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WORKING PAPER NO. 723

THE CHALLENGE OF RULING OVER DIVERSITY:
EXTENSION OF PINHAS ZUSMAN'S MODELING OF SOCIAL POW

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DEPARTMENT OF AGRICULTURAL AND RESOURCE ECONOMICS
DIVISION OF AGRICULTURE AND NATURAL RESOURCES
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**THE CHALLENGE OF RULING OVER DIVERSITY:
AN EXTENSION OF PINHAS ZUSMAN'S MODELING OF SOCIAL POWER**

by

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Marcel Fafchamps,
and
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July 1994

**The Challenge of Ruling Over Diversity:
An Extension of Pinhas Zusman's Modeling of Social Power¹**

by

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I. Political Liberalization, Stabilization and Adjustment, and the State

There are two aspects of the emerging world order which open the door to increased domestic conflicts of influence over the state, with the associated wastage of resources. The first is in the political realm. Before the collapse of the Soviet model, the world order was characterized by a bipolar equilibrium that smothered conflicts internal to nation states. This equilibrium was tense at a global scale, but it allowed remarkable stability at the national level in spite of the highly artificial definition of many of these states, often products of colonial ventures and post-WWI settlements. Resource wastage was due to heavy military expenditures for superpower disputes, while wastage on internal conflicts of influence was reduced. The new world order is quite different, with decline in bipolar tensions opening the door to claims on the nation state by the great diversity of conflicting economic, ethnic, and religious interests which they generally contain. In general, this political liberalization has made the nation states more receptive to lobbying, creating an inducement for civil society to devote more resources to this purpose.

The second is in the economic realm. The era of soft budget constraints with deficits in government shifted to external debt is part of the past. In its place, stabilization and adjustment policies have introduced strict budgetary rules. This creates a context where the payoffs from lobbying are enhanced, also inducing civil society to devote more resources to this activity.

Political liberalization and stabilization/adjustment occur in a structural context often characterized by a high degree of internal diversity in economic and social positions. We will argue that this diversity is what tends to enhance destructive wars of influence over the state. Ruling over diversity has thus become a fundamental contemporary challenge for policy making. Helping governments rise to the challenge of ruling over diversity thus requires a clear understanding of the relationship between the structural features of the economic and social order and the determinants of lobbying behavior. Clearly, some states have fallen into such extreme levels of resource wastage in internal conflicts that the very possibility of sustaining efficient growth is being compromised, and the pattern seems to be spreading more than receding. While this is a very broad framework, we use it as a guiding principle in exploring the determinants of higher levels of resource wastage in lobbying.

¹ Paper prepared for the workshop on "The Political Economic Analysis: Comparative Theoretical and Empirical Perspectives" held in honor of Pinhas Zusman at The Hebrew University of Jerusalem, June 14 and 15, 1993.

In this paper, we attempt to identify some of the structural determinants of increased lobbying, using a framework derived from the seminal work of Pinhas Zusman (1976). Specifically, we use an archetype general equilibrium model where specific social and economic features lead to different levels of endogenous resource wastage in lobbying. In this model, the policy is defined by maximization of a governance function which can be derived, following Zusman, from a game theoretic formulation in which the government has its own agenda which lobbies can influence by rewards and punishments. In the formulation that we adopt, interest groups have a Stackelberg leadership position relative to the state implementing the governance objective, while they have a Nash non-cooperative bargaining attitude relative to each others.

The specific features of the new world order which we want so explore as determinants of increased resource wastage in lobbying are: (1) shifts in budgetary rules from soft budget constraint to stabilization and adjustment with fiscal discipline; and (2) political liberalization with a state more receptive to lobbying pressures. The structural features which characterize diversity within this new framework are: (1) the pressure group-specific level of myopia (information) in understanding the general equilibrium implications of lobbying, when these implications increase the effective cost of lobbying; (2) the uneven levels of rigidity in resource reallocation across sectors of the economy; and (3) the degree of specialization in households' portfolios of assets. We will explore, in particular, whether there is room for strategic games of myopia where pretense of ignorance enhances the bargaining position of a particular lobby.

II. The Model

The model used characterizes a three sector economy, where agriculture and manufacturing are pure tradables, while services is a pure nontradable.² Households are identified with the sector in which they have the majority of their fixed assets. In most experiments, households have specialized portfolios. However, in one experiment, we will explore how the lobbying behavior is influenced by the holding of diversified portfolios composed of an exogenous mix of sectoral assets. Households also control a fixed amount of labor. Since labor is mobile in a unique labor market, household labor earnings are disconnected from sectoral wage bills.

