

Foreign direct investment and economic development

Terutomo Ozawa*

Although transnational corporations play the crucial role as transplanter of technology, skills and access to the world market, how they facilitate structural upgrading and economic growth in developing countries has not been adequately conceptualized in terms of a theory of **economic development**. **This article develops a dynamic** paradigm of TNC-assisted development by recognizing five key structural characteristics of the global economy as underlying determinants. The phenomena of trade augmentation through foreign direct investment, increasing factor incongruity, and localized (but increasingly transnationalized) learning and technological accumulation are identified as three principles that **govern the** process of rapid growth in the labour-driven stage of economic development and, eventually, the emergence of TNCs from the developing countries themselves also plays a **role in** this process.

The theory of foreign direct investment (FDI) has so far been built most extensively around industrial organization economics, the theory of the firm and economics of internalization, with a particular focus on either market structure or the firm as a unit of analysis. Surprisingly, it has not been conceptualized in terms of a theory of economic development (how FDI facilitates structural upgrading and economic growth), despite the crucial role TNCs play as generators and transplanters of technology, skills and linkages to the world market.¹ As John Dunning [1988a, p. 21] phrased it, "One of the lacunae in the literature on international business is a dynamic approach to its role in economic development"; there is little systematic exposition of "the impact of (TNC) activity on dynamic comparative advantage".

*Professor of Economics, Colorado State University, Fort Collins, Colorado.

Many developing countries, especially the Asian newly industrializing countries and the emerging newly industrializing countries (Indonesia, Malaysia and Thailand), and more recently some Latin American countries (especially Brazil, Chile and Mexico), are successfully developing by opening up their economies under outward-oriented policies, albeit in varying degrees. Although outward orientation alone is not a sufficient condition for rapid growth, it does create a climate favourable for the transfer by TNCs-and the absorption by local enterprises-of modern managerial, production and marketing technologies which are the *sine qua non* of industrial modernization. Undoubtedly, TNCs are the prime mover behind the industrial dynamism of those rapidly developing countries. Indeed, they are now increasingly counted upon to duplicate their role as development agents elsewhere in the world, especially in Eastern Europe, which is turning outward by adopting pro-market policies. Moreover, TNCs now originate not only from the advanced countries but also more and more from rapidly growing developing countries, notably the newly industrializing countries (NICs), and those TNCs, especially in manufacturing, are more active in other developing countries than in the advanced countries.

There is thus a definite need to incorporate the recognized developmental functions of TNCs into a theory of open-economy development so as to explain, in one integrated theoretical paradigm, what type of investment activities of TNCs can facilitate a process of industrial upgrading and growth in a developing host country and in what ways; and how the developing country itself, once it gathers momentum for industrialization, is, in turn, induced to create its own TNCs in the wake of such TNC-facilitated economic transformation. The aim of the present article is to move in that direction by

There are several important works that touch on some key developmental aspects of FDI by treating it either as an agent of economic growth or as a function of such growth [Dunning, 198] a, 1988a; Dunning and Cantwell, 1990; Tolentino, forthcoming; Cantwell and Tolentino, 1990; Kojima, 1975; Kojima and Ozawa, 1985; Ozawa, 1979, 1991, 1991 a, 1991b]. But those works are still tangential to the dynamic (intertemporal) process of structural transformation in developing host countries and do not yet constitute a well-structured *sui generis* theory of TNC-facilitated economic development.

integrating the relevant ideas and analytical models into a synthesized framework so as to delineate the causal relationship between the operations and economic development of TNCs, particularly in the early critical stages of transformation in a labour-surplus developing country.

Structural characteristics of the world economy

Theories of international economic activities are built on some perceived realities of the world economy. Some basic structural characteristics (SC) need to be analysed for the purpose of constructing a dynamic theory of TNC-facilitated structural upgrading. Five of them are described below:

- SC No. 1 *Inter-economy divergences in supply and demand conditions*

The individual economies are divergent in their factor endowment and level of technological competence on the supply side, and in consumers' needs and tastes on the demand side.

- SC No. 2 *Firms as creators and traders of intangible assets*

Individual firms are the major generators, procurers and disseminators of technology, skills and marketing channels.

- SC No. 3 *A hierarchy of economies*

There is a hierarchy (and sub-hierarchy) of economies, globally as well as regionally, with respect to economic development; "leader" economies serve as growth centres for a cohort of "follower" economies. In other words, the individual economies in the world are at various stages of industrial upgrading and per capita income (that is, at different stages of dynamic comparative advantage in terms of levels of technological competence and factor proportions).

- SC No. 4 *Natural (stage-compatible) sequencing of structural upgrading and development*

The currently advanced economies gradually went through multiple phases of industrial upgrading, each phase compatible with its corresponding factor endowment (capital-labour ratio) and techno-

logical capacity, albeit over a long period of time by today's standards. This evolutionary path fits the notion of an optimal sequencing of development starting from the initial stage of labour-intensive, low-skill manufacturing (or from the initial stage of natural resource extraction) and moving on to the subsequent stage of relatively physical capital-intensive industrial activities and finally to the more advanced stage of human capital-intensive growth. When that sequencing is allowed to develop, evolutionary forces are set in motion to improve steadily the country's industrial structure, step-by-step, in the most orderly manner.

- *SC No. 5 A strong trend away from inward-looking and towards outward-looking orientation in trade and investment policy, but simultaneously an increasing recognition that Government, though it should deregulate and privatize economic activities so as to unleash the vitality of the private sector, can play a positive role in augmenting the market system.*

There are basically two types of trade and investment regimes: an outward-looking, export-oriented (OL-EO) type, and inward-looking, import substituting (IL-IS) type. But their features are often combined to produce a hybrid regime, though it still can be identified as either more strongly or weakly characterized by one approach. It is now widely recognized that OL-EO is more effective than IL-IS in achieving a faster growth and structural upgrading in the developing countries. Many of the developing countries, once enamoured of IL-IS under economic nationalism, are switching to OL-EO. This new *zeitgeist* is a powerful force for rapid changes in international economic relations. At the same time, the crucial role that Governments can play in supporting the competitive market to assist the development of export industries and structural upgrading is increasingly recognized.

Conventional theories of international business and structural characteristics

From time immemorial, different regions have been exchanging goods with each other, enriching themselves in the process. The predominant basis for trade has been interregional divergences in supplies of primary factors, technological and climatic conditions and

patterns of demand (SC No. 1). It was indeed against the supply side of this structural feature alone that first Adam Smith and then David Ricardo set out to theorize the phenomenon of trade and its benefits. Smith introduced the doctrine of absolute advantage, which is built on the economies of scale realizable from an extended market through exports, while Ricardo constructed the doctrine of comparative advantage, which is enhanced by specialization-induced allocative efficiency. The Heckscher-Ohlin theory, too, was founded on the *uneven* distribution of factors of production among countries. All of those trade theories assume the international immobility of factors (hence, the permanence of SC No. 1), partly because of the informational and socio-psychological costs of transactions involved in transferring them and, perhaps more importantly, for the sake of analysing trade alone.

