion in Colombia. This investigation has been undertaken in connection with a book-length study of the impact of trade policies on development in that country. A general survey article, "Trade Policies and Economic Development," has recently been completed by Diaz. It summarizes the theoretical literature and supporting empirical evidence for the developing world. Richard Brecher has been concerned with the fact that cocoa may be a relatively capital-intensive export sector in Ghana, the expansion of which may result in increasing unemployment.

#### *The Agricultural Sector*

Robert Evenson has been concerned with the overall development impact of international agricultural research. For the next 20 years at least, investment in research and extension will be of major policy importance. Since international agencies alone may be allocating \$100 million per year for this purpose, decisions will have to be made with respect to many alternative investment patterns, including choices between international and domestic adaptive research and between research and extension efforts within the LDCs. A recent compilation of data on research and extension investment for all the major countries of the world (except the People's Republic of China) allows comparisons not heretofore possible. These show quite clearly, as expected, that LDC investment in research is low relative to developed country expenditure patterns. Somewhat surprisingly, however, they also indicate that investment in extension, when expressed in terms of public-sector extension workers per unit of agricultural output, is actually higher in LDCs than in the developed countries. Both



a general model and one specific to wheat and maize production have been examined to determine the effectiveness of research. These models imply "internal rates of return" to investment in research of approximately 40 percent.

### *The Government Sector*

Thomas Birnberg, in collaboration with Stephen Resnick, has been examining, historically and quantitatively, the process of economic development in a cross-section of ten countries in Asia, Africa and Latin America, from about 1900 to 1938. This process is described and analyzed, using an econometric model designed to explain how common internal and external forces simultaneously determined the growth of the colonial trade and government sectors in these ten countries. The main internal causal agent is specified as government expenditures directed towards the promotion of exports. The main external forces are changes in real incomes, domestic prices and trade policies in the developed world, and their impact on colonial export demand.

An important contribution of this research is the demonstration that the same econometric model identifying the above forces can be applied to describe the process of economic development in all ten countries. But, although the historical development process was characterized by a similar structure for every country's trade and government sectors, the research also found important inter-country differences within that process.

The results, moreover, yielded the significant cross-sectional conclusion that colonial history is more important than regional history in explaining the differences in the historical development of the ten countries studied. Four countries economically linked to the United Kingdom—Egypt, India, Jamaica and Thailand—were found to have the lowest productivity of government expenditures directed towards export development, and thus the least dynamic development process. The Japanese colony, Taiwan, and the three countries linked to the United States—Chile, Cuba, and the Philippines—had the highest productivity. However, the three countries tied to the U.S. were least able to capture the benefits of real income increases in the developed world. Furthermore, the United States has found it easiest to substitute between its domestic production and imports from the three

countries tied to the United States. In terms of major historical events, the economic losses from World War I were highest for countries under direct colonial control of the United Kingdom, while the largest losses from the Great Depression of the 1930s occurred in countries linked to the United States. In spite of these very important historical differences, the same model works well in explaining the wide range of observed historical growth rates of exports in these ten countries, the large shifts in their terms of trade and trade balances, and the dramatic growth in their public revenues and expenditures.

Lloyd Reynolds is undertaking an analysis of current and capital expenditures by general government for 24 less developed countries over the post-war period 1950-1970. These countries are well distributed by continents and, except for the exclusion of very small countries, can be taken as representative of the less developed world. As compared with earlier work, the distinctive features of this study are: (1) it brings to bear for the first time a large body of time-series data (previous work has been almost entirely by cross-section methods); (2) its main emphasis is on the expenditure or output side (previous work has dealt largely with tax structures); (3) in addition to output effects, it explores the impact of government operations on income distribution and employment, subjects that are becoming increasingly important in studies of development.



#### IV. DEVELOPMENT IN OTHER TYPES OF ECONOMIES

##### *The Developing Socialist Economies*

*Eastern Europe:* An examination is being undertaken of the economic policies of the relatively underdeveloped Socialist countries—Bulgaria, Rumania and, to some extent, Hungary. These countries are now net importers of capital goods. One of their principal planning objectives is to obtain self-sufficiency or become net exporters of these goods. J. Michael Montias is examining the impact of this trade objective on overall growth and development in these countries.

Some related theoretical analysis is being undertaken by Montias on the comparative structure of economic systems. This work is both descriptive and comparative and focuses, in part, on the problems that occur when different hierarchies interact. Here emphasis is given to different methods of coordination. In addition, different means of information diffusion and their implications for economic efficiency are evaluated, with particular attention to how the superior official in a hierarchy obtains information and at what level of aggregation. Information obtained from a lower tier is generally received in aggregated form. It must frequently be further aggregated to pass it on to still higher levels. Montias is developing quantitative measures of subordinates' autonomy and of the increments in autonomy due to aggregation of controls.

*Mainland China:* The Center has recently expanded the scope of its investigations to the development of Mainland China. This country is the extreme example of the large developing country. Although per capita output growth was very slow over the centuries, there is evidence that total output did respond to rapid increases in population. A main objective is to contrast the historical rules of growth with those of the more recent post-revolutionary period. An initial study has been undertaken by John Fei of factors determining the extent and shape of the "standard market" of traditional China. This investigation highlights the importance of transport cost in determining internal trade patterns in large countries such as Mainland China.

##### *The Japanese Economy*

The research on contemporary Japan has embodied several themes: the role of capital markets, Japanese-American economic



relations, and a projection of Japan's position in the world economy in the 1980s. Hugh Patrick has been focusing on Japan's position in 1980 and attempting to appraise the policy implications of that position for Japan, the European Community, etc. In collaboration with Professor Gary Saxonhouse of the University of Michigan, Patrick will attempt to project, under various assumptions, Japan's overall trade and balance of payments position and its evolving comparative advantage at a rather disaggregated industry level. A book-length manuscript will be near completion by the end of 1973.

