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**Some Reflections on Nurkse's
“Patterns of Trade and Development”**

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I. Introduction

In his Introduction to *Equilibrium and Growth in the World Economy: Economic Essays* by Ragnar Nurkse, Gottfried Haberler concluded (p. xii) that:

“The Wicksell Lectures (April 7 and 10, 1959) were Ragnar Nurkse's last words on trade and development. He had evidently spent much care on their preparation. But he was fully aware that he left many loose ends, and he was full of plans for further work. He intended to write a comprehensive volume on trade and development and had started to draft parts. His untimely death (in May 1959) at the age of fifty-two has deprived us of any further help from his fertile mind and wise counsel; it was a grievous loss for economic science as a whole, to say nothing of his many friends. Let us hope, however, that the present collection will stimulate many others to follow the leads which he has given and to explore the lands which his researches have opened.”

We will never know how Nurkse's views of trade and development would have evolved, had he been able to observe the contrasting experiences of developing countries over subsequent years. However, with the benefit of hindsight, we can ask how well the policies and the performances of developing countries corresponded to the expectations that Nurkse laid out in his essay.

In this paper we will review the theory of trade and development that Nurkse suggested, interpreting it in the light of subsequent advances in the theories and empirics of trade and growth. We will then examine the extent to which developing countries' growth experiences during the second half of the 20th century have matched Nurkse's expectations, and also the extent to which his policy advice was followed and, where followed, successful. Perhaps not surprisingly, given the limited information he had

available when he wrote, the growth performance of countries following various development strategies has turned out to differ rather markedly from Nurkse's expectations. But his expectations for the policies that would be used, both by the majority of developing countries in the first decades after he wrote, and also by developed countries in response to those few who followed a more export oriented path, were remarkably prescient.

II. Contrasting Trends in World Trade from the Nineteenth Century to the Late 1950s

In his Wicksell Lectures, Nurkse reviewed at length "Contrasting Trends in the Nineteenth and Twentieth Century World Trade." He noted that, in the nineteenth century (1815-1914), trade was an engine of growth transmission as well as a means of improved allocation of existing resources. This was a period in which Great Britain was the focal center of economic expansion that resulted in a very substantial increase in the demand for primary commodities from the so-called Regions of Recent Settlement (RRS) located in the temperate zones of North and South America, Australia, and New Zealand. Great Britain was also the source of the very large movements of financial capital that was instrumental especially in building the railway infrastructure in the RRS that facilitated the movement of their exports to Great Britain. This period in time was truly the first great movement of globalization that served to integrate what are now many of the world's high-income, industrialized countries.

From WWI to the end years of the 1950s, once the postwar recovery took hold, the production and trade of the major industrialized countries rose significantly. But in contrast to the nineteenth century experience, Nurkse noted there was a marked

slowdown in the rate of expansion in the primary exports, excluding oil, of the poorer countries. He attributed this slowdown to a number of factors: (1) the shift in the industrial countries from industries with a high raw material content to industries with a low material content; (2) the rising shares of services that did not depend on significant material inputs; (3) the low income elasticity of demand for many agricultural products; (4) increased agricultural protectionism; (5) substantial economies in industrial uses of natural materials; and (6) development of synthetic and other man-made substitutes for many staple commodities.

The question that Nurkse then raised was what are the less developed countries to do? Given the pessimistic outlook for expanding production of agricultural products and other raw materials, the issue was whether and how industrialization could be pursued. The choices appeared to be production for export and production mainly for the domestic markets. Nurkse was inclined to favor industrialization for export especially in developing countries that were relatively labor abundant. But he expressed some concern about supply-side difficulties arising from the comparative lack of social and physical infrastructure in many poor countries, and, on the demand side, the possible protectionist reactions in the industrialized countries if their high-cost suppliers especially of labor-intensive manufactures were to be injured and displaced by imports. Nurkse considered at some length the difficulties that might arise in promoting industrialization to serve the home market. The concerns here related to the interactions of agricultural and industrial development in relation to the patterns of expansion of domestic demand and the pitfalls of following policies of import substitution.

