Multinational Corporations, Local Enterprises and the Political Economy of Development — Some Basic Dynamics

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Multinational corporations operating in a developing country can provide a useful conduit for acquiring technology. These same firms may also acquire sufficient market power to retard the development of a modern domestic commercial sector. Planners are faced with finding the means of securing the appropriate balance which ensures both the flow of technology and the viability of domestic industries. The evolution of firms and markets represent dynamic processes and this paper provides a structure within which to examine the factors which will affect the ability to achieve the desired balance. In the process the complexity of the problems and the limitations of some existing policies are illustrated.

I. Introduction

Politicians and economic planners[1] charged with shepherding the process of economic development in third world countries often face the task of satisfying apparently conflicting goals. Common examples are: the requirement of "cheap" food for industrial workers and stimulating agricultural production; the acquisition of foreign machinery to modernize and reducing imports to increase financial stability; and the promotion of cash crops to increase foreign exchange earnings and increasing

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[1] Here we use the term to encompass both those who formally plan in socialist systems and those who attempt to influence the process through intervention in more market oriented economies.

domestic food production. One such dual mandate is the acquisition of modern technology and expertise to increase the rate of growth and to create a modern, domestically owned and operated commercial-industrial sector to ensure independence. This is the problem of particular interest here.

The conflict really arises because the most efficient (or sometimes only[2]) means of ensuring the acquisition of modern, non-obsolete technology is through domestic branches of multinational corporations. Technological modernization is a continuous rather than a one time or iterative process.[3] Further, a significant proportion of new technology eminates from corporations. As the research and development activities of such firms are concentrated in the developed world (Gray), a conduit for on-going transfers is required. Given the rapid pace of technological improvement, it may be more expedient to allow the transfer to occur through intra-firm channels which terminate in corporate outlets within the country rather than through market transactions across international borders. These technological transfers have two impacts: the direct modernization of the affected industries which should improve international competitiveness, and the externalities associated with the demonstration effect and improvements to human capital.[4]

Of course, such benefits are not costless. Multinational entities must be allowed a chance at profitable operation in order to induce them to locate in the developing country. This implies that, at any given time, the opportunities for modern domestic enterprises are restricted to those market segments not serviced by the production of multinationals. In many cases it means that domestic firms must compete on an "unequal

2 Given that in many cases there is only poor protection for industrial processes and intellectual property. Clearly, strong patent laws allow the firm to sell the rights and thus capture the gains from research and development. If patent protection is weak, then once the process moves outside of the direct control of the firm, opportunities for diffusion without compensation arise. Hence, individual firms may rationally refuse to sell or licence their products or processes. In other words, the licence value of a process to an individual firm cannot offset the profits obtainable from self-operation and self-diffusion.

3 In other words, there are continuous search costs in the identification and evaluation of technology developed by others for firms not engaged directly in research and development. Once-and-for-all technological transfers would seem much less important than the relatively continuous acquisition of improvements to the characteristics of existing processes. For a discussion of this distinction see Archibald and Rosenbluth.

4 Proponents of the view that multinational firms provide a conduit for technology include Streeten, Hymer (1960), Vernon (1971), (1975), (1977), and Findlay. Arguments that these foreign enterprises simply retard indigenous development are given by Barnett and Muller, Amin, Bierstaker, and Hymer (1979).

basis'' with such firms. This inequality is based upon the multinational firms' superior access to information and human capital and, possibly, on its ability to acquire market power. These same problems have been recognized in arguments supporting the ''infant industry'' hypothesis in tariff debates.

Economic systems are not static. Given opportunities for profit and growth, multinational corporations may well expand and dominate the modern sector of a nation's economy. This will clearly frustrate attempts at economic independence through the creation of a modern domestically owned and operated commercial-industrial sector.[5] On the other hand, modern domestically operated industries may have sufficient market power to compete successfully against multinational corporations, eventually reducing or eliminating them. Their absence, however, reduces the flow of technology, frustrating the goal of rapid economic growth in the long run. Beneficial externalities and international competitiveness will be reduced.

The competitive dynamics will be influenced by the judicial and policy regimes which define the economy. Officials must find and design policies that provide a stable balance between these two forces. Such a balance is often illusive. In some instances polar cases have evolved and radical changes in policy are implemented to stop an apparent evolution to either extreme. In other nations, policy adjustment is more subtle, and likely more continuous. When polar cases are approached, the absence of modern technology or unacceptable levels of foreign control have sometimes led to radical changes in the government itself and subsequent dramatic alterations in policy.

It is not clear what effect either frequent or radical changes in policy have on development. In some theories of economic development, a stable environment is preferred to an unstable one[6] as surety leads to more productive (rather than speculative) and longer term investment. Attaining a balance between multinational corporations and modern domestic firms is a central problem for many policy makers. This paper develops a theoretical structure to provide insights into this dynamic process. These insights may lead to a better understanding of the impacts and limitations of various policies in terms of attaining a balance. Part 2 of this paper develops the dynamic model in an intuitive framework while the rigorous

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[5] Note that it does not matter whether this sector is publicly or privately owned.

