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**RESOURCE MOBILITY, DIVERSIFICATION OF OWNERSHIP,  
AND POLITICAL RENT-SEEKING INCENTIVES**

by

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## RESOURCE MOBILITY, DIVERSIFICATION OF OWNERSHIP, AND POLITICAL RENT-SEEKING INCENTIVES

Eastern Europe is at a major crossroad in economic development. It is expected that the reorganization of these emerging market economies will result in a transfer of largely government controlled assets to the ownership by smaller organizations and individuals. Many neoclassical economists have argued that the assignment of property rights is a crucial initial step in the path toward a market economy. Some of these same economists would use the Coase theorem to argue the distribution of the property rights is an issue of equity rather than efficiency. Still others would argue that one property right distribution may be more economically efficient than others because of organizational and transaction costs (Williamson 1985).

What these arguments fail to recognize is that the political-economic impacts of property right assignment can dominate any associated efficiency consequences. Moreover, these arguments overlook the relationship between rent-seeking incentives and the distribution of property rights. The mobility of the resources and in particular the distribution of resource ownership can alter the political-economic equilibrium of a developing economy. A reduction in rent-seeking incentives can pay long-term dividends in the economy by reducing the dead-weight loss and the directly unproductive (DUP) rent-seeking activities in the economy (Bhagwati 1982). Accordingly, wherever discretion exists, the effect of the property rights distributions on rent-seeking incentives should be carefully considered in the the assignment of these rights.

Privatization laws have been passed in Poland and Czechoslovakia, and are currently being debated by other Eastern European countries and the Soviet Union, that widely distribute ownership rights through voucher schemes (Rausser and Simon 1991). Both Poland and Czechoslovakia propose to distribute an equal number of "voucher rights" to all

citizens of their respective countries, representing ownership shares of some of the soon-to-be privatized enterprises. This action has some significant political-economic benefits that may well outweigh losses in pure economic efficiency, especially those related to specialization. Our analysis focuses on the tradeoff between resource ownership and resource mobility in achieving alternative political-economic equilibria. It shows that policies that affect the mobility of resources and the distribution of resource ownership can permanently alter the demand for trade protectionism in an economy.

While our logic is general, we use trade reform as an example to motivate our approach and the specific model. An understanding of the rent-seeking incentives motivating trade distortions requires an examination of the welfare effects of the trade distortion. Many such studies have been conducted. Some have focused on the effects at the industry level (Corden 1969; Meade 1955; Bhagwati 1971), while others concentrate on the implications of reform on returns to resources employed in production (Heckscher 1949; Jones 1970; Stopler and Samuelson 1941). The effects of resource mobility have been extensively analyzed and have become central to neoclassical trade theory (Jones 1975; Mussa 1982; Staiger and Tabellini, 1987; Eaton and Grossman 1985). From a policy perspective, another important dimension is the diversification of resource ownership in the economy. Resource mobility is determined in part by technical relationships, but can be enhanced through the provision of unemployment insurance, social assistance and retraining programs, and can be restricted by institutional barriers such as licensing and housing restrictions. Diversification of resource ownership across economic sectors is perhaps more frequently recognized as a function of regulation, and subject to political influence.

## I. Hypothetical Economies

To structure how resource mobility and diversification can affect the rent-seeking incentives and the political economy of a country, consider two hypothetical economies—one

in which all resources are mobile, and the other in which all immobile resources are held in equal proportions by all individuals. It can be shown easily that in either of these extreme configurations the incentive for rent seeking is eliminated. To consider the effect of the mobility on the incentive to rent seek, consider the extreme case where all output in an economy is produced by a single, perfectly mobile resource. As a further simplification, to eliminate differential consumption effects, also assume all individuals have identical homothetic preferences but not identical resource endowments. Given the resource mobility, rental rates are equated across all sectors in the economy. The rental rate of the resource will equal the total value of output in the economy divided by the total number of units of the resource in the economy. Given this relationship, the rental rate is maximized when the total value of output in the economy is maximized.

If the economy is at a competitive equilibrium, any attempt to expand one sector of the economy at the expense of another in order to increase the returns in that sector will, in fact, lower total surplus. The increase in the returns to the resources employed in that protected sector will be more than offset by a movement of resources from shrinking sectors of the economy. This movement will occur until the rental rate within the expanded sector reflects the new lower rental rate in the distorted economy. Thus, even if rent seeking were a costless activity, the incentive to rent seek would be eliminated if resources were perfectly mobile. Therefore, the only type of policies which would be pursued within such a framework are those which will expand the size of the economy. Thus, perfect resource mobility would be sufficient to eliminate rent seeking.

