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PROGRESS REPORT

AID Contract CSD-1543

"Comparative Studies of Resource Allocation
and
Development Policy"

HARVARD UNIVERSITY

Report through June 30, 1971

FOREWORD

This report describes work completed under AID Contract CSD-1543, through June 30, 1971. It is not a complete summary of all research done to date; rather it supplements and updates previous progress reports. This document is rather abbreviated, since it is intended to be read in conjunction with the July 1971 proposal to extend the Harvard contract. The latter statement includes a full listing of all materials developed to date, as well as an extensive statement of future plans.

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I. BIBLIOGRAPHY OF RESEARCH, OCTOBER 1, 1970 - JUNE 30, 1971

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II. SUBSTANTIVE PROGRESS

Research efforts by members of the Development Research Group have continued to focus on both theoretical and empirical aspects of development policy and planning as related to structural change. Small research teams have worked on particular sets of issues related to development, including agriculture and rural development, industrial development and international trade, monetary and fiscal problems in financing development, and the role of the government in the economy. In addition, several continuing projects have been completed in the fields of education, population policy, and planning models.

GENERAL STUDIES

As is often the case, several research efforts described in earlier progress reports have reached final publication form during the period of this report.

Several books, all of which have been discussed in earlier reports, were published during the period under review, including Dorris D. Brown's Agricultural Development in India's Districts (2)*, David Cole and Princeton Lyman's Korean Development: The Interplay of Politics and Economics (4), Arthur MacEwan's Development Alternatives in Pakistan (12), Gustav Papanek and Jesse Markham's Industrial Organization and Economic Development (21), Robert Repetto's Time in Indian Development Programs (26), and Decision-Making for Economic Development (18), a casebook in problems of development, collected and edited by Gustav Papanek, Daniel Schydrowsky and Joseph Stern.

Three additional books are in page-proofs and should be published soon. They include Fiscal Reform for Colombia (8), edited by Malcolm Gillis, Studies in Development Planning (3), edited by Hollis Chenery, and Development Policy II - The Pakistan Experience (6), edited by Walter Falcon and Gustav Papanek.

Several individual papers, also discussed earlier, have now been published. Among these are Walter Falcon's "The Green Revolution: Generations of Problems" (7), Gustav Papanek's "The Location of

* Numbers in parentheses refer to entries in the bibliography of research, Section I.

Industry" (22) and "Development Planners, Ethics and Objectives" (19), Daniel Schydlofsky's "Short-Run Policy in Semi-Industrialized Economies" (32), Moises Syrquin's "A Note on Fluctuations in Supply and Farmers' Income" (36), and Lance Taylor's "Foreign Exchange Shadow Prices: A Critical Review of Current Theories" (37).

AGRICULTURE AND RURAL DEVELOPMENT

Recent technological advances in the agricultural sector and increased population pressures in developing countries have highlighted the important interrelationships among agricultural development and questions of employment and income distribution. Studies of the agricultural sector have therefore been widened in scope to include secondary and tertiary effects of change. Recent work by Walter P. Falcon, Carl H. Gotsch, and John W. Thomas reflects this widened emphasis.

During the past six months, Carl Gotsch has worked on two projects. In a study of rural development in East Pakistan, he has examined a variety of proposed programs (a) from an economic and social point of view, and (b) from a political and institutional point of view. His conclusions are summarized in "Rural Development in East Pakistan: Some Thoughts on Priorities" (9). They suggest that there is reason to suspect that the inevitable trimming of the proposed comprehensive land and water development program will affect first the small-scale, short-run, labor-intensive programs that are critical to the Provincial development effort. This ordering of priorities in favor of large-scale, multi-purpose irrigation projects is seen to result from several factors, including (a) a difference of opinion over the absorptive capacity of the East Pakistan economy, (b) the urban orientation of the majority political party, and (c) the institutional interests of the East Pakistan Water and Power

Development Authority, their foreign consultants, and certain foreign aid donors.

Gotsch has also continued work on a comparative study of the impact of technological change on agriculture in the Mississippi Delta and the Indus Basin of West Pakistan. Field work recently completed in West Pakistan but not yet written up suggests that the recent political campaign culminating in a widespread movement by tenants to withhold rents may produce an acceleration of technological change similar to that which characterized the aftermath of the "Freedom Summer" of 1964 in the Delta. Events in both areas support Gotsch's hypothesis that extremely rapid technological change of the labor-displacing type is nearly always associated with overt conflict between different rural social classes.