The conventional trade theories thus capture international exchanges of commodities basically as *arbitrage* operations that exploit and profit from any differentials in price and availability of commodities between different locations, the differentials being determined by productivity and factor endowments. Moreover, all of those conventional trade theories treat firms as if they were non-existent because of the usual assumption of perfect competition; hence no firm-specific advantage is permissible. What matters is the country-specific features that bring about discrepancies in pre-trade commodity prices among countries. That is to say, those conventional theories are constructed against the background of SC No. 1 alone.

The theory of FDI as it has derived from Stephen Hymer's seminal work (1976) explicitly recognizes and, indeed, places in the spotlight the existence of firm-specific assets (SC No. 2). In other words, FDI draws on the role of firms as creators and exploiters of intangi-

z For example, Smith [1776/ 1908, p. 291] observed: "[the fortune] of the trader who is obliged frequently to commit it, not only to the winds and the waves, but to the more uncertain elements of human folly and injustice, by giving great credits in distant countries to men, with whose character and situation he can seldom be thoroughly acquainted." Ricardo [1817/ 1888, p. 77] also stated: "Experience ... shows that the fancied or real insecurity of capital, when not under the immediate control of its owner, together with the natural disinclination which every man has to quit the country of his birth and connections, and intrust himself, with all his habits fixed, to a strange government and new laws, check the emigration of capital."

ble corporate assets. Hence it is no longer logical to assume perfect competition. FDI is viewed to take place only in imperfect markets. It is, moreover, the firm, not the country, that is the *real actor* motivated to trade intangible assets across national borders.

But the basis for FDI resides not only at the level of individual firms, but also at the level of regions or countries, that is, SC No. 2 should be related back to SC No. 1. Paul Krugman [1990, p. 83] for example, relates firm-level variables to country-level variables:

". . . multinational enterprise occurs whenever there exist related activities for which the following is true: There are *simultaneously transaction cost incentives to integrate these activities within a single firm and factor cost or other incentives to separate the activities geographically*.

"Suppose, for example, there is a two-stage product process consisting of a capital-intensive upstream activity and a labour-intensive downstream activity and that (for any of the usual causes) there are compelling reasons to combine these activities inside vertically integrated firms. Suppose further that countries are sufficiently different in factor endowments that, unless these activities are geographically separated, there will be unequal factor prices. Then the result will clearly be the emergence of firms that extend across national boundaries." (Emphasis added.)

As is well known, this way of explaining the emergence of TNCs has long been stated in Dunning's eclectic paradigm [1981 b, 1988b], in which the necessary triumvirate conditions for international production are specified: (a) the firm must possess some ownership-specific advantages; (b) to exploit those advantages, internalization (local production under equity ownership) is more beneficial to the firm than arm's-length transactions (exporting and licensing, for example); and (c) overseas locational factors are more favourable than domestic ones. Dunning was among the first who started to combine SC No. 2 and SC No. 1 in theorizing the direct investment of TNCs.

Raymond Vernon's product-life-cycle theory of trade and investment (1966) explicitly brings in SC No. 3, namely a hierarchy of economies, as an additional factor. New products are initially introduced in a high-income country, notably in the United States during the 1950s and 1960s, but will eventually spread to the world, first to

patterns of demand (SC No. 1). It was indeed against the supply side of this structural feature alone that first Adam Smith and then David Ricardo set out to theorize the phenomenon of trade and its benefits. Smith introduced the doctrine of absolute advantage, which is built on the economies of scale realizable from an extended market through exports, while Ricardo constructed the doctrine of comparative advantage, which is enhanced by specialization-induced allocative efficiency. The Heckscher-Ohlin theory, too, was founded on the *uneven* distribution of factors of production among countries. All of those trade theories assume the international immobility of factors (hence, the permanence of SC No. 1), partly because of the informational and socio-psychological costs of transactions involved in transferring them and, perhaps more importantly, for the sake of analysing trade alone.

The conventional trade theories thus capture international exchanges of commodities basically as *arbitrage* operations that exploit and profit from any differentials in price and availability of commodities between different locations, the differentials being determined by productivity and factor endowments. Moreover, all of those conventional trade theories treat firms as if they were non-existent because of the usual assumption of perfect competition; hence no firm-specific advantage is permissible. What matters is the country-specific features that bring about discrepancies in pre-trade commodity prices among countries. That is to say, those conventional theories are constructed against the background of SC No. 1 alone.

The theory of FDI as it has derived from Stephen Hymer's seminal work (1976) explicitly recognizes and, indeed, places in the spotlight the existence of firm-specific assets (SC No. 2). In other words, FDI draws on the role of firms as creators and exploiters of intangi-

² For example, Smith [1776/ 1908, p. 291] observed: "[the fortune] of the trader who is obliged frequently to commit it, not only to the winds and the waves, but to the more uncertain elements of human folly and injustice, by giving great credits in distant countries to men, with whose character and situation he can seldom be thoroughly acquainted." Ricardo [1817/ 1888, p. 77] also stated: "Experience ... shows that the fancied or real insecurity of capital, when not under the immediate control of its owner, together with the natural disinclination which every man has to quit the country of his birth and connections, and intrust himself, with all his habits fixed, to a strange government and new laws, check the emigration of capital."

other advanced countries, but later to the developing countries, in a trickle-down fashion as the products mature and become technologically standardized. It is a dynamic model of changing comparative advantage and technology transfers. Yet how the transfer of standardized production affects the economic development and structure of the developing host countries is outside the explanatory property of the model. It is a model constructed from the perspective of an innovating advanced country.

Towards a dynamic paradigm of development facilitated by TNCs

Any developing country, if it is serious about raising its standard of living, must open its economy so as to avail itself of opportunities to trade, interact with and learn from the already advanced. In fact, ever since the industrial revolution in England, industrialization in the rest of the world, wherever successful, has been a "derived" phenomenon. Continental Europe succeeded by following the United Kingdom's footsteps through commercial contracts and conscious efforts for learning and emulation [Landes, 1969]. So did the United States: "America started off as a copier" [Thurow, 1985].³ Likewise, Japan's economic miracles in both the pre- and post- Second World War periods have been based on that mechanism of learning and emulation.