From his vantage point in the late 1950s, Nurkse noted (p. 323):

Manufacturing for export to more advanced countries...is being tried to some extent, in some places with success, and there are experts who predict great things for it in the near future. But it can hardly be described as a major factor at present. ...More is happening along the lines of...the pattern of home-market expansion. ...Industrialization for home markets is undoubtedly spreading.

III. Developments in World Trade and Growth from the Late 1950s to the Present

In the preceding section, we have reviewed the essentials of Nurkse's views and analysis of the factors that shaped the patterns of trade and development from the nineteenth century to the late 1950s. We now consider the major developments in world trade since Nurkse presented his Wicksell Lectures in 1959. It is obvious that Nurkse did not foresee the truly remarkable expansion of world production and trade that has occurred in the past half century and that has encompassed the major industrialized countries and many developing countries. There has literally been a "second coming" of globalization that makes the nineteenth century look to be a pale comparison.

To address the developments that Nurkse did not fully anticipate, we shall focus attention analytically on the determinants of trade and growth that may help to further the understanding of how the global trading system has been transformed.

We will first review the policy choices that developing countries made in the 1950s and 1960s, confirming the preponderance that he noted above of countries choosing "home-market expansion," or what came to be called "import substitution," as their strategy for economic growth. At the same time, as he also noted, a handful of countries opted for "manufacture for export," or "export promotion," as their strategy.

Nurkse anticipated correctly that the latter countries would face increasing barriers to their exports, especially in the labor-intensive textile and apparel sectors where their relative labor abundance gave them comparative advantage. He did not anticipate, however, how well such countries would nonetheless succeed in growing, or that their success would gradually attract converts from the first group of countries.

Nurkse fully understood that the home-market expansion strategy was only second best, and he suggested it only because of the barriers that he thought developed countries would place in the way of export expansion. We will review the growth performance of countries that chose the different strategies.

IV. Theoretical Insights: Nurkse's Model of Trade and Growth, in Retrospect

In his Wicksell Lectures, Nurkse laid out three strategies for growth and trade. In this he was primarily interested in the prospects for success of these three strategies and thus their policy implications, and he was therefore not explicit as to what economic model he had in mind. In fact, it is not likely that he would have claimed to be working with an explicit model of the sort that was only then coming into fashion with the works of Samuelson and others. Indeed, he was sufficiently attuned to the complexities of the economy that he might have renounced any such explicit model as being too simplistic.

But he was definitely thinking within the general framework of the Heckscher-Ohlin model of trade, and his reasoning reflected that. Here we will ask what particular variant and extension of that model might have most closely corresponded with his thinking. Then, in the context of that model, we will ask how his theoretical ideas about trade and growth look today, with fifty more years of experience in both economic theory and the experiences of developing countries.

The Strategies

Nurkse described three strategies of trade and growth, distinguished by the portions of the economy in which that growth was to be concentrated. The first strategy – what we will here call Strategy I – is to grow by producing and exporting primary products. This is the mechanism he described in his first lecture as having successfully achieved the growth of the RRS during the 19th century. At that time, countries such as the United States provided primary inputs to the rapidly expanding industrial complexes of Europe, especially the UK.

The RRS themselves therefore remained relatively unindustrialized under Strategy I. This worked well during the 19th century, but for reasons we will mention below, was inadequate during the 20th. Therefore his other two strategies were directed toward industrialization.

Strategy II is also export based, but instead of exporting raw materials, this exploits another comparative advantage of many developing countries: their relative abundance of unskilled labor. Thus this strategy rests on the exports of labor intensive consumer goods, such as textiles and apparel.

Strategy III, introduced for reasons to be discussed in a moment, is not based on exports at all, but rather on producing for the domestic market of the developing country itself, or perhaps for itself and other developing countries in its region. Because the domestic market for any good is rather small, and because without substantial exports demands for other consumer goods could not be satisfied through imports, Strategy III requires production not just in a few sectors, but in just about all, including both a broad range of consumer manufactures and also food. Nurkse did allow this strategy to include

imports of capital goods, which he regarded the developing countries as the least capable of producing themselves. Thus there had to be a certain amount of exports of something, perhaps again primary products but in smaller volume than in Strategy I.