[6] Of course, it is not a universally accepted principle as some aspects of the Maoist vision, among others, suggest.

mathematical structure is defined in part 3. Some policy implications are provided in part 4 along with evidence to support the hypothesis. A brief conclusion follows.

II. The Intuitive Model

The interaction between multinational and domestic firms in developing countries is a dynamic process. We will be concerned with modern firms. The distinction between "modern" and "traditional" firms is not easily defined. In general, modern firms operate in the modern sector of dual economies; they follow business practices as understood in developed economies and are able to contract with multinational firms on the basis of a mutual understanding of associated obligations. It is further assumed that the modern portion of the dual economy is finite at any moment in time.[7] This space is defined by the number of modern — foreign or domestic — purely competitive firms which can be accommodated in long run equilibrium.[8] There is one major difference between foreign and domestic firms: foreign firms provide a conduit for technological improvement which domestic firms cannot provide. Hence, some foreign operations are desired as a mechanism to increase the rate of growth.

New firms, domestic or foreign, enter the modern sector if supernormal profit exists. If long run equilibrium has not been reached, one expects such profit and the entry of firms. If the number of firms exceeds that associated with long run equilibrium, then less than normal returns result and firms exit. The larger the expected profit, the more obvious it becomes to prospective entrants[9] and the more rapid the rate of entry. The exit relationship is expected to be symmetric.

The dynamic interaction between local and foreign firms is developed in Figure 1. Figure 1(a) illustrates the effect of the number of local firms on the rate of entry of foreign firms. For a given set of foreign firms[10] desiring to operate in the domestic economy and no modern domestic

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[7] Of course, both economic growth and/or development will change the size over time.

[8] This competitive assumption will be relaxed in what follows. Specifically, the case where foreign firms are sufficiently large to acquire some degree of market power and a significant share of the market is developed.

[9] Existing firms may also expand. It is assumed that they cannot expand, at this point, to a size sufficient to acquire market power.

[10] The size of the set of firms wishing to enter will be defined by a number of exogenous factors. The assessment of political risk would be one criteria. The mix of business opportunities and resources in the developing country and alternative investment opportunities in other areas might be others.

Figure 1
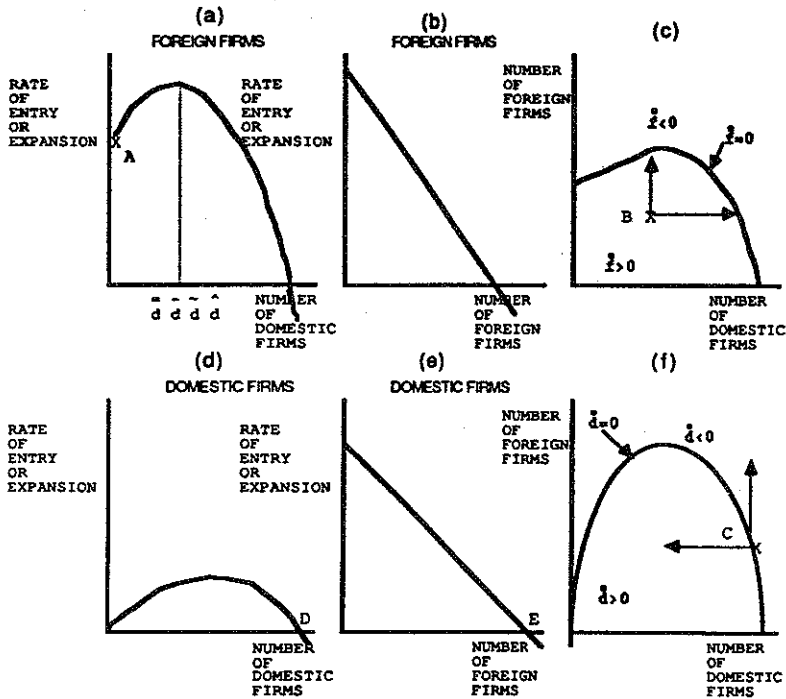
firms, the entry rate will be positive since profitable opportunities are not solely a function of the number of modern domestic firms. Point A in Figure 1(a) illustrates the rate of entry with no local firms. Initially, increasing the number of modern domestic firms facilitates the ability of foreign firms to operate in the domestic economy. Common business practices ease entry into the market by reducing the costs associated with understanding the complexities of a different economy and the acquisition of services. This increases available profits and the entry rate. Further, given a common contractual perception, modern local firms reduce the costs associated with contract abrogation. These advantages are eventually outweighed as the number of local firms continues to rise and they become direct competitors with foreign firms. As competition intensifies, profitable opportunities are reduced and eventually foreign firms no longer enter the market (where the function crosses the horizontal axis in

Figure 1(a)). Additions to the number of local firms further reduce profit-able opportunities and foreign firms exit the market. The rate of entry becomes negative.