Patrick has also examined extensively the role of financial intermediation during the course of Japan's postwar economic growth. The main focus here has been on the sources of finance of the private sector and particularly the role of domestic capital markets. Japan, Patrick shows, represents an anomalous case where the reliance of corporations on external finance is extremely high, yet their reliance on bond and stock issues is extremely low. This has come about because the financial system has provided substitutes for bond and stock issues in the form of long-term and, to some extent, even short-term loans. The apparent willingness of financial institutions to rely, to a substantial degree, on loans rather than equity is explained by the fact that the risk of big business bankruptcy is borne mainly by society rather than by creditors.



## V. OTHER CENTER FUNCTIONS AND CONTRIBUTIONS

### *Invited Scholars*

In continuation of earlier practice, the Center has welcomed foreign and domestic visitors interested in pursuing research on some area of development and being in contact with the Center Staff. Some of these visitors have been financed in full by the Center while others have received support from a foundation or other source, with the Center providing research, library, and secretarial services. Visitors during the three years covered by this report include:

#### *1970-71*

Irving Friedman	International Bank for Reconstruction and Development
Yoav Kislev	Hebrew University, Israel
Bertram Silverman	Hofstra University
Laurence Stifel	Thammasat University, Thailand
Baran Tuncer	Ankara University, Turkey
U Tun Wai	International Monetary Fund

#### *1971-72*

Ghazi Farooq	Institute of Development Economics, Pakistan and Bangladesh
Mo-huan Hsing	Academia Sinica, Taiwan
Nurul Islam	Bangladesh Planning Commission
Yoav Kislev	Hebrew University, Israel
Brian Pollitt	Cambridge University, England
Edita Tan	University of the Philippines
Baran Tuncer	Ankara University, Turkey

#### *1972-73*

Ghazi Farooq	Institute of Development Economics, Pakistan and Bangladesh
Egbert Gerken	Technical University of Berlin, West Germany
Sung-Hwan Jo	Sogang University, South Korea
Jorge Katz	Instituto Torcuato di Tella, Argentina



## *Library and Documentation*

The Growth Center Library houses a unique collection focused on the statistical, economic and planning frameworks of 100 developing countries. Considered second only to the joint IMF-World Bank facility in terms of scope and completeness, this library's particular strength resides in its holdings of 3,800 regularly issued sources of LDC statistical data, as well as irregularly issued government documents.

Cognizant of its role as a major national resource, the Growth Center Library extends its services far beyond Yale's boundaries. Inter-library loans with other universities and institutions, an "open-door" policy towards visiting scholars from all over the world, and internships for LDC librarians intended to assist them in organizing their own collections—all serve as channels for sharing the benefits of expertise developed here.

## *Conferences*

In November 1971, a conference covering the Center's work on problems of employment and unemployment in developing countries was attended by representatives of other universities, the Agency for International Development and the World Bank. Scheduled seminars and discussions were based on papers presented by Center faculty and alumni.\*

In May 1973 Lloyd Reynolds, on behalf of the Growth Center, organized a conference in Bellagio, Italy, on "Development Theory and Policy: The Role of Agriculture." Twenty participants, recognized leaders in the field from universities around the world, delivered papers which will be published by Yale University Press in 1974.†

## *Advisory and Related Activities*

The Center, as an institution, does not offer policy advice, but its work is both problem and policy-oriented. Moreover, individual scholars are frequently sought out for important advisory roles by the

\*See Appendix, Section V.

†Ibid, Section VI.

U.S. and LDC governments, the World Bank, foundations and other international organizations concerned with development. Our current country experience includes Argentina, Bangladesh, Chile, China, Colombia, Ghana, India, Indonesia, Iran, Japan, Kenya, Mexico, Nigeria, Pakistan, Philippines, South Korea, Taiwan, Turkey, and Zaire.

Most of these efforts, especially during 1970-73, were directed toward improving policy determination within the LDCs as well as policies focusing on relations between the developed and developing world. This has been especially true with respect to the major portions of our attack on solving the problem of LDC unemployment, perhaps "the" major concern of policy-makers both here and abroad during the past few years. The related issues of income distribution, LDC technology transfer, and the role of the multinational corporation in this context represent issues of the greatest current concern to both foreign aid officials and recipient governments.

The Growth Center administers a special M.A. level program of training for civil servants and economists from the developing countries. Under this International and Foreign Economic Administration (IFEA) Program, a total of more than 250 such individuals have studied at Yale to date. Candidates for this program are normally nominated and financed by the employing agency or institution in the developing country. The curriculum emphasizes the integration of theory and policy, particularly in the areas of money, trade and economic development. Most of the alumni of this program are now active in responsible policy-making positions in the developing world; e.g., one is Minister of Planning in Brazil; another heads the Research Department of the Mexican Central Bank, a third is Minister of Finance in South Vietnam; the Bank of Japan has at least 10 active alumni in top managerial positions and continues to send us a top-notch candidate each year.

The Center has also played an active role in directly assisting a number of research institutions in the developing countries. The most important and formal such linkage has been with the Pakistan (now Bangladesh) Institute of Development Economics. Another is a more informal treaty of friendship governing research interests as well as teaching interchange with the Instituto de Pesquisas Economicas in Sao Paulo, Brazil. The Center's Director is a member of the Foreign Advisory Board of the Korean Development Institute and

other senior staff members have occupied similar positions in Colombia, Japan and Taiwan. Members of such overseas research institutes have benefited from time spent in New Haven working at the Center. For example, the Director of the Institute of Economic Research at Taiwan's Academia Sinica recently spent a year at Yale, as did the head of the Bangladesh Planning Commission.

