

## MULTINATIONAL CORPORATIONS AND GLOBAL WELFARE: AN EXTENSION OF KOJIMA AND OZAWA

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Kojima and Ozawa (K-O) have advanced our understanding of the implications of direct foreign investment (DFI) and of the multinational corporation (MNC) for the functioning of the global economy. Their recent article [Kojima and Ozawa (1984)] focuses directly on the efficiency effects of DFI in a welfare-analytic framework. By doing so, K-O identify more clearly the thrust of Kojima's earlier work (1973). No paper can resolve all of the effects on global welfare of so complex an organizational form as the MNC. Indeed, the purpose of this short paper is to amplify and qualify some of the dimensions of the K-O analysis and, in the process, to demonstrate that MNC behavior involves complexities which raise questions about the adequacy of a simple model of allocative efficiency as a criterion for the analysis of the contributions of MNCs.

The paper makes six points:

1. That the microeconomic-theoretic approach to DFI is positive not normative;
2. That local manufacture (of a non-competitive import) by an MNC behind a tariff wall is not necessarily inefficient in terms of the K-O criteria;
3. That the quantitative significance of *ultra-pro-trade-biased* DFI may be under-emphasized in the paper;
4. That welfare economics' inability to allow for non-market sources of efficiency neglects important aspects of MNCs' effects;
5. That the existence of "legitimate" barriers to trade may affect the K-O analysis of North-to-North investments;
6. That MNCs operate in a second-best world and that inefficient MNC behavior and patterns of DFI may be the result of inefficient governmental policies.

1. Kojima's long-standing antipathy for the microeconomic-theoretic approach to DFI and MNCs (1973) is now clearly revealed as being based on a misinterpretation of the intent of the micro-theoretic analyses. K-O (1984, 16 and 17) assert that: "The most serious weakness of the micro-theoretic approach to DFI is a total disregard of social benefits and costs"; and "It is a model of private benefit maximization after all; its focus is far from being on social welfare.

The micro-theoretic work of Casson, Caves, Dunning, Hymer and others is *not* a normative analysis nor is it designed as such. Micro-theoretic analyses are positive analyses designed to diagnose the mechanisms which make possible and engender DFI and how the pursuit of private gain will result in different kinds of behavior in different industries and with different ownership-specific advantages. It is not appropriate to condemn a body

of analysis for having a purpose other than that which the critic possesses although one may, legitimately, offer a normative rebuttal of the purpose by, for example, showing the lack of relevance of a body of analysis and positing the need for relevance in economic analysis.

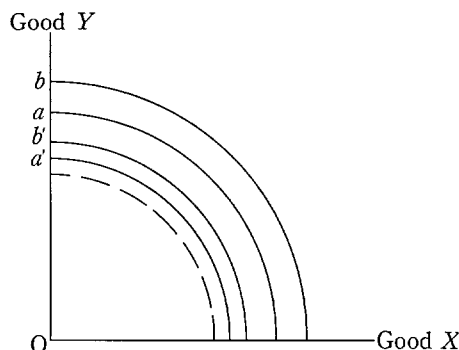
Positive analyses must be judged by positive criteria. The positive analyses are prerequisite to the normative analysis which, in K-O (1984), is subsumed under the variable "entrepreneurial endowment." This variable incorporates all of the many phenomena identified by Dunning in his eclectic theory (1979) as ownership-specific and internalization advantages. K-O recognize these variables by subdividing the entrepreneurial endowment variable into their analysis of DFI among industrialized nations (1984, 17) into "production-related" corporate assets and "internalized-transaction-related corporate resources." The former are deemed socially-beneficial (welfare-enhancing) and the latter are socially-damaging.

The micro-theoretic analysis of MNCs recognizes as a fundamental premise that atomistic competition is not compatible with the existence of MNCs and that MNCs must have some potential detrimental effect on global efficiency in terms of resource allocation. Hymer's original thesis (1960) is based on the existence of privately-owned monopolistic advantages. Johnson (1970) focused on the monopoly elements of technology and showed that technological knowhow has all of the characteristics of a public good in that no additional social resources would be used up if proprietary knowledge were to be made freely available to all firms.<sup>1</sup> World welfare, maximization of global product, therefore required that technological knowhow should command a zero price even though generated by private expenditures on research and development (R&D). Technological knowhow must be a public input if welfare is to be maximized.