Nurkse saw substantial limitations to each of these strategies, and it was the limitations on Strategies I and II that led him to consider the third in spite of its obvious economic inefficiency. The limitation on Strategy I, exporting primary products, was the now familiar expectation that world prices of primary products tend to fall over time. This evidently was either not true or not a problem during the 19th century, but Nurkse was in good company during the 1950s in perceiving it to be a problem then, and in expecting the problem to continue. Therefore he dismissed Strategy I as inadequate for the developing countries of his day.

The limitation that he saw for the Strategy II was not nearly as commonly perceived in the 1950s, and indeed one can marvel at his prescience. This was that, as developing countries expand their exports of labor intensive goods, they would encounter increasing trade barriers for these products in their developed country markets. He well understood that labor intensive sectors in the developed world would have to contract for this strategy to succeed, and that political forces in those countries would resist that contraction. Thus the access into these markets by developing countries would be limited by tariffs or other trade barriers, as a direct result of any success that they began to achieve. Thus, the strategy of growth through manufactured exports would be undermined.

It was the limitations on the first two strategies that led him to consider the third, for which he also saw limitations – several of them, in fact – but also at least one positive

effect that bears mentioning. The most obvious limitation, of course, is that countries would be denying themselves most of the benefits of pursuing their comparative advantage. By allowing them, under this strategy, to continue importing capital goods, he did not deny them that benefit completely. But by having them produce a full range of consumer manufactured goods, he more or less assured that consumers in developing countries, to the extent that their incomes rose enough to afford these goods, would be poorly served. It seems clear that he was well aware of that, but as already noted he found the alternatives nonviable.

The more severe limitation of Strategy III, and one he stressed, was that it depended on countries being able to feed themselves. Without exports to pay for imported food, countries would have no choice but to be essentially self sufficient, and yet it was not obvious to him that they could do it. Resources would have to continue to be devoted to agriculture and to improving productivity there, or there would be no surplus labor available to produce other goods for the domestic market. He saw this as the most binding constraint on economic development, given his pessimism about the other two strategies, and he seemed rather pessimistic about this as well.

He also discussed one other important limitation on this strategy of producing for the domestic market: that the domestic market would be very small in many countries, often too small to support efficient production. Thus he acknowledged the existence of scale economies in manufacturing production, and thus that producing for only a small domestic market would be very costly, with or without comparative advantage. His solution to this, mentioned only in passing, was that developing countries should not eschew exports entirely, but that they should export to each other, and that they

presumably should specialize within their developing-country regions to the extent needed to support minimally efficient plants.

This essentially completes the description of Strategy III, although it includes one additional implication, if successful, that bears mentioning. To the extent that a developing country succeeds in growing its productive capacity in a broad range of manufactures, not just labor intensive ones, it will eventually be able to export some non-labor-intensive goods to the rich world. The advantage of this is that, by steering clear of the overstressed labor-intensive industries of the developed world, it will avoid the protectionist backlash that he forecast to be stimulated by labor-intensive exports. Instead, developing-country exports of more capital-intensive goods would feed into the nexus of trade within more advanced industries that already goes on among developed countries, and the new additions from the developed counties would be accepted without complaint.

Nurkse's Growth Model

It may be noticed that these strategies do not really address how to make economic growth happen in the first place. Rather, they simply assume such growth, and they are concerned instead with how to accommodate that growth within the world economy.

Nurkse did not, at least in these Wicksell Lectures, pretend to have anything new to say about the causes of growth or how to achieve it.

Instead, he simply accepted that growth requires saving. He did not discuss how this saving was to be achieved, although he seemed to see it as coming from within the developing economies rather than from abroad. And he did not discuss the mechanisms

by which savings is to be transformed into investment of one sort or another, and the associated difficulties with that transformation.

