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Volume Title: Trade and Employment in Developing Countries, 3: Synthesis and Conclusions

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Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-45495-9

Volume URL: <http://www.nber.org/books/krue83-1>

Publication Date: 1983

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Chapter URL: <http://www.nber.org/chapters/c8761>

Chapter pages in book: (p. 1 - 9)

1 Trade and Employment in Less Developed Countries: The Questions

The National Bureau for Economic Research project on alternative trade strategies and employment has had as its objective the understanding of the implications of alternative trade strategies for employment in developing countries. The decision to emphasize import substitution or export promotion has important ramifications for virtually every aspect of economic activity. These effects, which are discussed briefly below and more fully in chapter 3, have been extensively analyzed in a series of studies, including the earlier NBER project on foreign trade regimes and economic development. A significant omission in the earlier research was the employment effects and implications of the alternative trade strategies and the ways they are implemented.

Ironically, just as a considerable body of evidence was emerging demonstrating that there was a significant link between an export-oriented trade strategy and a higher rate of economic growth, disillusionment with the past results of economic growth set in. People began questioning the desirability of higher growth rates, since they noted that in many instances employment opportunities, especially in the industrial sectors of developing countries, failed to grow *pari passu* with output.

The "employment problem" became a focal point of concern for policymakers and for others interested in improving the well-being of the large majority of poor in developing countries. Interestingly, most studies of the "employment problem," and of ways of increasing the rate of growth of demand for labor, assumed a closed economy and did not recognize the possibility that trade strategy might make a significant difference. Indeed, many development economists believed the goods and services that composed the bulk of expenditure of the residents of developing countries were likely to be more labor intensive than exportable production and thus concluded that a policy implying less trade—

that is, import substitution—would be more favorable to employment than an export-oriented strategy (see Edwards 1974).¹

To analyze the trade strategies–employment relationship, it was necessary both to provide a fairly careful analysis of the issues and their interrelations and also to undertake empirical investigation of the relevant magnitudes. This volume provides a synthesis of the results of the project, including both the analytical work and the empirical studies. This chapter gives an overview of the project and of the questions that must be addressed and presents a simple framework within which to categorize the links between trade strategies and employment. Chapters 2 and 3 undertake a more detailed analysis first of labor markets in developing countries and then of alternative trade strategies. Chapter 4 then contains a model of trade and development, which provides a rationale for focusing primarily upon trade and employment in industrial projects and also sets forth testable hypotheses that enable a careful examination of the trade strategies–employment relationship.

The second half of the book is devoted to empirical results. Chapter 5 is concerned with the categorization of commodities and industries according to the framework set forth in chapter 4 and presents estimates of direct labor coefficients for these categories found in the countries covered in the empirical analysis. Chapter 6 analyzes some of the main findings with regard to the labor coefficients associated with different industries under alternative trade strategies. Chapters 7 and 8 focus upon domestic factor markets, incentives favoring utilization of capital rather than labor, and other factors that influence these coefficients. The final chapter summarizes the major findings and conclusions.

1.1 The Overall Project

The overall project has had three stages. In the first, preparatory stage, we developed the theory setting forth the relationship between trade strategy and employment and formulated a method for undertaking empirical research. In the second stage, project participants undertook empirical research on individual countries and also on particular topics of special interest for the project as a whole, based upon the papers prepared in the first stage. The third stage, on which this volume is based, is an analysis of the theory and empirical findings for the entire set of individual studies, with a view to ascertaining the extent to which empirical regularities prevail and the lessons learned in the project.

Many of the results from the first stage, in which the underlying theory and method were developed, are incorporated in this volume. Thus the statement of theory in chapter 4 was intended to provide a basis for empirical testing, and it sets forth a model of trade with many countries and many commodities. It is assumed, for purposes of analysis, that there are two distinct sectors of the economy, urban and rural. The rural sector

is characterized by its use of labor and land, while the urban sector employs capital and land. Key results, for present purposes, include the theory's prediction that countries will tend to specialize (in the absence of protection) in a range of industrial products that reflects their relative urban capital/labor endowment, and that there should be an association between the labor intensity of production processes and the direction of exports and imports.

The methodology developed in the first stage formed a basis for empirical studies at a later date and was formulated in consultation with all project participants; it first appeared as Project Working Paper no. 1, and much of its contents then became chapter 1 of the first volume of this series, *Trade and Employment in Developing Countries: Individual Studies*, edited by Anne O. Krueger, Hal B. Lary, Terry Monson, and Narongchai Akrasanee. The salient aspects of commodity categorization and other key elements of the methodology are summarized in this volume, especially in chapter 5.