Interest groups for lobbying are organized in correspondence with these sources of income. The state maximizes a governance function defined over the utility levels of three types of households, where the welfare weights (I_h) attached to the utility V_h of household class h capture the initial sympathies of the state but can subsequently be altered by lobbying expenditures. Initial sympathies are neutral and the weights are such that, in the absence of lobbying, the state would opt for free trade (Negishi theorem). Lobbying absorbs labor resources and leads to redistributive gains, but at the cost of a net social loss. The policy instruments controlled by the state include sector-specific interventions, the domestic prices of tradables which are

² An earlier version of this model is presented in Marcel Fafchamps, Elisabeth Sadoulet, and Alain de Janvry, "Tariff Seeking in a General Equilibrium Framework", *The Journal of International Trade and Economic Development*, forthcoming.

affected by taxes and subsidies t_a and t_m , and a non discriminatory instrument, transfers G to households with equal distribution to the three types of households. When there is a balanced budget constraint, these two instruments are linked to each other, with taxes levied to pay for the costs of trade distortions, if such is the case, or transfers used to distribute the revenues from trade distortions. When the government budget is not constrained, these instruments are jointly chosen, but need not compensate each other.

Household categories can all lobby to influence the weight that they have in the government's welfare function. Note that the households, in all rigor, do not lobby for an instrument, but for a weight in the welfare function. The government itself then chooses the level of the instruments which maximizes its welfare function. However, since only the trade taxes differentially affect the households' welfare, lobbying, in fact, is targeted to trade taxes. For simplicity, we start from a situation where households have sectorally specialized portfolios of fixed factors of production.

2.1. The state's optimization problem

The state maximizes a governance function defined over the utility levels of each special interest group. The weight associated with the utility of each group depends on its level of lobbying.

The policy instruments at the disposal of the state are import and export tariffs and subsidies. Whenever tariffs and subsidies generate a government surplus or deficit, it is shared proportionally by all. However, the state is assumed unable to vary the distribution of net tariff revenues in response to lobbying, or to otherwise explicitly redistribute resources via lump-sum transfers.³ The economy is neo-classical and must satisfy a balance-of-trade constraint, equilibrium on the labor market, and equilibrium on the market for nontradables. Formally, the state's optimization problem can be written as follows:

$$\text{Max}_{t_a, t_m} (1/\rho) \sum_{h \in H} I_h V_h(y_h, p_a, p_m, p_s)^\rho, \quad (1)$$

where

$$y_h = \frac{1}{N_h} (\Pi_h(p_a, p_m, p_s, p_l) + p_l N_h + s_h G - p_l L_h), \quad h \in H, \quad (2)$$

$$\text{and } G = - \sum_{t \in T} e p_t^s t_t \sum_{h \in H} (Q_{ht} - N_h c_{ht}). \quad (3)$$

The equilibrium conditions to be satisfied in the economy are:

$$\sum_{h \in H} (N_h + Q_{ht} - L_h) = 0, \quad \text{labor market clearing condition} \quad (4)$$

$$\sum_{h \in H} (Q_{hs} - N_h c_{hs}) = 0, \quad \text{market clearing condition for non-tradables} \quad (5)$$

³ Indeed, if lump-sum transfers were allowed, by the second welfare theorem allocative decisions could be separated from equity issues: interest groups would lobby for transfers but preserve first best in trade.

$$\sum_{t \in T} p_t^S \sum_{h \in H} (Q_{ht} - N_h c_{ht}) = 0, \quad \text{balance of trade at world price} \quad (6)$$

and the tradable prices are defined by:

$$p_t = e p_t^S (1 + t_t), \quad \text{for } t \in T. \quad (7)$$

c_{hj} is the vector of per capita consumption of good j by sector h . Q_{hj} stands for output when $j=h$, and for (negative) labor inputs when $j=l$. There are no interindustry flows of intermediate goods. I_h is the welfare weight of sectoral interest group h in the governance function. Welfare weights take into account the relative size of the population in each group and they are normalized to sum to one. $V_h(\cdot)$ is the indirect utility function of individuals in group h . ρ is a parameter that captures the degree of substitutability between the welfare of various groups. The lower and the more negative ρ is, the less the state is responsive to the lobbies' demands.

The total labor endowment N_h of household h in each sector is fixed and proportional to the number of people in that sector. Labor can however move freely across sectors as there is only one labor market. y_h stands for individual income in group h , made of profits Π_h , labor income $p_l N_h$, and government transfers $s_h G$ (negative or positive). Lobbying is done with labor, and its cost $p_l L_h$ is deducted from income. s_h is the share of the government deficit or surplus borne by sector h with $\sum_{h \in H} s_h = 1$.⁴ e is the exchange rate, p_t^S the world price, and t_t the trade tax (or subsidy) on sector t .

The three sectors are designated as a , m , and s for agriculture, manufacturing, and services, respectively, with indices i , h , or $k \in H$. The subscript l stands for labor. T is the set of tradable (T) commodities made of a and m , with indices $t \in T$. s is assumed nontradable (NT).

