

The Strategic Model of Trade-Development Policy

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Throughout the postwar years the industrial and trade pattern of the world have undergone fundamental changes due largely to changing technology and demand structure. Nevertheless, conventional trade theory and its extrapolations have remained a prime theoretical apparatus, from which the projection and redirection of thought have been slow. Traditional trade theory had a simple formula to be applied to all countries regardless of their stages of development. In contrast, this paper will contend that traditional trade development theory is only a useful analytical tool rather than a generally applicable theory. The author believes that modern trade-development theory should have greater relevance to the changing pattern of actual world trade and economy. It is in this spirit that this paper attempts to discuss existing theories of trade as they apply to developing countries.

I. Conventional Theories of the Trade-Development Relationship

Conventional trade theory can be traced back to the theory of comparative advantage as enunciated by Ricardo and Mill. The major contribution of comparative cost theory is its theoretical validation of the gains from trade resulting from specializing in the relatively least cost commodities of a country. The country will be better off if it exports the commodities produced more efficiently and imports those that it produces less efficiently. The basic arguments for the trade-development relationship have been further expanded in the Heckscher-Ohlin factor proportion theory.

The factor proportion theory states in essence that the factor endowment of a country as compared to the rest of the world determines the country's trade pattern. From their particular factor endowments trading countries could realize trade gains under certain assumptions. The theory's dynamic version emphasizes that, with systematic changes in a country's factor supplies rela-

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tive to those of countries with which it trades, the trade pattern would change accordingly.

Arthur Lewis argued his development-trade theory by saying that developing countries should promote, in establishing manufacturing industries, labor intensive processes characterized by simple technology, since their factor endowments are identified with abundant labor.⁽¹⁾ Myint also argued in terms of classical trade theory, saying that some problems of developing countries could be solved by the implementation of “the vent-for-surplus” solution suggested by the classical school, and he further emphasized that developing countries would be doubly benefited from exporting their surplus commodities, since labor subject to disguised unemployment could be utilized in export industries.⁽²⁾ In other words, the Lewis-Myint version is a further extrapolation of traditional trade theory, since the theory takes for granted that a market exists for the commodities developing countries can produce.

The pitfalls of the factor proportion theorem and the comparative advantage theorem have actually emerged from the changing commodity structure of the world's trade, which has disturbed the working mechanism of the trade flow between primary-producing countries and industrial-commodity-producing countries. These center on the phenomena of changing demand patterns of industrial countries in association with the growing intensity of technology and innovation, which have structured world trade patterns in a new direction, accelerating the intratrade among developed countries. This process resulted in the rejection of the neoclassical school's famous dictum “trade is an engine of development.” In the face of the declining demand for primary commodities on the part of developed countries, the Nurksean school emerged with proposals supported by the United Nations as well as many developing countries. In the 1950s and the early 1960s the economic policies of many developing countries had been influenced by the Nurksean prescription of a new development strategy. For example, developing countries in Latin America and Asia began implementing the Nurksean policy of import substitution coupled with balanced growth, combined with the infant industry argument.

(1) W.A. Lewis, “Economic Development with Unlimited Supplies of Labor,” *The Economics of Underdevelopment*, edited by Agarwala and Singh (New York: Oxford University Press, 1963), pp. 436-448.

(2) H. Myint, “The Classical Theory of International Trade and the Underdeveloped Economies,” *Economic Journal*, LXII (June 1958), pp. 317-37.

The Nurksean version of balanced growth was based on the complementarity of demand in domestic markets, implying implicitly the logic of Say's Law, which prevailed for Western European countries during the early stage of industrialization. It is conceivable that the Nurksean version would be workable if developing countries were provided with abundant capital. Nevertheless, after a short period of development the inherent problems of the policy have emerged in various forms, such as idle capacity, excess products, inefficiency and worsening foreign exchange balance.