Physical characteristics of the resources and the underlying technology will limit the mobility of resources. In most economies, the degree of mobility is also restricted through institutional and regulatory barriers.<sup>1</sup> Complete mobility, although a sufficient condition, is not necessary for the nonexistence of incentives to seek rents. Diversification of ownership can also eliminate these incentives. Consider the case where each individual, regardless of total wealth, holds a portfolio of resources in exact proportion to the economy as a whole. In

this case, changes in the income of each person are directly proportional to changes in national income. Any activity which reduces national income will, therefore, also reduce any individual income. Once again, with identical, homothetic preferences, the incentive to seek trade distortions is eliminated: Any rent-seeking activity which reduces nation real income will also reduce the income of all persons.

In these two rather extreme hypothetical situations, it is in the self-interest of each person to oppose policies which distort the economy. Nevertheless, these hypothetical constructs are polar cases which illustrate an important point. Simply stated, mobility of resources and diversification of ownership of immobile resources must, at least in the limit, reduce incentives to seek rents.

There are, of course, important qualifications to the above analysis. The first is that preferences are unlikely to be identical or homothetic. As trade restrictions are relaxed, the change in the relative prices of consumption goods may harm those whose consumption basket is most heavily weighted toward export-oriented goods. And likewise, trade liberalization would benefit those who consume relatively greater amounts of the imported good than the representative, "average" person. In sum, personal rates of inflation are not the same as the economy's representative rate. The second qualification is that resources, although mobile, are not likely to be identical, nor individual portfolios that are miniature versions of the economy. The gains or losses to individual portfolios will, therefore, depend on the relative intensity of resource use in industry.

## **II. A Model of Rent-Seeking Incentives**

In order to analyze the marginal effect of ownership diversification and mobility of resources on rent seeking and protectionism within an economy, we use a standard, two-sector trade model of a small, open economy integrated with a simple rent-seeking component. A single distortion (a level of import quota) is pursued in lobbying efforts by the

owner of the factors in the import-competing sector. All import quota rents are returned to the factor owners with the import-competing sector in proportion to the factor ownership. A level of rent-seeking expenditure,  $E$ , is used in directly unproductive activities (DUP) (Bhagwati 1982) for the sole purpose of lobbying for restrictive import quotas. It is assumed that the money for the lobbying expenditure is raised through taxes in proportion to the income generated in the import-competing sector. This eliminates the free rider problem that would occur if the rent-seeking expenditure were raised through voluntary contributions (Olson 1965). For simplification, it is assumed that other sectors of the economy do not engage in DUP activities or other strategic behavior, or, at the very least, DUP activities in other sectors do not decrease with increases in the expenditure,  $E$ .<sup>2</sup> The reduced form of the political support function (Rausser and Foster 1990) is such that the level of quota  $Q$  will be a decreasing function of the aggregate expenditure on expenditure lobby,  $E$ . Stated algebraically,  $Q = f(E)$ ,  $\partial Q/\partial E < 0$ ,  $\partial^2 Q/\partial E^2 > 0$ , where the slope represents the marginal expenditure required to increase the level of quota by one unit for any existing level of quota.

The economic model emphasizes diversification of resource ownership, and thus provides a different focus than previous models (e.g., Staiger and Tabellini 1987; Mussa 1982; Mayer 1984; Eaton and Grossman 1985). The economy of  $N$  persons is represented in a two-sector (goods  $A$  and  $B$ ) open-economy model. The country produces  $A_x$  and  $B_x$ , consumes  $A_c$  and  $B_c$ , imports  $A_c - A_x$ , and exports  $B_x - B_c$ . Imports and exports are carried on with rest of the world at fixed world prices. Prices are determined in competitive markets, implying that the domestic and world prices of good  $B$  will be equal in equilibrium, regardless of quota (or tariff) on good  $A$ . The wedge between the domestic price of  $A$  and its world price will reflect the restrictions on trade. There exists a quota,  $Q$ , on the imports of good  $A$ ; that is,  $Q \geq A_c - A_x$  without loss of generality. Prices are normalized such that the world and domestic prices of good  $B$  are equal to one; and  $P_w$  and  $P$  represent the world and domestic prices of good  $A$ .