The second stage of the analysis, in which studies were carried out of the empirical aspects of the employment-trade relationship, was undertaken by economists who were already familiar with the functioning of the individual economies. All together, there were fifteen studies of individual countries and four topical analyses.

Turning to the country studies first, there were initially ten sponsored directly by the NBER project. In addition, the Center for Asian Manpower Studies (CAMS) was analyzing certain aspects of the trade strategies-employment relationship, and it was agreed that participants in the CAMS project would join in many of the efforts of the NBER project. Finally, two doctoral dissertations were undertaken at the University of Minnesota within the same framework.

The fifteen countries, the sponsorship of the studies, and the authors, were as follows:

Argentina: Julio Nogues, now of the Central Bank of Argentina, undertook a study of the Argentine economy for his doctoral dissertation at the University of Minnesota (Nogues 1980).

Brazil: José Carvalho and Cláudio Haddad, of the Vargas Foundation, undertook the Brazil study under NBER sponsorship.

Chile: Vittorio Corbo, now of Universidad de Chile, and Patricio Meller, now of the Center for Latin American Development Studies at Boston University, undertook the Chile study under NBER sponsorship.

Colombia: Francisco Thoumi, now with the Interamerican Development Bank, undertook the Colombian study under NBER sponsorship.

Hong Kong: Yun Wing Sung, now of Chinese University of Hong Kong, did an analysis of the Hong Kong economy's experience as his doctoral dissertation at the University of Minnesota (Sung 1979).

India: T. N. Srinivasan, now of Yale University, and V. R. Panchamukhi, now at the Trade Development Authority of India, began a study of India sponsored by NBER. Unfortunately, Srinivasan left for a World Bank appointment, and Panchamukhi was appointed to the Trade Development Authority of India, so the Indian study was not completed.

Indonesia: Mark Pitt of the University of Minnesota and Soelistyo of Gadjah Mada University started the Indonesian study under NBER sponsorship. Soelistyo was pressed by other assignments, and Pitt carried out the Indonesia study.

Ivory Coast: Terry Monson, of Michigan Technological University, and Jacques Pegatienan, of the Centre Ivoirien de Recherches Economiques et Sociales, began the project under NBER sponsorship. Pegatienan's other responsibilities precluded his continuing participation, however, and Monson completed the Ivorian study.

Kenya: Peter Hopcraft and Leopold Murethi, of the Kenyan Center for Development Studies, began the Kenyan study under NBER sponsorship. It was not completed, owing largely to data difficulties that increased the time required well beyond the span of the project.

Pakistan: Steve Guisinger, of the University of Texas at Dallas, undertook the Pakistan study under NBER sponsorship.

South Korea: Wontack Hong, of Seoul National University, undertook the Korean study under CAMS sponsorship.

Taiwan: Kuo-shu Liang, now of the Central Bank of Taiwan, participated in the first working party under CAMS sponsorship. His appointment as deputy governor of the Central Bank precluded his completing the study.

Thailand: Narongchai Akrasanee, now of the United Nations Asian and Pacific Development Institute, undertook the Thai study under CAMS sponsorship.

Tunisia: Mustapha K. Nabli, of the University of Tunis, undertook the Tunisian study under NBER sponsorship.

Uruguay: Alberto Bension and Jorge Caumont, of the Universidad de la Republica, Montevideo, undertook the Uruguayan study under NBER sponsorship.

Thus, of the fifteen studies undertaken, twelve were completed. The results of ten of them are included in Krueger et al. (1981) and the other two, completed too late to be included, are available as doctoral dissertations. This book relies primarily on the results of those ten, although data from the other five, especially Hong Kong and Argentina, are included where they are available and shed additional light on the topic at hand.

The topical studies carried out under the project included an optimizing trade model with variable factor inputs undertaken by James M. Henderson of the University of Minnesota; an analysis of the links

between rates of effective protection and earnings of workers and employers by T. Paul Schultz of Yale University; an estimate of production functions based on cross-country data by Jere R. Behrman of the University of Pennsylvania; and an analysis of the factor proportions used by multinational corporations done by Robert Lipsey of NBER and by Irving Kravis and Romualdo Roldan, both of the University of Pennsylvania. In addition, two country studies generated results of sufficient general interest beyond their implications for the individual countries to be included in the special studies volume: José Carvalho and Cláudio Haddad provided new estimates of the Brazilian export supply response; and Vittorio Corbo and Patricio Meller estimated Chilean production functions for a sample of forty-four Chilean industries.