Figure 1(b) illustrates the reaction of foreign firms to additional foreign firms. For a given number of modern domestic firms, assume the number of foreign enterprises increases. Since foreign firms are strictly competitive,[11] as their numbers increase profitable opportunities are reduced. Hence, foreign firms are similar to Schumpeter's entrepreneurs whose first entrants make large profits but whose profits are eventually diluted with increased entry.

> "Consequently, the surplus of the entrepreneur in question and of his immediate followers disappears. Not at once, it is true, but as a rule only after a longer or shorter period of progressive diminution. Nevertheless, the surplus is realized, it constitutes under given conditions a definite amount of net returns even though only temporary." (Schumpeter, p. 132)

Eventually equilibrium is reached and additional foreign firms lead to a negative rate of entry.

Combining Figures 1(a) and 1(b) maps the dynamic relationship expected for the change in the economic activity of foreign firms for all combinations of foreign and domestic firms. For example, take the combinations of foreign and domestic firms represented by point B in Figure 1(c). Starting at point B and moving vertically (i.e., holding the number of local firms constant and increasing the number of foreign ones) is equivalent to moving along the curve in Figure 1(b). Eventually the number of foreign firms reaches the point where entry ceases. A horizontal movement from B is equivalent to a rightward movement in Figure 1(a). Again, the increase in foreign firms is positive until the number of domestic firms is sufficiently high so that profitable opportunities cease to exist and no additional foreign firms enter the domestic economy. Hence, a locus of combinations of foreign and domestic firms can be constructed where the number of foreign firms operating in the domestic economy is constant. This locus is denoted $\dot{f} = 0$ in Figure 1(c). Any combination of foreign and domestic firms inside this locus will lead to an increase in the number of foreign firms operating in the domestic economy. All such

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[11] It could be argued that at very low numbers foreign firms would be complimentary rather than competitive. This would mean that the function would not be strictly declining as depicted in Figure 1(b). As this is likely to be true only at low levels and considerably complicate the formal mathematical treatment to follow, it is ignored. Such a simplification does not materially alter the results.

combinations are denoted $\dot{f} > 0$. Any combination of domestic and foreign firms outside the $\dot{f} = 0$ locus leads to an exit of foreign firms, $\dot{f} < 0$.

The dynamics of domestic firms can also be developed. The relationship between the number of local firms and their rate of entry and exit is illustrated in Figure 1(d). Assume for the moment that there are no foreign corporations. The number of domestic firms is assumed to increase or decrease only through the constraints of profitable opportunities as defined by the current sustainable size of the modern sector. Beginning at a point where there are no modern domestic firms, initially an increase in the number of firms expands profit opportunities through the complementary effects of other modern firms with respect to the acquisition of services and cross provision of products — Marshall's concept of external economies.[12] As the number of domestic firms increases and profitable opportunities are competed away, the rate of entry slows. Eventually, long run equilibrium is reached. Additional domestic firms (i.e., to the right of the point where the function crosses the horizontal axis) lead to losses and firms exit. The existence of foreign firms alters the share of market available to domestic firms. Changes in the number of foreign firms, therefore, will shift the curve.

For any given number of domestic firms, increasing the number of foreign firms decreases profitable opportunities and the rate of entry of domestic firms. This relationship is illustrated in Figure 1(e). The actual relationship may not be a linear decline as shown, especially with few foreign firms, because of possible external economies. The linear simplification does not materially affect the results if, at some level of foreign economic activity, competition is evidenced and the curve declines. Changes in the number of domestic firms will shift the curve.

Combining the relationships outlined in Figures 1(d) and 1(e) illustrates the dynamic effects expected for domestic firms from any combination of domestic and foreign firms. These are illustrated in Figure 1(f). Point C represents a combination of domestic and foreign firms where the number of domestic firms is constant. Reducing the number of domestic firms with no change in the level of foreign economic activity is a horizontal movement. This is equivalent to moving left from point D in Figure 1(d) and the number of domestic firms would subsequently increase. An increase in the number of foreign firms for a given number of domestic firms is represented by moving vertically from point C in Figure 1(f) and is equivalent to moving to the right of point E where the increase