The production of  $A_x$  and  $B_x$  takes place in competitive sectors of the economy with identical and homogeneous, degree-one production functions (thus eliminating the Stolper-Samuelson effect), where the factor share of the mobile input is equal to  $\alpha$  in both sectors  $A$  and  $B$ . Production takes place in both sectors using positive levels of two inputs: a mobile resource,  $L$  (the returns to which equilibrate across sectors); and an immobile resource,  $K$ . For example, the two types of resources may be thought of simply as labor and capital, or as capital (perhaps human capital) not specific to an industry and capital specific to each industry. The inputs devoted to the import industry,  $L_A$  and  $K_A$ , and those devoted to the export industry,  $L_B$  and  $K_B$ , are constrained by the total resource available to the economy. Units are chosen such that there is one of each of  $L$ ,  $K_A$ , and  $K_B$  in the economy. In the decentralized, competitive economy, income is a function of the general level of prices (which are functions of the level of quota employed) and the share of each resource in each sector. The gross income in sectors  $A$  and  $B$ , respectively, is:

$$(1) \quad Y_A = P A_x + (P - P_w) (A_c - A_x) - E,$$

and

$$(2) \quad Y_B = B_x.$$

In this formulation, the import quota rents are a part of the income in the import-competing sector,  $A$ . Quota rents are allocated to the inputs in the import sector according to their factor shares, and the rent-seeking expenditure is deducted from the income in this sector. Note that, once again it is assumed that these expenditures are deadweight losses and have no social value. Given a binding quota, national income is defined by

$$(3) \quad Y = P A_x + (P - P_w) Q + B_x - E.$$

The per-unit wages earned by the mobile resource,  $w$ , is common across industries; and firm managers use the input until its marginal product equals the wage,  $P \partial A_x / \partial L_A = w = \partial B_x / \partial L_B$ .



In this economy, the consumption and the utility of individual consumers is determined by their preferences, the prices they face, and their incomes. In a general-equilibrium setting, their incomes will be determined by the resources each person owns and the aggregate output and trade of the general economy and the expenditure on lobby effort,  $E$ . The output of the economy will, in turn, be a function of prices which is a function of the level of import quota. Using these linkages, it is possible to determine the effect that trade policy has on individual utility. The primary tool of analysis will be the indirect utility function of individuals. Let  $V_j$  represent the indirect utility function of individual  $j$ :

$$(4) \quad V_j = V_j[P(Q), Y_j(Q)].$$

The effect of an incremental change in the expenditure on rent seeking,  $E$ , on  $V_j$  is given by

$$(5) \quad \frac{dV_j}{dE} = \left[ -A_{cj} \frac{\partial P}{\partial Q} \frac{\partial Q}{\partial E} + \frac{\partial Y_j}{\partial Q} \frac{\partial Q}{\partial E} + \frac{\partial Y_j}{\partial E} \right] \cdot \frac{\partial V_j}{\partial Y_j}$$

where the individual demand for the import good,  $A_{cj}$ , derives from Roy's identity:

$$-A_{cj} = (\partial V_j / \partial P) (\partial V_j / \partial Y_j)^{-1}.$$

Define  $\lambda_j$  as the  $j^{\text{th}}$  person's share of the mobile resource in the economy ( $\lambda_j = L_j/L$ ) and  $\theta_j$  as the share of the immobile resources in the economy [ $\theta_j = (K_{Aj} + K_{Bj})/(K_A + K_B)$ ]. Furthermore, let  $\mu_j$  equal the proportion of immobile resources which the  $j^{\text{th}}$  individual owns,  $K_A$  ( $\mu_j = K_{Aj}/K_A$ ). The proportion of an individual's income originating from each sector can be represented as  $\omega_j^A = \alpha\lambda_j + \theta_j \cdot (1 - \alpha) \cdot \mu_j$  and  $\omega_j^B = \alpha\lambda_j + \theta_j \cdot (1 - \alpha) \cdot (1 - \mu_j)$ . Using this notation, expression (5) can be examined in parts. First note from expression (3),

$$(6) \quad \frac{\partial Y_j}{\partial Q} = \left\{ \omega_j^A \left[ \frac{\partial P}{\partial Q} A_c + P \frac{\partial A_x}{\partial Q} + (P - P_w) \right] + \omega_j^B \cdot \frac{\partial B_x}{\partial Q} \right\},$$

and from the assumption that rent-seeking expenditure is raised as a tax on income in protected sector A,

