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# Political Economy of Agricultural Commodity Market Intervention

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# Political Economy of Agricultural Commodity Market Intervention

## **Abstract**

Commodity markets are characterized by trade in standardized, undifferentiated commodities and numerous traders. Consequently, such markets are highly competitive and trade is carried out in concentrated, low transaction cost exchanges. In this sense, commodity markets are the closest approximations to ideal neoclassical competitive markets. As commodity markets are also free of externalities, the resulting market equilibria are economically efficient. Nevertheless, owing to imperfect foresight and random shocks, the dynamic performance of commodity markets, may be suboptimal. Also, commodity markets' actual performance as exchange institutions may at times fall short of the theoretical ideal. Hence, some room ordinarily exists for efficiency enhancing intervention in the form of setting commodity quality standards, disseminating relevant trade information and establishing appropriate transaction procedures. In addition, commodity markets' stabilization programs offer a wide scope for improving the dynamic market performance; indeed, market stabilization objectives are often invoked as political justification of redistributive policies.

## **Keywords**

Agriculture, Policy, Commodity markets, Political Economy

## **Disciplines**

Agricultural and Resource Economics | Agriculture | Economic Policy

# **Political Economy of Agricultural Commodity Market Intervention**

**P. Zusman**

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**The Political Economy of  
Commodity Market Intervention**

# **THE POLITICAL ECONOMY OF COMMODITY MARKET**

## **INTERVENTION**

### **1. Introduction**

Commodity markets are characterized by trade in standardized, undifferentiated commodities and numerous traders. Consequently, such markets are highly competitive and trade is carried-out in concentrated, low transaction cost, exchanges. In this sense, commodity markets are the closest approximations to ideal neoclassical competitive markets. As commodity markets are also free of externalities, the resulting market equilibria are economically efficient. Nevertheless, owing to imperfect foresight and random shocks, the dynamic performance of commodity markets, may be suboptimal. Also, commodity markets actual performance as exchange institutions may at times fall short of the theoretical ideal. Hence, some room ordinarily exists for efficiency enhancing intervention in the form of setting commodity quality standards, disseminating relevant trade information and establishing appropriate transaction procedures. In addition, commodity markets stabilization programs offer a wide scope for improving the dynamic market performance; indeed, market stabilization objectives are often invoked as political justification of redistributive policies.

The analytic aim of the present paper is to explore the formation of transfer seeking policy intervention in commodity markets. The analysis is strictly static ignoring problems of uncertainty and instability. The analysis focuses on the political economy of transfer seeking intervention employing the game theoretic (political power theoretic) approach to endogenous policy formation (Zusman and Rausser, 1990a).

The static economic structure of commodity markets is rather simple and consists of a set of supply and demand equations. Commodities are often traded in the international market, in which case the economic structure also comprises trade variables and relations. To further simplify the analysis only single commodity markets are considered. Furthermore, the political-economy of one country alone is explored even in the case of an internationally traded commodity, where interactions among the political-economies of all trading countries ultimately determine the political-economic equilibrium.

Government intervention in commodity markets assumes a variety of forms: output and consumer subsidies; production control; government purchases and paid diversion; tariffs and import quotas; export tax and subsidy; export quotas, etc. We shall employ the term "policy regime" in reference to a particular mode of intervention, where each policy regime may comprise several policy instruments. Hence, any theory of endogenous policy formation should be capable of predicting the equilibrium choice of the policy regime as well as the political-economic equilibrium values of the policy instruments.

The efficiency of various policy regimes in the context of transfer seeking intervention in commodity markets has been extensively explored in the literature<sup>1</sup>. Yet the broader political-economic setting has not been adequately addressed<sup>2</sup>. In the relevant literature, efficiency of intervention was measured in terms of the deadweight social cost incurred in implementing a given transfer to the target beneficiaries--ordinarily, commodity producers. This measure is essentially the T/L criterion introduced in Zusman (1990). Social deadweight losses were primarily identified with Harberger's triangles, although taxation excess burden was added to government expenditures. While mentioned by Alston and

Hurd (1990), rent seeking cost was ignored; in fact, the social deadweight cost of production control measures was disregarded throughout the analysis presented in the quoted literature. The relative efficiency of policy regimes comprising production control were thereby overstated. Given the postulates of the game theoretic approach to endogenous policy formation, one must assume that the cost entailed by production control measures is not ignored by participants in the political process. Consequently, such costs must be included in any political-economic analysis. However, as is argued subsequently, political-economic considerations suggest that the high costs predicted by the "rent seeking" literature [Tollison (1982), Hillman and Riley (1985)] are vastly exaggerated since the 'government contrived rent' is hardly dissipated.

