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Economic Development and Trade Liberalization: The Indonesian Experience

Scott W. Fausti and Rony Bishry¹

ABSTRACT. From 1950 to 1965, Indonesia followed an import substitution industrialization development strategy. From 1966 to the present, Indonesia has moved toward an export oriented development strategy. This paper tests the predictions of the Heckscher-Ohlin-Samuelson (HOS) model of international trade by comparing Indonesia's economic performance under two contrasting development strategies.

The paper concludes that Indonesia's economic performance under the opposing development strategies supports the predictions of the HOS model. Furthermore, the Indonesian experience under the two development strategies supports the "trade as an engine of growth" hypothesis. (O20, F02)

I. Introduction

Since gaining independence in 1950, Indonesia's industrial development strategy has been subject to an internal policy struggle over the direction that economic development efforts should take. As was the case in many other third world countries, the internal policy struggle has revolved around inward-versus-outward oriented development strategies.²

From 1950 to 1965, the dominant development strategy in Indonesia was import substitution industrialization. The trade regime during this period erected high tariff and non-tariff barriers. In 1965 a political coup d'etat allowed Soeharto to ascend to the presidency. The new government initiated a shift away from import substitution industrialization and toward a more outward looking development strategy. The corresponding long-run policy trend has been toward a more liberalized trade regime. The Indonesian government's commitment to an export oriented development strategy intensified in the 1980s, when Indonesia embarked on the most comprehensive trade liberalization program in its history.³

An important issue debated among development economists is whether trade is an "engine of growth" or a mechanism for exploitation of the third world by developed countries. The case for trade being an engine of growth is based on the classical theory of international trade, which embodies the concept of comparative advantage.⁴ The Heckscher-Ohlin-Samuelson (HOS) model of international trade is one

such model that embodies the theory of comparative advantage.

This paper will examine the economic consequences of the reversal in trade policy as Indonesia moved from an inward looking to an outward looking development strategy. The analysis will be conducted within the framework of the (HOS) model. If the Indonesian experience with trade reform supports the predictions associated with the HOS model, then the Indonesian experience with trade liberalization also provides evidence in support of the "trade as an engine of growth" hypothesis.

II. The Factor Proportions Model and the Indonesian Experience with Reform

Within the framework of the Heckscher-Ohlin-Samuelson factor proportions model of international trade, the Indonesian economy can be categorized as a labor abundant country. It is the general consensus of economists familiar with Indonesia that the non-oil export sector of the Indonesian economy employs labor intensive production technology relative to the import competing sector.⁵ Hence, Indonesia's pattern of trade, in general, complies with the Heckscher-Ohlin theorem of international trade.

Associated with the HOS model of international trade is the Stolper-Samuelson theorem. This theorem makes very strong predictions about the effect of a relative price change for traded goods on factor payments and factor intensities.

Trade liberalization implies that the tax wedge between domestic and world prices is removed, generating a relative price change. In the Indonesian case, this implies that domestic relative price of exports will rise. The Stolper-Samuelson theorem predicts that an increase in the relative price of exports will in turn raise real wages and lower the real rate of return to capital in the long-run. The theorem then predicts that both the export and import competing sectors will become more capital intensive.

In discussing the effect of Indonesian economic reform within the HOS framework, a two-period comparison will be made. The first period is from 1950 to 1965. During this period the Indonesian government engaged in an inward looking development strategy. The 1965 political coup signaled the beginning of the shift in economic policies toward a more open economy. The time frame for the second period is 1966 to the present. Changes in real gross domestic product (GDP) growth rates, income distribution, manufacturing real wage, capital intensity of manufacturing, and the capital intensity of GDP are examined to determine if there is support for the predictions of the Stolper-Samuelson theorem.