12 See Marshall (1956).

Figure 2
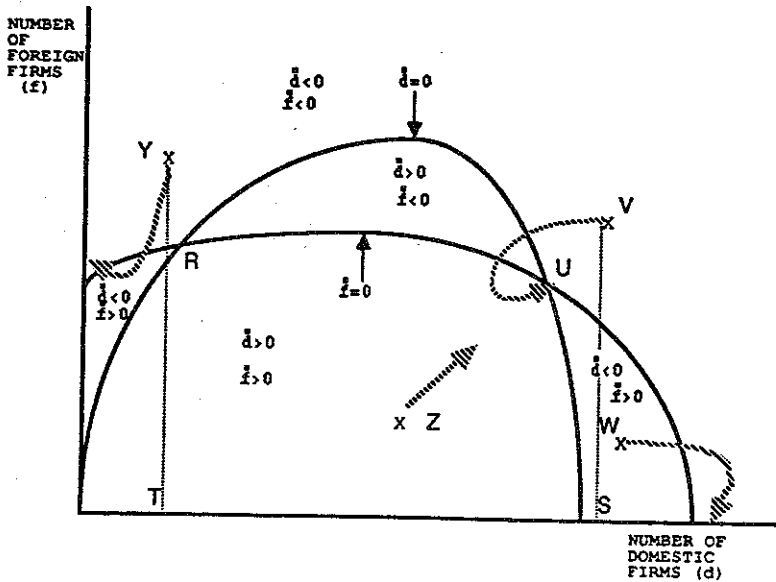
in foreign firms reduces profit sufficiently to cause exit of domestic firms. Hence, there are combinations of domestic and foreign firms where the number of domestic firms remain unchanged. This locus is $\dot{d} = 0$ in Figure 1(f). All combinations of domestic and foreign firms outside this locus, $\dot{d} < 0$, lead to a decline in domestic firms. All combinations inside the $\dot{d} = 0$ locus are those for which the number of domestic firms is increasing, $\dot{d} > 0$.

The complete formal structure of the interactive impacts can now be illustrated by combining Figures 1(c) and 1(f). This is done in Figure 2. The $\dot{d} = 0$ and $\dot{f} = 0$ loci are depicted along with the direction of change in the numbers of each type of firm for combinations of domestic and foreign firms. For example, at point Z, both foreign firms and domestic firms are expected to increase. Thus the dynamic path the interactive system would follow is illustrated by the arrow originating at Z.

Other combinations of domestic and foreign firms suggest different dynamic paths of interaction. For example, at point Y both d and f decrease, moving away from Y along the arrow indicated. Eventually, the

$f = 0$ locus is crossed and f begins to increase. The path is moving toward the eventual elimination of modern domestic firms — the situation where foreign firms dominate the modern sector. Of course, this result is considered undesirable by many decision makers in developing countries.

In a similar vein, if the combination of domestic and foreign firms is at W, then the dynamic path leads to the elimination of foreign firms. Again this may be undesirable as the conduit for new technology is lost, reducing the rate of growth.

As with point Y, combination V represents a case where the number of both domestic and foreign firms is expected to decrease. In this case, however, once the $\dot{d} = 0$ locus is crossed the number of domestic firms increases, altering the path's direction. When the $\dot{f} = 0$ locus is crossed, the number of both domestic and foreign firms is increasing. The path converges to point U which is a stable focus. In other words, the number of both types of firms remains constant. Any slight movement away from U, such as an exogenous reduction in demand for some domestic firm's product and a limited number of bankruptcies, leads to an eventual return to point U. This represents successful fulfillment of the goals of decision makers in developing countries with a robust modern domestic sector as well as a stable foreign presence which acts as a conduit for technology.

More sophistication is required before a dynamic structure can be used as a basis for detailed planning, but the model can provide some insight into the effect of different management strategies. For example, assume that the development planner could identify that the current combination of domestic and foreign firms was point Y. One strategy could be to expel most foreign operations temporarily, moving toward point T. The number of domestic firms would begin to increase as $\dot{d} > 0$. The country could remain closed to new foreign firms until a point near S was reached, at which time it would re-open to new foreign firms. Assuming that these firms would perceive the country as an increased risk, their level of entry would be less than at point Y[13] (say vertical distance S-V), and the system would converge to the desired point U. It appears that creating a situation where both goals are satisfied is relatively simple. Unfortunately, Figure 2 is only a special case but it does, however, provide an illustration of the advantages of such a dynamic construct. Before the additional cases and policy analysis are discussed, the formal structure needs to be explicitly developed.

[13] The increased risk could also be perceived as a general reduction in profitable opportunities as new levels of risk would have to be calculated into the entry decisions of foreign firms. This would represent a downward "flattening" of the $\dot{f} = 0$ function. This additional complexity would not materially change the result.

III. The Formal Model

The rate of entry of domestic firms into the modern sector is assumed to be a function of d, f and P:

(1) $\dot{d} = \gamma(d,f,P)$

where d = the number of domestic firms operating in the modern sector of the domestic economy at time t,

f = the number of foreign firms operating in the modern sector of the domestic economy at time t,

$\dot{d}$ = the change in the number of domestic firms,

P = a vector of policies which can affect d,

t = a time period such as one year.