### *Continuing Research Support*

The Center retains close contact in a variety of ways with its alumni. Former Center staff members who had accepted other appointments as of July 1973 are as follows:

Werner Baer	Vanderbilt University
Albert Berry	University of Western Ontario, Canada
Charles Frank	Princeton University
Marsha Goldfarb	University of Maryland
James Hanson	Brown University
Gerald Helleiner	University of Toronto
Michel Hervé	UNESCO, Paris
Samuel Ho	University of British Columbia, Canada
Shane Hunt	Princeton University
Stephen Hymer	New School for Social Research
Paul Kuznets	Indiana University
James Land	Rice University and St. Thomas College
Mark Leiserson	International Labour Office, Geneva
Markos Mamalakis	University of Wisconsin
Andrea Maneschi	Vanderbilt University
Donald Mead	Development Advisory Service, Ethiopia
Van Doorn Ooms	Swarthmore College
Howard Pack	Swarthmore College
Frederic Pryor	Swarthmore College
Stephen Resnick	University of Massachusetts
Clark Reynolds	Stanford University
Charles Rockwell	University of California, Irvine



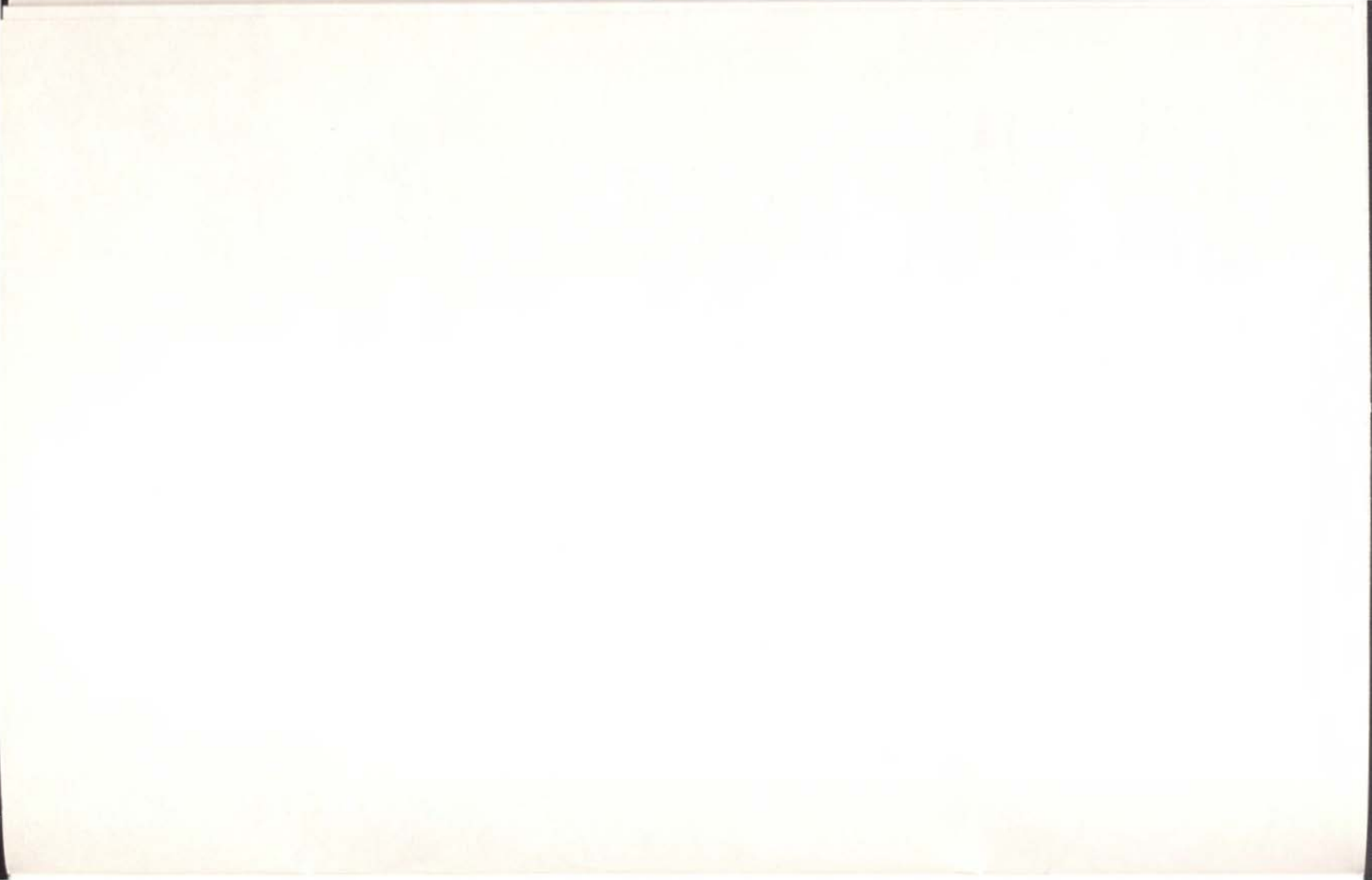
Peter Schran	University of Illinois
Ammar Siamwalla	Thammasat University, Thailand
Donald Snodgrass	Development Advisory Service, Harvard
Ronald Soligo	Rice University
Dirck Stryker	Tufts University
Jam Tumlrir	G.A.T.T., Geneva
Brian Van Arkadie	Cambridge University, U.K.