There is a major difference in the efficiency implications of a monopoly which reduces the degree of competition within a given resource base, as, for example, through a series of mergers, and the implications of a monopoly involved in the creation of a new piece of technology. To lump the two kinds of imperfection together within a single rubric is to gloss over an important distinction. Clearly, if an MNC can exist only through the creation of a narrow oligopoly in a product market, its ownership specific advantages are socially-damaging. An MNC which has a monopoly in the use of a new piece of technology which it itself has created, has created a social good which has beneficial effects. This can most easily be explained in terms of production-possibility curves or surfaces (See Figure 1). A production-possibility curve is determined by the quantity of resources available and the existing state of technology and assumes perfect allocative efficiency so that all technology is freely available. In contrast, there exists a production-feasibility curve which is determined by the quantity of resources available and the actual efficiency of allocation with all of the imperfections that exist. The production-feasibility curve will always lie inside the production-possibility curve as long as one market is less than perfect. If an MNC manages to survive by reducing the degree of competition in a product market, the production-feasibility curve lies further inside a given production-possibility curve. But, when an MNC creates a new piece of technology by private expenditure of effort and funds on R&D, the degree of competition in all markets, except for the new technology, remains the same and the production feasibility curve can only move outward. It is true that the

<sup>1</sup> This does not deny the existence of social expenditures in transferring the technology to a developing economy [Teece (1977)].

FIG. 1. PRODUCTION FEASIBILITY CURVES AND MONOPOLY  
(primed curves are production-feasibility curves)



retention of the technology by the proprietor will mean that the production feasibility curve will shift outward by less than the production possibility curve, but as the new proprietary technology seeps into the public domain, the feasibility curve will continue to move outwards towards the possibility curve. In Figure 1, the solid lines,  $a$  and  $a'$ , indicate the original positions of the production-possibility and production-feasibility curves respectively. A reduction in the degree of competition in the product market shifts the production-feasibility curve inward to the dashed position. The creation of new capital in the form of technology shifts both production-possibility curves and production-feasibility curves outward to  $b$  and  $b'$ . While the new technology is governed by patent,  $(b-b') > (a-a')$  but as the new technology becomes public,  $b'$  approaches  $b$  and  $(b-b')$  approaches  $(a-a')$ .

Simple identification of MNCs as possessors of monopoly powers and other ownership-specific advantages does not sufficiently distinguish between the two kinds of phenomena. This is a weakness attributable to the static criterion for economic welfare: no additional resources are used up if proprietary knowledge is transformed into a public good commanding a zero price—as Johnson (1970) prescribes—if and only if future R&D expenditures are not influenced by the private return on past expenditures. The essentially-private aspects of technology are developed by Johnson in a later paper (1975). Here he recognizes the conflict between the normative prescription of a zero price and the need for continuing investment in R&D.

It is not possible to analyse the normative implications of MNCs in macroeconomic terms without an understanding of the positive economics of MNCs which relies on micro-theoretic analysis.

2. The welfare criterion used by K-O relies on the trade effects of economic growth. In principle, the criterion can be stated in global terms as:

$$\sum_i \Delta Y_i + \sum_j \Delta G_j \geq 0$$

where  $Y_i$  is the national income of country  $i$  and  $G_j$  is the gain from international trade in good  $j$  ( $\Delta G_j \geq 0$ ).<sup>2</sup> K-O assume that the transfer of entrepreneurial resources from the home

<sup>2</sup> The gain from trade in a single good is measured by the value of imports less the average cost of the exports needed to pay for the imports — average costs being determined as a percentage of total exports.

to the host country will not result in  $\Delta Y < 0$  in the home country and will increase output in the host country. The criterion, then reduces to a simple trade-off between gains generated by economic growth and changes in losses or gains from international trade. If DFI is trade-creating, then DFI is necessarily beneficial. If DFI is trade-destroying, it may reduce global welfare. The main thrust of the K-O argument is that the likelihood that  $\Delta G_j$  will be positive is much greater for North-to-South than for North-to-North DFI.