In this case it is the annual change in the number of domestic firms which is of interest. The relationship in (1) describes the rate of change in the stock of firms as a function of the existing number of domestic firms, the existing number of foreign firms, and a vector of policy measures. Initially, assume P is constant at $P_0 = 0$ and the function is well-behaved (Wilman, Tu and Kerr) with the following properties:

$\gamma_f < 0$ $\forall_f$ and $\gamma_{dd} < 0$ and there exists some $d = d^*$ such that $\gamma_d > 0$ $\forall d < d^*$, $\gamma_d < 0 \, \forall d > d^*$ and $\gamma_d(d^*) = 0$. Further assume $\gamma_{fd} = \gamma_{df} = \gamma_{ff} = 0$. This defines the system developed in Figure 1, (d), (e), and (f).

Consider next foreign firms whose level of economic activity is a function of d, f and Q. That is:

(2) $\dot{f} = \pi(d,f,Q)$

where: $\dot{f}$ = the change in the number of foreign firms,

Q = a vector of policies which can effect $\dot{f}$.

Holding Q fixed at $Q_0 = 0$, the function is assumed to have the following properties:

$\pi_f < 0$ $\forall_f$ and $\pi_{dd} < 0$ and there exists some d^{**} such that $\pi_d > 0$ $\forall d < d^{**}$, $\pi_d < 0 \, \forall d > d^{**}$ and $\pi_d = 0$ for $d = d^{**}$. In addition assume $\pi_{df} = \pi_{fd} = \pi_{ff} = 0$.

These are the conditions which define Figure 1, (a), (b), (c). By combining diagrams 1(c) and 1(f) four possible dynamic conditions arise[14]:

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[14] Of course additional possibilities exist such as that where the $\dot{d} = 0$ locus is configured like the $\dot{f} = 0$ locus and vice versa and the case where $\dot{d} = 0$ coincides with $\dot{f} = 0$. For the sake of brevity these are left to the interested reader to develop.

Condition 1: the $\dot{d} = 0$ locus intersects the $\dot{f} = 0$ locus first from below at R (Figure 2) and then from above at U. Point R is an unstable equilibrium, driving the system away from it while U is a stable equilibrium, attracting the system to it locally.

Condition 2: At a low level of d, the locus $\dot{f} = 0$ lies above $\dot{d} = 0$ but reaches a maximum before $\dot{d}$, then falls and intersects $\dot{d} = 0$ (Figure 3(a)). The intersection, J, is a saddlepoint and only the initial conditions lying on the stable arms will lead to equilibrium. All other initial points will drive the system away from J.

Condition 3: The locus $\dot{f} = 0$ lies entirely above the $\dot{d} = 0$ locus except at one point of tangency, K (Figure 3(b)). Note that K repels points in the zone defined by $\dot{d} < 0$, $\dot{f} > 0$ to the left of K, but attracts to itself points in $\dot{d} < 0$, $\dot{f} > 0$ to the right of K and local points in $\dot{d} < 0$, $\dot{f} < 0$, and $\dot{d} > 0$, $\dot{f} > 0$. This is a case of one sided stability.

Condition 4: If the vertical manifold $\dot{d} = 0$ lies entirely below the horizontal manifold $\dot{f} = 0$, then equilibrium can be at some f_z (Figure 3(c)). No domestic firms will survive over the long run and the level of activity of foreign firms is determined by other economic factors. In a similar fashion, equilibrium could be at a point where only domestic firms exist.

These four cases with their multitude of adjustment paths suggest that identifying policies which will satisfy the dual objective is far from simple. For example, if the $\dot{f} = 0$ and $\dot{d} = 0$ loci are structured as in Figure 3(a), there is no stable point such as U in Figure 2. Even if Point J were achieved a small disturbance could lead to a path where one of the two goals would not be satisfied. Further, attempts at simple policies will lead to the non-attainment of one of the goals. For example, assume that the combination of foreign and domestic firms is at point M. Over time policy makers observe that foreign firms are on the increase and domestic firms are exiting. This is likely to be perceived as an undesirable situation. One simple policy prescription is to nationalize a portion of foreign firms.[15] This would effectively transfer them to the domestic portion of the modern sector, a movement from M to N. This type of policy is particularly deceptive for policy makers since, initially, both domestic and foreign firms increase, suggesting the satisfaction of both goals. Once the $\dot{d} = 0$ locus is crossed, however, domestic firms would begin to exit and a degenerate path to the domination of foreign firms followed.

The effects of market power can now be discussed. If foreign firms are

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[15] With full compensation so that there is no change in the perception of potential profitability. If perceptions were to change it would shift the $\dot{f} = 0$ locus.