The political structure associated with redistributive intervention in commodity markets is considered next. The analysis seeks to identify the relevant policy making centers and interest groups; their policy objective functions, levels of organization and political power bases. Following extant literature, the various groups' policy objectives are identified with the corresponding net economic surpluses.

Given the political and economic structures, the game theoretic approach is employed in deriving the political-economic equilibrium policy regime and values of the policy instruments. The economic efficiency of the political-economy of commodity market intervention is finally evaluated.

## 2. The political structure

The simplest conception of the group configuration corresponding to the political-economy of policy intervention in the market of a nontradable commodity consists of the following interest groups:

- (1) The government
- (2) Producers
- (3) Consumers
- (4) Tax payers.

Exported and importers groups, respectively, are also added to the list when the commodity is exportable or importable. Let us consider each of the groups in turn.

*(1) Government*

The government is the constitutionally prescribed policy making center. In the simplest formulation the government is conceived as a unitary actor, although in a more realistic conception, the government constitute an interrelated poly-centric system in which legislative and executive bodies serve as distinct policy making centers. While the power base of all centers is essentially legitimate power, various centers pursue different objectives and employ different means of power. The policy objective function attributable to the "government" as a single policy making center is not self-evident. However, since tax payers usually constitute an unorganized but politically responsive group, policy makers may eventually select government program outlay (with a negative sign) as their objective function. That is, policy makers' sensitivity to tax payers' potential political (electoral) response to heavy tax burden and policy makers unsatiated demand for public funds induce



concern for fiscal prudence among policy makers. By implication, policy makers should be interested in minimizing the total tax burden, consisting of nominal tax revenues plus the attendant tax excess burden (dead-weight cost of taxation). In so far as consumers also constitute an unorganized but responsive group, policy makers may adopt consumers interest as well by including the consumers' surplus in the government policy objective function. Since the tax payer and consumer groups ordinarily consist of the same individuals, combining the two into one group may at times simplify the analysis at little analytic cost.

The government's principal power base is legitimate power. That is, the constitutional authority vested in the government to determine the policy regime and the values of the policy instruments.

## *(2) Producers*

Producers ordinarily constitute an organized interest group. This is because the number of producers is relatively small; they are geographically concentrated; their income is highly sensitive to market conditions and most producers share a common interest in the resulting policy choices. The cost of organizing producers for joint political action is, consequently low; Olsanian free riding is more easily controlled, especially since producers are often organized in various other organizations (e.g., farmers cooperatives, professional and trade organizations). A common interest in the policy choice further enhances producers effectiveness as an organized interest group, since a unified political position is more easily wielded. Being better organized and capable of mobilizing economic resources, the producer group can develop a strong economic base of power. Commodity producers may also form a strong political power base deriving, in general, from their superior

organization and access to economic resources. Producers of farm commodities may also enjoy a particularly strong electoral position.

The political objective function of the producers interest group is easily identified with producers' income (or producers surplus); although given their strong organization, the special interests of the group's leadership may modify this simply objective.<sup>3</sup>

### *(3) Consumers*

Consumer constitute a "latent group" [Olson (1965)]. That is, they are numerous and difficult to organize for political action. Nevertheless, to the extent that the commodity in question is an important component of household consumption expenditure, (e.g. basic food in low income economies) consumers may be a strongly responsive group as evidenced by "food riots" following large food price hikes in various low income countries. Consumers may also respond in the voting booth. Political entrepreneurs may, consequently, adopt consumers interest and represent them in the political process. To the extent that these political entrepreneurs are identified with powerful non-governmental organizations, consumers are a privileged group, and may be treated as a powerful organized interest group.<sup>4</sup> In the absence of such political entrepreneurs and provided consumers are strongly responsive, policy making centers will, in fact, adopt consumers' interest in a manner described in Zusman and Rausser (1990a).