This volume, then, attempts to provide an analysis of the trade strategies–employment relationship based upon the preceding analytical and empirical work, including the country studies and the topical studies, as well as other research results where relevant. Although it is not a survey of knowledge in the area (and, in particular, does not attempt to review other empirical results with respect to the trade strategies–employment relationship), it is intended to provide an account of the theoretical and empirical relationships between trade strategies and employment.

1.2 Possible Links between Trade Strategies and Employment

There are several levels at which one can imagine effects of the trade regime upon employment and its rate of growth:

1. One strategy might result in a higher rate of growth of the overall economy owing to superior resource allocation, and faster growth would presumably entail more employment growth.

2. Different trade strategies imply different compositions of output at each point in time. Under an export promotion strategy export industries grow faster, and the opposite is true under import substitution. If employment per unit of output (or value added) is greater in one set of industries than in the other, then employment growth would be faster, on this account, under the strategy that lets the labor-intensive industries grow relatively faster.

3. Alternative trade policies could influence the choice of technique and capital/labor ratio in all industries, as, for example, through implicit subsidization of capital goods imports. If such policies lead to greater capital intensity and fewer jobs per unit of output in all lines of economic activity, then employment opportunities will grow more slowly as there is continued capital deepening.

It is apparent that the three classes of effects need not be in the same direction. It is possible, in particular, that the first effect—a higher rate of

growth of employment owing to faster output growth associated with one strategy—might go in one direction, while the second effect could go in the other.

Indeed, the association between higher growth rates and an export-promotion strategy had already been established before the present project began, although additional evidence has since confirmed the results. The earlier NBER project on foreign trade regimes and economic development, in particular, had as its central question the link between trade strategy and growth (see Bhagwati 1978; Krueger 1978).² It seemed neither necessary nor desirable to cover that ground again.

Rather, the project on alternative trade strategies and employment was designed to investigate the possibility that faster overall growth under export promotion might be associated with a slower rate of growth of demand for labor owing to the second and third effects. Three alternative, mutually inconsistent hypotheses were all possible given existing knowledge:

1. The amount of employment generated is relatively independent of the trade strategy.
2. Import substitution generates significantly less employment growth than does an export promotion strategy.
3. An export promotion strategy is unlikely to entail significantly more employment growth than an import substitution strategy and may in fact conflict with efforts to expand employment.

The first possibility—that trade strategy does not affect employment very much—might arise for several reasons. First, one might be able to establish the direction of difference in labor intensity of production but find that the difference, if any, was small enough that, within the conceivable range of relative growth rates, the effects on employment would be second-order in size. Second, one might find that a particular policy (such as subsidization of capital goods imports) not really essential to the trade strategy adopted had adverse effects on employment and that a different set of policies could implement the same trade strategy without the adverse employment effects. Finally, it might be that the influences determining the composition of exporting and import substitution industries are independent of factor intensities, and that different relative rates of growth of the two groups of industries would not necessarily affect the rate of growth of employment.

The second possibility—that import substitution industries require considerably less labor per unit of capital and per unit of output—is the forecast that would arise from straightforward interpretation of the two-factor Heckscher-Ohlin model of trade. Developing countries would presumably have their comparative advantage, at least in the early stages of growth, in exporting labor-intensive commodities and importing goods with relatively higher capital (and perhaps skilled labor) requirements.

Finally, there were those who argued that export promotion and employment growth were conflicting objectives. There were several possible reasons given. One view was that developed countries themselves have erected, or would erect if export promotion strategies were seriously adopted, sufficiently high barriers to import of labor-intensive goods that the developing countries can compete only in capital-intensive exports. Another basis for the argument was the casual empiricism suggesting that the exports of some developing countries—notably Colombia and Brazil—were capital intensive. Yet others claimed that most of the exports of manufactured goods originating in developing countries are produced by branches and subsidiaries of multinational corporations that, it was alleged, use the capital-intensive technology of the home country.

If export-promoting growth was capital intensive, there remained a question why it was so: the answer might lie partly in the mix of export incentives granted in the developing country and in domestic policies affecting the relative profitability of different industries. If instead developing countries' potential manufactured export were capital-intensive not because of distortions but because of factors associated with comparative advantage, it was important to ascertain this and to obtain some idea of the empirical magnitude and importance of the phenomenon.

1.3 History of the Debate on Trade Strategies

Chapter 3 is devoted to analysis of alternative trade strategies. Here the purpose is to provide some background on the context of the discussion.