Elaborating on the problems in a more specific manner, balanced growth principle, when put into practice, have all too frequently resulted in inefficient resource allocation because they have forced a change in production patterns without considering the limitation of the domestic market. As a consequence, the countries following such policies were increasingly trapped in installing modern machinery without realizing economies of scale due to a narrow domestic market. This resulted in inadequate specialization coupled with extremely high production costs. Unless they are drastically changed, such policies often prove to be self-defeating. In short, the relative narrowness of domestic markets has made the costs of production unfavorable in the product markets and has resulted in high opportunity cost: "... Import substitution fosters an allocation of resources which does not maximize domestic output (calculated at international price) and which penalizes exports. The penalty on exports may be effected in different ways. Usually the exchange rate, tariff, and restrictive policies will turn the internal terms of trade against the agriculture and/or mineral sector (which often are the main export suppliers)."⁽³⁾

In summary, the Nurksean solution was accepted as a relatively easy way out in the short run as long as the products of initial industrialization could be marketed under the protected roof of the domestic market, associated with infant industry protection. But in the face of the necessity of expanding international trade, the Nurksean prescription has only limited application in the economies of developing countries.

By contrast, another theory has evolved emphasizing the linkage of push-follow relationship among industries, viz., the unbalanced growth theory, which portrays development as a serial chain progression of disequilibria.

(3) B.A. De Vries, *The Export Experience of Developing Countries* (Washington, D.C.: World Bank Staff Occasional Papers Number Three, 1967), p.12.

Every country may be considered as having achieved a different degree of industrialization, and thus the linking series of the big push theorem would be more effective strategy in generating economic development. Having observed the pitfalls of balanced growth, this author has chosen to attempt to elaborate on the big push theorem in association with export-oriented industrialization as a prescription for development.

Within the framework of the unbalanced growth strategy, "foreign trade policy should go through clearly defined stages with respect to any one industry. Infant industry protection should be given only after the threshold is reached as a new industry has been established. Tax concessions (subsidy) are an 'apt instrument' for such protection."⁽⁴⁾ In order to implement the export-oriented industry argument in line with Hirshman's version, it is essential to have entrepreneurship executing the production for export, "Incessantly being revolutionalized from within by new enterprise, i.e., by the intrusion of new commodity or new methods of production for new commercial opportunity into the industrial structure as it exists at any moment."⁽⁵⁾ Regarding export expansion, the role of entrepreneurship is required for implementing export-oriented industrialization.

Moreover, the crucial problem that developing countries today must cope with is to realize cumulative industrialization, which requires importing capital goods from developed countries. The growth of primary commodities in world trade has become stagnant and unstable while the growth of manufactured commodities has increased and steady. Accordingly, the declining trade between developing countries and developed countries has been reflected with the increasing trade within the developed nations group.

Because the vertical growth of industries in developed countries has resulted from the cumulative application of technology, the intratrade among these countries is increasing and is concentrated in manufacturing commodities.

"The share of the total trade of industrial areas which is accounted for by trade among themselves rose from 63 per cent in 1953 to 75 per cent in 1967."⁽⁶⁾ Over the same period the share of manufactured products in world

(4) Higgins, *op. cit.*, p.408.

(5) J. Schumpeter, *Capitalism, Socialism and Democracy* (New York: Harper & Row, 1950), p.31.

(6) D. Wall, "Opportunity for Developing Countries," *Trade Strategy for Rich and Poor Nations*, edited by H. Johnson (Toronto: University of Toronto Press, 1971), p.31.

trade rose from 47 per cent in 1953 to 66 per cent in 1969, which clearly demonstrated this trend.

United Nations experts are deeply concerned with this problem: "Since exported primary commodities generally account for a large proportion of total production in the underdeveloped countries and contribute a significant proportion of the national income, instability on commodity markets has grave repercussions through their economies. In the face of a decline in the purchasing power of export proceeds, moreover, governments are often forced to cut back imports. When this involves a cut-back in the machinery and equipment and other strategic goods... the wherewithal of capital formation for which underdeveloped countries depend largely on imported supplies... plans for economic development are inevitably jeopardized."⁽⁷⁾ In order to cope with this changing trade pattern, export-oriented manufacture has been increasingly emphasized as a viable alternative for developing countries in contrast to passive primary commodity exports.

Along with the above trend there are various proposals for correcting the situation, such as a preference tariff system, a one per cent GNP contribution by developed nations to contribute to the industrialization of developing countries, and a Special Drawing Right (SDR) link system⁽⁸⁾ for the expansion of international development assistance. The major objection to all these proposals is that they are subject to the developed countries' goodwill, which seems a shaky foundation for trade expansion for developing countries. Therefore, it is urgent to devise a better way to improve the export position of developing countries.