K-O also require a second constraint that the international income-distribution effects of DFI shall not be perverse: that the host (lower-income) country shall not have a reduction in gross domestic product as payments to MNCs exceed the increment to gross national product. Welfare economics has never completely resolved the problem of income-distributional effects and has chosen to relegate them to secondary considerations on the grounds that they are subject to normative values. The K-O secondary constraint is not unreasonable in a more pragmatic context than that usually associated with welfare economics. Its application requires that the terms of trade, allowing for the induced transfers of fees and profits, not turn against the host country. The terms of trade should then be the gross barter terms of trade [Viner (1937)].

The possibility that DFI will lead to an unfavorable shift in the gross barter terms of trade for the host company leads to consideration of the possibilities of immiserizing growth (which K-O discard as highly improbable and of immiserizing protection [Johnson (1967)]). The possibility that very high levels of protection (and an accompanying monopoly of the local market) will be required to induce DFI is a very real one [Gray and Walter (1983)]. But the underlying assumption is always that free trade is a first-best solution — that is that more imports can always be obtained by acceptance of a slight deterioration in the terms of trade. If the foreign demand schedule for host country exports becomes inelastic at some certain price or terms of trade, there exists a maximum value for export earnings.<sup>3</sup> Under such conditions, local production of a manufactured good could improve the economic welfare of the host country even though such a procedure might be inefficient in terms of global welfare and resource allocation when international income distribution is *not* a criterion of efficiency. Local manufacture of a good may be preferable to doing without because of the non-availability of foreign exchange. The foreign exchange cost of local manufacture can be reduced to the explicit or implicit royalties on technology transferred and on the invested equity. Such a cost could be smaller than that of generating additional *net* foreign exchange revenues by enhancing tariff rates on other imports. (particularly so if infant-industry protection might be involved) or applying discriminating duties or subsidies to individual exports. Local protected manufacture is likely to be in the best interests of the host nation when the production to be produced locally is a technological non-competitive import [Gray (1979)] and, more narrowly still, a capital good. Clearly the size of spread effects from the importation of technology could be the crucial variable.

As with the problem of the need for positive returns on R&D expenditures, simple analytic welfare economics is not an adequate economic framework. None of these qualifications contravenes the general (and important) point made by K-O that, other things equal, trade-creating DFI is more likely to be socially-beneficial than trade-destroying or

<sup>3</sup> This is not an example of immiserizing growth which requires an increase in export capacity: here we countenance the characteristics of demand and its price-sensitivity.

trade-replacing DFI.

3. The likelihood that North-to-South DFI is more likely to be trade-creating is reinforced by the current popularity of export platforms [Moxon (1984)]. The willingness of host countries to offer investment incentives to export-oriented subsidiaries of foreign MNCs suggests the existence of a surplus which can be divided between the host country and the investing MNC. Such investments are a classic example of what K-O refer to as *ultra-pro-trade-biased* DFI in which the transfer of entrepreneurial endowments reinforces the comparative advantage of the two countries [Gray and Walter (1983)]. However, welfare analysis is concerned with marginal adjustments and usually requires continuously differentiable functional relationships. This analysis sits uneasily with such discontinuities as are inevitably involved in DFI. In terms of the analysis in Gray (1982), traditional welfare analysis will only be applicable when equilibrium international production has already been achieved and it becomes possible to identify the marginal investment or disinvestment. Export platforms are extremely beneficial when they relate ultra-pro-trade-biased DFI with the existence of a marketing and distribution organization in the parent (home) country. The need of some goods for sophisticated systems of warranties and for repair services could constitute severe barriers to entry for firms indigenous to developing countries. A combination of manufacture in a country with the more appropriate factor mix and of distribution by a company with the needed specialist ownership-specific advantages offers a first-best solution: the operation involved is that of vertical integration in which both operations are conducted in the country in which the comparative advantage lies. This is simply a special version of what Drucker (1977) has called "production-sharing."