The model contains 11 explicit endogenous variables, $t_a, t_m, e, p_a, p_m, p_s, p_l, y_a, y_m, y_s$, and G , determined by the equations above, plus all the Π, Q, L , and c determined by the households' behavior, and for which the equations are not presented. The world prices, p_t^S , the populations N_h , and the shares, s_h , are exogenous. The system, however, requires modifications as: 1/ it is homogenous in prices; 2/ it is jointly undetermined in e and t_t ; and 3/ it satisfies Walras Law. This is done as follows. First, we select p_l as numeraire. Secondly, adding equations (3) and (4), one can see that trade taxes and the exchange rate always appear jointly in the form $e(1+t_t)$. Thus the exchange rate cannot be identified separately from the level of the trade taxes. To eliminate this indeterminacy, we normalized the exchange rate and set it equal to one. Given this normalization, the government effectively sets domestic prices of tradables by choosing trade taxes. Consequently the model can be simplified by letting the government choose domestic prices of tradables directly and

⁴ In the simulations s_h is set equal to the share of total population of group h , i.e., $s_h = N_h / \sum_{i \in H} N_i$.

dropping equations (7). Finally, by Walras Law, we drop the trade balance, equation (6). The model can therefore be rewritten:

$$\begin{aligned} & \text{Max}_{P_a, P_m, P_s, G} (1/\rho) \sum_{h \in H} I_h V_h(y_h, P_a, P_m, P_s, P_l)^{\rho} & (1') \\ \text{subject to} & & \\ & y_h = \frac{1}{N_h} (\Pi_h(P_a, P_m, P_s, P_l) + p_l N_h + s_h G - p_l L_h), \quad h \in H, \text{ households income} & (2') \\ & G = \sum_{t \in T} (1 - p_t) \sum_{h \in H} (Q_{ht} - N_h c_{ht}), & \text{government trade tax net revenues} & (3') \\ & \sum_{h \in H} (N_h + Q_{hl} - L_h) = 0, & \text{labor market equilibrium} & (4') \\ & \sum_{h \in H} (Q_{hs} - N_h c_{hs}) = 0. & \text{non-tradables market equilibrium} & (5') \end{aligned}$$

When there is either imperfect information or myopia about some of the macroeconomic constraints--balanced government budget and labor market equilibrium--the model is modified as follows:

$$\begin{aligned} & \text{Max}_{P_a, P_m, P_s, G} (1/\rho) \sum_{h \in H} I_h V_h(y_h, P_a, P_m, P_s, P_l)^{\rho} - \lambda_G GD^2 - \lambda_l LD^2, & (1'') \\ \text{subject to} & & \\ & y_h = \frac{1}{N_h} \left(\Pi_h(P_a, P_m, P_s, P_l) + p_l N_h (1 + LD / \sum_h N_h) + s_h G - p_l L_h \right), & (2'') \\ & GD = G - \sum_{t \in T} (1 - p_t) \sum_{h \in H} (Q_{ht} - N_h c_{ht}), & \text{government deficit} & (3'') \\ & LD = - \sum_{h \in H} (N_h + Q_{hl} - L_h), & \text{labor excess demand} & (4'') \\ \text{and} & \sum_{h \in H} (Q_{hs} - N_h c_{hs}) = 0. & \text{non-tradables market equilibrium} & (5'') \end{aligned}$$

This indicates that, when some of the macro constraints are not respected, the disequilibria are perceived by the state as a cost to the economy, with cost parameters λ_G and λ_l . When there is excess demand on the labor market ($LD > 0$), extra effort is assumed to be provided by the households, in proportion to their labor force, and they receive the corresponding payment. When the government budget is in deficit, by Walras law, foreign borrowing provides the necessary resources to cover the deficit. By assigning a very high value to a cost parameter λ_G or λ_l , the optimum solution satisfies the corresponding constraint.

2.2. Tariff seeking

Lobbying and other forms of political pressure are formalized in the following way. Sectoral interest groups realize that, by manipulating trade barriers and incentives, the state is setting domestic relative prices. They also realize that they can influence the state's decisions. The economic, social, and political process whereby sectoral interest groups influence the state is summarized, in a stylized fashion, by a reduced form influence function that transforms lobbying into changes in the state's welfare weights.

Interest groups have to spend real resources in order to gain influence. Rent seeking activities are assumed to waste labor. Formally, the influence function relates the level of tariff seeking activity L_i to the weights of each group in the state's governance function:

$$I_h = f_h(L_a, L_m, L_s; S). \quad (8)$$

S is a vector of exogenous variables that affect the shape of the influence function, such as the characteristics of the political system.

Each sectoral interest group chooses the level of tariff seeking activity that maximizes its utility. Interest groups are assumed to know the influence functions of all other groups (implying a Nash equilibrium), the state's governance function, as well as the structure of the economy. When anticipating the effect of their tariff seeking on the state's trade policy decision, fully rational interest groups take the entire economy into consideration. That is, they derive the state's reaction function using the optimization model presented in the previous subsection.