John Thomas has also been working on rural development in East Pakistan, concentrating on the determinants of tubewell technology. The data for this study have been collected and processed, and a final outline has been prepared ("Tubewell Irrigation Technology and Its Determinants in East Pakistan," 41). Thomas will analyze the alternative techniques available to East Pakistan for tubewell installation and then will examine the determining factors behind the actual policy being implemented. Thomas has also done preparatory work on a related study of the effect on performance of the organization of rural development programs. The organizational techniques used in East Pakistan for water development represent a starting point for this investigation.

Walter P. Falcon has begun work on a longer-run study of employment and income distribution in the rural sector. This study will extend his earlier work in "The Green Revolution: Generations of Problems" (7). Rapid population increases and technological advances have highlighted second and third generation problems of marketing, resource allocation, equity, welfare, employment, and social institutions generally. Falcon is attempting to develop a typology for classifying countries according to their employment situations, in hopes of providing varying sets of policies for dealing with the different employment circumstances in which they find themselves.

INDUSTRY AND TRADE

In many developing economies and in those of Latin America particularly, industrial development and international trade are closely interrelated. Indeed, industrialization policies have often been based primarily on the control of international trade flows.

Lance Taylor, in collaboration with Edmar Bacha, has continued his research on partial equilibrium analysis of the shadow price of foreign exchange. Their theoretical paper, "Foreign Exchange Shadow Prices: A Critical Review of Current Theories" (37), discussed in a previous progress report, has been published in the Quarterly Journal of Economics. An empirical study of Chile, "Growth and Trade Distortions in Chile, and Their Implications in Calculating the Shadow Price of Foreign Exchange" (38), has also been completed. In the latter study, the authors conclude that the amount of foreign exchange required to support "acceptable" rates of growth in Chile will be forthcoming only under an efficient exchange earning program, namely one which would stress promotion of exports instead of the traditional import-substitution policy. Under such a policy, the shadow price of foreign exchange would be the key to investment project evaluation, and Taylor and Bacha estimate one version of this shadow price -- the equilibrium exchange rate which Chile would have if its present restrictive commercial policy were replaced by a no-restrictions approximation to the optimal policy.

Taylor has also done research on the use of dynamic, aggregated optimal growth models to calculate shadow prices. These results, which proved somewhat surprising because of the small price flexibility such a model permits, have been written up in preliminary form ("Investment Project Analysis in Terms of a Model of Optimal Growth: The Case of Chile" 39).

Finally, with Sergio Bitar, Taylor has done a short paper on social cost/benefit analysis in Chile -- present barriers to its use and the probable future usefulness of this type of work ("Past and Future of Investment Project Analysis in Chile" 40).

Marcelo Selowsky has done related work on Chile ("Cost of Price Stabilization Policies in a Strongly Inflationary Economy" 33). Selowsky's paper outlines a short-run model of inflation and output to permit analysis of the effects of short-run stabilization policies in economies subject to strong inflationary processes. The case of Chile suggests that the effect of such policies can be substantial.

Richard D. Mallon has continued his study of economic policy making in a conflict society, the Argentine case. He has now completed the first two parts of his three-part book. Part I, on the policy making process and experience in Argentina, consists of two chapters that stress the sequential nature of policy making and analyze the series of second-best options from which policy makers are usually obliged to choose. The four chapters of Part II deal with balance of payments problems and experience, agriculture and export expansion, industrialization and foreign trade, and balance of payments policy. In these chapters Mallon analyzes the consequences of extreme cyclical instability and the "structural break" that

occurred in Argentina in the mid-1950's, and he concludes that "real" exchange rate maintenance by means of a crawling peg policy is much superior to large periodical devaluations. Much of the research for Part III, which will analyze anti-inflationary policy, has also been completed.

Daniel M. Schydrowsky has continued his work (in collaboration with Stephen Guisinger) on the theory and measurement of the effective rate of protection. Two papers discussed in the previous report have been revised and completed ("The Empirical Relationship between Nominal and Effective Rates of Protection" 28, and "A Note on the Effective Rates of Protection and Period of Production" 31).