A process of learning and emulation necessarily means the existence of a hierarchy of economies in terms of stages of economic development and national wealth (SC No. 3), *a structure that creates opportunities for the less developed to emulate the advanced-and for the advanced to transfer their knowledge and skills down the hierarchy*. The advanced countries are the rich reservoirs of industrial technology, information and experiences which the followers can tap. They also provide the promising export markets from

³ Thurow [1985, p. 1] continues: "New England's textile mills hired craftsmen (we would now call them engineers) who had worked in, or toured, the British textile mills and had memorized or written down enough of what they had seen to copy those mills in the New World. American history school books remember this copying as a good example of Yankee ingenuity. British history school books see it in another light: as theft. America stole British technology."

which the less developed can earn precious hard currencies. As Adam Smith observed [1776/ 1908, p. 378] "A nation that would enrich itself by foreign trade is certainly most likely to do so when its neighbours are all *rich and industrious*" (emphasis added). Nowadays, those trading and learning opportunities are all the more enhanced, because the advanced countries themselves take the initiative to make use of hierarchical relations by way of the activities of their TNCs and their official economic and technical assistance.

But to exploit those *hierarchical externalities* fully (positive externalities emanating from SC No. 3), a developing country must *align its pattern of comparative advantage and its stage of development with advanced countries*. That is to say, a stages-compatible order of sequencing structural upgrading (SC No. 4) needs to be achieved. For the sequence of development should not be jumbled as is the case with the IL-IS approach; the process needs to be organized step by step, and stage by stage, in an evolutionary fashion along the lines demonstrated in the past by the currently advanced countries. This means that, when a country is still scarce in human and physical capital but abundant in labour (unskilled and semi-skilled), any attempt to build a capital-intensive, skill-requiring industry is ineffective and unachievable. Such a country must first focus on introducing labour-intensive industries to employ its most abundant factor. After all, economic development is characterized by the steady accumulation of physical and human capital, which produces the sequential pattern of dynamic comparative advantage in any market-based, growing economy. Such a path assures *compatibility* between the factor intensities and technological requirements of the economic activities pursued at a particular stage and the domestic availability of appropriate factors and technological capacity.

Indeed, it was Adam Smith (1776/ 1908) who emphasized the importance of "a natural order of things" in the developmental sequence of an economy (the "natural progress of opulence"). He envisaged intersectoral complementarities (first, between "town" and "country", between agriculture and manufacturing, and then, later, between manufacturing and foreign trade) and the accumulation of

capital and the development of political/ technological/organizational capacities ("order and good government" and the natural pro-

gression of manufactures from the "necessities" to the "conveniences" and to the "elegancies of life") [pp. 290-314].

In that regard, the "stages theory of competitive development" recently introduced by Michael Porter (1990) deserves special attention. He maintains that, "despite the diversity of most economies, we can identify a predominant or emergent pattern in the nature of competitive advantage in a nation's firms at a particular time" (p. 545) by way of four distinct stages: (i) factor-driven, (ii) investment-driven, (iii) innovation-driven, and (iv) wealth-driven. But [Porter, 1990, p. 546] "the first three stages involve successive upgrading of a nation's competitive advantages and will normally be associated with progressively rising economic prosperity", while "the fourth stage is one of drift and ultimately decline".

The factor-driven stage (akin to Smith's agriculture-first phase) is characterized either by natural-resource-based activities (primary extraction) or by labour-intensive manufacturing. The investment-driven stage, on the other hand, is associated with the manufacturing of intermediate and capital goods (heavy and chemical industrialization) and infrastructural building (housing, transportation, communications and public works construction). The innovation-driven stage arrives when a country is human-capital-abundant and active in research and development (R&D). Most developing countries are in the factor-driven stage, and some are already well on their way to the investment-driven stage.

It is important to keep in mind that *a particular stage of competitive development is associated with a particular pattern of export competitiveness*. The factor-driven stage is related to factor-based trade advantages (in either primary goods or labour-intensive goods), the investment-driven stage to scale-based advantages (in large-scale, capital-intensive goods), and the innovation-driven stage to R&D-based advantages (in high-tech manufactures). Thus economic growth and transformation is accompanied by the changing patterns of dynamic comparative advantage.

Interestingly enough, moreover, *the pattern (nature and direction) of FDI, both inward and outward, changes pari passu with the structural transformation of the economy*. For example, the beginning of the factor-driven stage attracts resource-seeking or labour-

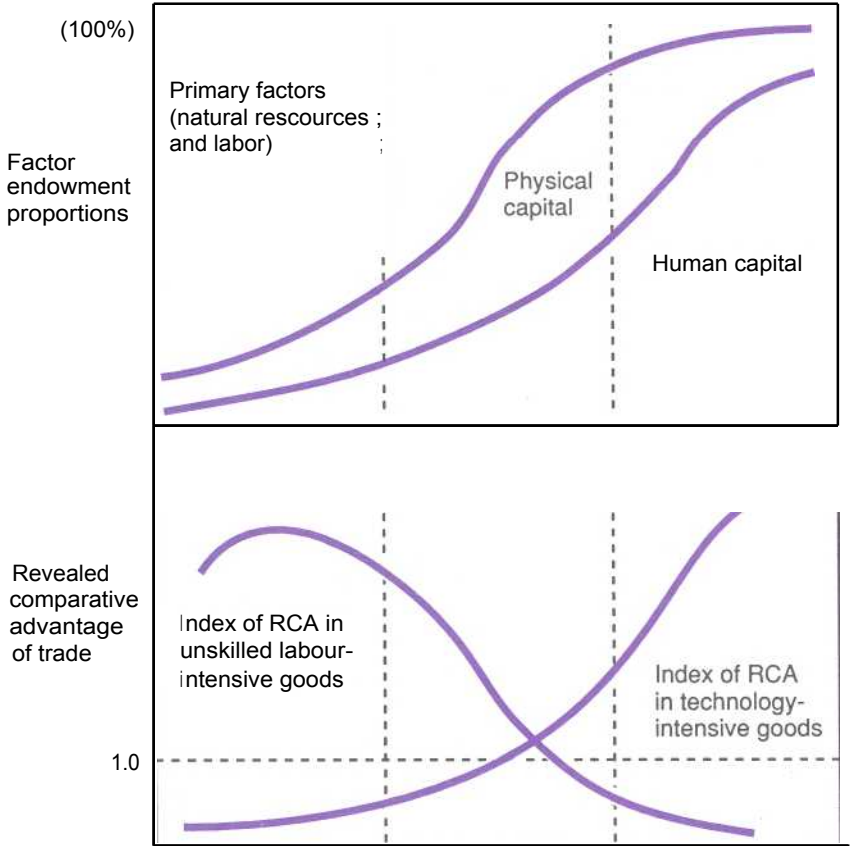
seeking inward FDI. The transition from the labour-driven to the investment-driven stage generates outward investments towards lower-wage countries in labour-intensive manufacturing (and in resource extraction abroad, particularly if the economy happens to be natural-resource-scarce) and attracts inward investments in capital and intermediate goods industries. Similarly, the transition from the investment-driven to the innovation-driven stage brings about *simultaneously* inward investments in technology-intensive industries and outward investments in intermediate goods industries. This orderly flow of investment tends to occur as long as the country pursues an unjumbled "progress of opulence".

