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An ever accumulating amount of empirical evidence supports the hypothesis that developing countries that trade openly with the rest of the world have achieved significantly higher growth rates than countries that have isolated themselves from the world economy with various protectionist measures.¹ Yet, despite this evidence, there is a continuing debate in the Philippines between economic liberals who favor free trade and economic nationalists who favor industrialization behind protective tariff walls.² Our current research indicates that in the specific case of the Philippines, trade, specifically exports, has not significantly contributed to economic growth, thus placing doubt

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1. Examples of this research are studies by M. Michaely "Exports and Growth: An Empirical Investigation," *Journal of Development Economics* 4 (1977): 49-53; B. Balassa, "Exports and Economic Growth: Further Evidence," *Journal of Development Economics* 5 (1978): 181-89; P. Heller and R. Porter, "Exports and Growth: An Empirical Investigation," *Journal of Development Economics* 5 (1978): 191-93; W. Tyler, "Growth and Export Expansion in Developing Countries: More Empirical Evidence," *Journal of Development Economics* 9 (1981): 121-30; G. Feder, "On Exports and Economic Growth," *Journal of Development Economics* 12 (1983): 59-73; D. Salvatore, "A Simultaneous Equations Model of Trade and Development with Dynamic Policy Simulations," *Kyklos* 36 (1983): 66-90; R. Kavoussi, "Export Expansion and Economic Growth: Further Empirical Evidence," *Journal of Development Economics* 14 (1984): 241-50; R. Ram, "Exports and Economic Growth: Some Additional Evidence," *Economic Development and Cultural Change* 33 (1985): 415-25; and T. Hatcher, "Outward-looking versus Inward-looking Industrialization Strategies: The Effect on GNP Growth in Developing Countries over Time" (Ph.D. Dissertation, Fordham University, 1989).

2. For a neoclassical political economy discussion of Philippine protectionism see Henry M. Schwalbenberg, "Class Conflict and Economic Stagnation in the Philippines:

on the position of the economic liberals. It was also found, however, that industrialization did not contribute significantly to Philippine economic growth, thus placing doubt on the position of the economic nationalists.

This note is organized as follows. We first review the current debate in the Philippines regarding trade policy. Then we introduce a statistical test to judge the validity of each side's arguments. Finally we attempt to understand the unique position of the Philippines, where neither exports or industrialization appears to have significantly contributed to the country's economic growth.

THE PHILIPPINE TRADE DEBATE

The Philippine trade debate is part of a larger debate that traces its roots to the eighteenth and nineteenth centuries when Adam Smith and David Ricardo argued against mercantilism and in favor of free trade. During the postwar period this debate was renewed, but with an emphasis on the developing world. Ragnar Nurske wrote that instead of specializing in the production of a few goods exported to pay for the importation of all other needed goods, developing nations should follow a "balanced growth" approach producing the bulk of the goods they would consume.³ Nurske, looking back over the first half of the twentieth century and seeing a period of two global wars separated by a period of worldwide economic depression, was unable to foresee the possibility that a global trading regime would emerge where developing nations would have relatively free and secure access to buy and sell goods in a rapidly expanding world marketplace.

Nurske's work was followed by a number of economists from the Structuralist School, such as Singer and Prebisch, who argued that contact with the international economy was actually detrimental to the welfare of developing nations.⁴ Singer argued that foreign investors took out more in terms of repatriated profits than they brought into the country in terms of new jobs and income, while Prebisch argued that due to a secular decline in their terms of trade develop-

1950-72," *Philippine Studies* 37 (1989): 440-50, and Robert Baldwin, "Political Economy of Industrialization: The Philippine Case," in *Current Issues in Commercial Policy and Development*, eds. J. Black and B. Hindley, (New York: St. Martin's Press, 1980).

3. Ragnar Nurske, *Patterns of Trade and Development* (Stockholm: Almqvist and Wiksell), 1949.

4. H. W. Singer, "The Distribution of Gains between Investing and Borrowing Countries," *American Economic Review* 40 (1950): 473-85; Raul Prebisch, "Commercial Policy in Underdeveloped Countries," *American Economic Review* 49 (1959): 251-73.

ing countries were receiving less over time for their exports thus trapping them into poverty.

In the Philippines, the longest colonized nation in Southeast Asia, these ideas took on a strongly nationalist and an often highly emotionally charged perspective.⁵ The Philippine nationalist school argues for the "effective assertion of national sovereignty . . . [and] . . . the de-internationalization of economy" in order to eliminate poverty and achieve development.⁶ They argued that Philippine underdevelopment "was brought about and maintained by the continued internationalization of the economy."⁷ In practical terms this has meant support for a policy of protecting domestic industries from international competition by various protectionist means.