In "Allocating Integration Industries in the Andean Group" (27), Schydrowsky presents a methodology for assessing the impact of the allocation of reserved import-substituting industries to the various member countries. He also suggests separating the efficiency and distribution considerations as a means of maximizing the welfare to the group as a whole and then distributing the benefits. This might be achieved by the creation of an Andean holding corporation and a current account bookkeeping system which would not require direct common ownership of the industries.

Schydrowsky also undertook a first approximation analysis of the benefit to selected Latin American countries of increasing the number of shifts at which the installed capacity in industry is used. In "Fiscal Policy for Full Capacity Industrial Growth in Latin America" (30), he sets out a policy for capacity utilization based on the removal of the major microeconomic barriers to capacity utilization, combined with an appropriate export promotion policy to remove the constraints arising from the balance of payments. Approximate estimates of the implications of industrial growth under two shifts

of operation are given for selected Latin American Countries up to the year 2000.

Schydrowsky and Moises Syrquin have collaborated on estimating cross section, constant-elasticity-of-substitution production functions ("The Estimation of CES Production Functions and Neutral Efficiency Levels Using Effective Rates of Protection as Price Deflators" 29). International production data were adjusted to uniform world prices through the use of effective-rate-of-protection deflators. Pooling data on all countries available showed that the average elasticity of substitution to be virtually equal to 1. Furthermore, it was found that the "neutral efficiency coefficient" included a number of elements that must be netted out before results of this kind can be used to determine international differences in efficiency.

Schydrowsky examined the case of Argentina in a study of the use of idle capacity as an important source of income for semi-industrialized countries ("Short-Run Policy in Semi-Industrialized Economies" 32). In this study, discussed more fully in an earlier report and revised for publication, it is shown that such an employment policy can take place in the face of an import constraint and under the restriction that the fiscal balance not deteriorate. Finally, it is shown that the subsidization is compatible with long-run optimum allocation of resources if the less efficient industries receive subsidies that are only sufficient to cover marginal cost.

In a study of the manufacturing sector in Mexico, Moises Syrquin has estimated the costs of intrasectoral and intersectoral misallocations of resources in 1965. Under varying assumptions one estimate was equal to 23 percent of potential output; a second was

over 16 percent ("Efficient Input Frontiers for the Manufacturing Sector in Mexico 1965-1980," 34). Syrquin's main conclusion for 1980 was that a slow rate of growth in real wages and a continuation of the previous decade's rate of growth of capital will allow a six percent increase in employment in addition to the elimination of the 1965 slack. A larger rate of wage increase may still permit a six percent rate of growth in employment but with a significant part of the slack remaining.

Tsunehiko Watanabe has pursued three lines of research activity related to industrial development. Two studies of the Japanese experience, discussed in the previous report, have been revised for publication ("National Planning and Economic Development - A Critical Review of the Japanese Experience," 43, and "A Summary: Improvement of Labor Quality and Economic Growth - Postwar Japan's Experience" 44). Watanabe has also made an econometric study of a specific industry -- the Japanese steel industry ("An Econometric Study of the Japanese Steel Industry" 42). One of the most significant features of Japan's postwar economic growth has been the rapid expansion of heavy industry in contrast with the relatively slow growth rate in the primary sector and in the light industries of the secondary sector.

MONETARY AND FISCAL ISSUES IN DEVELOPMENT

Malcolm Gillis completed work on the Colombian Tax Reform which will be published by Harvard University Press in late 1971 (Fiscal Reform for Colombia, 8). In addition, he has begun preparation of a series of articles based on his work on fiscal reform in Chile, Colombia, Ghana, and Ecuador. The latter work includes such topics as the design and evaluation of various tax incentive schemes for exports, investment, regional development and timber exploitation, the assessment of various proposals for value-added taxes in developing countries, and the improvement of projection techniques for tax revenues for data-scarce economies.

His experience with various export incentive schemes in Chile, Colombia and Ghana has led Gillis to believe that a carefully designed system of fiscal incentives for nontraditional exports can play a significant role in expanding export earnings from this source. At the same time, his research indicates that a number of traditional approaches to fiscal stimulation of the export sector, such as those involving income tax and customs duty exemptions for exporters, are the least effective means of employing fiscal tools to achieve expansion of price-responsive exports.

Millard Long is continuing his investigation of credit and development. He has completed a draft chapter on the impact of financial institutions and policy on savings, investment and the allocation of capital ("Development and Financial Structure," 10).