Formally, the optimization problem of sectoral interest group h can be written as:

$$\text{Max}_{L_h \in [0, \bar{L}]} V_h(y_h, P_a, P_m, P_s, P_l)$$

subject to equations 2' through 5', 8, the first order conditions corresponding to the maximization of 1' and given $L_i, i \neq h$.⁵

2.3. General equilibrium with tariff seeking and simulation set-up

Provided that sectoral interest groups are fully rational, a Nash equilibrium of the tariff seeking game played between them is defined as the point or points at which no group would want to change its level of tariff seeking, given the levels of tariff seeking of the others. Given equilibrium levels of tariff seeking, the weight of each group in the state's governance function can be determined, as well as the amount of resources spent on lobbying. Solving the state's optimization problem then determines the trade policies followed by the government and the equilibrium of the economy.

In order to abstract from all other phenomena, we consider a fully symmetrical economy, i.e., one in which all sectors are of the same size in labor endowments, production, and consumption, and have identical elasticities and influence functions. Each sector is assumed to produce only one good and intermediate demand is ignored. In the base run, with no lobbying, sectoral production is equal to 9 units, labor use 6 units, and hence return to fixed factor 3 units. Households each own 6 units of labor, receive 9 units of income which are spent equally on all three commodities. Hence, each sector is exactly self-sufficient in labor resources, and there is no external trade.

In order to simulate the model presented so far, flexible functional forms were chosen for the profit functions (Generalized Leontief) and the indirect utility functions (Translog). In all cases, elasticities (including cross-price elasticities) were

⁵ The upper limit on tariff seeking is such that an interest group cannot spend on lobbying more resources than it can lay claim to—and certainly not more than all the resources of the economy not already spent by other groups.

calibrated in such a way that all restrictions imposed by homogeneity and symmetry were satisfied.⁶

The following functional forms was chosen for the influence function because of its ease of use and flexibility:

$$I_h = \frac{N_h + L_h^{\beta_h} - \alpha_h}{\sum_{i \in H} (N_i + L_i^{\beta_i} - \alpha_i)} + \kappa_h$$

where β , α , and κ are parameters, and $\sum_{h \in H} \kappa_h = 0$. Consequently, $\sum_{h \in H} I_h = 1$ always.

When the α and κ parameters are all zero and there is no tariff seeking, the welfare weight of each interest group is equal to its share in total population. This, in a stylized fashion, is equivalent to the ideal democracy. Recall that, because the possibility of lump-sum transfers has been ruled out by construction, free trade is generally not socially optimal. Consequently, in order to facilitate comparisons between simulations, the κ parameters of the influence functions were chosen so that free trade was an optimal policy in the absence of tariff seeking.⁷

III. Structural Change and Lobbying Behavior

Pursuing the theme of diversity and governance, and the quest for structural conditions that lead to enhanced lobbying and resource wastage, we explore here the impact on lobbying of the following features: (1) shifting from a soft to a strict budget constraint, and unequal information across sectors about the new budgetary rules; (2) political liberalization whereby government becomes more sensitive to lobbying pressures; (3) myopia about the labor market constraint and asymmetric myopia across sectors about this constraint; and (4) a more rigid economy, a government more influencable by lobbies, and more specialized portfolios of assets.

3.1. From soft to strict budget constraint

i) Symmetrical information

A systematic feature of the post-1982 economic order is inability of governments to maintain a soft budget constraint and continue to meet their budget deficits through higher levels of foreign indebtedness. The question we raise here is whether shifting from a soft to a strict budget constraint will increase or decrease lobbying, and what is the impact which differential information across lobbies about

⁶ The profit function in sector i is written $\Pi_i = 18 p_i + 15 p_l - 18 \sqrt{p_i p_l}$. Hence, the price elasticity of output is equal to 0.5 and the corresponding wage elasticity of labor demand is 0.75 in all sectors. The indirect utility function is: $V = -\sum_i \frac{1}{3} \ln(p_i / y) + \frac{1}{2} \sum_{ij} 0.1932 \ln(p_i / y) \ln(p_j / y)$.

⁷ The coefficients of the rent seeking technology are $\beta_i = 0.5$ and $\alpha_i = 0$ for all three sectors. $\beta_i = 0.5$ means that there are strong decreasing returns in rent seeking, an essential assumption to keep the equilibrium away from corner solutions. ρ , the parameter that determines the extent of substitutability between individual utilities in the state's governance function, is set equal to one.

the new budgetary rules will have on the more and less informed sectors, and on society at large. We use differential information as an important characterization of the nature of diversity.

The base run for the lobbying model is reported in experiments 1 to 3 of Table 1 when there is a strict budget constraint. The model has been calibrated in such a way that, if there is no lobbying, the optimal policy is for the government not to intervene, i.e., free trade. Hence, in the first experiment, domestic prices are all equal to 1, and there is no government transfer to households since there are no trade sector fiscal costs or revenues. By symmetry, there is also no trade.