Traditional trade theory, when applied to developing countries, has also conventionally confined trade strategy within the framework of primary commodities, coupled with the assumption of perfect product market structure.

Thus the present author intends to examine the assumption of the given commodity structure, *ceteris paribus*, since the best possibilities for long-term expansion of exports by the developing countries are in the realm of manufacturing. To put it more specifically, the author's contention here would imply that "even within a comparative cost framework, the emphasis

(7) United Nations, *The World Economic Survey* (1962), quoted by Jalee, *op. cit.*, p.48.

(8) R.A. Prebisch, *A Foreign Economic Policy for the 1970's*, U.S. Congressional Hearings: Part 3-U.S. Policies.

may be too much on labor intensity to the neglect of other conditions affecting the ability (and capability) of less developed countries to sell manufacturing products in the market of the more advanced countries,⁽⁹⁾ by concentrating cotton textile, for example. There is a horizon (or a menu) of manufacturing items suitable to their manufacturing capability.

It is a matter of fact that hand tools, machine tools, radios and other simple electrical appliances are exported in increasing volume by some developing countries through utilizing their trained manpower; this applies, for example, to Hong Kong, Taiwan, South Korea, Phillipine, Brazil, Mexico, and Singapore.⁽¹⁰⁾

However, there has as yet been only limited study of how the trade policies and trade promotion of developing countries should be implemented in order to market their manufacturing products and processing good in high income markets of industrial countries even though the industrial direction is being emphasized.⁽¹¹⁾ Income elasticity for trade expansion has been explored in hypothesizing the growing intratrade among developed countries. Staffen Linder suggests that the growing intratrade associated with the growing income level of developed countries would result in stagnated intertrade between developed countries and developing countries as well as the latter's intratrade.⁽¹²⁾ Interestingly, however, Haring's investigation of some developing countries and early postwar Japan suggests a different interpretation of their exports, although their key variable remains the foreign income level.⁽¹³⁾

Haring's contention is that trade toward the high income market of developed countries should be characterized by export oriented manufacturing products. Haring's study stresses the trade elasticity in respect to foreign

(9) H.B. Lary, *Imports of Manufactures from Less Developed Countries* (New York: National Bureau of Economic Research, 1968), p.5.

(10) R.S. McNamara, "Effects of Trade Policy on Economic Development," *United States International Economic Policy in an Interdependent World*, Commission on International Trade and Investment Policy: Paper II (Washington, D.C.: July 1971), p.314.

(11) UNCTAD, *Trade in Manufactures and Semi-Manufactures* (New York: United Nations, February 1964); A Maizels "The Effects of Industrialization on Exports," *Economies of Trade and Development*, edited by J.D. Theberge (New York: John Wiley, 1968), pp. 35-8.

(12) S.B. Linder, "International Trade and the Composition of Production," *Expansion of World and the Growth of National Economies* (New York: Harper Torchbooks, 1968), pp. 181-210.

(13) J.E. Haring, "Export Industrialism and Economic Growth: A Dynamic Model," *Western Economic Journal* (Spring 1963), pp.114-25.

income change and level. In his view this factor should be taken into account for trade policy of developing countries.

After having considered major theories of the trade-development relationship, the author's view may be summed up as paralleling Frank's statement that "improved access to the markets of advanced countries, whether on a preferential or a nondiscriminatory basis, is unlikely by itself to be a major stimulus to exports of manufacturing from low-income countries. Crucial to success of such measures are the trade and financial policies of the low-income countries themselves."⁽¹⁴⁾

It is in this spirit that the following theory is presented in order to elaborate a trade strategy for those developing countries which are contemplating improved foreign trade along with internal economic development.

II. The Theoretical Strategy of Trade-Development Policy

A. Production Restructuring

The comparative cost doctrine and conventional allocation criteria cannot be applied to developing countries without taking into account the dynamic setting that changing patterns of world trade have created, which do not allow the primary goods producing countries to accommodate their traditional production pattern to contemporary world trade.

Having considered the above structural problems, Lary and Maizels proposed that developing countries have to achieve a rapid increase in their exports of manufactured goods to developed countries by undertaking production restructuring.⁽¹⁵⁾

In Figure 1, the AB curve depicts the production possibility curve characterized by increasing cost, illustrating a primary commodity biased curve associated with the export dimension. In an open economy the two-way trade between a primary commodity biased country and a manufactured products biased country is transacted by establishing their terms of trade accordingly. The vertical dimension indicated industrial products (M) and the horizontal dimension primary commodities (P) and terms of trade (t). By trading JC of P commodities for JW of M products, C, which lies above the production

(14) I. Frank, "New Perspective on Trade and Development," *Foreign Affairs*, 45 (April 1967), p. 536.