The neoclassical argument against such a protectionist policy can be found among others in Bhagwati and Krueger,⁸ Krueger,⁹ and Findlay.¹⁰ With specific reference to the Philippines, McPhelin and Baldwin have argued strongly against the prevalent postwar protectionist policies of the various Philippine administrations.¹¹

Summing up Bhagwati, the neoclassical argument in favor of free trade is based on the efficiency gains resulting from specialization.¹² By specializing in the production of few exportable goods a country can earn a higher income and through imports consume more and

5. Frank Golay, et al., *Underdevelopment and Economic Nationalism in Southeast Asia* (Ithaca: Cornell University Press, 1969).

6. Mariano Miranda, "The Economics of Poverty and the Poverty of Economics: The Philippine Experience," in *Land, Poverty and Politics in the Philippines* (London: Catholic Institute for International Relations, 1988).

7. *Ibid.*

8. Jagdish Bhagwati and Anne Krueger, "Exchange Control, Liberalization and Economic Development," *American Economic Review* 53 (1973): 419-27.

9. Anne Krueger, *Trade and Employment in Developing Countries: Synthesis and Conclusions* (Chicago: University of Chicago Press, 1983).

10. Ronald Findlay, "Trade and Development: Theory and Asian Experience," *Asian Development Review* 2 (1984): 23-42.

11. Michael McPhelin, "Philippines: International Trade and Problems of Modernization," *Philippine Studies* 14 (1966): 553-74; Robert Baldwin, *Foreign Trade Regimes and Economic Development: The Philippines* (New York: Columbia University Press, 1975); for various discussions of the level of protectionism existing under the different Philippine administrations see, in addition to Baldwin, *Foreign Trade Regimes*, Florian Albuero and Geoffrey Shepherd, "Trade Liberalization Experience in the Philippines, 1960-84," Philippine Institute for Development Studies, Working Paper No. 86-01, December 1985; Gary Hawes, *The Philippine State and the Marcos Regime: The Politics of Export* (Ithaca: Cornell University Press, 1987); and Robin Broad, *Unequal Alliance: 1979-1986* (Berkeley: University of California Press, 1988).

12. Jagdish Bhagwati, *The Anatomy and Consequences of Exchange Control Regimes* (Cambridge, Massachusetts: Ballinger Press, 1978).

achieve a better standard of living. In addition, Bhagwati also posits the existence of dynamic gains resulting from a climate conducive to foreign investment and the transfer of technology.

THE EMPIRICAL EVIDENCE:
PHILIPPINE CASE, 1963-85

Hatcher has compiled a data set consisting of the growth rates of per capita gross national product (GNP), exports, investment, and an index of industrial production for various developing countries in Asia, Africa, and Latin America.¹³ We decided to examine in more detail the subset of his data concerned with the Philippines from 1963, the year when the foreign exchange sector was fully decontrolled, until 1985, the last year for which we have a complete set of data. For the most part, industrialization during this period occurred behind high tariff walls.

To test the validity of the arguments in favor and against internationalizing the Philippine economy, we first established the statistical correlations of per capita GNP growth with the growth rates of exports, investments, and industrial production.¹⁴

The free trade position argues that exports will contribute to growth while industrialization behind a tariff wall would hinder growth. If this position is correct, we would expect to see a statistically significant and positive relationship between per capita GNP growth and export growth, and a statistically significant but negative relationship between per capita GNP growth and industrialization.

The protectionist position, on the other hand, argues that exports will hinder growth, while industrialization behind a tariff wall will contribute to growth. If this position is correct, we would expect to get directly opposite results, namely: (a) a statistically significant but negative relationship between per capita GNP growth and export growth; and (b) a statistically significant and positive relationship between per capita GNP growth and industrialization.

13. Real per capita GNP data was obtained from the World Bank's *Annual Report*. Export and Investment data was obtained from the IMF publication, *International Financial Statistics*. Industrial production data was obtained from the *United Nations Industrial Statistics Yearbook*. Annual data for the years 1963-85, was employed and all data are in real terms (1980 constant US dollars). For additional details see Hatcher, "Outward-Looking Industrialization." These data are available, upon request, from the authors.

14. In the process of our statistical analysis we found we needed to include the effects of the oil shocks in the 1970s to adequately explain the variations in Philippine economic growth rates.