In particular, he did not really address how each of his three strategies for trade and growth might be implemented. He simply spoke of countries as choosing one or another. We can infer that his Strategy III would have to be implemented with trade barriers of some sort, to prevent imports of manufactured goods, but there is no implication here that such trade policies would themselves cause growth to occur. His lectures were about accommodating a country's growth within or outside of world markets, given that the growth occurs. They were not about how to achieve growth.

His first lecture seems to be explaining the growth that occurred in the 19th century as being a result of the exports of primary products, but it seems unlikely that Nurkse believed that such exports, in and of themselves, would have produced growth. Rather, when these exports took place in a growing world market, they added nicely to the incomes of the countries, and thus provided a source from which savings and investment could be extracted. But presumably he would have agreed that additional ingredients are needed to prompt that savings, even out of a higher income, and that some countries undoubtedly participated in the 19th century export boom without translating it into savings and growth. Indeed, it is to some extent those countries who remained underdeveloped and were the subject of his strategies when he wrote.

As for implementing the strategies, aside from using trade barriers for Strategy III, it is not clear what Nurkse had in mind for directing an exporting economy into either raw materials or manufactures. He tends to speak of these choices as though policy

makers might control them directly, which of course may have been true in some developing countries of his day.

Alternatively, one could argue that the world market would determine this specialization. If a developing country does have an abundance of raw materials, then absent any policy to prevent it happening, exports of these will occur, with implications for income that depend on their price. However, if prices decline as Nurkse expected, and if in addition the country's labor force is expanding beyond the capacity of the resource sector to employ it, then again in the absence of policy to prevent it, labor-intensive production and exports will occur.

In other words, unless a country deliberately implements Strategy III by restricting trade, the choice between Strategies I and II will be made for it by world markets. In each case, whether these will lead to growth will depend both on the returns that a country is able to derive from its specialization, which Nurkse discusses, and on whether it is able to turn income into savings and investment, which Nurkse leaves aside.

Nurkse's Trade Model

In order to accommodate many of Nurkse's ideas within an economic model, that model must include at a minimum more than one manufacturing sector as well as a primary product or agricultural sector. These sectors must employ labor, of course, some sort of capital, and presumably land and/or natural resources for the primary product sector. In addition, to capture the role of scale economies that play a small role in his discussion, it would be desirable to have increasing returns to scale in at least some manufacturing. Finally, the model may treat a small country for which prices in trade are given, except

that it must also include the feedback from exports to rest-of-world protection that Nurkse expected in labor-intensive manufactures.

To capture these elements, the model would have to be a hybrid of other models, and one might fear that it would be too cumbersome to be of use. That is not the case, however, as we will suggest.

Start with the model that Anne Krueger (1977) presented of trade and development in her Graham Lecture thirty years ago. This was itself a hybrid of a 2-factor (labor and capital), many-sector Heckscher-Ohlin (HO) model combined with a three-factor (labor, capital, and land) specific-factors model. Her model had a single agricultural sector employing labor and land, plus an arbitrary number of manufacturing sub-sectors employing labor and capital. As discussed further in Deardorff (1984), labor in this model is distributed between agriculture and manufacturing largely based on the stocks of land and capital that are specific, respectively, to agriculture and to manufacturing as a whole. Within manufacturing, however, because both labor and capital are mobile among the multiple sub-sectors, that part of the model behaves like the HO Model.

Krueger assumed that all goods could be traded on the world market, from which a small developing country would take prices as given. She also assumed that these prices within the manufacturing sector were such as to generate multiple cones of diversification. The latter implies that, under free trade, a country will specialize in only a subset of the manufactured goods, those with labor intensities (relative to capital) corresponding to its aggregate employment of labor in the manufacturing sector relative to its capital stock.