While the HOS theory of international trade does not directly address the issue of economic growth, it does discuss the gains from trade due to a more efficient allocation of resources and a rise in national income. More efficient resource use and rising national income would then facilitate an increase in a country's growth rate. The annual percentage growth in Indonesia's real GDP for the 1953-1965 time period averaged 2.65%, compared to the 6.98% average annual growth rate in real GDP achieved during the 1965-1991 period.⁶

The Stolper-Samuelson theorem prediction of an increase in real wages paid to labor generated by a shift to a more open trade regime after 1965 is tested by examining Indonesian manufacturing wage data. Data on Indonesian wages before 1965 is incomplete. However, Papanek (1980) provides a partial record of real wage data for medium and large scale manufacturing firms operating during the 1951-1972 period.⁷ The percentage change in the average annual real wage was approximately -3.56% during the 1954-65 period for workers in large scale manufacturing and -2.07% for workers in medium scale manufacturing during the 1959-1965 time period. From 1965 to 1972, the percentage change in the average annual real wage for workers in large and medium scale manufacturing increased by 7.85% and 10.5% respectively. From 1970 to 1990 the annual percentage increase in real wages for all manufacturing workers averaged 5.15%.⁸

The implication of the trend in real wages after 1965 is that a labor abundant country such as Indonesia should experience a decline in income inequality. Booth (1992) provides an estimate for the degree of inequality existing in 1965 and 1987 for per capita household expenditures. The Gini coefficients for the two years are .35 and .32 respectively.⁹ The decline in the inequality of per capita household expenditures

provides further evidence in support of the predictions by Stolper-Samuelson.

The Stolper-Samuelson theorem predicts that the process of economic liberalization should produce a decline in the relative price of capital. Such a decline will increase the capital intensity of manufacturing and production in general. Indonesian manufacturing data indicate that employee earnings as a percentage of value added to manufacturing declined from 26% in 1970 to 21% in 1990.¹⁰ The decrease in labor's contribution to the total value of manufacturing output indicates that Indonesian manufacturing is becoming more capital intensive. Value added statistics are commonly used as an empirical measure of factor intensities.¹¹ Martin and Warr (1993) have estimated Indonesia's capital-labor ratio for GDP for the years 1960 to 1987. Their estimates reveal that the average annual percentage increase in Indonesia's capital-labor ratio from 1965 to 1987 was 33%.¹² This rapid increase in Indonesia's capital-labor ratio is consistent with the prediction of increased capital intensity of overall production made by the Stolper-Samuelson theorem.

III. Trade Liberalization in Indonesia: Policy Implications and Prescriptions

Indonesia's long-run experience with trade regime reform provides evidence in support of the predictions affiliated with the Heckscher-Ohlin-Samuelson model of international trade. Indonesia's economic performance (post 1965) under a moderating trade regime relative to the pre 1965 era provides support for the "trade as an engine of growth" hypothesis.

Indonesia's economic performance, post 1965, has been impressive. However, many of the undesirable features of the import substitution industrialization era still exist. According to a recent study by Wymenga (1991), non-tariff barrier (NTB) protection practices in 1989 were biased in favor of import competing non-oil manufacturing. As a percentage of value, NTB protection allotted to the non-oil export and import competing manufacturing in 1989 was 12.78% and 38.06% respectively (see table I).

The degree of protection, however, has declined over time. For example, the average effective rate of protection (ERP) for the import competing sector has declined from 66% in 1971 to 44.4% in 1989.¹³ For the export sector, the ERP has increased from -11% in 1971 to -6.4% in 1989.¹⁴ For all tradeable goods, the

TABLE 1. Percentage Coverage of Sector Production by NTB in 1989

	Coverage of Import Licensing	Coverage of Export Restrictions	Coverage of All NTBS
Agriculture	39.98	18.17	58.15
Mining	.04	78.84	74.88
All Manufacturing	29.56	17.51	47.07
Non-oil Manufacturing	38.06	12.78	50.84
All Tradeables	27.85	27.21	55.06

Source: Wymenga (1991, p. 129)

ERP has declined from 33% in 1971 to 15% in 1989 and to 12% in 1990 (see table II).

Indonesian ERP rates in table III reveal that protection is not evenly applied across all sectors of the economy. The disparity in ERP rates among sectors, however, has decreased over the last 20 years. Nevertheless, the current level of disparity is sufficient to distort the allocation of productive resources within and between sectors. The non-oil manufacturing sector remains protected at the expense of the agricultural sector, and the exporting sector is penalized in favor of the import competing sector.