As shown in figure I, those stages can be distinguished in terms of the changing endowment proportions of three major factors used in a nation's overall industrial activity: resources (both natural and labour), physical capital and human capital. In other words, the nation grows by upgrading its structure as its factor and technological endowments change with the accumulation of physical and human capital (relative to resources): *the higher the per capita gross national product (GNP), the larger the per capita stock of physical and human capital relative to that of resources and the larger the per capita stock of human capital relative to that of physical capital.* The economy continuously evolves to develop new comparative advantages by shifting from technologically less sophisticated, low-productivity products to more sophisticated, higher-productivity industrial activities (analogous to Smith's sequence of "necessities-conveniences elegancies"). For example, this changing pattern of dynamic comparative advantage may be measured in terms of an index of the revealed comparative advantage in unskilled labour-intensive goods and an index of the revealed comparative advantage in physical/ human capital-intensive goods as schematically illustrated in the figure. At the same time, different stages-based patterns of FDI, both inward and outward, appear over a certain span of time, a span determined by how rapidly a given economy industrializes, as outlined.

Indeed, the stages-based evolutionary progression of FDI has been most clearly demonstrated by Japan's rapid post-war structural transformation and its concomitant FDI. As elaborated elsewhere [Ozawa, 1991a, 1991b, 1991c], Japan's industrial structure

Figure 1. Stages of development, changing factor proportions, and dynamic comparative advantage

Stages "Factor-driven" - "Investment-driven" - "Innovation-driven"
 Time t_1 ————— t_0



Inward FDI	Factor-seeking	Market-seeking	Market/technology-seeking
Outward FDI	Trade-supportive resource-seeking	low-cost-labor-seeking	Market/technology-seeking Surplus-recycling

has so far metamorphosed in three continuous stages, accompanied by different stages-specific patterns of FDI-and is currently undergoing the latest, fourth, stage:

Phase I: Expansion of labour-intensive manufacturing in textiles, sundries and other low-wage goods ("what may be called Heckscher-Ohlin industries) (1950 to the mid-1960s).

Accompanied by selective imports of capital goods (embodied technology) and purchase of licensing agreements (disembodied technology), and followed by the "elementary (low-wage labour-seeking)" type of FDI in standardized, labour-intensive industries in the neighbouring Asian countries (starting in the late 1950s, but notably after the mid-1960s and growing strongly, especially after the revaluations of the yen in the early 1970s).

Phase II: Scale economies-based modernization of heavy and chemical industries, such as steel, shipbuilding, petrochemicals and synthetic fibres ("non-differentiated Smithian industries") (the late 1950s to the early 1970s).

Accompanied by the incessant adoption and adaptation of advanced Western technology, mostly through licensing but also via joint ventures (inward FDI) in petrochemicals, machinery and chemicals, and the "resource-seeking" (later followed by the "house-cleaning") type of outward FDI in resource-extractive and processing industries (most actively throughout the 1960s and 1970s).

Phase III: Assembly-based mass production of consumer durables, such as. automobiles and electric/ electronics goods" ("differentiated industries") (the late 1960s to the present).

Continuous adaptation of, and improvement on, imported technology and stepped-up domestic R&D, and accompanied by the "export-substituting-cum-surplus-recycling" type of outward FDI in overseas

assembly operations in automobiles, electronics and related parts and components, as well as banking and finance (especially after the Plaza Accord of 1985), most actively in the United States and Europe.

Phase IV: Mechatronics-based flexible manufacturing, small-lot, multi-variety production, along with innovations in HDTV, new materials, fine chemicals, advanced micro-chips and opto-electronics ("Schumpeterian industries") (the early 1980s onwards).

Hosting inward FDI in chemicals, pharmaceuticals and machinery, and generating the "triadization" type of outward FDI in which Japanese TNCs are establishing the intraregional clusters of integrated operations and strategic alliances in the Americas, Europe and the Pacific Rim.

The Japanese experience thus delineates the *close inter-relatedness* between structural upgrading, dynamic comparative advantage and FDI, along the paths of its physical/human-capital-intensive factor endowment and technological progress. Because of the rapidity of Japan's economic transformation, its structural progression (from the "H-O industries" to the "non-differentiated Smithian industries", to the "differentiated Smithian industries", and finally to the "Schumpeterian industries") actually retraces, in a highly time-compressed fashion, the evolutionary changes previously experienced by the advanced Western countries over a much longer span of time. And international business is *the main cause* of this structural growth acceleration.

Indeed, there have been a number of empirical studies made on the relationship between a nation's changing pattern of comparative advantage in manufactured goods and the accumulation of physical and human capital.

Bela Balassa's study [1979/ 1989, p. 26], for example, concluded that: ,

"The empirical estimates show that inter-country differences in the structure of exports are in a large part explained by differences in physical and human capital endowments. The results lend support to the 'stages' approach to comparative advantage,

according to which the structure of exports changes with the accumulation of physical and human capital. The approach is also supported by inter-temporal comparison for Japan, which indicates that Japanese exports have become increasingly physical capital and human-capital-intensive over time."

He then extracted (p. 26) some important policy implications:

"To begin with, [those findings] warn against distorting the system of incentives in favour of products in which the country has a comparative disadvantage. The large differences shown among product categories in terms of their capital intensity point to the fact that there is a substantial penalty for such distortions in the form of the misallocation of product factors. This will be the case in particular when the system of incentives is biased in favour of import substitution in capital-intensive products and against exports in labour-intensive products."

These types of distortions are naturally reduced when a developing country pursues an OL-EO strategy of development rather than an IL-IS one (SC No. 5). And it has been empirically and amply proved, and now accepted as an axiom, that the OL-EO approach is far superior to its IL-IS counterpart in growth performance and industrial upgrading in the developing countries, for the former allows efficacious market-guided evolutionary forces to operate at maximum efficiency.

In short, those structural characteristics of the global economy (SC Nos. 3, 4 and 5) that have not been explicitly reckoned with as determinants in the conventional theories of FDI constitute a new global environment highly conducive to an expansion of trade, FDI, knowledge transfer and economic growth, a climate significantly favourable for TNCs. Those characteristics have to be brought into analysis as explanatory factors in an effort to construct a theory of FDI in the field of economic development.

Comparative-advantage-augmenting type of foreign direct investment

Throughout the present article, the term FDI is used in a very broad sense: it is meant to describe the transfer of *development ingredients* of all sorts by TNCs (that is, intangible corporate assets, finance and links with global markets) in *both* the traditional form

of investment (whole or majority equity ownership) and "new" forms (minority ownership and a variety of non-equity contractual arrangements, such as licensing, managerial contracts and turnkey operations [Oman, 1984]).