A main implication of the Krueger model is the way that patterns of specialization and trade depend on factor endowments. A developing country with a great deal of land relative to both labor and capital will employ so much labor in the agricultural sector that not much labor will be available in manufacturing. As a result, it will actually specialize in the more capital-intensive of the manufacturing sub-sectors, not because it has so much capital, but because it has so little labor to spare to work with that capital. Thus within manufacturing it specializes in less labor-intensive goods. But even there it produces little of them, and may not export them because these sectors are small. The country exports agricultural products, perhaps exclusively.

In contrast, if such a country had a much larger labor endowment, most of that labor would be employed in manufacturing. Its capital-labor ratio within manufacturing would then be low, and it would specialize in, and export, labor-intensive goods. Wages, incidentally, would be much lower than in the first case.

The Krueger model provides an appropriate structure for much of Nurkse's analysis, with only minor modifications. We might think of splitting the agricultural sector into two, one producing primary products for export and the other producing food, either for export or for domestic consumption, but that will not much change the behavior of the model. The manufacturing sector can be taken from Krueger's model unchanged for most purposes, including the prediction that labor abundant developing countries, at least if their agricultural sectors are not large enough to employ too much of their labor, will under free trade specialize in and export very labor-intensive goods.

In this form, the Krueger Model does a nice job of explaining the shift that will occur between Nurkse's first two strategies. A natural-resource abundant country with

not too large a population will naturally export primary products in exchange for all else. But if the prices of primary products fall, and especially if the countries have much more labor than can be employed in the primary product sector, the free market will lead to specialization in labor-intensive goods.

To turn the Krueger Model, thus conceived, into a Nurkse model, then, we need just two more elements. The first is to depart from Heckscher-Ohlin in at least the more capital intensive manufacturing sub-sectors to include Krugman-style monopolistic competition. This serves two purposes. First, it adds increasing returns to scale, potentially accommodating Nurkse's concern about domestic market size. And second, by turning these manufactured goods into differentiated products, it allows for the intra-industry trade and the less disruptive exports that Nurkse expected if a developing country were eventually able to export more capital intensive products.

Adding Krugman monopolistic competition into the Krueger model is not as hard as it may sound. That is exactly what Helpman and Krugman (1985) did with the Heckscher-Ohlin model, where they showed that essentially all standard properties of the HO Model survive unchanged when sectors of the HO model are instead made monopolistically competitive under their assumptions. The only exception is that, instead of countries either exporting or importing in these sectors depending on supply relative to demand, they do both. That is, domestic consumers buy products from both domestic and foreign firms, and domestic firms sell to both domestic and foreign consumers, regardless of whether domestic supply exceeds domestic demand or falls short of it. The same will be true if some (or all) of the manufacturing sub-sectors of the Krueger Model are made monopolistically competitive in the same way.

The other element to be added is political economy. That is, to capture Nurkse's idea that exports of labor-intensive goods will lead to a backlash of protection, we need to endogenize tariffs. Fortunately, we only need to do this for the rest of the world, not for the developing country itself. Although doing the latter might be worthwhile for its own sake, it is not necessary in order to reflect the ideas in Nurkse's Lectures. And since we are not otherwise modeling the rest of world, the addition to the Krueger model will simply be to assume that rest-of-world tariffs on imports of labor-intensive manufactures rise with the level of exports from the developing country. This in turn means that the price the developing country will receive for its exports of these goods must fall as exports rise.

This Nurkse Trade Model then generates Nurkse's predictions, as follows. First following Nurkse's Strategy I, a natural-resource (i.e., land) abundant developing country will naturally export primary products. As long as the prices of these products stay high, and the country's population does not grow unwieldy, it will prosper. But if, as Nurkse expects, the prices of these products decline over time, then the income from these exports will also decline and the return to any growth that the country manages to achieve will be disappointing.

Strategy II is relevant for a country whose labor force is too large to employ mostly in primary products, either because of population growth or due to decline in the availability of natural resources. And of course it may become the strategy of an open economy that was following Strategy I, if the price of primary products falls sufficiently. The Krueger Model un-amended would have predicted that the country will export the most labor intensive good, importing all other manufactures in exchange. But the Nurkse

model goes a step further in predicting an increase in foreign protection and a consequent fall in the price that the developing country can get for its exports. Thus, while the mechanism is somewhat different, the result of a declining terms of trade is the same.