We are proud of this distinguished group of alumni, some of whom have continued to participate in the work of the Center after their departure and will continue to do so in future years.

### *New Appointments*

New appointments during the period 1970-73 included:

- Mary Ann Baily, Ph.D. (M.I.T., 1973)
- Richard Brecher, Ph.D. (Harvard University, 1971)
- Lucy Cardwell, Ph.D. (M.I.T., 1973)
- Gary Fields, Ph.D. (University of Michigan, 1972)
- James McCabe, Ph.D. (University of Pennsylvania, 1970)
- Mark Rosenzweig, Ph.D. (Columbia University, 1973)
- Richard Weisskoff, Ph.D. (Harvard University, 1969)





## APPENDIX

### I. *Book Publications, 1970-73*

16. Pack, Howard, *The Development of the Economy of Israel*, New Haven: Yale University Press, 1971.
17. Ranis, Gustav, ed., *Government and Economic Development*, New Haven: Yale University Press, 1971.

### II. *Center Papers, 1970-73*

157. Herman E. Daly, *The Population Question in Northeast Brazil: Its Economic and Ideological Dimensions* (Economic Development and Cultural Change, Vol. 18, No. 4, Part I, July 1970).
158. Ryoshin Minami, *Further Considerations on the Turning Point in the Japanese Economy Parts I and II*, (Hitotsubashi Journal of Economics, Vol. 10, No. 2, February 1970 and Vol. 11, No. 1, June 1970).
159. Benjamin I. Cohen, *Tariff Preferences for the Third World* (Intereconomics, No. 9, 1970).
160. Benjamin I. Cohen, *The Use of Effective Tariffs* (Journal of Political Economy, Vol. 79, No. 1, January/February 1971).
161. Jeffrey B. Nugent, *Linear Programming Models for National Planning: Demonstration of a Testing Procedure* (Econometrica, Vol. 38, No. 6, November, 1970).
162. Richard Weisskoff, *Income Distribution and Economic Growth in Puerto Rico, Argentina, and Mexico* (Review of Income and Wealth, Series 16, Number 4, December 1970).
163. Lloyd G. Reynolds, *Is 'Development Economics' A Subject?* (Industrial Organization and Economic Development, in Honor of E. S. Mason, edited by Jesse W. Markham and Gustav F. Papanek; Houghton-Mifflin Co., Boston, 1970).
164. Celso Furtado, *Marx's Model in the Analysis of the Underdeveloped Structures* (Marx and Contemporary Scientific Thought, by permission of the International Social Science Council [Publications, 13] of the International Council for Philosophy and Humanistic Studies; Mouton Publishers, 1970).
165. Herman E. Daly, *A Marxian-Malthusian View of Poverty and Development* (Population Studies, Vol. XXV, No. 1, March 1971).
166. Richard N. Cooper, *Currency Devaluation in Developing Countries* (Princeton University. Essays in International Finance, No. 86, June 1971).



167. Markos Mamalakis, *The Export Sector, Stages of Economic Development, and the Saving-Investment Process in Latin America* (Economia Internazionale, Vol. XXIII, No. 4, November 1970).
168. Noel G. Butlin, *Some Perspectives of Australian Economic Development, 1890-1965* (Reprinted from *Australian Economic Development in the Twentieth Century*, edited by Colin Forster, London: George Allen & Unwin Ltd., Sydney: Australasian Publishing Co. Copyright 1970 by George Allen & Unwin Ltd.).
169. Richard Weisskoff, *Demand Elasticities for a Developing Economy: An International Comparison of Consumption Patterns* (Reprinted from *Studies in Development Planning*, edited by Hollis B. Chenery. Harvard University Press, Cambridge, Massachusetts, Copyright 1971 by the President and Fellows of Harvard College).
170. Richard N. Cooper and Edwin M. Truman, *An Analysis for the Role of International Capital Markets in Providing Funds to Developing Countries* (Weltwirtschaftliches Archiv, June 1971, Number 2).
171. Benjamin I. Cohen, *The International Development of India and Pakistan* (Reprinted from *Economic Development in South Asia. Proceedings of a conference held by the International Economic Association at Kandy, Ceylon*, edited by E.A.G. Robinson and M. Kidron. Macmillan and Co. Ltd., St. Martin's Press, 1970).
172. Edgar O. Edwards, *Work Effort, Investible Surplus and the Inferiority of Competition* (Southern Economic Journal, Vol. XXXVIII, No. 2, October 1971).
173. Benjamin I. Cohen and Daniel G. Sisler, *Exports of Developing Countries in the 1960s* (Review of Economics and Statistics, Vol. LIII, No. 4, November 1971).
174. Raymond W. Goldsmith, *The Development of Financial Institutions During the Post-War Period* (Reprinted from Banca Nazionale del Lavoro Quarterly Review, No. 97, June 1971. Banca Nazionale del Lavoro, Rome).
175. Vahid Nowshirvani, *Land Allocation Under Uncertainty in Subsistence Agriculture* (Oxford Economic Papers, Vol. 23, No. 3, November 1971).
176. Richard N. Cooper, *Devaluation and Aggregate Demand in Aid-receiving Countries* (Reprinted from *Trade, Balance of Payments and Growth*, edited by J. N. Bhagwati, R. W. Jones, R. A. Mundell, and J. Vanek, by permission of North Holland Publishing Co., Amsterdam, 1971).
177. Carlos Diaz Alejandro, *Some Aspects of the Brazilian Experience with Foreign Aid* (Reprinted from *Trade, Balance of Payments and*

Growth, edited by J. N. Bhagwati, R. W. Jones, R. A. Mundell, and J. Vanek, by permission of North Holland Publishing Co., Amsterdam, 1971).