4. The focus of welfare analysis is allocative efficiency. While it can confront the existence of impediments to international trade in terms of tariff and transportation costs, it does not allow for the possible superiority of an hierarchical organizational form in the provision of externalities. It is quite possible that DFI is capable of generating better informational flows among different units of the same corporation than between two firms of different national origins communicating at arm's length. Other externalities which transcend the scope of arm's-length markets could involve the willingness of MNCs to transfer technology and to introduce new products to foreign markets. Such efficiency-enhancing effects of DFI result from intra-firm trade when economies of vertical integration and information flows tend, partially at least, to offset the impediments to international trade comprised by transportation costs, tariffs and non-tariff barriers and inadequate informational linkages [Casson (1982), Gray (1984) and Törnqvist (1979)]. Given the likelihood of externalities resulting from intra-firm trade, it is no longer possible to specify a first-best solution without incorporating MNCs explicitly into the analysis.

5. K-O are less critical of North-to-North DFI than Kojima has been in the past. The emphasis is still on DFI which results from protective measures and a refusal to adjust on the part of the host country (similar to the problem of protection-induced DFI in a North-to-South context), but the possibility that North-to-North DFI could be beneficial is now recognized. The frame of analytic reference still errs on the side of simplicity: the assumption that factor endowments (other than endowments of entrepreneurial assets) are equal is more appropriate to intra-European relations than to investments between the United States and Europe and between Japan and the United States.

While K-O identify the possibility that DFI among northern nations may be beneficial

when the entrepreneurial endowment is firm- rather than industry-specific, they do not adequately develop the concept. DFI may be socially-beneficial among northern countries when the ownership-specific advantage can only be exercised in conjunction with DFI, i.e. when straightforward international trade is precluded by transportation costs or legitimate barriers to trade. Some barriers to trade are legitimate in the sense that they have a *bone fide* rationale unconnected with international trade [Walter (1969)]. Examples might be the concern of governmental oversight bodies with conditions in a particular industry. In the pharmaceutical industry, on-site inspection of production conditions might be health-motivated rather than protection-motivated. Similarly, Hindley (1982) suggests that government has a legitimate concern with the behavior of industries which play a fiduciary role and argues for DFI as a means of introducing best-practice techniques rather than a simple reliance on international trade. Local manufacturing capacity may also be required if a corporation is to be able to expand its market share beyond some critical but low level. Gray and Walter (1983) report the existence of a foreign investment in the petrochemical industry for this reason.

6. Recognizing that a great deal of existing DFI is trade-replacing or trade-destroying, i.e. it is induced by protectionist measures in the host country, K-O suggest that such DFI and its concomitant (allocative) inefficiency could be eliminated by a more *dirigiste* policy of economic adjustment to changes in underlying global supply and demand conditions. The K-O analysis (1984, 18) suggests that Japan's conscious formulation of "industrial trade policies to cope with structural changes in the long-term pattern of dynamic comparative advantage" might profitably be adopted by the more decentralized economies in Europe and North America. Schultze (1983) suggests that MITI's success may have been exaggerated and is pessimistic about the success of industrial policies in decentralized economies. He argues that the authorities lack the requisite knowledge. The question then is to what degree do the social systems of Europe and North America lend themselves to the institution of *dirigiste* adjustment-effecting policies?

Japan's contribution to the global economy and its current position of leadership in manufacturing enterprise owes much to the Japanese national character, culture and institutions [Sato (1986)]. It will not be easy and may not be possible to have the Japanese economy engage in trade and investment with more decentralized economies without the loss (or weakening) of those characteristics which are fundamental to the Japanese success [Saxonhouse (1983)].