(15) C.P. Kindleberger, *International Economics* (Homewood: Richard D. Irwin, Inc. 1968), p. 39.

possibility curve of P commodity country, is established through trade.

By adapting the recommendation of the comparative advantage theorem in line with abundant factor utilization, the A_1B_1 production possibility curve could be expanded as A_2B_1 production possibility curve by producing more along the commodities dimension as shown in Figure 1•B. The expansion of the P commodities dimension is primarily derived from the comparative cost advantage by taking for granted that the demand for P commodities exists, the inelastic demand nature of P export commodities in comparison with the elastic demand nature of M products tends to result in unfavorable terms of trade to the P commodities biased country. Since income elasticity influences the volume of exports, and since price elasticity influences the export earnings, the demand intensity for P commodities grows more slowly than the demand intensity for M products. Moreover, P commodities industries are more subject to a high degree of competitiveness among suppliers. The P commodities biased country seems situated unfavorably in trading with M products biased countries, owing to the inelastic demand for P commodities and monopolistic competition which characterized the P industry, leading to lower prices.

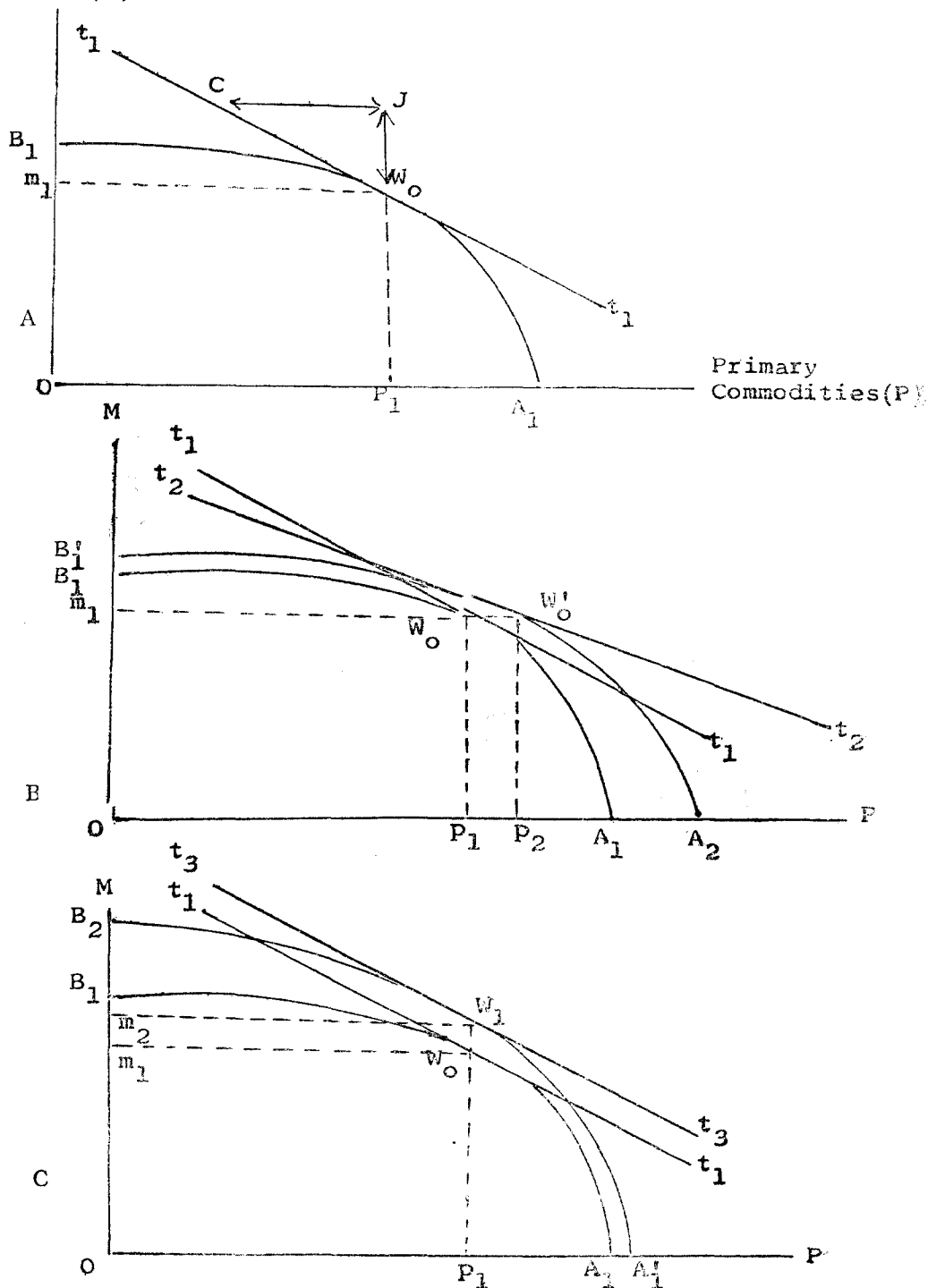
The $A_2 B_1'$ production possibility curve has a slope of t_2t_2 at point W_0' , implying that the terms of trade worsened as compared to the slope t_1t_1 . That is, the increase in P commodities caused the welfare loss to the P commodities country.