178. Stephen Hymer and Stephen A. Resnick, *International Trade and Uneven Development* (Reprinted from *Trade, Balance of Payments and Growth*, edited by J. N. Bhagwati, R. W. Jones, R. A. Mundell, and J. Vanek, by permission of North Holland Publishing Co., Amsterdam, 1971).

179. Benjamin Cohen, *U.S.-U.S.S.R. in Developing Countries* (Bulletin of the Atomic Scientists, February 1972).

180. Carlos Diaz Alejandro, *Latin America: Toward 2000 A.D.* (Economics and World Order from the 1970's to the 1990's, edited by Jagdish N. Bhagwati, Copyright © 1972, The Macmillan Company, New York).

181. Stephen Hymer, *The Multinational Corporation and the Law of Uneven Development* (Economics and World Order from the 1970's to the 1990's, edited by Jagdish N. Bhagwati, Copyright 1972, The Macmillan Company, New York).

182. Norman Girvan, *Multinational Corporations and Dependent Underdevelopment in Mineral Export Economies* (Social and Economic Studies, Vol. 19, No. 4, December 1970).

183. Hugh Patrick, *The Economic Muddle of the 1920's* (Dilemma of Growth in Prewar Japan, edited by James W. Morley, Princeton University Press, Copyright 1971, reprinted by permission of Princeton University Press).

184. R. Albert Berry, *Land Reform and Agricultural Income Distribution* (The Pakistan Development Review, Vol. XI, No. 1, Spring 1971).

185. Richard N. Cooper, *The European Community's System of Generalized Tariff Preferences: A Critique* (Reprinted from the July 1972 issue of the *Journal of Development Studies*, Vol. VIII, No. 4, by permission of the publishers, Frank Cass & Co. Ltd. of London).

186. Hugh T. Patrick, *Finance, Capital Markets and Economic Growth in Japan* (Reprinted by permission of the New York University Press from *Financial Development and Economic Growth*, edited by Arnold W. Sametz. Copyright 1972 by New York University).

187. Scott M. Eddie, *The Terms of Trade as a Tax on Agriculture: Hungary's Trade with Austria, 1883-1913* (The *Journal of Economic History*, Vol. XXXII, No. 1, March 1972).

188. Richard Weisskoff and Francine Blau, *The Political Economy of the Educational System* (Reprinted from *Contemporary Brazil: Issues*

in *Economic and Political Development*, edited by H.J. Rosenbaum and W. G. Tyler, by permission of Praeger Publishers, Inc., New York © 1972).

189. R. Albert Berry, *Farm Size Distribution, Income Distribution, and the Efficiency of Agricultural Production: Colombia* (*American Economic Review*, Vol. LXII, No. 2, May 1972).

190. Ghazi M. Farooq, *Economic Growth and Changes in the Industrial Structure of Income and Labor Force in Pakistan* (*Economic Development and Cultural Change*, Vol. 21, No. 2, January 1973 © 1973 by The University of Chicago).

191. John Michael Montias, *A Framework for Theoretical Analysis of Economic Reforms in Soviet-type Economies* (Reprinted from *Plan and Market: Economic Reform in Eastern Europe*, edited and with introduction by Morris Bornstein, © Yale University, 1973).

192. Ghazi M. Farooq, *An Aggregative Model of Labor Force Participation in Pakistan* (*The Developing Economies*, Vol. X, No. 3, September 1972).

193. Gustav Ranis, *Industrial Sector Labor Absorption* (*Economic Development and Cultural Change*, Vol. 21, No. 3, April 1973 © 1973 by the University of Chicago).

194. Benjamin I. Cohen, *Comparative Behavior of Foreign and Domestic Firms* (*The Review of Economics and Statistics*, Vol. LV, No. 2, May 1973, Harvard University).

195. John Michael Montias, *Modernization in Communist Countries: Some Questions of Methodology* (*Studies in Comparative Communism*, Spring, 1973).

196. Raymond W. Goldsmith, *A Century of Financial Development in Latin America* (*Memoria de la X Reunion de Técnicos de Bancos Centrales del Continente Americano*, Banco Central de Venezuela, Caracas, 1972).

197. Yoav Kislev and Nira Shohori Bachrach, *The Process of an Innovation Cycle* (Reprinted from *American Journal of Agricultural Economics*, Vol. 55, No. 1, February, 1973).

### III. Center Discussion Papers, 1970-73

99. Richard R. Nelson, *The Technology Gap, and National Science Policy*, September 30, 1970.

100. R. Albert Berry, *International Trade Fluctuations and the Income and Wealth Fluctuations of Economic Groups*, September 1970.