Column 2 shows the implications of optimal lobbying behavior by one of the sectors (sector a), given that the other sector does not yet lobby. This represents the partial analysis which guides a sector's behavior in a Nash game. The sector which lobbies influences the government's welfare function in such a way that it obtains an increase in utility to 0.578, while the utilities of the other two sectors decrease. This is obtained through a differential price support for the lobbying sector, with domestic price equal to 1.023, while the other tradable sector is taxed. The supported sector increases its production and becomes exporter, while the taxed sector decreases its production and becomes importer. The relative prices of the two tradable sectors are determined by the necessary equilibrium between imports and exports, imposed by the balance of trade constraint. The price of the non-tradable (the real exchange rate) is determined by the aggregate level of the trade imbalance. In this case, a small real devaluation results from the waste of domestic resources due to the lobbying activity. The price distortions imply an export subsidy for a and an import subsidy for m. These government expenditures are covered by a negative transfer (a tax) on all three sectors. Hence, the non-tradable sector pays a tax, the lobbying sector gets a favorable price support, partially eroded by tax, and the other tradable sector is detrimentally affected by both the trade distortion and the tax. The positive return to lobbying, given the other sector's level of lobbying (here set at 0), is the rationale for the prisoner's dilemma in this game of influence.

As both sectors apply the same reasoning, and hence decide to lobby, the equilibrium result is a general waste of resources and no effective protection (experiment 3). Both tradable sectors lose the most as they fruitlessly expend resources in lobbying, while the non-tradable sector, who passively watches the lobbying efforts of the tradable sectors without participating to it, loses marginally as the overall economy shrinks.

When the practice of a soft budget constraint is considered, and the government budget deficit can be covered by a foreign capital inflow, the main result is that there is less lobbying. To explain this results, several steps are reported in Table 1: the optimal policy with no lobbying (experiment 4), the lobbying behavior of one agent (experiment 5), and the equilibrium solution (experiment 6).

Assume that, when there is no lobbying, the government itself considers that it can incur a deficit that will be covered by foreign borrowing. While foreign borrowing increases welfare in the economy (GDP rises compared to experiment 1), it induces the classical Dutch Disease phenomenon (experiment 4). Compared to experiment 1,

there is a large appreciation of the real exchange rate (the price of NT increases to 1.073). Production of the NT-sector increases and labor flows to that sector. Production and prices in the tradable sectors decline. Both sectors become importers. The total optimal budget deficit is 3.03, which covers the cost of the import subsidies (0.11) and allows for important direct transfers to the households (2.92). Hence, in itself, the foreign capital inflow is beneficial to the welfare of all households (utility increases for all three households) but it is biased against the tradable sectors.

Lobbying by household a (experiment 5) aims at reducing the discriminatory producer tax on its own sector. The expected impact of the lobbying activity is indeed a lower tax (price rises from .965 to .981) but, at the same time, by supporting the price and production of sector a, the government reduces the trade deficit. This second effect has a cost in terms of the amount of foreign capital inflow. The optimal policy is then to increase taxation of the non-lobbying sector, but the overall deficit is still somewhat lower than under the non-lobbying case. Hence, the "productivity" of lobbying is reduced by the fact that it reduces the foreign transfer. This explains why the optimum level of lobbying is lower under a soft budget constraint than it is under perfect information.

When both sectors follow this lobbying logic, they engage in a war of influence, but they cannot induce any differential among themselves. The result is a policy of direct transfer to households, with the implied Dutch Disease, in addition to the resource wastage due to their lobbying activity (experiment 6). This is the worse possible outcome for the tradable sectors.

Shifting from a soft to a strict budget constraint, a characteristic feature of stabilization and adjustment, is analyzed by comparing solutions in experiment 3 (strict) to experiment 6 (soft). We see that stricter budgetary rules lead to more lobbying, higher prices for tradables and lower for non-tradables, lower GDP as there is both more resource wastage in lobbying and no more transfers from abroad, and consequently sharply lower utility levels for all sectors. Stabilization and adjustment are thus prone to enhance resource wastage in domestic wars of influence. The reason why this occurs is as follows. Under soft budget constraint, lobbying creates redistributive gains at a double net social cost: (1) a wastage of labor and (2) a negative externality that comes from the reduced foreign capital inflows necessary to balance the government budget, as lobbying raises price and thus increases production and reduces the level of imports, and thus also the trade deficit and foreign borrowing. By contrast, with a strict budget constraint, lobbying creates redistributive gains, but with only one net social cost: the associated labor wastage. Since the opportunity cost of lobbying is reduced, the new budgetary rules enhance the incentive to invest in the exercise of influence.

ii) Only sector a is informed of the new budgetary rules

As the new rules on budget management are introduced, not all sectors may be simultaneously informed if there is diversity: one sector (say m) may be informed while the other sector still operates under the illusion that the old soft budget constraint rule applies. In this case, the informed sector sharply increases its lobbying (experiment 7) compared to the former soft budget constraint rule (experiment 6) and

also lobbies more than under shared information (experiment 3). The uninformed sector only increases its lobbying marginally, and this for defensive purposes as it sees the other step up its attacks. Yet, there is overall less lobbying than when the strict budget constraint recognized by all sectors (experiment 3) and hence less resource wastage and a higher GDP, thanks to the ignorant sector. This GDP gain is basically captured by the informed sector: its price, output, exports, and utility levels rise, while those of the uninformed sector fall marginally and it becomes an importer. Early information for one sector thus creates a differential rent from lobbying as it exploits to its advantage the other sector's ignorance. The result is intensified lobbying by the informed sector, a by-product of diversity.