As a solution to the above problems, production restructuring is brought about, restructuring export industries and reorganizing export commodities accordingly. The rationale for the production restructuring is twofold: One contention is that M industrial expansion and P existing industries are complementary, as seen in the working economies of advanced countries in the West. Namely, the criteria of economic development and growth are identified with the economies of advanced countries in the West and with the expansion of M industries.

Another contention is that the demand argument has been stressed in shaping production restructuring, implying that trade can stimulate development when foreign demand is adequate. The more commodities a country could export, the better prospects for economic development and growth the country

manufacturing
products(M)

Figure 1



would have, so the demand condition for exportable commodities should be emphasized.

The A_1B_1 production possibility (PP) curve expands toward the M products dimension instead of the P commodities dimension, as shown in Figure I·C. The $A_1' B_2$ is projected in order to show that the welfare level of the P commodities biased country improved by increasing the production and exports of M industries proportionally more than in the PP curve discussed in Figure I·E. The t_3t_3 slope line has a higher plateau than both the t_1t_1 and t_2t_2 .

The important qualification of the above contention is that the hypothesized growing M products exportable from new industries (viz., production restructuring) in the initial stage are generally of marginal quantity, not affecting the prevailing price level of M products in world markets.

In other words, the new producer of M products is at the initial stage viewed as a price taker in the world markets dominated by large M producing countries. Moreover, there is a M products horizon, allowing selection from among them. Market prospects and manufacturing capability should be taken into account in the selection process by a new M producing country.

Thus, "if the two countries are of unequal size, the reciprocal aspect of demand may not come into play at all. The price ratio of the larger country will prevail. This is the importance of being unimportant".⁽¹⁶⁾

B. Progressive Commodities

World demand has changed in character, discriminating against primary commodities (except petroleum products and a few others) but favoring industrial products. The developing countries should engage in export industries of progressive commodities such as light manufacturing products responding to world trade pattern—e.g., tiles, toys, wigs, artificial flowers, plywoods, hand tools, and tools, simple electric appliances, processing tools and the like. Developing countries should engage in expanding M products industries selectively. "Exports can be the 'leading' sector, i.e., they can provide the dynamic stimulus to growth in the rest of economy (over time); or they can be a 'lagging' sector as, for example, if development concentrates on the domestic market and the demand for imports outstrips the capacity to import."⁽¹⁷⁾ The crucial decisions concern the selection criteria of M products by