101. R. Albert Berry, *On the Usefulness of a Presumptive Tax on Agricultural Land in Colombia*, October 29, 1970.



102. George Eads and Richard R. Nelson, *Governmental Support of Advanced Civilian Technology—Power Reactors and the Supersonic Transport*, November, 1970.
103. Richard R. Nelson, *Issues and Suggestions for the Study of Industrial Organization In a Regime of Rapid Technical Change*, January, 1971.
104. Richard R. Nelson, *Less Developed Countries, Technology Transfer and Adaptation, and the Role of the National Science Community*, January, 1971.
105. Carlos F. Diaz Alejandro, *Labor Productivity and Other Characteristics of Cement Plants: An International Comparison*, February, 1971.
106. Vahid Nowshirvani, *The Efficacy of the Market Mechanism in Traditional Agriculture: A Reexamination of an Old Controversy*, March 23, 1971.
107. Albert Berry, *Land Reform and the Agricultural Income Distribution*, March 24, 1971.
108. Albert Berry, *Land Distribution, Income Distribution and the Productive Efficiency of Colombian Agriculture*, March, 1971.
109. Paul W. Kuznets, *The Korean Take-off*, January, 1971.
110. J. C. H. Fei and Gustav Ranis, *Development and Employment in the Open Dualistic Economy*, April 18, 1971.
111. Yoav Kislev, *The Economics of the Agricultural Extension Service*, April 19, 1971.
112. Baran Tuncer, *Development of the Turkish Economy: An Experience in Planning*, May, 1971.
113. Howard Pack, *The Contribution of Education to Growth: An Alternative Approach*, May, 1971.
114. J. Dirck Stryker, *Population Density, Agricultural Technique and Land Utilization in a Village Economy*, May, 1971.
115. Howard Kunreuther, *Risk Taking and Farmers' Crop Growing Decisions*, June, 1971.
116. Gustav Ranis, *Industrial Sector Labor Absorption*, July, 1971.
117. Carlos F. Diaz Alejandro, *Labor Productivity and Other Characteristics of Cement Plants: An International Comparison*, July, 1971 (GCDP #105, Revised).
118. Stephen A. Resnick, *The Second Path of Capitalism: A Model of International Development*, September, 1971.
119. Yoav Kislev and Nira Shohori Bachrach, *The Diffusion of Innovation in the Israeli Agriculture*, July, 1971.
120. James Hanson, *Federal Expenditures and the Political Economy*



- of the Mexican Revolution: An Exploratory Empirical Study*, September, 1971.
121. Baran Tuncer, *A Study of the Socio-Economic Determinants of Fertility in Turkey*, August, 1971.
122. Arthur W. Wright and Lloyd S. Etheredge, *The Soviet Precedent in Czechoslovak and Yugoslav Agriculture: Two Case Studies of Communist Economic Imitation*, August, 1971.
123. James Hanson, *Trade, Growth, and the Heckscher Ohlin Theorem*, September, 1971.
124. Robert E. Evenson and Yoav Kislev, *Investment in Agricultural Research and Extension: A Study of International Data*, August, 1971.
125. Gustav Ranis, *The Role of the Industrial Sector in Korea's Transition to Economic Maturity*, August, 1971.
126. U Tun Wai, *Financial Intermediation and National Savings in Developing Countries*, August, 1971.
127. James McCabe and Milind Lele, *Optimal Growth and the Distribution of Income and Capital*, September, 1971.
128. Richard Nelson, *Recent Exercises in Growth Accounting: New Understanding or Dead End?* September, 1971.
129. Brian Pollitt, *Some Notes on Soviet Economic Debate in the 1920s*, October, 1971.
130. Stephen Resnick and Thomas Birnberg, *A Model of the Trade and Government Sectors in Colonial Economies*, November, 1971.
131. Carlos Diaz Alejandro, *The Future of Direct Foreign Investment in Latin America*, December, 1971.
132. Richard Cooper, *The European Community's System of Generalized Tariff Preferences: A Critique*, December, 1971.
133. Ghazi M. Farooq, *An Aggregative Model of Labor Force Participation in Pakistan*, December, 1971.
134. James Elliott, *International Social Welfare Comparisons: A New Approach*, December, 1971.
135. Thomas Birnberg and Benjamin Cohen, *A Theoretical Analysis of Partial Economic Reform*, December, 1971.
136. Benjamin Cohen, *The Economic Impact of Foreign Investments for the Export of Manufactures: A Tentative Study of South Korea*, January, 1972.
137. Albert Berry, *Some Determinants of Changing Income Distribution in Colombia: 1930-1970*, March 1972.
138. Albert Berry, *Aspects of the Optimal Interest Rate*, April, 1972.
139. Carlos Diaz Alejandro, *Trends and Phases in the Colombian Economy and Its Foreign Trade and Payments, 1950-70*, April, 1972.



140. Richard Brecher, *Minimum Wage Rates and the Pure Theory of International Trade*, April, 1972.
141. James McCabe, *Income Distribution and Optimal Growth: The Case of Open Unemployment*, April, 1972.
142. Albert Berry, *The Relevance and Prospects of Small Scale Industry in Colombia*, April, 1972.
143. Raymond Goldsmith, *A Synthetic Estimate of the National Wealth of Japan, 1880-1970*, April, 1972.
144. Albert Berry, *The Rate of Interest and the Demand for Labor*, May, 1972.
145. Albert Berry, *Unemployment as a Social Problem in Urban Colombia: Some Preliminary Hypotheses and Interpretations*, May, 1972.
146. Carlos Diaz Alejandro, *The Determination of Observed Merchandise Imports and Their Link to Capital Formation*, June, 1972.
147. J. Dirck Stryker, *Exports and Growth in the Ivory Coast: Timber, Cocoa and Coffee*, June, 1972.
148. James Hanson, *Agricultural Productivity and the Distribution of Land: Venezuelan Case*, June, 1972.
149. Carlos Diaz Alejandro, *Minor Colombian Merchandise Exports*, July, 1972.
150. Ammar Siamwalla, *Land, Labor and Capital in Three Rice Growing Deltas of Southeast Asia, 1800-1940*, July, 1972.
151. Benjamin Cohen, *Foreign Investment by U.S. Corporations as a Way of Reducing Risk*, July, 1972.
152. Gustav Ranis, *Some Observations on the Economic Framework for Optimum LDC Utilization of Technology*, August, 1972.
153. J. Dirck Stryker, *Vent for Surplus Growth in a Colonial Economy: A Tentative Model*, August, 1972.
154. Carlos Diaz Alejandro, *The Mechanism for Containing Imports: The System During 1971 and A Retrospective Look at its Evolution (Tariffs, Prior Deposits and the Exchange Rate)*, August, 1972.
155. J. Dirck Stryker, *Population Density, Capital Investment, and Agricultural Exports: The Franc Zone*, August, 1972.
156. Thomas Birnberg and S. Resnick, *Dynamic Properties of Colonial Development*, September, 1972.
157. J. M. Montias, *The Aggregation of Controls in the Autonomy of Subordinates*, September, 1972.
158. Carlos Diaz Alejandro, *The Mechanism for Containing Imports: The System During 1971 and A Retrospective Look at its Evolution (Import Controls)*, September, 1972.