### *(4) Tax payers*

Tax payers also form a latent group, and consequently constitute an unorganized but responsive interest group. Unlike consumers, tax payers well being is far less sensitive to

government intervention in particular commodity markets. This is because such intervention ordinarily entails only marginal changes in the overall tax burden. However, tax payers do respond to tax burden; and while such responses are usually confined to the voting booth, tax rebellions are not unknown historically. Reasonable policy makers would, therefore, place an upper limit on the amount of taxes that may be raised (including taxation through inflation). As policy makers are also endowed with an unsatiable appetite for public funds, constrained revenues entail a shadow price of fiscal expenditure. Accordingly, the value of an additional dollar of revenue is greater than one dollar. In an efficient system, the opportunity cost of government expenditures equals the marginal tax burden which consists of the increase of one dollar in revenue plus the marginal tax excess burden<sup>5</sup>. Under these circumstances policy makers interest is identified with the (negative value of) opportunity cost of government expenditure entailed by the policy intervention program. That is, tax payers interest (i.e., the attendant tax burden) is adopted by the policy making center. Since the policy program expenditure affects tax payers only marginally the opportunity cost of government expenditure is  $(1 + \epsilon) E$ , where  $\epsilon$  denotes the marginal deadweight cost of taxation (assumed constant) and  $E$  is total government program outlay.

(5) *Exporters and importers*

Exporters and importers, respectively, emerge as interest groups when the commodity in question is exported or imported. For reasons not unlike those pertaining to producers, traders groups evolve as organized interest groups, whose base of power is primarily economic. The traders group policy objective function may be identified with their net aggregate income.

Producers emerge from the preceding survey of interest groups as the politically most powerful group. Producers are, thus, the most likely beneficiaries of a redistributive policy intervention in commodity markets. Casual empiricism agrees well with this general conclusion; indeed, theoretical analyses of redistributive policy intervention in commodity markets, reported in the literature ordinarily presume income transfers from consumers and tax payers to producers.

Recognizing its relative weakness in the market place and strength in the political arena, a producers' group will seek to bring about a redistributive policy intervention. This the group usually manages to achieve due to its superior political power. This explains the ubiquity of redistributive policy intervention in commodity markets in high income countries. In low income countries producers of farm products are often poorly organized. Though unorganized too, consumers (mostly city dwellers) in these countries are sensitive to food prices which are principal components of the household consumption expenditure. Consumers may, therefore, respond violently to increased food prices; and policy makers are likely to maintain low food prices, thus creating an "urban bias".

### **3. Policy Formation: The Political-Economic Equilibrium**

In the following analysis, the political-economy of a redistributive intervention in the market for a nontradable commodity is first considered. The corresponding group configuration consists of a single policy making center--the government (indexed by  $i = 0$ ), a well organized producer group (indexed by  $i = 1$ ), and an unorganized, but responsive consumers and tax payers groups. According to the game theoretic approach [Zusman and Rausser (1990a)], the government internalizes the effects of the consumers and tax payers

reaction functions. It is assumed that this is done by including consumer surplus and tax payers burden in the government policy objective function. In the following, the government policy objective function is therefore assumed to include the consumer surplus (CS) net of the opportunity cost of the policy program expenditure. That is,

$$(1) \quad u_0 = CS - (1 + \epsilon)E.$$

Producers policy objective function is identified with producer surplus (PS). That is

$$(2) \quad u_1 = PS.$$

Only three intervention regimes will be explored: (1) output subsidy; (ii) output control; and (iii) a combination of output subsidy and output control. As the cost entailed by output control measures may impinge on all economic surpluses, this problem must be addressed before undertaking further detailed analysis. The principal issue here stems from the predicted effects of the rent created by effective output control: the so called "government contrived rent". According to the rent seeking literature [e.g., Tollison (1982), Hillman and Riley (1985)] competition for the "government contrived rent" continues until the rent is fully dissipated; that is, until the cost of such competition equals the rent. However, underlying this analytic conclusion is an assumed competitive game which does not accord with the one conducted in a political-economy. In particular, the assumed political bargaining game is conducted among policy makers and organized interest groups catering to their respective constituencies. Such constituencies consist of individuals making-up the group at the time policy choices are made. It is clearly in the interest of each and every organized interest group to secure its members political gains by avoiding dissipation, an interest shared by all other interest group as well. Suppose, for instance, that the chosen