Figure 3

(a)

(b)

(c)
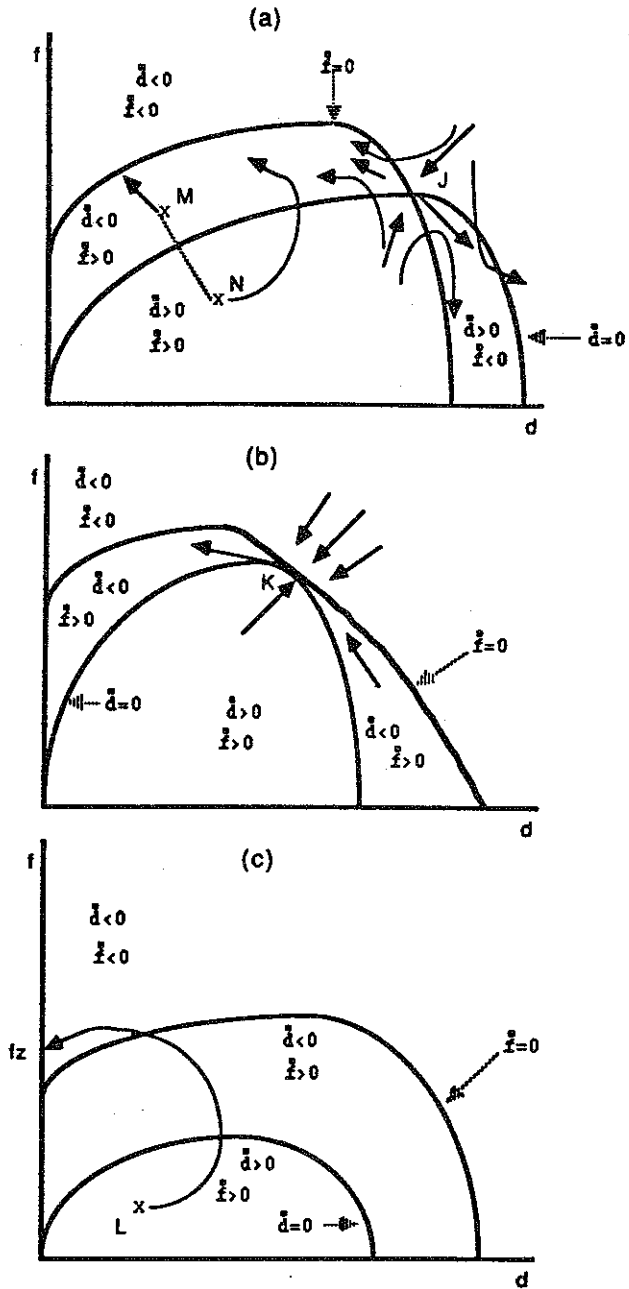
not competitive (i.e., they are able to collect monopoly rents) the following occurs. The ability to restrict entry reduces profitable opportunities for domestic firms at every combination of foreign and domestic firms. This flattens the $\dot{d} = 0$ locus and moves it closer to the origin, increasing the likelihood that the conditions leading to those illustrated by Figure 3(c) arise rather than the possibility of a stable equilibrium as suggested by Figure 2. Monopoly profits, if they are reinvested in the domestic economy, may also allow for an accelerated rate of growth in foreign economic activity.

Monopolization by domestic firms causes the $\dot{f} = 0$ locus to move toward the origin and flatten as profitable opportunities for foreign firms are reduced. This increases the likelihood of the saddle point situation depicted in Figure 3(a) and, hence, the increased probability of an undesirable outcome.

IV. Policy Implications

Clearly, policies aimed at controlling the number of firms directly are of limited use if those conditions outlined in Case 1 (Figure 2) are absent. Such conditions may not be readily identifiable *ex ante*. Consequently, attempts to control the number of foreign firms directly implies that radical policy changes may be required as undesirable paths are identified.[16]

The difficulty in creating a balance between foreign and domestic firms results in radical policy changes as either extreme case evolves. The response to domestic firms' domination of the economy is often a complete liberalization of regulations on foreign investment and, possibly, incentive schemes. For example, the political regime in Indonesia discouraged foreign investment prior to 1967, considering it imperialistic. In a policy reversal, new foreign investment laws offered strong incentives to foreign companies. Guarantees against expropriation, provisions for repatriation of capital and the abolishment of all foreign currency controls were among the measures designed to attract foreign investment. An increased inflow of foreign direct investment by OECD countries from 1970

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[16] Clearly these paths are subject to the Lucas (1976) critique, since the structure of equations (1) and (2) will vary with the choice of policy. Arbitrary policy changes offer no predictability, nor is the model constructed to trace the effects of predetermined rules governing foreign and domestic firms. Although econometrically unpredictable in this context, policy changes are certainly theoretically possible. Policy implications, therefore, are discussed only qualitatively, without attempting to empirically support claims of the model.

to 1973 of 444.6 million dollars, however, prompted another policy shift in 1974 where restrictions were imposed in response to the growing presence of foreign investment (United Nations, 1986a).