His results suggest that in many developing countries too much emphasis has been placed on institutions and market structures, which are likely to have only marginal effect on savings and allocation, and too little on policy such as controls on interest rates and duration of loans -- which might have a more profound influence on savings and allocation. Long has also prepared a very preliminary version of a paper on the impact of macro financial policy on development. This considers such questions as the appropriate policy response to various types of instabilities, such as fluctuations in output, export earnings or foreign aid and devaluation. He also considers such questions as implementation of monetary policy, the feasibility of a regional monetary policy, and the influence of counterpart funds on domestic monetary policy.

GOVERNMENT POLICY TOWARD FOREIGN AID AND INVESTMENT

Several recent papers have suggested that foreign resource inflows, especially aid, have a negative effect on savings in many developing countries. Gustav Papanek has continued his analysis of these relationships among savings, aid, foreign private investment and growth. Examining 31 countries during the 1950's and 53 countries during the 1960's, he finds that in many cases a negative correlation has little causal meaning.

There is some evidence that three groups of countries can be distinguished with respect to the inflow of foreign resources and their effect on growth: (1) those rich in natural resources, with a high level of primary exports and a high level of savings, a low level of foreign aid and a moderate inflow of foreign private investment during the period under review; (2) those poor in natural resources and not yet among the semi-industrialized with low rates of both primary and manufactured exports, with low savings rates, high aid inflows and low rates of foreign private investment; (3) semi-industrialized countries, with manufactured exports which are still at a level inadequate to ease savings and balance of payments constraints so that savings rates remain partly dependent on primary exports and growth on the level of foreign inflows.

Papanek has also made an empirical test of the technique of factor analysis in terms of its predictive ability ("Factor Analysis and Growth: An Empirical Test," 20). Although the analysis is seen

is seen to be weak in predicting future growth rates, it remains a significant step toward the identification of social and political variables associated with economic growth. Moises Syrquin has also done a short comment on factor analysis as applied to per capita income ("Factor Analysis and Income Per Capita," 35).

Louis T. Wells, Jr., has continued his investigation of a specific aspect of government policy toward foreign investment: "The Evolution of Concession Agreements in Developing Countries" (45). His paper presents an attempt to describe the factors underlying the concession negotiations to provide a better basis for the host government and the foreigner to reach mutually acceptable terms. By examining common historical trends, Wells provides a framework that is useful for looking at the policy alternatives available to host governments.

In a more general study of foreign capital flows, Millard Long attempts to provide a means of evaluating loan offers within such constraints as rising international prices, restrictive tying arrangements, and burdensome debt servicing ("Looking at a Gift Horse," 11). Long's paper suggests that the cost-benefit techniques and some of the estimates developed for project appraisal can be applied to loan analysis. Procedures are presented for evaluating the benefits and costs likely to accrue to a particular loan, and techniques are examined for deciding the total amount to be borrowed abroad. Because of the many constraints on tied loans, borrowers' benefits are less than face value of the loans. Finally, Long suggests that the developing countries can increase the benefits from commodity loans by using the market mechanism to determine the goods to be imported.

CONTINUING PROJECTS

In keeping with AID's request for close cooperation and collaboration between the Center for International Affairs and the Center for Population Studies, Robert Repetto has completed a major study in the population field. He has explored the relationship between son-preference and family size in traditional societies characterized by strong son-preference ("Son-Preference and Fertility Behavior in Developing Countries," 25). Data on about 10,000 couples in several district samples were drawn from India, Pakistan, and Morocco. The results of his analysis do not support the assertion that a preponderance of males among the early births is associated with smaller total family size. Indeed, to the extent that the relationships are significant, they seem to indicate that a high proportion of early male births is associated with larger family size.

Samuel S. Bowles has nearly completed his study of class power and mass education. Recent research has included the analysis and integration into his study of rate of return evidence on five additional countries. Additional estimates of the cross section relationships between economic structure and resource allocation in primary education have also been completed. Further work of both an empirical and a theoretical nature has been undertaken regarding the elasticity of substitution between capital and labor services. Finally, Bowles has examined the political mechanisms whereby the economic structure of a society influences the educational policies

pursued by the government. Bowles anticipates writing up this material during the summer and fall of 1971.