The basic theory of resource allocation under competition and of comparative advantage has long since provided the theoretical rationale for advocacy of relatively free trade with balanced incentives for export promotion and import substitution so that the marginal cost of earning and saving foreign exchange can be equalized (see Bhagwati 1968).

Early advocates of import substitution based their case on some form of pessimism about the prospects for growth of export earnings, a secular tendency for the terms of trade for primary commodities to decline, and the need for “industrialization” (Prebisch 1959). Under the influence of these arguments and foreign-exchange crises induced by excessively ambitious development and other government expenditures and/or the end of the Korean War boom and the consequent drop in export earnings, most developing countries adopted import substitution as a development strategy.

The *practical* shortcomings of such a strategy have become painfully evident to virtually all observers and have been extensively analyzed in research undertaken at Williams College on import substitution and by

the National Bureau of Economic Research project on foreign trade regimes and economic development.³ Briefly, initial emphasis on import substitution led to:

1. Overvaluation of the exchange rate, with consequent disincentives to potential export, failure of foreign exchange earnings to grow, and thus an increasingly stringent exchange-control regime.

2. A series of partial, ad hoc incentives for export, with increasingly complex, often internally inconsistent, bureaucratic regulations, red tape, and complexities that were a consequence of recognition of the scarcity value of foreign exchange. The result was increased demands on the bureaucracy, ever greater incentives for evasion of regulations, and mutual suspicion between the business and government sectors.

3. Increasingly high-cost industries as the “easy” import substitution activities were undertaken first. This led to the loss of any gains that might otherwise have been realized from efficient size of plant, economies of scale, and so on.

4. Lack of competition among newly established firms. Because of the small size of the market, it was seldom feasible to allow many firms in an industry, and licensing of imports of machinery precluded free entry. The result was that import-licensing mechanisms, capital-goods licensing procedures, and other inevitable concomitants of exchange control led to the development of “lazy” entrepreneurs whose inattention to cost consciousness, quality control, and good management was not penalized since profitability stemmed from monopoly positions and the ability to get licenses.

5. Implicit subsidization of capital goods imports. Although one might think that import substitution policies would be across the board in their application, almost all countries with overvalued exchange rates were reluctant to impose surcharges and high duties on machinery and equipment imports for fear of discouraging investment. One of the effects of import substitution policies and consequent currency overvaluation was therefore to provide implicit subsidies for imports of capital goods for such firms as were able to obtain permission to invest.⁴

6. Increased dependence on permitted imports, largely confined to “essentials.” Whereas consumption levels were dependent on imports at an earlier stage, import substitution brought about dependence on imports of raw materials and intermediate goods for production, employment, and consumption. “Foreign exchange shortage” led to underutilization of capacity. Economies therefore were sensitive to fluctuations in foreign exchange earnings for production, as well as consumption, levels.

In addition, import substitution policies have often interacted with domestic economic policies in ways that theory might not have forecast. The National Bureau of Economic Research project on foreign trade regimes and economic development has provided documentation on

some sorts of interaction: between import licensing and investment licensing; between domestic agricultural policies and the effects of the effective exchange rate in inducing additional exports; in affecting the choice of industry, and so on. A major result of that research effort has been the demonstration of the importance of analyzing the totality of policies affecting a given issue (see Bhagwati 1978).

The advantages of export promotion, by contrast, appear to go somewhat beyond those suggested by the microeconomic theory of optimal resource allocation, although, of course, there can be overemphasis on export promotion as well as on import substitution. Briefly, these additional advantages include the following: (1) competition can be provided by the international marketplace and thus attention to quality control, to new techniques and products, and to good management practices is likely to be encouraged; (2) since export promotion generally entails subsidies in a variety of forms, the costs of excesses are more visible than in import substitution, and there are forces within the government, especially the Ministry of Finance, that therefore place pressures against greatly imbalanced incentives; (3) efficient firms and industries can grow rapidly without being limited to the rate of growth of domestic demand, and whatever economies of scale or indivisibilities there are can be exhausted; and (4) governments cannot achieve their ends by relying upon quantitative restrictions when fostering export growth and must therefore create incentives for exporting.⁵

Thus the argument is strong that an outward-looking export promotion strategy is more conducive to development than an import substitution strategy. In addition, focus upon exports is likely to provide better interaction with domestic policies and variables than import substitution, although, of course, there are better and worse ways of implementing either strategy. Moreover, there has been a significant switch in the emphasis of the developing countries over the past decade, as emphasis on import substitution has gradually lessened and encouragements for the development of exports, particularly of nontraditional products, have begun. The question of how that switch in policy will affect employment is therefore extremely important.