$$(7) \quad \frac{\partial Y_j}{\partial E} = -1 \cdot \omega_j^A.$$

Using this information, we can rewrite expression (5) as,

$$(8) \quad \frac{dV_j}{dE} = \left[ -A_{cj} \frac{\partial P}{\partial Q} \frac{\partial Q}{\partial E} + \left\{ \omega_j^A \left[ \frac{\partial P}{\partial Q} A_c + P \frac{\partial A_x}{\partial Q} + (P - P_w) \right] + \omega_j^B \cdot \frac{\partial B_x}{\partial Q} \right\} \frac{\partial Q}{\partial E} - 1 \cdot \omega_j^A \right] \cdot \frac{\partial V_j}{\partial Y_j}$$

or

$$(9) \quad \frac{dV_j}{dE} = \left[ \left\{ (P - P_w) + \left( 1 - \frac{\gamma_j}{\omega_j^A} \right) \frac{\partial P}{\partial Q} A_c + \left( P \frac{\partial A_x}{\partial Q} + \frac{\omega_j^B}{\omega_j^A} \cdot \frac{\partial B_x}{\partial Q} \right) \right\} \frac{\partial Q}{\partial E} - 1 \right] \cdot \frac{\partial V_j}{\partial Y_j} \cdot \omega_j^A;$$

where  $\gamma_j = A_{cj}/A_c$ , the  $j$ th person's fraction of total consumption of  $A$ . This equation provides the necessary relationship to describe the desirable level of rent-seeking effort,  $E$ , for any individual in society as a function of resource mobility and ownership. The four terms in the square braces in equation (9), represent the four channels by which individual welfare is altered by a change in the rent-seeking expenditure. Consider the case of a small increase in  $E$ , and a subsequent decrease in the level of the quota. First, there is a decrease in revenue due to importing a unit for less than its domestic sale price. This is represented by the term  $(P - P_w)$ , and this loss would eventually vanish as the quota becomes non-binding. Second, there is a change in real purchasing power due to change in the import price that benefits the individual as a consumer differently than it harms the individual as a resource owner. This purchasing-power effect is positive as the individual consumes a greater share of the import good than the share of the revenues earned in the import industry. For example, if the import quota is relaxed, the individual has fewer dollars from the import industry, the purchasing power of those dollars has increased. The third way in which individual welfare is affected by the change in quota is through the effect on income produced from changes in the domestic production of the two goods, apart from changes in relative prices. Income from the domestic

production of the good  $A$  increases as quota decreases and allows more imports to substitute for domestically produced goods. On the other hand, income from the export-oriented production of good  $B$  decreases. If the individual is completely diversified,  $\omega_j^A = \omega_j^B$  and the loss of income from domestic production of the import-competing good balances with the gain of income from production in the export-oriented industry. As the individual's assets are more concentrated in the import-competing industry, the less his gain from trade liberalization, or the greater his loss. The fourth term  $(-1)$  is, of course, negative, reflecting the cost of the increased expenditure on rent seeking.

At the point where  $dV_j/dE = 0$ , the level of expenditure on the rent-seeking activity is at an optimum for this individual. Consider the case where preferences are such that  $\gamma_j / \omega_j^A = 1$ , which removes the real price effect on the consumption. In this case,  $dV_j/dE = 0$  when

$$(10) \quad (P - P_w) + P \frac{\partial A_x}{\partial Q} + \frac{\omega_j^B}{\omega_j^A} \cdot \frac{\partial B_x}{\partial Q} = \frac{\partial Q^{-1}}{\partial E}.$$

We may interpret the left-hand side of (10) as the effect on adjusted income due to an incremental decrease in the quota; the right-hand side of (10) is the marginal cost of that decrease. The effects of changes in proportion of mobile goods in the portfolio,  $\tilde{\lambda}_j = \lambda_j / (\lambda_j + \theta_j)$ ; and the effects of diversification in the fixed inputs  $\mu_j$  can be derived by substituting  $\omega_j^A$  and  $\omega_j^B$  into expression (10) and dividing each by  $1/(\lambda_j + \theta_j)$ ;

$$(11) \quad (P - P_w) + P \frac{\partial A_x}{\partial Q} + \frac{\alpha \tilde{\lambda}_j + (1 - \tilde{\lambda}_j) \cdot (1 - \alpha) \cdot (1 - \mu_j)}{\alpha \tilde{\lambda}_j + (1 - \tilde{\lambda}_j) \cdot (1 - \alpha) \cdot \mu_j} \cdot \frac{\partial B_x}{\partial Q} = \frac{\partial Q^{-1}}{\partial E}.$$

**Result 1:** *With either the ownership of only mobile resources or the complete diversification of the ownership of immobile resources, the individual portfolio holder will desire a zero level of expenditure on rent seeking.*

**Proof:** Either complete mobility,  $\tilde{\lambda}_j = 1$ , or complete diversity,  $\mu_j = 1/2$ , implies  $\omega_j^B/\omega_j^A = 1$ . If  $\omega_j^B/\omega_j^A$  is equal to unity, either because of diversity or mobility, the left-hand side of the expression is equal to  $(P - P_w)$ , which is positive as long as the quota is binding and is equal to zero only when the quota is non-binding. This implies a maximum of the indirect utility rent-seeking expenditure,  $E$ , equals zero or where  $Q$  becomes non-binding. Note that this is true also for any individual where  $\omega_j^B/\omega_j^A > 1$ .