3.2. Political liberalization

With political liberalization, the state becomes more sensitive to the exercise of influence. This is captured in the model by increasing the parameter ρ in the governance function, making the state less prone to preserving the status quo in the distribution of income. The implication is shown in Table 2. As can be expected, lobbying by the tradable sectors increases, while the services sector still refrains from participating. GDP falls and all sectors lose as resources are wasted, but particularly the tradable sectors who pay the costs of resource wastage. The prisoner's dilemma situation is simply worsened: no sector gains protection and the economy shrinks. Unless there is a source of efficiency gain in lobbying (conveying new information to bureaucrats, or lobbying for productivity enhancing public goods, or using lobbying expenditures as a commitment mechanism), political liberalization has an efficiency cost.

3.3. Myopia: labor surplus assumed and increasing labor cost ignored.

In the lobbying model under correct information, the real wage increases in response to the use of labor resources in lobbying activities (Table 2, experiment 3). As the two tradable sectors are net buyers of labor to support their lobbying efforts, this increase in real wage represents a net cost to them. This negative effect contributes to reducing the benefits of any increase in lobbying activity. The lobbies may, however, have difficulty perceiving the wage impact of lobbying, and this perception may be unequally shared if there is sectoral diversity. ✓

i) Symmetrical myopia

We assume that myopia consists in failing to perceive that lobbying activities will increase labor costs, i.e., that the lobbies wrongly behave as though the economy had a labor reserve. This myopia is equally shared by all sectors. Ignoring increasing labor costs, a lobbying sector overestimates the benefits from lobbying, and hence lobbies more than under perfect foresight. This is captured in experiment 10 when one sector makes the first lobbying move, and in experiment 11 that gives the expected equilibrium by myopic lobbies. Given the expected labor reserve, all domestic prices could be raised, and production would grow in all sectors. The lobbying sector expects to get a differentially favorable treatment which would allow it to grow more than the other sectors and hence become the exporter. Because of the trade balance constraint, the other tradable sector would become an importer. The import tariff

revenue exceeds a little the export subsidies, thus generating some net revenue for the government (0.08) which is distributed to households through a general transfer. The increase in the labor force needed to satisfy the labor demand is 2.67 units, or 14.8% of the initial 18 labor units available in the economy. In this myopic model, the lobbies are assuming that the existing population would increase its effort by 14.8%, and hence receive the corresponding reward.

If both sectors fails to consider the increased labor cost, the outcome is a high level of lobbying. The differential benefits that the lobbies were looking for cancel each other. However, they expect economic growth to take place and that all will benefit from it (experiment 11). In reality, the economy does not have these idle labor resources, and the pressure on the labor market is even higher than it was in the base run (experiment 12 compared to experiment 3) because of greater use of labor in lobbying. The real wage increase by 4.2% compared to 2.2%. The economy wastes resources and is forced into a higher devaluation. The utility level of the two tradable sectors fall to 0.494, sharply less than expected, and also less than under perfect information. Myopia on general equilibrium effects through the labor market thus results in more resource wastage.

ii) Asymmetric myopia

Consider the case where myopia is asymmetric and only affects sector a. Results in experiments 13 and 14 show that the myopic sector lobbies more than the non-myopic sector. This is because it underestimates the cost of lobbying. Its expectation (experiment 13) is of high growth in the economy and benefits for all, with a bias for itself. The real outcome (experiment 14) is of course much less favorable than the expected outcome. The resource waste induces a real devaluation, and all sectors lose compared to the case of lobbying under perfect foresight. Nevertheless, the myopic sector ends up in a relatively better position than the informed sector, because it has lobbied more than the informed sector! It is less taxed, with a domestic price of 0.982 compared to 0.956, and hence its utility level is above that of the informed sector, reaching 0.516 compared to 0.498.

Can we derive from this result that there is an incentive to be or to pretend to be myopic? Not in terms of absolute utility. This can be seen by comparing the utilities under experiments 3, 12, and 14 (see absolute utility in Table 4). If the other sector is myopic (sector a in experiments 13 and 14), the best choice is still to be informed (with a utility of 0.498 compared to 0.494). If the other sector is informed (sector m in experiments 3 and 14), the best choice is also to be informed (a utility of 0.521 compared to 0.516). The best response is hence always to be informed. In that sense, myopia has a cost at both the individual and the aggregate levels.

The interesting issue is when lobbies reason in terms of relative utility rather than absolute utility. This may be the case if the confrontation is the first step in a negotiation, where bargaining power of the two sectors is based on their relative income situations. In this case, they are in a prisoners' dilemma situation. By acting myopic, each lobby imposes a high penalty on the other sector, at a relatively low cost to itself. Comparing experiment 3 to experiment 14 where sector m is informed, the myopia of sector a reduces its utility from 0.521 to 0.516, while it reduces the

opponent's utility from 0.521 to 0.498 (see relative utility in Table 4). Similarly, comparing experiment 14 to experiment 12 where sector m is also myopic, the myopia of sector m reduces its own utility from 0.498 to 0.494, while imposing a loss from 0.516 to 0.494 to its opponent. This prisoners' dilemma situation thus leads them to the wasteful situation where they both act myopic.