What we found instead was no statistically significant correlations of per capita GNP growth with either export growth or industrialization.¹⁵ We did find that economic growth depended significantly on investment and that the oil shocks in the seventies had a significant detrimental effect on growth.

EXPORT PROMOTION AND INDUSTRIALIZATION: TWIN FAILURES

Our results indicate that both schools of thought in the Philippines, the economic liberals and the economic nationalists, are incomplete. The evidence does not support the contention by economic nationalists that export promotion is detrimental to economic growth. On the other hand our evidence does not support the contention by economic liberals that inward-looking industrialization is detrimental to the economy. Our evidence does not support the contention that both policies, while not being detrimental to the economy, have not contributed much to Philippine economic growth either. The Philippines, unfortunately, is not in a position to be satisfied with policies that do not significantly contribute to economic growth.

What prevents these policies from contributing to economic growth? A growing consensus in the economics profession is that rapid per capita economic growth is due to the introduction and dispersion of advanced technology.¹⁶ New techniques of production allow the same amount of human and natural resources to produce an ever increasing amount and variety of products. Since the late 1950s economists have calculated that the major component explain-

15. The standard definition of a statistically significant correlation is that the probability of being wrong is 5 percent or less. For those readers with statistical training we estimated from our data set the following regression equation:

$$\ln Y = -0.15 + 0.16 \ln x + 0.55 \ln I + 0.10 \ln R - 0.24 D$$

(0.444) (2.064) (11.749) (2.085) (3.345)

with R squared = 0.846 and the degrees of freedom = 19. The terms within the parentheses are t statistics. A t statistic equal to or greater than 2.093 is needed to yield a statistically significant relationship at the 5 percent level. The variables are defined as: Y is real per capita GNP, X is real exports, I is real investment (gross domestic capital formation), R is the UN devised index of real industrial production, and D is a dummy variable that equals zero for those years prior to the initial oil shock (1963-73) and equals one for all years after the initial oil shock (1974-85). The regression was corrected for serial correlation using the Hildreth-Lu procedure. Problems of heteroscedasticity did not arise.

16. See Robert M. Solow, "Growth Theory and After," *American Economic Review* 78 (June 1988): 307-17. This article is Solow's Nobel acceptance speech and summarizes over thirty years of work on the causes of economic growth.

ing economic growth are increases in productivity due to technological improvements.¹⁷

From this perspective it becomes clear how both the Philippine industrialization and export promotion policies have been deficient in introducing and dispersing advance technology throughout the Philippine economy. Industrialization behind high protective tariff barriers means politically protected markets with little economic competition and no need to utilize the latest technologies to compete and maintain adequate profits.

The technological picture with regard to exports is similar. Until 1974 the bulk of all Philippine exports consisted of ten traditional goods, key examples being sugar and coconut products. These traditional goods utilize traditional techniques of production in use for many decades. In 1974 there was a major shift in the Philippine export sector toward the export of light manufactured goods. Unfortunately, these new industries do not require the introduction of advanced techniques into the Philippine economy. They simply require low wage Philippine labor to assemble imported electronic equipment or textiles into final goods for exports. Furthermore, these industries are largely located in enclaves, called export processing zones, which in addition limit any transfer of technology to other sectors of the economy.¹⁸

Clearly it is hard to see how either Philippine exports or industrialization could have significantly contributed to the introduction and dispersion of new technologies. Without technological advancement an economy can only expand at a very limited pace. Perhaps the key insight of this paper is to highlight the importance that should be attached to technological advancement. The implication being that the policies of export promotion and industrialization should be combined to promote modern Philippine industries that can successfully compete in the global marketplace and are fully integrated into the larger domestic economy. It is only such *modern, competitive, and integrated* industries that will utilize and then disperse the technological improvements needed for growth.

17. The first in a long series of articles in this field was by the Nobel laureate Robert Solow "Technical Change and the Aggregate Production Function," *Review of Economics and Statistics* 39 (August 1957): 312-20. A recent article by Tain-Jy Chen and De-piao Tang, "Export Performance and Productivity Growth: The Case of Taiwan," *Economic Development and Cultural Change* 38, 3 (April 1990): 577-85, shows that the expansion of exports per se did not give rise to high growth rates in Taiwan, but rather provided a means to introduce and disperse new technology throughout the Taiwanese economy. It was this transfer of technology that enhanced productivities economy-wide and gave rise to high economic growth rates.

18. Peter G. Warr, "Export Processing Zones: The Economics of Enclave Manufacturing," *The World Bank Research Observer*, January 1989.