**Result 2:** *For any person who has ownership of immobile resources concentrated in the import-competing sector ( $\mu_j > 1/2$ ), and desires protection, an increase in the ownership in the mobile resources will decrease the desired level of rent seeking and level of protection in the sector.*

**Proof:** This proposition is easily proven from equation (11). For any  $\mu_j > 1/2$ , an increase in the diversification of the immobile resources, i.e., a larger  $\tilde{\lambda}_j$ , implies an increase in the ratio,  $\omega_j^B / \omega_j^A$ . Given that  $\partial B_x/\partial Q$  is positive, this implies an increase in the left-hand-side, which implies that the right-hand-side must be less negative. Given that  $Q$  is decreasing at a decreasing rate in  $E$ , this implies that the desired level of  $E$  must fall with an increase in  $\tilde{\lambda}_j$ . This reduction in the desired level of rent-seeking expenditure also implies a decrease in the desired level of protection or an increase in the desired level of import quota for this individual.

**Result 3:** *For any person who desires a positive level of rent-seeking expenditure, an increase in the diversification of the portfolio of the immobile resources will decrease the desired level of rent seeking.*

**Proof:** If  $\tilde{\lambda}_j < 1$  and  $\mu_j > 1/2$ , an increase in the diversification of the immobile resources implies a decrease in the ownership of the immobile resource in the import competing sector, i.e.  $\mu_j \rightarrow 1/2$ . This implies an increase in the ratio,  $\omega_j^B / \omega_j^A$ . Given that  $\partial B_x/\partial Q$  is positive,

this increases the left-hand side of equation (11), which then implies the right-hand side must be less negative. Given that  $Q$  is decreasing at a decreasing rate in  $E$ , this implies the desired level of  $E$  must fall.

### III. Concluding Remarks

In the current discussion of government policy, mobility and/or diversification of ownership are seldom considered as relevant dimensions of government policy. In this paper, we present an argument for doing so. Simply put, resource mobility and diversification of ownership reduces the rewards to rent seeking in society. Reduced rent seeking reduces directly unproductive activities and economic distortions in the economy. Accordingly, governments seeking a reduction in wasteful rent-seeking activities should pursue policies which, *ceteris paribus*, tend to foster resource mobility and ownership diversification. A natural corollary is that governments should discourage policies that tend to reduce mobility and increase the concentration of the ownership of resources. In the context of trade reform, these observations may be particularly relevant. If a government is considering trade liberalization and wishes to maintain open markets, then reform should be designed in such a way as to mitigate future rent seeking which leads to future protection. A natural extension of our argument is that, if trade reform is to be sustained, all other things being equal, compensation for current reform should be paid in such a way as to promote mobility and diversification of ownership of immobile resources.

Many of the centrally planned economies of the world are rapidly moving from a system of a tightly controlled, centrally planned economy to a more market-oriented system. One of the most difficult decisions faced by these countries is how to transfer the ownership of state-owned resources to the people. The analysis above would suggest that, if the ownership of the resources were diversified, this would limit the formation of interest groups which may rent seek to introduce economic distortions. Thus, successful economic reform

may be dependent on the distribution of the current state-owned assets. In Eastern Europe and the Soviet Union, if the principles set by their emerging constitutions and institutions promote resource mobility and/or asset diversification, few interest groups will evolve that have incentives to acquire political power and exercise influence.

## Footnotes

<sup>1</sup>For example, state or provincial laws may reduce the movement of factors within a country. In Canada, one of the most significant economic effects of the Canada-U.S. Free Trade Agreement will be the dismantling of inter-provincial trade barriers.

<sup>2</sup>This framework is fully consistent with the case where other sectors engage in rent-seeking activity but not as a function of the rent-seeking expenditure in the import competing sector. For an example of a model where both groups simultaneously determined rent-seeking expenditure see Rausser and Foster (1990).

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