policy regime involves a production quota which then becomes the source of a "government contrived rent". It is clearly in the interest of the producers group that such rent not be dissipated but as much as possible accrue to individual producers. This the group can ensure by establishing rules prescribing the distribution of the production quota among group members so as to minimize rent dissipation. For instance, the allotment of output in proportion to past production is a commonly employed rule minimizing competition for the government contrived rent. Note also that, by the nature of the assumed bargaining game, it is in the interest of non-producers organized interest groups and the government to support the rent preserving rules, since any dissipation would also force each group to relinquish some of its own gains in the political bargaining game. Very little dissipation should, therefore, be expected, contrary to standard predictions in the rent seeking literature<sup>6</sup>. However, this argument should not be construed to mean that output control measures and government contrived rent are socially costless. The following two cost categories are often entailed by output control measures and government contrived rent beside those reflected in Harberger's triangles: (i) misallocation of production among producers; and (ii) output quota enforcement costs. The misallocation of productive activity is characterized by unequal marginal costs across producers, thus implying that production cost is not minimized. Since production allotment initially resembles the pre-program allocation, only small losses should be expected at the outset. However, as individual production conditions vary over time, the disparity in marginal costs increases and excessive cost of production keeps rising. Evidently, high cost producers stick to their share of the quota so long as it yields a positive rent<sup>7</sup> and trade in individual production quotas is

prohibited. Such trade restrictions are often imposed; presumably in order to keep the redistributive implications of the program opaque, for fear that transparency may undermine the political legitimacy of the intervention. Evidently, the greater the government contrived rent the higher the production cost due to output misallocation and the smaller the net producer income. Hence, equation (2) should be restated as follows:

$$(2') \quad u_1 = PS - \delta R,$$

where  $R$  is the government contrived rent and  $\delta$  is a constant such that  $0 < \delta < 1$ . The presence of a government contrived rent encourages individual producers to exceed their allotted output quota, thus forcing the government to apply costly enforcement measures. The greater the rent per unit output the higher the enforcement cost incurred by the government. Government program expenditure should, therefore, be expressed as follow:

$$(3) \quad E = E' + \eta F(R/\hat{Q}, \hat{Q})$$

where  $E'$  denotes government expenditure exclusive of the subsidy cost and of the quota enforcement cost;  $\eta$  is a constant such that  $0 < \eta < 1$ ;  $\hat{Q}$  is the size of the output quota, and  $F(\cdot, \cdot)$  is a positive function increasing in  $R/\hat{Q}$  and  $\hat{Q}$ . Also, since enforcement is required even when no output is allowed, then as  $\hat{Q} \rightarrow 0$ ,  $F \rightarrow \text{Lim } F > 0$ . We now turn to the analysis of policy formation, and in particular, to the determination of the policy regime and the values of policy instruments in the political-economic equilibrium. The analysis is essentially that presented by Alston and Hurd (1990) with one exception: the cost of output control measures and government contrived rent seeking is explicitly taken into account.

FIG. 1 Policy objective function tradeoffs under three policy regimes in a closed economy.