A thesis by Mohiuddin Alamgir emphasizes the interdependence of various aspects of economic development and relates this to the general question of evaluating the relative profitability of investment in human capital vis-a-vis investment in physical capital in East Pakistan. (A Planning Model for East Pakistan with Special Emphasis on Manpower and Education, 1). The thesis shows that for East Pakistan during the period of the Perspective Plan, various types of skills emerge as relatively scarce factors of production. The importance of such skill constraints is revealed in the model through restrictions imposed by limited absorptive capacity. As with the case of several graduate students, the only financial support extended to Alamgir was for the computer work involved in his dissertation.

William J. Raduchel has continued his work on a general equilibrium model for development planning, using Chile as a case study. ("A General Equilibrium Model for Development Planning," 23, 24). His results incorporate a number of new methodological features involving non-linearities and may be more important than was previously believed. They also suggest that the popular Stone linear expenditure system may be inappropriate in a general equilibrium model.

III. OTHER PROJECT-RELATED ACTIVITIES

In accordance with the agreement between AID and Harvard, other project-related activities have included a number of informal briefings and seminars. In the period under review, briefings were held for seven AID personnel going to those countries in which Harvard has maintained continuing contacts and interest.

On February 1, 1971, Walter Falcon, Gustav Papanek, and Lance Taylor traveled to AID/Washington to present seminars on their areas of current research, namely problems of the green revolution, the relationship between aid and growth, and planning models for the Chilean economy, respectively. This meeting also provided for a full oral review of work under the contract with various regional representatives.

On April 16-17, 1971, Harvard hosted a Research Conference attended by three major recipients of AID financing for research on problems of development. This was the third in a series of informal exchanges on research in progress, bringing together staff from AID, Yale, Williams, M.I.T., and Harvard. Sessions were held on problems of agriculture, industrialization, employment, trade, income distribution, and planning models.

IV. PERSONNEL

During academic year 1970/71, sixteen senior professionals worked all or part time under the AID contract. Effort levels, running at the rate of approximately $7\frac{1}{2}$ man-months per month were down from the 1970 summer high of nearly 13 man months; however, these levels brought the total man-month commitments to the schedule called for in the contract. (See Table 1.)

During the period under review, only two personnel changes took place: Angus Maddison completed his monograph on India and Pakistan (Traditional Society, Colonialism and Class Structure in India and Pakistan, 13, discussed in the previous progress report) and joined Harvard's Ghana Advisory Group in January. Marcelo Selowsky returned in January from leave in Chile to take up the studies noted in Part II.

During the summer and fall of 1971 several other changes are likely. Donald Snodgrass will return from the Malaysia Advisory Group in December, to begin assessing the growth/equity trade-off in the Malaysian context. In August, David Cole is expected to return from Djakarta to begin writing up Indonesia's recent monetary reform, and in September, David Morawetz will return from Colombia to work on economic integration for the Andean grouping.

Expected departures in the next six months include Robert Repetto, who will join the IBRD group in Indonesia in July, and Malcolm Gillis, who will also leave in July to be monetary-fiscal advisor with the

Harvard Advisory Group in Djakarta. Moises Syrquin will depart in October to take up a university position in Israel. Five shorter leaves are also planned. Millard Long will be absent for three months during the summer as a consultant on monetary matters in Ghana, and Lance Taylor will serve first as a consultant in Peru and, later in the fall quarter, as a visiting professor at the University of Minnesota. Gustav Papanek will spend one month in Indonesia working on research for the second five year plan. Richard Mallon will spend three months in Peru and, finally, Daniel Schydlofsky will serve for two months as a consultant in Indonesia working on trade policy.

Work statements for all senior personnel during the next six months can be found in Section VI; longer-range plans are included in the July Harvard proposal to extend Contract CSD-1543.

Table 1. Senior Research Personnel
Approximate Portion of Total Time Committed to AID Research
During Academic Year 1970/71

<u>Name</u>	<u>Percentage</u>
Samuel S. Bowles	20
Walter P. Falcon	45
S. Malcolm Gillis	33
Carl H. Gotsch	60
Millard F. Long	50
Richard Mallon	25
Gustav F. Papanek	75
William Raduchel	50
Robert Repetto	85
Daniel Schydrowsky	50
Marcelo Selowsky	50
Moises Syrquin	50
Lance Taylor	50
John Thomas	50
Tsunehiko Watanabe	25
Louis T. Wells, Jr.	25

V. BUDGET

Table 2 indicates the financial status of the project through May 31, 1971.^{1/} The program expenditures continue at the level projected, and on May 31, 1971, there remained an unofficial balance of \$146,957. It is expected that this balance will carry the project through calendar year 1971. At that time, it is hoped that the proposed extension will provide for further expenditures under the contract.