What is crucial for outward-looking, export-based development is that FDI needs to be approached in such a manner that the developing countries' existing or potential comparative advantage can be fostered and fully maximized, that is, in a comparative-advantage-augmenting fashion. Here, the notion of pro-trade FDI (and that of anti-trade FDI) introduced by Kojima (1975) is quite relevant. Kojima's macro-economic theory of FDI [Kojima, 1975; Kojima and Ozawa, 1984] is built on two key propositions. One is the Ricardian doctrine of comparative advantage, the other his own proposition as a supplement:

Proposition I: Countries gain from trade and maximize economic welfare when they export comparatively advantaged goods and import comparatively disadvantaged goods.

Proposition II: Countries gain *even more* from an expanded basis for trade when intangible assets are transplanted from the home countries' comparatively disadvantaged industries onto the host countries' comparatively advantaged ones (both current and potential).

The second proposition indicates a mutually beneficial type of FDI that parallels the mutually gainful type of trade posited in the first proposition. Ricardo built his trade model on the assumed immobility of factors (hence the persistence of SC No. 1). Furthermore, he thought that, even if factor movement occurred, it would be of the anti-trade type—and for that matter, indeed, of the hollowing-out type [Ricardo, 1817/1888, p. 77]:

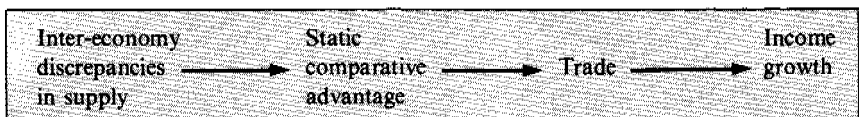
"It would undoubtedly be advantageous to the capitalists of England, and to the consumers in both countries, that under [the circumstances of higher labour and productivity in Portugal in absolute terms] the wine and the cloth should *both* be made in Portugal, and therefore that the capital and labour of England employed in making cloth should be removed to Portugal for that purpose." (Emphasis added.)

Thus, once factor mobility is admitted, Portugal alone ends up producing *both* goods; hence there would be no basis for trade. The end result is that Portugal flourishes, whereas England is hollowed out and languishes. Surprisingly enough, however, it did not occur to Ricardo that if, *instead of* moving to Portugal “the capital and labour of England employed in making cloth”, Portugal’s secret (technology) of higher productivity in cloth is transferred to England through FDI, not only is England saved from hollowing out, but also both nations can prosper *even more*, since England’s comparative advantage in cloth is now *enhanced* by such technology transfers. More surprisingly, Ricardo resorted to the doctrine of absolute advantage when it came to factor movement.

Kojima’s distinction between pro-trade FDI and anti-trade FDI is criticized as “normative” [Gray, 1985], but it can be converted into “positive” analysis when it is combined with the structural characteristics of Nos. 3, 4 and 5, since the comparative-advantage-oriented policy of market-friendly OL-EO economies is such that pro-trade FDI rather than anti-trade FDI will be automatically attracted to such a regime. The IL-IS regimes set up in labour-surplus, capital-scarce developing countries are the ones that attract anti-trade FDI into their highly protected, stage-incompatible, import-substituting industries. The phenomenon of a comparative-advantage expansion made possible by FDI in the OL-EO regimes will hereafter be identified as trade augmentation through FDI.

Outward orientation and supergrowth in the initially labour-surplus developing countries

The income growth effect envisaged in the static Ricardian model of trade (which allows no transfer of factors and no structural change) can be summarized as follows:

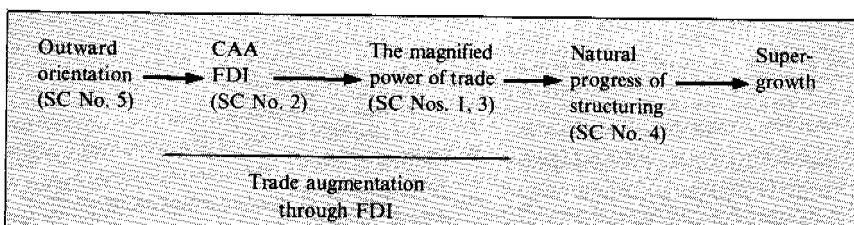


According to Ricardo, as gains from trade are realized through specialization and reallocation of resources into comparatively advantaged industries (that is, attainment of allocative efficiency),

national income rises, but no outward shift of the country's production possibility curve occurs because there is *neither* factor growth *nor* technological progress. The whole purpose of the Ricardian model is to show the basis for, the direction of, and gains from, trade and nothing more.

Yet this *static* model can be transformed into a *dynamic* structural upgrading model once the role of TNCs as a facilitator of industrial transformation and the additional set of structural characteristics are explicitly brought into analysis as causative factors.

Economic development under OL-EO policy is a function of dynamic comparative advantage, but here the magnitude of comparative advantage is not only determined by SC No. 1 alone, but also enhanced—and upgraded—by the confluence of SC Nos. 2, 3, 4 and 5. This is a *dynamic paradigm of FDI-facilitated development* (hereafter called the dynamic paradigm) which depicts the *magnified* power of trade as an engine for growth. The power of trade is magnified because (i) a strong outward orientation reduces market distortions and encourages competition; (ii) the basis for trade is expanded by comparative-advantage-augmenting (CAA) FDI (inward as well as outward), hence a greater expansion of trade; and (iii) self-propelling market forces are set in motion to upgrade the country's industrial composition towards higher value-added sectors in an “unjumbled” manner, given a market-friendly environment (including incentives and supportive infrastructure) by the Government. The net result is a supergrowth of OL-EO economies accompanied by rapid structural upgrading, the type of “economic miracles” exhibited by the Asian newly industrialized countries (NICs). A high correlation between outward orientation and supergrowth has been empirically confirmed in many situations [Balassa, 1989; World Bank, 1991]. But the causative links between those two phenomena are still left unexplained. One possible growth mechanism is suggested for this black box:



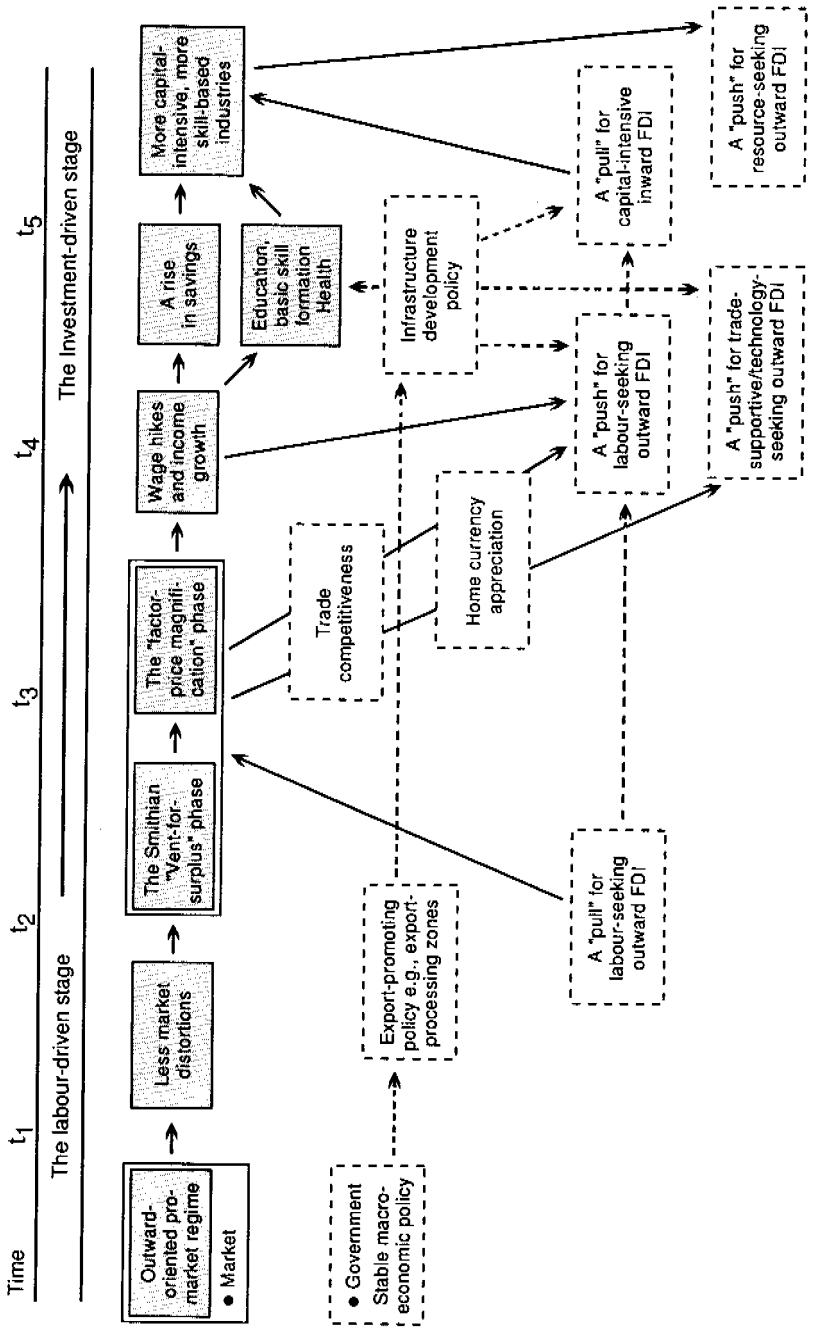
More specifically, how this scenario unfolds itself over a time period, say from t_1 to t_5 , can be explained in terms of the dynamic paradigm. Consider a typical developing country that is initially plagued with high unemployment and low income (figure II).

(t1) A labour-abundant developing country (with high unemployment and underemployment) adopts an outward-looking, export-focused path of development (SC No. 5), thereby reducing market distortions and setting free the market forces for stage-compatible economic activities. A market-friendly economic system thus emerges with a strong outward orientation towards trade and investment interactions with advanced countries. The country thus stands to benefit from the *hierarchical externalities* (SC No. 3).

(t2) This initial condition attracts inward FDI in standardized labour-intensive manufacturing activities, that is, in a comparative-advantage-augmenting fashion (in a direction conducive to trade augmentation through FDI). At the start, the developing host country usually supplies labour from its unemployed (mostly urban) and underemployed (mostly rural) labour pool at low wage rates (a process well postulated by Arthur Lewis (1954) in his model of unlimited labour supply). TNCs, often in joint ventures with local interests, are able to develop export-oriented manufacturing without generating upward pressure on local wages, although they usually pay a real wage rate higher than the local average, especially in fringe benefits (for example, lunches, basic health care and training). Low wages are the basis for price competitiveness. Exports are mostly of the intra-firm type, either purchased as intermediate goods by the investing TNCs or marketed through the distribution channels of TNCs (on the theoretical level, that phase of export growth corresponds to the Smithian "vent-for-surplus" phenomenon [Myint, 1958]).

(t3) But the more labour-seeking FDI flows in, the sooner the disappearance of unemployment, if not underemployment. Upward pressures on wages appear, and local wages begin to rise (that is, the Lewisian phase of unlimited labour supply ends along with the Smithian "vent-for-surplus" phenomenon, and the "factor-price-

Figure II. Outward orientation, FDI-magnified trade competitiveness and structural upgrading in a developing country



magnification" effect [Stolpor and Samuelson, 1941] now takes over, as long as labour utilization continues to be pursued under OL-EO policy).

(t4) The rising wages and the increasing availability of jobs, though still in low-productivity (hence low-wage by international standards) sectors, will result in a rapid rise in national income and an expansion of domestic markets. Wage rates are still low, but all family members (not only the traditional breadwinner, the father, but also the mother and their adolescent children) who seek employment can find jobs; hence a rise in family income.⁴

Given the appropriate incentives (for example, attractive interest rates on deposits, tax exemptions and hard-currency-denominated deposits), this increased household income can generate domestic savings.⁵ Employment also leads to basic skill formation via training and a stronger desire to upgrade skills, a higher motivation for learning. The country's factor endowment begins to change from low-skilled labour abundance to a relatively more capital abundance and a greater skill accumulation.

As a consequence, *a factor incongruity* emerges soon between the hitherto promoted export industries (whose competitiveness depends on a high input ratio of low-wage, unskilled labour to capital) and the country's changing factor endowment (which now becomes less and less unskilled-labour-abundant). This is an ineluctable outcome of the labour-driven process of development and may be called *the principle of increasing factor incongruity*. Those grass-roots developments (improved job opportunities, rising wages, increased household savings and the desire to seek education and upgrade one's skills) are crucial in shifting the country's factor endowment towards more human- and physical-capital abundance, endogenously paving the way to the next phase of investment-driven industrialization.

⁴ The rapid build-up of the garment industry in Bangladesh provides an interesting example: "Women who never worked before are earning between \$40 and \$55 a month far above the projected 1991 national per capita income of \$202 a year. Many of these women's husbands, meanwhile, can get work only as day labourers or rickshaw drivers, earning around \$1 a day." *The Wall Street Journal*, 6 August 1991, p. A8.

⁵ Balassa (1989) points out a strong correlation between export growth and domestic savings. What is argued in this article suggests one causal link.