3.4. Structural diversity: rigid sectors and specialized portfolios of assets

There are two further aspects of diversity which affect the level of lobbying which we explore: the impact of differential sectoral rigidity and of specialized portfolios of assets.

i) Sectoral rigidity

When one sector is differentially more rigid, it is likely that this sector will engage in more lobbying. This result is quite counterintuitive. Higher rigidity is represented by a lower elasticity of substitution between capital (the fixed factor) and labor. Partial equilibrium analysis would suggest that the more flexible sector should be the one engaging in more lobbying. This is because, greater flexibility in adjusting labor levels will allow the flexible sector to benefit more from a rise in price (that could be induced by lobbying) and to suffer less from a fall in price. The flexible sector will thus increase its profits more through a marginal unit of lobbying than a rigid sector: directly, it benefits more from a price increase while being less negatively affected by the impact of lobbying on wage.

The result in Table 4, experiment 15, is however the opposite. It shows that the rigid sector m engages in more lobbying, turns the terms of trade in its favor, increases output and becomes the exporting sector, and achieves a gain in utility at the cost of a sharp loss for the flexible sector and an overall net social loss. This is because of the state's differential response to lobbying by the two sectors. The state's governance function, which is here concave in real income, evidences an aversion to inequality. If this aversion is strong enough, the state is biased in offering a relative price favorable to the rigid sector. The implication of this bias is that the lobbying efficiency of the rigid sector is enhanced and that this induces it to lobby more. General equilibrium effects and government's concerns with the status quo in the distribution of income thus overwhelm the sectoral incentive to lobby by the more flexible sector, resulting in more lobbying by the rigid sector. Diversity across sectors in terms of flexibility results in greater lobbying efforts by the more rigid sectors.

ii) Portfolio diversification

Finally, in experiment 16, we simulate a situation where households have diversified portfolios of sectoral assets. The base run in experiment 3 is a situation where household assets are fully specialized in the corresponding sector. We see that, if household m owns 33% of assets in sector a and, reciprocally, household a owns 33% of assets in sector m, the motivation to lobby has already virtually disappeared. Households in sector s can remain with a fully specialized portfolio as it was already out of the lobbying race. This has important policy implications that have often been advocated to explain differences in the ability to introduce policy reforms in

countries with polarized sectoral interests (Latin America) versus countries with more diversified portfolios of assets (Taiwan where land has been distributed by land reform, industry is highly decentralized, and human capital widespread). Polarized economic interests thus result in higher levels of lobbying. Again, ruling over diversity appears as an evident challenge, calling on institutional mechanisms to reduce portfolio specialization, for instance through organization of a stock exchange and ownership of shares in mutual funds.

IV. Conclusion

We thus conclude by observing that diversity, in the current context of economic adjustment and political liberalization, indeed creates a serious challenge for governance. In general, stabilization and adjustment, as opposed to the facile world of soft budget constraints, leads to more lobbying. Additionally, political liberalization increases sensitivity of the state to the exercise of influence, creating incentives to put more resources into lobbying. In this context, diversity increases lobbying. If information about the new budgetary rules is unequally distributed, the more informed sector lobbies more and captures a lobbying rent from the other sectors' ignorance. If there is myopia about the general equilibrium effects of lobbying on the labor market, this also creates an incentive to lobby more as costs are underestimated. The more myopic a sector is, the more it lobbies. While this does not create an incentive for strategic myopia in terms of absolute utility gains, it does so for relative gains, creating an incentive to pretend ignorance and engage in destructive lobbying initiatives, reminiscent of populist mobilization of mass support. Other structural features of the economy that reflect diversity also lead to more lobbying. The more rigid a sector is, the more it will lobby if the state is averse to income inequality and thus favors that sector's demands. Finally, greater specialization in the ownership of productive assets leads to more lobbying. Diversity is thus, in general, an inducement to socially destructive lobbying behavior within the emerging economic and political context. This calls upon policy interventions to reduce this incentive. They include information sharing on the secondary consequences of lobbying, flexibilization of the economy, and reduced specialization in portfolio composition.

References

- Fafchamps, M., Sadoulet, E. and A. de Janvry. "Tariff Seeking in a General Equilibrium Framework", *The Journal of International Trade and Economic Development*, forthcoming.
- Negishi, T. 1960. "Welfare Economics and Existence of an Equilibrium for a Competitive Economy", *Metroeconomica* 12.
- Zusman, P. 1976. "The Incorporation and Measurement of Social Power in Economic Models", *International Economic Review* 17, 447-462.