^{1/} Since June 30th is the end of the Harvard fiscal year, it is unlikely that financial data through June will be available before early August.

Table 2. Summary of Expenditures for period ending
May 31, 1971

(AID Quarterly Reporting Form A)^{1/}

(1) Dollar amount of Contract	
(a) Initial funding	\$ 577,882
(b) Amendment - Cumulative total + \$145,000	722,882
(c) Amendment - Cumulative total + \$ 25,825	748,707
(d) Amendment - Cumulative total + \$292,896	1,041,603
(e) Amendment - Cumulative total + \$228,000	1,269,603
(f) Amendment - Cumulative total + \$313,566	\$1,583,169
(2) Expenditures on the contract (accrued basis)	
(a) Cumulative to May 31, 1971	\$1,436,212
(b) 2 Months ending May 31, 1971 (actual)	24,238
(c) 2nd Quarter preceding (actual, Jan-May)	59,829
(d) 3rd Quarter preceding (actual, Oct-Dec)	123,320
(e) 4th Quarter preceding (actual, July-Sept)	133,381
(3) Unexpended balance at end of period May 31, 1971	\$146,957
(4) Estimated future expenditures	
(a) June 1971	\$20,000
(b) Quarter following this report (July-Sept 1971)	65,000
(c) 2nd Quarter following this report (Oct-Dec 1971)	61,957
(d) An extension in the amount of \$891,810 has been proposed to AID for the period January 1972 through June 1974	

^{1/} Actual data through June 1971 will be supplied as soon as they become available from the accounting office.

VI. FUTURE PLANS

Cross-Country
Education

Samuel S. Bowles will continue his work on two studies: the political economy of mass education, and income distribution and intergenerational mobility. He expects to begin writing up the empirical results of his study of the relationship between education, income inequality, occupational structure, and intergenerational mobility in Kenya and Mexico.

AFE
Monetary/Fiscal Issues

David C. Cole will analyze the recent experience in Korea, Taiwan and Indonesia which demonstrates that a combination of reduced inflation, increased interest rates and governmental support can bring about a rapid expansion in the size of the financial system. He will compare the experience of these and other countries that have experienced high financial growth with a group of countries that have had low or negative financial growth rates to see if there are consistent differences between policies in the two groups.

Cross-Country
Agriculture

Walter Falcon will work on two related lines of activity in the rural development field. He will begin to assess the objectives, organization and impact of the Rural Works Program in Indonesia. He will also continue working on problems of rural unemployment and the

extent to which procedures and policies of aid agencies tend to aggravate employment/income distribution difficulties.

NESA
Agriculture

Carl H. Gotsch expects to collaborate with S. S. Johl of Ludhiana on a comparative study of the Pakistan and Indian Punjab, focusing on processes of mechanization and structural change. Their hypothesis is that the distributive impact of the rapid mechanization taking place in both areas will be quite different. The principal cause of this difference seems to be in the dynamic effects of significantly different land distribution patterns in the two areas.

NESA, AFR
Development Financing

Millard F. Long will continue his research on finance in developing countries. During the next six months, he will complete his work on the impact of financial institutions and policies on savings, investment and the allocation of capital. In addition, he will undertake a study of non-institutional finance in Ghana. Primary focus will be on the segment of commercial trade which obtains its financing outside formal financial institutions.

LA
Development Policy

Richard Mallon expects to complete drafts of the fifth and sixth chapters of his manuscript on Argentine economic policy. These chapters deal with industrialization and foreign trade and balance of payments policy. Background research has already been completed for several additional chapters on stabilization policy, and these as well as the statistical and econometric appendices should be completed by the end of the year.

LA
Industry and Trade

David Morawetz will continue his work on integration in the Andean area, attempting to draw together conclusions on the gains from integration to the group as a whole as well as its distribution. In conjunction with Daniel Schydłowski he will analyze the alternatives of economic integration versus world-wide export expansion in order to assess the complementarity or competitiveness of these two policies.