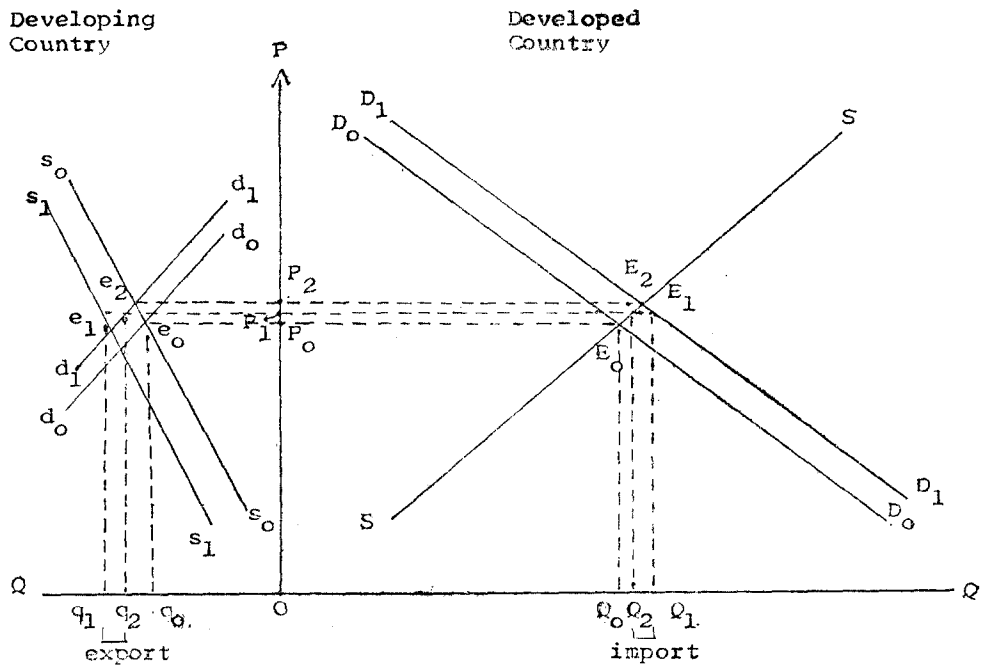
(16) Lary, *op. cit.* pp. 4-5; Maizels, *op. cit.*, p. 36.

(17) Maizels, *op. cit.*, p. 35.

the developing country for the leading sector, considering the dynamic nature of product supply and the side diversity (or choice) in M products category.

In Figure 2, the D_cD_0 and S_0S_0 lines are the initial demand and supply curves of developed countries which tend to determine the price level, P_0 , of world trade. The d_0d_0 and s_0s_0 also indicate the demand and supply schedules

Figure 2. Progressive commodities in international trade



of developing country, respecting P_0 . The premise taken is that the growing income of developed countries over the time would shift the demand curve for M products upward, indicating a higher level of demand. In terms of comparative static analysis, some M products are strongly demanded in the commodity market, pushing price upward. This phenomenon in turn stimulates the marginal supplier of these products to be more responsive.

The D_1D_1 demand curve results from the growing income level of the high income market causing a new price level P_2 in the short run. In response to the increase in demand of developed country, there is an increase in supply by the developing country represented by the curve s_1s_1 , and a new price

level is established at P_1 .

Moreover, economic development generated from the strong demand abroad would further bring about increasing demand at home. And this process attracts new investment, and greater production reduces costs. The chain process of demand and supply in the developing country, which involves production restructuring associated with compositional change of export commodities, accelerates economic development.

In the context of Figure 2, advanced countries will respond to the increase in demand in their home markets by increasing their production from Q_0 to Q_2 and importing from the developing country would increase from Q_1 to Q_2 . The supply of the developing country would increase from q_0 to q_1 , out of which the quantity q_0q_2 will be consumed at home and q_1q_2 will be exported to advanced countries. The quantity traded between advanced country and developing country tend to coincide.

In summary, the increased demand in developed countries generates the market disequilibrium to suppliers at home and abroad, however, after the increase in supply a new equilibrium level is established at P_1 having more production of both domestic and foreign suppliers. In an expanding market there has been little resistance from domestic suppliers of advanced countries as well. The progressive commodities of a developing country are associated largely with selected M products, derived from production restructuring and export commodity recomposition.

Countering the above trend developing countries could learn that as they industrialize in any industry to begin with, it is a difficult task. Whether the country tackling with the conventional industry or progressive industry, the difference of difficulties could be marginal degree. If so, then the country should involve to industrialize the progressive industry even though the short run pay off might be slim, the long run reward would be not only greater but also the cumulative-and-chain industrialization.