As wages rise, the country's comparative advantage in labour-intensive industries naturally wanes. Given the macroeconomic stability that ensures a competitive exchange rate for the country's currency at the start of economic development, the more successful labour-intensive exports are (that is, the greater the improvement in the country's balance-of-payments conditions), the greater the chances that the currency will begin to appreciate. Higher wages and the appreciated currency thus render low-productivity, labour-intensive industries less competitive, compelling domestic industry to move into higher value-added, more capital-intensive sectors. At that point, in order to protect their hard-won export markets, local entrepreneurs, as well as TNCs, begin to transplant their existing operations to other developing countries where they can still find a supply of low-wage labour. Of course, those local firms that succeed in moving upmarket (via an introduction of labour-saving measures and new higher-value-added varieties, or moving into a more capital-intensive industry) may remain at home.

This is an interesting-and seemingly paradoxical-turn of events: *a once highly labour abundant (hence low-wage) developing country itself has metamorphosed, over a relatively short span of time, into an active foreign investor, seeking lower-wage labour in other developing countries.* Its firms now possess their own advantages and experiences freshly gained over the period of from t1 to t4 (SC No. 2), mostly through the "apprenticeship" of firms to foreign technical assistance [Amsden, 1989, p. 20]. The Japanese, back in the 1950s, 1960s and 1970s, and more recently the Asian NICs have amply demonstrated the capability of followers to come up with their situation-specific improvements on imported technology as well as their own innovations. This may be called *localized learning and technological accumulation* [Lall, 1983; Stiglitz, 1987; Cantwell and Tolentino, 1990] and has been emphasized by Cantwell and Tolentino (1990) as the key determinant of FDI from developing countries. That becomes even more relevant in the later stages of development that are increasingly characterized by a growing abundance of human capital.

^b For recent stories on TNCs from developing countries, see, for example, Fujita (1990), Cantwell and Tolentino (1990), and Tolentino (forthcoming).

What is more, the momentum of learning in both production and marketing skills continues and even takes the form of technology-seeking, information-gathering and trade-supportive outward investment in advanced countries. Thus "localized learning" now actually turns to more and more "internationalized learning".

Increasing factor incongruity is also observed as primary resource-seeking outward investment and is induced in search of secure supplies of natural resources abroad. In particular, as a natural-resource-indigent "Ricardian" economy experiences rapid industrialization, it inevitably becomes more and more dependent on overseas resources [Ozawa, 1982]. This incongruity between the resource requirements of the economy and its own endowments (and hence the rising vulnerability of dependence on imported industrial resources) can only be dealt with by means of FDI in resource-extractive industries abroad so as to secure long-term supply bases. All this outward FDI is fully compatible with and supportive of the evolving pattern of comparative advantage, enhancing the basis for trade (that is, trade augmentation through FDI is in operation).

(t5) By now, the country is on the threshold of the investment-driven stage in which more physical-capital- and more skill-intensive industries are to be built; it may not be long before the country is classified as a newly industrialized country. To build higher value-added, more scale-dependent industries, the role of the Government becomes even more crucial in providing physical infrastructural facilities, education, public health, R&D incentives and other "public goods". As compared to the labour-driven stage, which can be left largely to the dictates of the market with the minimum selective involvement of Government, the development of more advanced industries entails an appropriate management of externalities (market imperfections), since education and training (which are the causes of positive externalities) are now the key industrial inputs, along with the minimum scale of operation required by indivisible capital investments and the accompanying economies of scale. The Government is thus called upon to provide the stage-appropriate institutions and infrastructural investments to support dynamic comparative advantage [Ozawa, 1987; Dunning, 1988a and 1991; World Bank, 1991].

Although the above scenario is presented in a highly stylized fashion, it nevertheless fits very nicely with the recent experience of Asian newly industrialized countries, which have been skilfully taking advantage of *both* inward and outward FDI as catalysts of industrial transformation. In fact, they are already in the midst of investment-driven industrialization or even at the beginning of innovation-driven growth in some sectors.

In this stages-theoretic framework of analysis, it is often said that Asian NICs are following the footsteps of Japan, and that emerging NICs (Indonesia, Malaysia, the Philippines and Thailand) are, in turn, duplicating the experiences of NICs and that others (Bangladesh, China, India, Pakistan and Sri Lanka) are about to repeat the same labour-driven episode. That sequential pattern of development in the Asian-Pacific region is often referred to as "a wild-geese flying formation" (after the phrase introduced by Kaname Akamatsu in 1935⁷). But Japan itself has been closely emulating the West in its effort to catch up and take over-and has very quickly succeeded in going through the first three stages described by Porter, thereby emerging as a high advanced economy. Japan's rapid industrial transformation in the period following the Second World War discussed earlier illustrates the efficacy of a stages-based "progress of opulence" and may serve as an important paradigm for developing countries.

The wild-geese flying formation or a stage-based development can alleviate the "fallacy of composition" problem of OL-EO industrialization: if the developing countries adopt the OL-EO approach all at once, will there be enough export markets? As Bela Balassa [1989, p. 28] succinctly phrased it:

"The stages approach to comparative advantage . . . permits one to dispel certain misapprehensions as regards the foreign demand constraint for manufactured exports under which developing countries are said to operate. With countries progressing on the comparative advantage scale, their exports can supplant the exports of countries that graduate to a high level."

⁷ See Kaname (1961). The interaction between TNCs and the flying-geese formation is explored in Ozawa (1990).

TNCs are no doubt the facilitators of that type of *market recycling* as they are able to shift manufacturing activities from one location to another, in a fashion compatible with the prevailing factor and technological endowments of the economies of host countries, within a hierarchy of economies (SC No. 3).

Conclusions

Although the functions of TNCs as providers of technology, management expertise, finance and links with the world market have often been mentioned, the role of their FDI in industrial upgrading and growth has not been incorporated into a theory of outward-oriented economic development. The dynamic paradigm presented here recognizes five crucial structural characteristics of the world economy as explanatory factors. Those structural features fall under the rubric of the environment-system-policy frame of analysis proposed by John Dunning (1988a). Hence, the dynamic paradigm may be construed as one detailed structural model of this genre.

Focusing on the case of a representative developing country, that is, an initially labour-surplus economy, the dynamic paradigm traces out the *intertemporal* sequence of interactions between FDI (first inward and, later, outward) and structural transformation, a sequence that results in an evanescent pattern of comparative advantage during the course of labour-driven industrialization. That is the stage from which the Asian NICs have just graduated, and which many other developing countries are expected to go through in their early phase of development.