The difficulties associated with implementing policies that lead to a balance between domestic and foreign interests are expressed by the former Indonesian Minister of Mining:

"In 1974, the first public reaction erupted against the emerging presence of foreign investments. As a result, the liberal policies began to be replaced by more nationalistic policies.... The catalytic role of foreign investments worked very well to the extent that after some ten years (since 1967) new domestic investments (in manufacturing) superseded new foreign investments. However, TNC's (Trans National Corporations) have retained a strong non-equity role (United Nations, 1986a, p. 47).

The decade following the 1974 restrictions witnessed more policy changes. As the former Minister explains:

"As a response to the general decline in the growth rates of the economy and of the manufacturing sector, the Government is encouraging foreign investments once again.... But they expect more freedom to invest and operate, which represents a dilemma for the Government.... the underlying problem is how to deal with economic nationalism in a time of adversity" (United Nations, 1986a, p. 48).

From 1960 to 1970, the amount of direct investment from the United States to Argentina increased at an average annual rate exceeding the growth of GDP (United Nations, 1973). Large flows of foreign investment continued into the early 1970's — 100.3 million dollars in 1973 alone. In that year, a new Foreign Investment Law strengthened the regulatory regime causing foreign investment to fall to 17.9 million dollars in 1974. The response to this dramatic decline was new liberal regulations in 1976. Investment immediately increased to 242.8 million dollars, rising to 935.5 in 1980 as a result of a new law which elimianted all substantive government control. Bangladesh, Bolivia, Jamaica, Sri Lanka and Uruguay are other countries which have replaced restrictive regimes designed to promote domestic firms with flexible investment policies (United Nations, 1983).

Often, the reaction to the other extreme — foreign firms monopolizing the market — is the nationalization of multinational enterprises. Examples include: the copper industry in Chile (1971); the commercial banking, insurance, grain milling, and importing and wholesaling industries in Tanzania (1967); the extractive industry in many African na-

tions (1960's); the tobacco industry in Indonesia (1958); and the oil industry in Iran (1951).[17]

Abrupt changes in policy direction are likely to create externalities both in terms of the perception of international financial markets and in the political sphere. Further, given that no stable path likely exists, a continual tinkering with policies is implied. It seems likely that such ongoing intervention would more readily characterize regimes which do not face either polar case.

If it is desirable to have both domestic and foreign firms operating in the country, the most sensible management policies would appear to be those which would cause the $\dot{d} = 0$ locus to interest the $\dot{f} = 0$ locus in such a way as to create a stable equilibrium. A number of policies may achieve this and one is examined here in detail. Others may be suggested, but they are left to the interested reader to develop.

A major problem arises because of the negative competitive effects between domestic and foreign firms. One possible policy would be to reduce areas of direct competition. This may be accomplished by identifying domestic industries which are important — perhaps those which are particularly critical to national independence, such as energy and food distribution, or industries where acquiring technology is not essential. Domestic firms could be encouraged to operate in these areas with foreign firms encouraged to operate in the remaining sectors. Differential tax rates for targeted firms may achieve this goal.

The proposed policy would both reduce the negative effect of f and d, and the negative effect of d on f. These are increases in p_1 and q_1 in (1) and (2). The non-zero first and second partial derivatives involving p_1 are assumed to be $\gamma_{p1} > 0$, $\gamma_{fp1} > 0$ and $\gamma_{p1f} > 0$. Referring to Figure 1(a), the non-zero partials involving q_1 are assumed to be:

$$\pi_{q1} < 0 \text{ for } d < \tilde{d}$$

$$\pi_{q1} > 0 \text{ for } d > \tilde{d}$$

$$\pi_{q1} = 0 \text{ for } d = \tilde{d}$$

$$\pi_{dq1} < 0 \text{ for } d < \bar{\bar{d}}$$

$$\pi_{dq1} > 0 \text{ for } d > \bar{\bar{d}}$$

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[17] It should be noted that changes in political regimes often accompany decisions to nationalize.

$$\pi_{dq1} = 0 \text{ for } d = \bar{\bar{d}}$$
$$\pi_{q1d} < 0 \text{ for } d < \bar{\bar{d}}$$
$$\pi_{q1d} > 0 \text{ for } d > \bar{\bar{d}}, \text{ and}$$
$$\pi_{q1d} = 0 \text{ for } d = \bar{\bar{d}}$$

Hence, in Figure 3, implementing policies p_1 and q_1 has two effects. The $\dot{d} = 0$ locus moves upward and the $\hat{f} = 0$ curve flattens out and declines less rapidly. This shift in the curves increases the likelihood of the $\dot{d} = 0$ and $\hat{f} = 0$ loci being positioned in a manner consistent with Figure 2 and, hence, increases the probability of a stable focus such as U.

The possibility of domestic firms being unable to compete with foreign firms in certain sectors is recognized by the government of Indonesia:

"They (domestic businesses) want cooperating and assistance from the TNC's but do not want too much competition from them.... A possible disadvantage is lower efficiency or cost-effectiveness, if the domestic party does not have access to the best technology, management, etc." (United Nations, 1986a, p. 48).