The differences in economic organization and character between Japan and countries in Europe and North America serve to benefit both groups [Sato (1986)]. These differences also generate certain economic strains between the two groups. It is possible that these strains may create pressures which result in reduced interaction between the two groups to the severe long-term detriment of the global economy. The major current symptom of strain is the Japanese surplus of international trade and current account and, particularly the equivalent bilateral surpluses with the United States. As Hadley (1982) has pointed out, much of the concern of U.S. politicians with the bilateral balances is unwarranted provided that Japan does not run an overall surplus of significant magnitudes. The very large bilateral current deficit of the United States can be attributed in large part to the overvaluation of the U.S. dollar and, indirectly, to the tremendous disparity in the rates of saving

in Japan and the United States.<sup>4</sup>

A second, related point made by K-O is that "The role of DFI as a crucial catalyst to this end has therefore not yet been fully brought to the conscious level of American and British economists." While it is true that few American and British economists who concern themselves with the evils of protectionism introduce DFI explicitly in their models, the example of Japanese automotive direct investments in the United States, emphasized by K-O, are well-recognized as being a result of the unwillingness in the United States to face the costs of economic adjustment. The micro-theoretic-oriented economists, such as Cassing et al., are simply not concerned with the (normative) efficiency implications of MNCs but would be unlikely to dispute the K-O argument.

What K-O have demonstrated is that it is in the context of resistance to rapid changes in long-term dynamic comparative advantage and to an overvalued currency, that DFI is likely to be counter-productive in an efficiency sense, or, at a minimum, a second-best policy option. But the MNCs merely react to the conditions which they face and obey the micro-theoretic behavior patterns identified in the positive analyses of Casson et al. Welfare-reducing DFI is not the "fault" of MNCs but is merely a rational response to the environment in which they must operate.

A much broader and more important issue than the avoidance of trade-destroying DFI is the ability of the authorities in the two groups to devise (and conform to) economic policies which will preserve the mutually-beneficial interaction of the two groups of countries. The beneficial effects of the differences in economic systems must not be sacrificed because the benefits of interaction and economic exposure become too one-sided and bring about a reduction in the level of interaction. North American and European countries must engender adjustment policies which adapt to the evolving conditions in the world. Japan cannot, in her own long-term interests, continue to antagonize pressure groups in North America and Europe as a result of the acquisition of financial assets in these regions with overall current surpluses. The burden of adjustment must be shared between surplus and deficit nations.<sup>5</sup>

### *Conclusion*

The K-O paper advances our understanding of DFI and of the effects of MNCs on the allocative efficiency of the global economy. The conclusions of this paper are that the limitations of traditional welfare analysis make it suspect as a means of examining the effects of a so manysided and complex organizational form as the MNC. The result is that K-O analysis expresses its conclusions more strongly than the complexity of their analytic framework warrants.

The strictures against protectionist measures which encourage DFI as an alternative to

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<sup>4</sup> Not only is the average propensity to save of the U.S. household sector very low relative to its Japanese equivalent but a great deal of household saving in the United States must be used to finance the enormous federal deficit of the Reagan Administration.

<sup>5</sup> At least one economist has already proposed controls over U.S. imports which will generate a series of bilateral trade (current account) balances [Culbertson (1984)].

adjustment in the home economy in response to changes in the world's supply capabilities and demand patterns are very much to the point. Preservation of a reasonably open international trading and investment system in a world of rapid and uneven spread of technology and of rapid development of production technology, will require conscious adjustment-effecting or adjustment-facilitating policies to be undertaken in all countries but particularly in Europe and North America [Gray (1985)].<sup>6</sup> The promotion of inward DFI as a means of avoiding adjustment is a very much inferior solution to the reallocation of resources in line with dynamic comparative advantage. K-O do the profession a substantial service by emphasizing this fact.

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<sup>6</sup> CF. the statement by Malmgren (1983) "Indeed, it is a widely-held view in Japan and Western Europe that the 1980s will be a difficult decade of major structural adjustment, with extraordinarily high levels of unemployment to be expected. . . . These governments therefore feel that they must guide the inevitable structural transformation and mitigate its potential for social and economic disruption to jobs, key sectors and key regions."



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