Interpreting Strategy III within this Nurkse Model takes a bit more work. In order to cause all manufactured goods to be produced in the country, tariffs or some other trade barrier will have to be put in place on all such goods that would otherwise be imported. In this model, as noted above, these imported goods may be of various capital intensities depending on the relative abundance in the country of land, labor, and capital. A sufficiently land-abundant country, in spite of its scarcity of capital, may import some of the most labor intensive goods and need to protect them in order to follow Strategy III. Nurkse did not anticipate this, and indeed he would probably say that such a country will escape from the limitation of Strategy II and need not follow Strategy III. Therefore a developing country that adopts Strategy III is likely to be one whose labor is sufficiently abundant relative to both land and capital that, under free trade, it would export only the most labor-intensive manufactured good and import all others.

Strategy III would therefore require tariffs on all but the most labor-intensive manufactures, raising the domestic prices of these goods. That price change will in turn cause the return to capital to rise and the real wage of labor to fall, as explained by the Stolper-Samuelson Theorem. Since the country ceases to import most manufactures, prices will also adjust so that it exports less as well, its remaining exports being either the most labor-intensive manufactured goods in smaller quantity, or perhaps products of the primary-product sector.

What now happens if the country succeeds in growing, in spite of the lower income that it now earns producing goods to which it is less well suited. If it grows, its capital stock will rise relative to labor, and gradually, over time, its comparative advantage within manufacturing may move up the ladder of capital intensity. This, it should be said, is not assured, even if it succeeds in increasing its overall capital-labor ratio, since similar growth is probably occurring abroad as well. It must manage to grow faster than the rest of the world in order for its relative factor endowments to favor producing more capital intensive goods.

If this happens, though, then the developing country will succeed not just in raising its income but in moving into the monopolistically competitive manufacturing sectors even for export. At first it will not be a net exporter of these goods. But because of product differentiation, it will export at least a small amount of the particular varieties of these goods that it produces, while still importing the more numerous varieties produced abroad. Eventually though, if its growth is successful in this way, it could actually eliminate its tariffs on certain mid-level (in terms of capital intensity) manufactured goods and sustain net export positions in them. This is the outcome that Nurkse described as being less likely to prompt a protectionist backlash in developed countries, since it would not be such a threat to their declining industries.

Nurkse's Track Record

How accurate did Nurkse's model of trade and growth turn out to be, as we look back now with fifty years of hindsight? Some of his predictions have been borne out, but not all.

First, his prediction about a declining terms of trade in primary products has had a mixed record, and at the current moment looks particularly wide of the mark. Prices of primary products have moved both down and up over the last fifty years, in rather large swings. There certainly were times, especially in the first decade or two after he wrote, that primary product prices indeed fell. But in the later period they rose, and today many primary product exporters are doing quite well, at least with that part of their economies. Not all, however, have so clearly benefited from exports of primary products, even when their prices rose. Many such countries have failed to translate their incomes from exports into savings and investment, suggesting to some that there exists a “resource curse.” Even some oil exporters have failed to make good use of their oil windfall.

However, as this formalization of Nurkse’s model perhaps makes clearer than his own discussion, a country’s ability to sustain itself from primary product exports alone depends not just on their price but on the abundance of the natural resource itself (land, in the model) relative to labor. As populations have grown, the shift to labor-intensive production has become more necessary. Thus Strategy I has often been inadequate for success.

Nurkse foresaw quite correctly that Strategy II would lead to trade barriers being erected to limit the labor-intensive exports of developing countries. This actually began with restrictions on exports of clothing from Japan, when it was in effect a developing country during its recovery from the devastation of World War II. But these restrictions expanded, both in their coverage of textile and apparel products and in their coverage of developing country exporters, as various countries other than Japan attempted to pursue Strategy II. The barriers ultimately took the form of the Multi-Fibre Arrangement

(MFA), which was only terminated in 1995 with the creation of the World Trade Organization, which then phased out the barriers over the subsequent ten years.