159. Ghazi Farooq and Baran Tuncer, *Provincial Fertility and Social and Economic Development in Turkey, 1935-65*, October, 1972.
160. Gary S. Fields, *The Private Demand for Education in Relation to Labor Market Conditions in Less Developed Countries*, October, 1972.
161. James McCabe and David Sibley, *Optimal Savings and Foreign Debt Policy with Export Revenue Uncertainty*, October, 1972.
162. Simon Kuznets, *Income-Related Differences in Natural Increases: Bearing on Growth and Distribution of Income*, October, 1972.
163. James McCabe, *Unemployment as a Social Welfare Problem in Urban Zaire*, November, 1972.
164. Benjamin Cohen, *An Alternative Theoretical Approach to the Impact of Foreign Investment on the Host Country*, November, 1972.
165. Simon Kuznets, *Demographic Aspects of the Distribution of Income Among Families: Recent Trends in the United States*, November, 1972.
166. Simon Kuznets, *Rural-Urban Differences in Fertility: An International Comparison*, November, 1972.
167. Joel Mokyr, *The Industrial Revolution in the Low Countries in the First Half of the 19th Century: A Comparative Case Study*, November, 1972.
168. Gary Fields, *Rural-Urban Migration, Urban Employment and Job Search Activity in LDCs*, December, 1972.
169. James McCabe, *Effects of Changes in the Level and Distribution of Capital Holdings on Income Inequality*, January, 1973.
170. James McCabe and C. Michalopoulos, *Tariff Policy, Equipment Production and Employment in Developing Countries*, January, 1973.
171. Gary Fields, *The Allocation of Resources to Education in Less Developed Countries*, January, 1973.
172. John C. H. Fei, *The Standard Market of Traditional China*, February, 1973.
173. Gary Fields, *Higher Education and Income Distribution in a Less Developed Country*, March, 1973.
174. Richard Weisskoff, *A Multi-Sector Simulation Model of Employment, Growth, and Income Distribution in Puerto Rico: A Re-evaluation of "Successful Development Strategy,"* March, 1973.
175. Ghazi Farooq and Baran Tuncer, *Fertility and Economic and Social Development in Turkey: A Cross-Sectional Time Series Study*, April, 1973.
176. Egbert Gerken, *Land Productivity and the Employment Problem of Rural Areas*, March, 1973.



177. Benjamin Cohen, *Role of the Multinational Firm in the Exports of Manufactures from Developing Countries*, May, 1973.
178. Albert Berry, *Urban Labor Surplus and the Commerce Sector: Colombia*, (and Appendix), June, 1973.
179. Howard Pack, *The Employment-Output Tradeoff in Less Developed Countries: A Micro-Economic Approach*, June, 1973.
180. Carlos Diaz Alejandro, *Trade Policies and Economic Development*, June, 1973.
181. Ghazi Farooq and Gordon Winston, *Shift Working, Employment and Economic Development: A Study of Industrial Workers in Pakistan*, July, 1973.
182. Carlos Diaz Alejandro, *Colombian Imports and Import Controls in 1970-71: Some Quantifiable Features*, July, 1973.
183. Carlos Diaz Alejandro, *Some Characteristics of Recent Export Expansion in Latin America*, July, 1973.
184. Richard Cooper, *Tariffs and Smuggling in Indonesia*, July, 1973.
185. Carlos F. Diaz Alejandro, *The Colombian 1965-66 Liberalization Episode*, August, 1973.

#### IV. Seminar and Workshop Speakers, 1970-73

1970-71

Gerald K. Helleiner (University of Toronto)	"Socialism and Development in Tanzania"
Joseph Stiglitz	"Rural-Urban Migration, Surplus Labor and the Relationship Between Urban and Rural Wages"
Carlos Diaz Alejandro	"Labor Productivity and Other Characteristics of Cement Plants: An International Comparison"
Mahbub ul Haq (Pakistan Planning Commission and International Bank for Reconstruction and Development)	"Seven Sins of Economic Planners"
Tsunehiko Watanabe (Kyoto University)	"National Planning and Economic Development, A Critical Review of the Japanese Experience"

- Abram Bergson  
(Harvard University)
- B. S. Minhas  
(Indian Statistical Institute and Economic Development Institute of the International Bank for Reconstruction and Development)
- Richard Easterlin  
(University of Pennsylvania)
- T. Paul Schultz  
(RAND Corporation)
- Richard Brecher  
(Harvard University)
- R. Albert Berry
- J. Dirck Stryker
- Mrs. Brooks Byrd  
(formerly of the Harvard Economic Research Project)
- Stanislaw Wellisz  
(Columbia University)
- Yoav Kislev  
(Hebrew University)
- Constantine Vaitsos  
(Junta Acuerdo de Cartagena of the Andean Group)
- "Comparative Productivity Growth: COMECON-OECD Since 1950"
- "Towards a Production Function with Dated Inputs of Water"
- "Relative Income and Fertility"
- "A Model of Household Fertility Decision-Making"
- "Optimal Commercial Policy for Minimum Wage Countries"
- "Income Distribution and the Relative Efficiency of Large and Small Farms in Colombia"
- "Peasant Farming in Land Surplus Economies"
- "The Crude Oil Industry and Leontief's Dynamic Model"
- "Consumption Leakages Out of Development Loans"
- "Capital Adjustment with a U-Shaped Average Cost of Investment—An Optimal Control Analysis"
- "Transfer of Resources and Preservation of Monopoly Rents"