The government's response in 1986 was a new investment Priority List. The plan divides investment opportunities into business fields open to foreign investment, and those fields reserved exclusively for domestic investment. As explained by Indonesia's Minister of Trade:

"Areas we feel we can handle ourselves can be declared out of bounds for foreign invesment. But in areas where we feel that foreign investment is needed because we do not possess the skill, the technology or the financing, we offer facilities in accordance with the degree of a project's prominence on our priority list" (Kaleidoscope, p. 101).

India's policies on direct foreign investment provide another example of selectively targeting industries. The Foreign Exchange Regulation Act of 1973 placed a 40% ceiling on the foreign ownership of a company's equity. Exceptions are export industries and ventures involving sophisticated technologies in which case Indian participation must be at least 26%. This change in policy followed an average annual growth rate of 6.7% in United States foreign investment stock throughout the 1960's. India'a gross domestic product only increased at the average annual rate of 5.4% over this period (United Nations, 1973). Despite the 1973 regulations, foreign domestic investment continued to increase in 1974 and 1975, prompting a comprehensive dilution program between 1977 and 1980. The policy of diluting foreign ownership in existing enterprises (by

offering shares to nationals) is another reaction by regimes who feel their economy is approaching the extreme case of foreign firms dominating the market (United Nations, 1983).

The findings of the United Nations Center on Transnational Corporations support this observation. In its third survey on multinationals in world development, it was reported that:

> "Many developing countries (e.g., Brazil, Egypt, Ghana, India, Mexico and Nigeria) have reserved certain sectors and activities exclusively for the State and neither their own nationals nor foreign investors are permitted to operate in such 'closed' or 'reserved' areas. The range of such closed areas varies from country to country, but typically, strategic or sensitive industries, public utilities, industries where domestic capabilities or domestic production are regarded as adequate..." (United Nations, 1983, p. 58).

The Republic of Korea moved from zero foreign firms in 1960 to approving 1,731 projects in the first quarter of 1985 in accordance with a carefully considered policy to attract foreign direct investment. Maintaining a balance did require some tinkering over the 25 year period. Direct foreign investment increased rapidly until 1973 when the government implemented restrictive policy measures through amendments to the Foreign Capital Inducement Act. These revisions dictated that joint ventures with more than 50% local participation would take priority over ventures owned mainly or entirely by foreigners. After the peak inflow of investment in 1973, the revisions curtailed the flow until 1980 when the government again liberalized their policies (United Nations, 1986b).

Establishing joint ventures is another method of reducing the negative competitive effects between firms. This approach was adopted in Chile's copper industry in 1964, in Zaire's mineral extracting industry in 1966, Zambia's copper industry in 1969, and more recently in China (1979) and Cuba (1982). Joint ventures can be a less radical alternative to nationalization, or the "close-the-door" policies of Guinea and the United Republic of Tanzania (United Nations, 1983). Responsibilities in the venture can be divided according to comparative advantage. For example, in 1965 Algeria and France entered a joint venture agreement where Algeria provided the natural resources, materials and labour, and France provided the technical assistance.

Licensing and technical assistance agreements to acquire foreign technology are another attempt to satisfy the dual mandate. Foreign firms are remunerated with lump sum or royalty payments without equity participation. This type of agreement is operating in Argentina, Brazil,

Mexico, the Andean group countries and India (United Nations, 1983). Similar reductions in interaction between firms might be accomplished by the establishment of foreign enclaves or new economic zones such as those in China, and the Masan Free Trade Zone in the Republic of Korea. Such physical isolation, however, is likely to reduce the rate of technological transfers.

V. Conclusions

This paper hypothesizes that the difficulties faced by developing countries in attaining a balance between domestic and foreign firms often leads to policy tinkering and occasionally to radical policy shifts. Evidence refuting this would be an absence of policy changes towards multinationals in developing countries; this has not been observed. Supporting evidence, however, is also illusive. Changing flows or stocks of foreign direct investment can be observed, but it is impossible to determine where in the dynamics an economy is located at any point in time. Further, identifying the path which an economy is currently following is extremely difficult. In some cases, countries approaching the polar cases may be identified but, by that point, major policy interventions are probably required. Radical changes in policy direction often have repercussions in international financial markets and possibly in the political arena. As only one of the cases above can lead to a stable balance, simple policies which attempt to control the number of foreign firms directly will not generally be successful in achieving the desired balance. Hence, it would seem that it is more important for policy makers to create the conditions which allow for a stable balance to arise.

This paper has attempted to outline the complexity of the process of establishing policies to regulate foreign firms and to stress the importance of analysing this problem as a dynamic process. Hopefully it has also provided insights into the limits of various policies in attaining a balance for countries pursuing this dual mandate.

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