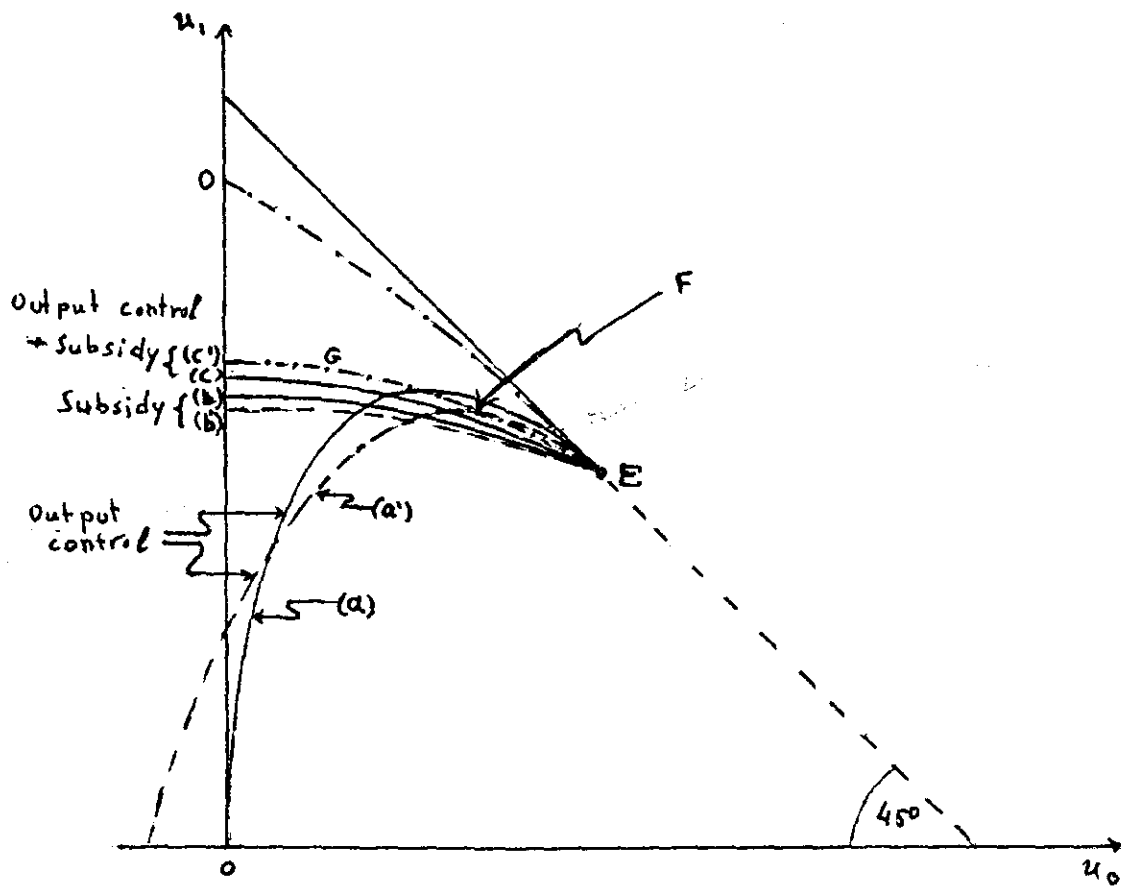
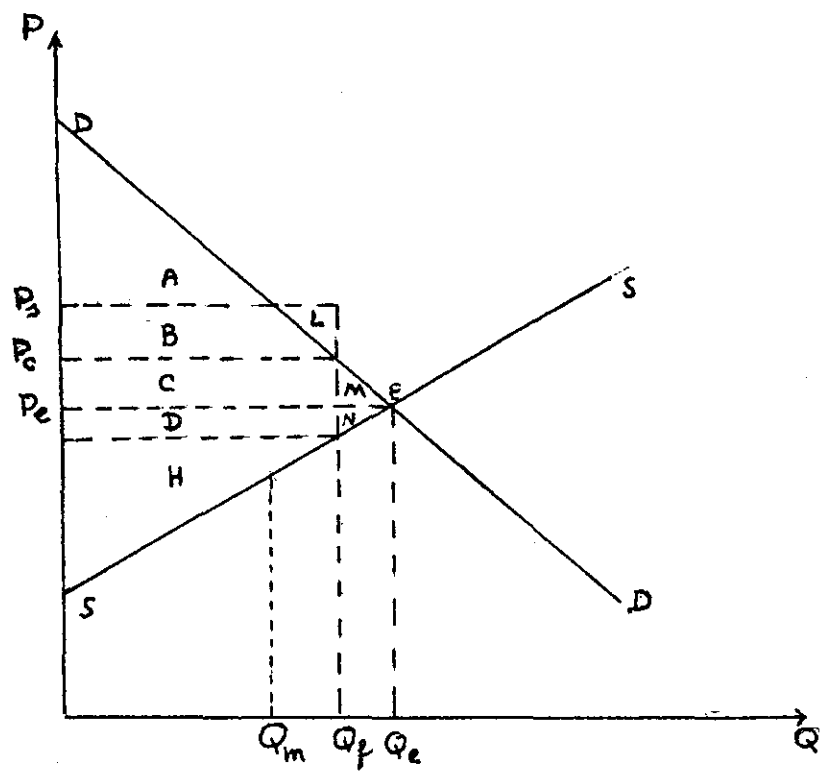




FIG. 2 Efficient combination of output control and output subsidy in a closed economy.