The operational mechanism of the dynamic paradigm so far rests on three basic principles: those of trade augmentation through FDI (according to Kojima, 1975), of increasing factor incongruity and of localized (but increasingly transnationalized, at least in part) learning and technological accumulation (according to Cantwell and Tolentino, 1990). Some more conceptual work is needed to explore the investment-driven and the innovation-driven stages in order to complete the stages theory of TNC-facilitated growth in its entirety. No doubt the demand-side factors play a greater and greater role as development proceeds to later stages. This evolutionary aspect of demand needs to be explicitly conceptualized. Perhaps

what may be tentatively called the principle of catch-up in income and increasing diversity in tastes is a relevant consideration. In that regard, the Japanese experience, which encompasses all the developmental stages from the factor-driven to the innovation-driven in a highly condensed time-capsule, may serve as an important guidepost. Yet such a comprehensive analysis requires far more space than is available in the present article. Only the first dimension has been elaborated, which is none the less the most relevant to the role of TNCs as "jump-starters" for economic development. ~

References

- Akamatsu, Kaname (1950). A theory of unbalanced growth in the world economy. *Weltwirtschaftliches Archiv*, 86, pp. 196-217.
- Amsden, Alice H. (1989). *Asia's Next Giant: South Korea and Late Industrialization*. Oxford: Oxford University Press.
- Balassa, Bela (1979/1989). The changing pattern of comparative advantage in manufactured goods. *Review of Economics and Statistics*, 61 (May), pp. 259-266. As reproduced in *Comparative Advantage, Trade Policy and Economic Development*. New York: New York University Press.
- (1989). *New Directions in the World Economy*. New York: New York University Press.
- Cantwell, John A. (1989). *Technological Innovation and Multinational Corporations*. Oxford: Basil Blackwell.
- and Paz Estrella E. Tolentino (1990). *Technological Accumulation and Third World Multinationals*. Discussion Paper No. 139, Department of Economics, University of Reading, Series B, III.
- Dunning, John H. (1981a). Explaining the international direct investment position of countries: Toward a dynamic or developmental approach. *Weltwirtschaftliches Archiv*, 11, pp. 30-64.
- (1981b). *International Production and the Multinational Enterprise*. London: George Allen & Unwin.

-
- (1988a). *Multinationals, Technology and Competitiveness*. London: Unwin Hyman.
- (1989b). *Explaining International Production*. London: Unwin Hyman.
- (1991). Governments-markets-firms: towards a new balance? *The CTC Reporter*, 31 (Spring), pp. 2-7.
- and John A. Cantwell (1990). The changing role of multinational enterprises in the international creation, transfer and diffusion of technology. In *Technology Diffusion and Economic Growth: International and National Policy Perspectives*, F. Arcangeli, P. A. David and G. Dosi, eds. Oxford: Oxford University Press.
- Fujita, Masataka (1990). TNCs from developing countries. *The CTC Reporter*, 30 (Autumn), pp. 42-45.
- Gray, Peter H. (1985). Multinational corporations and global welfare: an extension of Kojima and Ozawa. *Hitotsubashi Journal of Economics*, 26 (December), pp. 125-133.
- Hymer, Stephen (1976). *The International Operations of National Firms*. Cambridge, Massachusetts: The MIT Press.
- Kojima, Kiyoshi (1975). International trade and foreign investment: substitutes or complements. *Hitotsubashi Journal of Economics*, 16 (June), pp. 1-12.
- and Terutomo Ozawa (1984). Micro- and macro-economic models of direct foreign investment: toward a synthesis. *Hitotsubashi Journal of Economics*, 25 (June), pp. 1-20.
- (1985). Toward a theory of industrial restructuring and dynamic comparative advantage. *Hitotsubashi Journal of Economics*, 26 (December), pp. 135-145.
- Krugman, Paul (1990). *Rethinking International Trade*. Cambridge, Massachusetts: The MIT Press.
- Lall, Sanjaya (1983). Multinationals from India. In *The New Multinationals*, Sanjaya Lall, ed. Chichester: John Wiley & Sons, pp. 21-87.
- Landes, David S. (1969). *The Unbound Prometheus*. Cambridge: Cambridge University Press.

-
- Lewis, W. Arthur (1954). Economic development with unlimited supplies of labour. *The Manchester School of Economic and Social Studies*, 12 (May), pp. 139-191.
- Myint, Hla (1958). The "classical theory" of international trade and the underdeveloped countries. *Economic Journal*, 68 (June), pp. 317-337.
- Oman, Charles (1984). *New Forms of International Investment in Developing Countries*. Paris: OECD.
- Ozawa, Terutomo (1979). A newer type of foreign investment in third world resource development. *Rivista Internazionale di Scienze Economiche e Commerciali*, 29 (December), pp. 1,133-1,151.
- (1987). Can the market alone manage structural upgrading? A challenge posed by interdependence. In *Structural Change, Economic Interdependence and World Development, 1*, J. H. Dunning and M. Usui, eds. Basingstoke, United Kingdom: Macmillan, pp. 45-61.
- (1990). Multinational corporations and the "flying-geese" paradigm of economic development in the Asian Pacific region, paper presented at the 20th Anniversary World Conference on Multinational Enterprises and 21st Century Scenarios, Tokyo (July).
- (1991a). Japanese multinationals and 1992. In *Multinationals and Europe 1992, B*. Burgenmeier and J. L. Mucchielli, eds. London: Routledge, pp. 135-154.
- (1991b). The dynamics of Pacific Rim industrialization: how Mexico can join the Asian flock of "flying geese". In *Mexico's External Relations in the 1990s*, Riordan Roett, ed. Boulder and London: Rienner, pp. 129-154.
- (1991c). Japan in a new phase of multinationalism and industrial upgrading: functional integration of trade, growth and FDI. *Journal of World Trade*, 25 (February), pp. 43-60.
- Porter, Michael (1990). *The Competitive Advantage of Nations*. New York: Free Press.

-
- Ricardo, David (1817/1888). *Principles of Political Economy and Taxation*. In *The Works of David Ricardo*, J. R. McCulloch, ed. London: John Murray, pp. 1-584.
- Smith, Adam (1776/ 1908). *An Inquiry into the Nature and Causes of the Wealth of Nations*. London: Routledge; New York: E. P. Dutton.
- Stolper, W. F., and P. A. Samuelson (1941). Protection and real wages. *Review of Economic Studies*, 9 (November), pp. 58-73.
- Stiglitz, J. E. (1987). Learning to learn, localised learning and technological progress. In *Economic Policy and Technological Performance*, P. Dasgupta and P. Stoneman, eds. Cambridge: Cambridge University Press, pp. 125-153.
- Tolentino, Paz Estrella E. (forthcoming). *Technological Innovation and Third World Multinationals*. London: Routledge.
- Thurow, Lester C. (1985). *The Management Challenge: Japanese Views*. Cambridge, Massachusetts: The MIT Press.
- Vernon, Raymond (1966). International investment and international trade in the product cycle. *Quarterly Journal of Economics*, 80 (May), pp. 190-207.
- World Bank (1991). *World Development Report*. Washington, D.C.: World Bank Publications.