1971-72

- Albert Berry
- Branko Horvat  
(Graduate School of Economics, Belgrade)
- "Controversial Issues in Current Colombian Development Plans"
- "Self Management in the Enterprise"

- Hollis B. Chenery  
(International Bank for  
Reconstruction and  
Development)
- Martin Weitzman and  
Jon Cohen
- Joseph Stiglitz
- Constantine V. Vaitsos  
(Acuerdo de Cartagena  
Lima, Peru)
- George Johnson  
(University of Michigan)
- Gary Fields  
(University of Michigan)
- Dennis DeTray  
(RAND Corporation)
- Glenn Jenkins  
(University of Chicago)
- Pranab Bardhan  
(Indian Statistical  
Institute)
- Thomas Birnberg and  
Benjamin Cohen
- Thomas Birnberg and  
Stephen Resnick
- Louis T. Wells, Jr.  
(Harvard University)
- James McCabe
- Dirck Stryker
- Richard Nelson
- "A Comparison of Development Strategies"
- "A Marxian Model of Primitive Accumulation"
- "Alternative Theories of Wage Determination and Unemployment in LDCs"
- "Inter-Country Income Distribution and Transnational Corporations: Reasons and Mechanisms"
- "Wages, Employment, and Income Distribution in Kenya"
- "Rates of Return to Education in Kenya"
- "Substitution between Quantity and Quality of Children in the Household"
- "Measurement of Tax Incentives for Sectoral Expansion"
- "Size, Productivity, and Returns to Scale in Agriculture: An Analysis of Indian Farm Level Data"
- "A Theoretical Analysis of Partial Economic Reform"
- "A Model of the Trade and Government Sectors in Colonial Economies"
- "Joint Ventures of the Multinational Enterprise in Developing Countries"
- "Optimal Growth and the Distribution of Income and Capital"
- "Population Density, Capital Investments and Growth: The Franc Zone"
- "Recent Exercises in Growth Accounting: New Understanding or Dead End?"

1972-73

- Bela Balassa  
(Johns Hopkins University)
- Robert Evenson
- "Alternative Methods of Project Evaluation"
- "Productivity Change in Indian Agriculture, 1953-1971"

- Richard Weisskoff and  
Edward Wolff
- Gordon Winston  
(Williams College)
- Alan Kelley  
(Duke University)
- Lance Taylor  
(Harvard University)
- Grant L. Reuber  
(University of Western  
Ontario)
- Michael Montias
- Celso Furtado  
(The American  
University)
- Besim Ustunel  
(University of Ankara)
- Ronald Findlay  
(Columbia University)
- Jorge Katz  
(Instituto Torcuato di  
Tella, Buenos Aires)
- James McCabe and  
David Sibley
- Simon Kuznets
- Gary Fields
- Yair Mundlak  
(Hebrew University)
- Thomas Birnberg
- "Linkages and Leakages: Import De-  
pendency and Export Promotion in  
Puerto Rico"
- "Capital Utilization and Investment"
- "Population Growth, Savings and De-  
pendency Rates, and the Pace of Eco-  
nomic Development"
- "Short Term Policy in Open Developing  
Economies"
- "Some Aspects of Private Foreign Invest-  
ment in Less Developed Countries"
- "System Structures and Economic Devel-  
opment"
- "An Analysis of the Brazilian 'Model' "
- "Growth, Trade, and Technology: From  
Trade-Generating Growth To Growth-  
Generating Trade"
- "Primary Exports, Manufacturing Pro-  
duction, and Development in a Dual  
Economy"
- "Technological Change and Industrial  
Growth in Argentina"
- "Optimal Foreign Borrowing Under Ex-  
port Uncertainty"
- "Differential Fertility, Distribution, and  
Development"
- "The Private Demand for Education in  
Relation to Labor Market Conditions  
in Less Developed Countries"
- "Effects of Factor Market Distortions on  
Differential Growth"
- "Dynamic Properties of Colonial Devel-  
opment"



V. *Conference on the Problems of Employment and Unemployment, 1971*

- |                                    |   |
|------------------------------------|---|
| Gustav Ranis                       | "Employment, Unemployment and Growth: A Tentative Synthesis of EGC Research"                          |
| Gustav Ranis and<br>John C. H. Fei | "Growth and Employment in South Korea and Taiwan"   |
| Howard Pack                        | "Employment and Industrial Growth—Some Cross-Section Results: 1953-63"                                |
| Robert Evenson                     | "Employment in Indian Agriculture"  |
| Richard Brecher                    | "Disguised vs. Open Unemployment: A Trade-off"  |
| Markos Mamalakis                   | "Employment and Unemployment Dimensions of Production, Distribution and Allocation in Chile"          |
| James McCabe                       | "Employment in the Congo: A Preliminary Investigation"  |
| Albert Berry                       | "Unemployment as a Social Problem in Urban Colombia: Some Preliminary Hypotheses and Interpretations" |
| Ronald Soligo                      | "Factor Intensity of Consumption Patterns in West Pakistan"   |
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