Table 1 - Lobbying under Soft and Strict Budget Constraints

	Soft budget constraint*			Strict budget constraint			m informed of strict budget constraint
	No lobbying -4-	Lobbying -5- -6-		No lobbying -1-	Lobbying -2- -3-		
Lobbying effort							
a	≡ 0	.096	.097	≡ 0	.144	.143	.099
m	≡ 0	≡ 0	.097	≡ 0	≡ 0	.143	.143
Utility							
a	.674	.693	.654	.550	.578	.521	.520
m	.674	.635	.654	.550	.491	.521	.530
s	.859	.855	.854	.550	.546	.549	.548
Domestic prices							
a	.965	.981	.951	1.000	1.023	.979	.977
m	.965	.937	.951	1.000	.957	.979	.988
s	1.073	1.064	1.056	1.000	.989	.979	.982
Production							
a	8.84	8.91	8.77	9.00	9.10	8.90	8.89
m	8.84	8.70	8.77	9.00	8.80	8.90	8.94
s	9.31	9.28	9.21	9.00	8.95	8.90	8.92
GDP	30.01	29.89	29.77	27.00	26.85	26.71	26.76
Trade (Exports)							
a	-1.52	-1.15	-1.49	0	.45	0	-.08
m	-1.52	-1.86	-1.49	0	-.45	0	.08
Deficit	3.03	3.00	2.98	0	0	0	0
Total transfer to households	2.92	2.86	2.84	0	-.03	0	0

* Government budget deficit covered by foreign capital inflow

Table 2 - Lobbying under Political Liberalization

	No lobbying	Lobbying	
		Base	Government more influencable*
	-1-	-3-	-8-
Lobbying effort			
a	≡ 0	.143	.266
m	≡ 0	.143	.266
Utility			
a	.550	.521	.497
m	.550	.521	.497
s	.550	.549	.549
Domestic prices			
a	1.000	.979	.961
m	1.000	.979	.961
s	1.000	.979	.961
Production			
a	9.00	8.90	8.82
m	9.00	8.90	8.82
s	9.00	8.90	8.82
GDP	27.00	26.71	26.46
Trade (Exports)			
a	0	0	0
m	0	0	0
Deficit	0	0	0
Total transfer to households	0	0	0

* Parameter rho equal to 1.25 in government welfare function

Table 3 - Lobbying under Myopia on the Labor Market Constraint

	Perfect information	Myopia			Asymmetric myopia of a	
	-3-	Expected -10-	-11-	Actual -12-	Expected by a -13-	Actual -14-
Lobbying effort						
a	.143	.291	.278	.278	.284	.284
m	.143	≡ 0	.278	.278	.142	.142
Utility						
a	.521	.744	.659	.494	.683	.516
m	.521	.613	.659	.494	.655	.498
s	.549	.697	.704	.549	.703	.548
Domestic prices						
a	.979	1.243	1.166	.959	1.191	.982
m	.979	1.128	1.166	.959	1.158	.956
s	.979	1.183	1.166	.959	1.174	.969
Production						
a	8.90	9.93	9.67	8.81	9.75	8.92
m	8.90	9.53	9.67	8.81	9.64	8.79
s	8.90	9.72	9.67	8.81	9.70	8.86
GDP	26.71	29.18	29.00	26.43	29.09	26.57
Labor market						
Deficit	0	2.67	2.71	0	2.69	0
Real wage	1.022	.846	.858	1.042	.851	1.032
Trade (Exports)						
a	0	.67	0	0	.19	.18
m	0	-.67	0	0	-.19	-.18
Deficit	0	0	0	0	0	0
Total transfer to households	0	.08	0	0	.01	-.005

Table 4 - Payoff Matrix for Myopia on the Labor Market Constraint

Sector a Sector m	Informed	Myopic
Absolute utility		
Informed	0.521 ; 0.521	0.516 ; 0.498
Myopic	0.498 ; 0.516	0.494 ; 0.494
Relative utility		
Informed	1 ; 1	1.036 ; .965
Myopic	0.965 ; 1.036	1 ; 1

Table 5 - Lobbying under Sectoral Rigidity and Diversified Portfolios

	No lobbying	Base	Rigid sector m*	Diversified portfolios in tradables**
	-1-	-3-	-15-	-16-
Lobbying effort				
a	≡ 0	.143	.150	.002
m	≡ 0	.143	.229	.002
Utility				
a	.550	.521	.494	.548
m	.550	.521	.527	.548
s	.550	.549	.551	.548
Domestic prices				
a	1.000	.979	.953	0.9997
m	1.000	.979	.982	0.9997
s	1.000	.979	.969	0.9997
Production				
a	9.00	8.90	8.78	8.998
m	9.00	8.90	8.98	8.998
s	9.00	8.90	8.86	8.998
GDP	27.00	26.71	26.63	26.996
Real wage	1.000	1.022	1.033	1.0003

* Price elasticity of output lowered to 0.166 and corresponding wage elasticity of labor demand equal to 0.25

** Household m owns 67% of sector m assets and 33% of sector a assets; household a owns 67% of sector a assets and 33% of sector m assets.