What Nurkse did not foresee was that these barriers would not be large enough to prevent quite a number of countries from pursuing the strategy successfully, albeit less successfully than they might have in the absence of the MFA. One reason for this may have been the fact that the barriers of the MFA took the form of quotas, as well as tariffs, and the rents from the quotas accrued to the exporting countries themselves. Thus while they could not export as large a quantity as they might have if unrestricted, the price they got for their exports did not suffer. Indeed, because these quotas were allocated country by country, some countries were able to earn more from exports of textiles and clothing than they would have without the MFA.

This advantage should not be overstated. In addition to the MFA, tariffs on textiles and apparel remain some of the highest charged by developed countries. And overall, as noted by Schavey (2001) of the U.S., tariffs on the exports of developing countries are quite a bit higher than the average tariff on all imports into developed countries. The latter was reduced tremendously by the eight successful rounds of multilateral trade liberalization under the General Agreement on Tariffs and Trade, but in part because developing countries were exempted from reducing their own tariffs during these negotiations, they got little in return. And it is no doubt true that resistance to lowering tariffs on their exports was motivated in large part by the disruption to developed country industries that Nurkse predicted.

Nurkse therefore expected Strategy III to be, by default, the one chosen by most developing countries. For several decades after he wrote this was the case, under the

label of Import Substitution. As he foresaw, this strategy depended on countries being able to feed themselves, since without exporting they could not count on substantial imports of agricultural goods. Nurkse therefore saw the need for increased productivity in agriculture, although he did not see how this would occur. In fact, agricultural productivity did increase substantially as a result of the Green Revolution, thus forestalling in many (but hardly all) countries the famines that would otherwise have accompanied their rapid population growth.

On the other hand, while many countries pursuing this strategy did manage to grow, they grew only slowly, which would be no surprise to Nurkse. The surprise would have been that countries using Strategy II were able to grow so much more rapidly than the import-substitution countries, in spite of the protection they confronted in the developed world. And it was this example, first by Japan and then by the Asian Tigers, that has gradually led more and more developing countries to shift from Strategy III to Strategy II.

Nurkse might note that the Asian Tigers were small economies, so that their exports never rose to the level that might have prompted a more extreme protectionist response. Indeed, he might also observe that today, as ever more countries pursue Strategy II, including now the very large economies of China and India, the protectionist backlash may be growing. This could account, for example, for the fact that the latest round of multilateral trade liberalization, the Doha Development Agenda, seems headed for failure.

On the other hand, we might also observe that the successful pursuit of Strategy II by an increasing number of countries has led over time to the near disappearance of many

of the most labor-intensive industries from the developed world, in spite of efforts to protect them. As a result, the constituent interests for protecting these industries have themselves declined. This is an outcome that Nurkse did not anticipate, but it is one that he would have well understood.

V. Conclusion

Many things have happened over the last half century, both in the world trading system and in the economies of developing countries. Some of these, Ragnar Nurkse anticipated. Others he did not. But his framework for understanding the interactions between developing countries and world trade was an important tool for interpreting these events, and it continues to be so today.

References

- Deardorff, Alan V. 1984. "An Exposition and Exploration of Krueger's Trade Model," *Canadian Journal of Economics* 17, (November), pp. 731-746.
- Haberler, Gottfried and Robert M. Stern (eds.). 1961. *Equilibrium and Growth in the World Economy: Economic Essays by Ragnar Nurkse*. Cambridge, MA: Harvard University Press.
- Helpman, Elhanan and Paul R. Krugman. 1985. *Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition, and the International Economy*. Cambridge, MA: MIT Press.
- Krueger, Anne O. 1977. *Growth, Distortions, and Patterns of Trade Among Countries*. Princeton Studies in International Finance, No. 40, (Princeton).
- Schavey, Aaron. 2001. "The Catch-22 of U.S. Trade," *Knight-Ridder/Tribune News Wire*, March 9.