NESA, Cross-Country
Foreign Aid, Industry

Gustav F. Papanek plans to complete his paper on aid, foreign investment, savings and growth, and to complete the revision of his essay on growth strategies of India and Pakistan. He will pursue further work on industrial efficiency, particularly the role of plant size and government policy and concentration of ownership. Finally, Papanek will begin work on an analysis of economic development.

in Pakistan with reference to the period 1965-1970. In this study he plans to focus on three questions: (a) the effect of alternative growth rates and growth strategies on income distribution, (b) their effect on the efficiency of the economy as a whole and on industrial development in particular, and (c) the economic factors which made for political instability despite a successful growth record in the 1960's.

Cross-Country
Planning Models

William J. Raduchel will continue his work on development planning models. He will further investigate both the effects of shifts in substitutability of factors and the effect of various common policy measures such as taxes and trade restrictions. With Lance Taylor, he hopes to construct a more operational planning model, which would provide for optimization with regard to direct government policies, but which would retain the market as the basic method of resource allocation.

LA
Industry and Trade

Daniel Schydrowsky, in collaboration with Malcolm Gillis and Thomas Hutcheson, will attempt to synthesize their empirical research on the effect of government policy on the profitability of the various sectors of economic activity in the Colombian economy. Schydrowsky will also continue his work on the implications of excess capacity and underutilization of capital in LDC's. He will focus on

the definition of capacity and the barriers to utilization on the one hand and the implications of such excess capacity on the measurement of comparative advantage on the other. This study, undertaken in collaboration with Marcelo Selowsky, will define marginal comparative advantage as the relative cost structure arising out of a situation in which capital costs are sunk and income comes from second and/or third shifts. Finally, Schydrowsky will continue work on the framework of macroeconomic analysis of developing countries.

LA
Trade

Marcelo Selowsky will continue his work on stabilization strategies in highly inflationary economies. He will begin analyzing problems of foreign investment, specifically the relation between tariff and import prohibitions in underdeveloped countries and their effect on private foreign investment.

AFE
Income Distribution

Donald Snodgrass will begin his study of the relationship between rapid growth and income distribution in Malaysia, with special reference to the options facing a government wishing differential rates of increased income, such as among ethnic groups.

LA
Industry

Moises Syrquin plans examination of several aspects of Mexican manufacturing. Estimated elasticities of production for 17 manufacturing

industries have been used to calculate total factor productivity indices for gross output and value added series. He also plans to do an estimation of a Bruno-type disequilibrium model for Mexico's manufacturing sector. An additional project involves a study of changes in the industrial structure of Mexico in the period between 1950-1965, applying the model developed by Chenery, Shishido and Watanabe. Finally, Syrquin plans an examination of dualism and the diffusion of technology in the manufacturing sector in Mexico.

LA
Industry and Trade

Lance Taylor will conclude his work on the Chilean economy, writing final drafts of (a) an exploratory study of the usefulness of optimal growth models to calculate shadow prices for investment analysis, (b) a paper on partial equilibrium evaluations of the foreign exchange shadow price for Chile, and (c) a paper on some of the institutional restrictions on the use of cost/benefit analysis in Chile. Also, in collaboration with Syrquin, Bruno and Watanabe, Taylor will do theoretical work and planning for a joint international study of diffusion of technology.

NESA
Rural Development

John Thomas will complete a paper on the strategy of agriculture and rural development in East Pakistan. This paper will examine the problems of development in the rural sector and analyze why the standard techniques of the green revolution are insufficient to

produce an agricultural breakthrough in Bengal. He will then deal with variations on agriculture and rural development and the rural organization which might be expected to produce major increases in productivity as well as insure some equity in the distribution of this added income. The study will attempt to analyze whether the conditions and prescriptions for East Pakistan are appropriate for other areas of high population density and low rural income. Specifically, he will attempt to draw parallels to the Javanese situation and to the more densely populated rural areas of India.

AFE
Industry

Tsunehiko Watanabe will undertake a study of the process of diffusion of technological progress in the case of postwar Japan. This will be done in collaboration with Lance Taylor working on Latin America, Moises Syrquin working on Mexico, and Michael Bruno working on Israel.

Cross-Country
Foreign Investment

David Williams will undertake a study of the problems and prospects for wood-based industry in timber-rich developing countries. The study will attempt to relate selected country, industry, product, and trade variables in a model aimed at isolating those factors critical to the acceleration of the development of viable wood processing industries. Indonesia will be the country of primary focus, and special attention will be paid to export possibilities and to the role of foreign investors.



Walter P. Falcon
Cambridge, Massachusetts
June 1971