C. Product Cycle

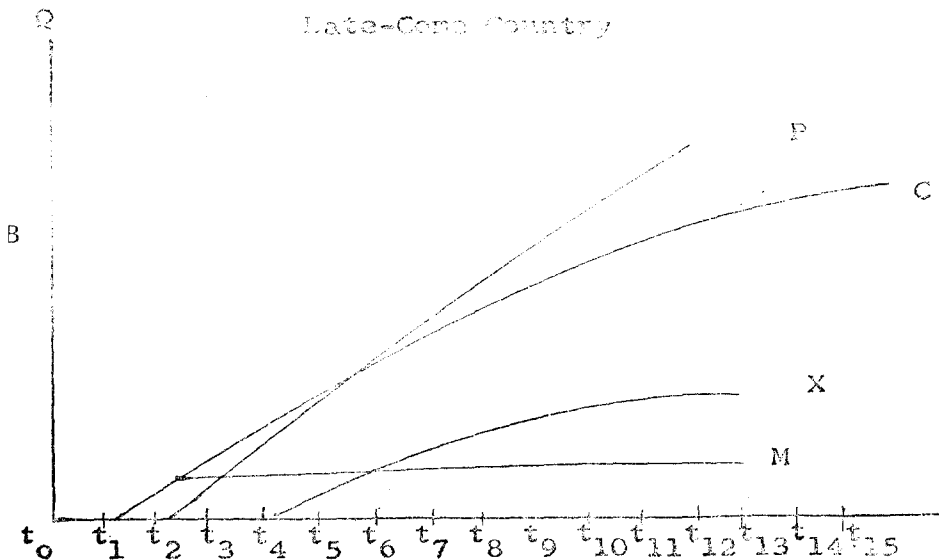
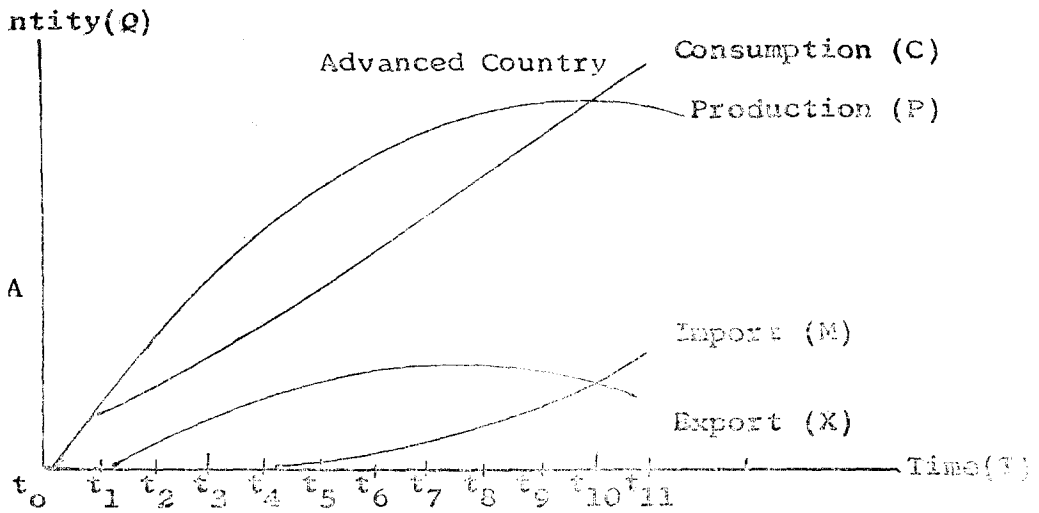
Raymond Vernon introduced the concept of the product cycle.⁽¹⁸⁾ The product cycle in international economy is closely associated with growing technological innovation which brings about a series of shifts in the compo-

(18) R. Vernon, "International Investment and International Trade in the Product Cycle," *Quarterly Journal of Economics* (May 1966), pp. 190-207.

sition of major trading commodities. This theory is analyzed here in light of the postwar phenomenon of the changing commodity pattern of world trade.

The product cycle theorem becomes of relevance to a country involving production restructuring under the changing world trade pattern. The direction of production restructuring would be associated with selecting a few M

Figure 3. International trade pattern associated with product life cycle



products. This becomes a vital factor determining the degree of industrial success. Since success breeds further success, the correct direction of industrialization could orient the economy toward an industrial spurt. The product cycle model is theoretically significant, so much as to be examined both ex post and ex ante. The author contends that the model can be used as well for the specific purpose of a development strategy.

The implication for developing countries is that the sequence of diverse and multiple product cycle processes provides an opportunity to developing countries to engage in higher productive industries, namely manufacturing industries, while developed countries tend to move to sophisticated production coupled with vertical industrial growth, leaving certain industries to the developing countries which are undertaking production restructuring toward manufacturing industries.