TABLE 2. Indonesian ERP for Aggregated Sectors for the years 1971, 1989, and 1990

	ERP 1971 ^a	ERP 1989 ^b	ERP 1990 ^c
Import-Competing	66	44.4	NA
Export Sector	-11	- 6.4	NA
Agriculture	NA	13.9	13.0
Mining-Oil	NA	-0.7	NA
Non-Oil Manufacturing	NA	63.6	60
All Tradeables	33	15.0	12

Source: a. Pitt (1981, p. 208)
 b. Wymenga (1991, p 138)
 c. GATT Trade Policy Review 1991: Indonesia, Vol. 1, p. 126

Warr (1992) provides empirical evidence from 1987 which indicates that industries provided the greatest protection by Indonesia's current trade regime are those in which Indonesia's comparative advantage is least. Overcoming the rent seeking behavior of these least globally competitive (import competing) industries has proven to be politically difficult.¹⁵

Despite continued commercial policy distortions, the Indonesian government has adopted an outward looking development strategy based on the principle of free trade. However, the residue of production distortions left over from the era of import substitution represents a serious impediment to the government's policy objective of integrating Indonesia into the evolving global economy.¹⁶

The Indonesian experience with trade regime reform suggests that additional deregulation and trade liberalization efforts will help sustain: 1) the current rate of economic growth, 2) rising real wages, 3) declining income inequality, and 4) the rise in the capital intensity of Indonesian production. It follows that failure to implement further reforms will impede Indonesia's progress toward reaching its goal of joining the ranks of newly industrialized nations.

IV. Summary

Static models such as the HOS model of international trade can not provide a full understanding of the changes in trade flows and economic growth patterns generated when a country liberalizes its trade regime. However, the HOS model does provide insight on the direction of change for important economic variables and how these changes will affect a country's economy when liberalizing its trade regime.

The Indonesian experience with both inward and outward looking development strategies suggests that the "trade as an engine of growth" hypothesis is true for Indonesia. The long-run economic consequences of trade reform in Indonesia support the predictions of the HOS model of international trade.

Recent studies indicate that trade policy induced distortions continue to influence the Indonesian economy. We conclude that there is room for further liberalization efforts, and additional reforms will produce positive economic benefits for the Indonesian economy.

Footnotes

1. Dr. Fausti is an economist at South Dakota State University. Dr. Bishry is an economist at BBP Teknologi in Jakarta, Indonesia.
2. See Pitt (1981) for a detailed discussion of Indonesian development strategy and trade policy during the period from independence to the late 1970s.
3. A complete description of the on-going economic reform measures can be found in GATT's *Trade Policy Review: Indonesia 1991*, Vol I.
4. See Meier (1984) for a discussion of this debate over whether trade is engine of growth or a mechanism for exploitation of the third world.
5. Pitt (1981) provides empirical evidence to support this statement.
6. Real GDP figures were collected from Booth and McCawley (1981, p.4) and various issues of the *World Development Report*.
7. See Papanek (1980, p.92).
8. Statistics derived from Papanek (1980) and various issues of the *World Development Report*.
9. See Booth (1992, p.355) for a discussion of the reported Gini coefficients.
10. Statistics derived from various issues of the *World Development Report*.
11. For an example and for justification of the use of value added statistics as a measure of factor intensities, see Hill (1988).
12. Martin and Warr (1993) provide an annual estimate of the natural log of Indonesia's capital-labor ratio (K/L) for the years 1960-87. In 1965 they estimated the ratio to be 1.5587; in 1987 the ratio was estimated to be 3.6723. Taking the anti-log of Martin and Warr's estimates and then calculating the average annual change, we arrived at our estimate of a 33% average annual increase in Indonesia's K/L ratio.
13. The effective rate of protection is the percentage increase in value added resulting from the assistance structure. It therefore measures net assistance by taking into account input assistance (e.g., subsidies) and input penalties (e.g., tariffs).
14. A negative ERP implies production is being effectively taxed.
15. For a discussion of the political difficulties associated with implementing trade reform in Indonesia over the objections of rent seeking entities who benefit from protective trade barriers, see Soesastro (1989).
16. A production distortion implies that Indonesia's production mix has been altered by the uneven application of protective measures, which will affect trade patterns.

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