In Figure 3•A, the production process from new commodity through maturing commodity to standardized commodity status in the advanced country is shown broadly in order to characterize the implicit nature of the product cycle process in the country which introduces new commodities. The time dimension is indicated by t horizon while the quantity dimension is shown by the vertical dimension. The t_0 implies the introduction of a new commodity in the high-income market of an advanced country.

The period from t_0 to t_2 implies the market pioneering duration requiring the cost of marketing in spreading information about and advertising the new product, both at home and abroad. From the t_2 on, the production stimulated by market acceptance would be boosted toward its maturing stage, along with exploiting economies of scale. In this stage the product's industry would be called a progressive industry, and it will realize high productivity gains and profits as well. In addition, the introduction of new commodities following one another will result in a series of the production processes of new product, maturing product and standardized product. The incentives from the market mechanism tend to feed the product cycle processes causing continuous introduction of new commodities in the high income markets of advanced countries. The high-income market is a suitable place for introducing new products. This market lures new commodities characterized by innovation.

In Figure 3•B, the product process of a developing country is depicted in

the context of the product cycle version. The t_1 represents this country being exposed to a new imported commodity, coinciding with consumption up to the point when she engages in her productive operation, t_2 . The production might be encouraged by the various policy measures such as import control and subsidies, for which the infant industry argument could be capitalized.

The rationale of the infant industry argument is that a catch-up industry is in a competitively disadvantageous position vis-a-vis an established industry in an advanced country. Therefore, the argument prescribes the protection. However, "it is essential that the protection should be confined to cases in which there is ground of assurance that the industry which it fosters will after a time be able to dispense with it."⁽¹⁹⁾ To put it differently, the infant industry argument associated with the product cycle model should be implemented by a production restructuring program under the supposition that the eventual saving in costs in the expanding and investing M industries, for example, could compensate for the high initial costs of the catch up period. "The broad historical records suggests that protection may have accelerated economic development since the original industrial revolution in England has done so behind a protectionist wall."⁽²⁰⁾

The t_4 in Figure 3•A and B indicates both the imports from an advanced country and the export from a late-come country. The character of this stage is extremely complex in nature due to the international market mix of advanced, semiadvanced developing countries and late-developing countries. The products of the late-come country could establish acceptability in its home market as well as in the third market of the late-come countries, and its entry into the high-income market of the advanced country could be expedited in turn.

The duration from t_2 to t_{12} in Figure 3•B is characterized by the version of product cycle in commodities originally invented abroad. In other words, the diversity and multiplicity of new products as implied in the above discussion have allowed a late-come country involved in similar sequences of the product cycle process to proceed from new products, to maturing products

(19) M. Kemp, "The Mill-Bastable Infant-Industry Dogma," *Journal of Political Economy*, Vol. 68, (February 1960), p.65.

(20) E.E. Hagen, "An Economic Justification of Protectionism," *Quarterly Journal of Economics* (November 1958), p.513.

and standardized products, after acknowledging the time-lag between the advanced country (or leader) and the late-come country (or follower).

In summary, in "each country one finds a constantly changing spectrum of industries in various stages of development—initial entry, early development, rapid growth, export maturity, import decline. Because this is an ongoing process, it is illogical to expect a particular country to dominate production in a given manufactured product forever.⁽²¹⁾ Accordingly, the less productive industries of an advanced country could be classified as progressive industries to the developing country which is executing production restructuring in line with the changing commodity pattern of world trade as well as with the international product cycle process.

The implications are not only production structural adaptation associated with the product cycle but also trade policies associated with various trade promotional vehicles. Prebisch states succinctly that "industrialization needs a dynamic policy of protection, which should be continually adapted so as to introduce new changes. Trade treaties should not try to crystallize existing situation but should be flexible enough to promote these changes in import (and export) composition in an orderly, selective and rational way."⁽²²⁾

(21) J. B. Cohen (ed.), *Pacific Partnership: United States-Japan Trade* (Lexington: D.C. Heath, 1972), p.253.

(22) R. Prebisch, "International Trade and Payments in Era of Coexistence: Commercial Policy in the Underdeveloped Countries," *American Economic Review* (May 1959), p.269.