**Case 1: a single nontradable commodity.**

A graphic analysis of a single nontradable commodity is presented in Figures 1 and 2. Consider first Figure 1 which traces-out the tradeoffs between the government policy objective function ( $u_0$ ) and the producers interest group policy objective function ( $u_1$ ) under various policy regimes. The curves in Figure 1 are exclusively restricted to transfers from tax payers and consumers to producers. Point E in Figure 1 represents the non-intervention equilibrium in the commodity market. The solid curve (a) portrays the various combinations of the government policy objective function ( $u_0$ ) and the producers policy objective function ( $u_1$ ) attainable under a pure output control regime when the social costs of output control measures are ignored (i.e.,  $\delta = \eta = 0$ ). The point on (a) associated with the highest value of  $u_1$  corresponds to the monopolistic output level ( $Q_m$  in Figure 2). Curve (a) in Figure 1 is identical with curve a in Figure 1 in Alston and Hurd (1990, p. 150). The broken curve (a') is obtained from curve (a) by taking full account of the costs of output control measures, that is (a') is the locus of the points  $[CS - E' - \eta F(R/Q_t, Q_t), PS - \delta R]$ . Note, that the highest point of (a') is south-east of the highest point of (a), and that the lowest point of (a'),  $[-E - \eta F(0,0), 0]$ , is located to the left of the origin. The curve (b) in Figure 1 represents tradeoffs between the government policy objective function ( $u_0$ ) and the producers policy objective function ( $u_1$ ) under a pure output subsidy regime when the tax deadweight loss is ignored (i.e.,  $\epsilon = 0$ ). Following Alston, and Hurd (1990), (b) is arbitrarily assumed to lie below (a') initially but to cross it eventually. The broken curve (b') is obtained from (b) by taking into account the deadweight cost of taxation (i.e.,  $\epsilon > 0$ ). Consequently, (b') is to the left of (b). The curves EO, (c) and (c') depict the tradeoffs

between the policy objective functions of the government ( $u_0$ ) and the producers' group policy objective function ( $u_1$ ) under a mixed policy regime featuring both output control and output subsidy. The curve EO is obtained by controlling output at the pre-intervention equilibrium level ( $Q_e$  in Figure 2) and transferring income to producers by means of an output subsidy under the assumption that  $\epsilon = 0$ . Note that EO is curvilinear and, except for E, passes uniformly to the left of the  $45^\circ$  line through E. This is because holding output constant and increasing the output subsidy gives rise to government contrived rent seeking, and thus, to increasing costs to the government and producers alike. Policies represented by the curve EO are, consequently, not equivalent to pure lump sum transfers which are represented by the  $45^\circ$  line through E in Figure 1. The curve (c) is likewise obtained by controlling output at  $Q_e$  and raising the output subsidy. However, in contrast to EO, curve (c) is drawn taking into account the tax excess burden (i.e.,  $\epsilon > 0$ ). Hence, (c) passes uniformly below and to the left of EO. But controlling output at  $Q_e$  is not necessarily efficient. It would, in fact, be more efficient to control output at lower levels thus producing the interval [E, F]. That is, points in the interval [E, F] are obtained through a pure output control regime by controlling output at levels in the output interval [ $Q_e$ ,  $Q_f$ ] in Figure 2. Satisfying producers' interest at levels higher than  $u_1(F)$  is most efficiently accomplished by controlling output at  $Q_f$  and transferring additional income to producers via an output subsidy. The upper policy envelope is the curve EF G(c') where the interval EF is generated by a pure output control regime, while the interval FG(c') is generated by mixed output control cum output subsidy regime in which output is controlled at  $Q_f$ . The upper envelope curve EF G(c'), in fact constitutes the economic efficiency frontier. To further

elucidate the efficient policy solutions, consider the point G on the EFG(c') curve. Point G is also portrayed in Figure 2. It is achieved by controlling output at  $Q_f$  and paying producers an output subsidy of  $s = P_s - P_c$  per unit output. Consequently,  $s = \text{Area} (B + L)/Q_f$ . In a non-intervention equilibrium,  $u_o(E) = \text{CS}(E) = \text{Area} (A + B + C + M)$  and  $u_1(E) = \text{PS} = \text{Area} (H + D + N)$ . At the political-economic equilibrium (G in Fig.1) we have

$$(4) \quad u_o(G) = \text{Area}(A + B) - (1 + \epsilon)[\text{Area} (B + L) + E' + \eta F(s, Q_f)]$$

and

$$(5) \quad u_1(G) = \text{Area}[H + D + C + B + L] - \delta \text{Area} (D + C + B + L)$$

In accordance with the game theoretic approach, the political-economic equilibrium is on the upper envelope curve (EF G(c') in Figure 1). As already demonstrated by Gardner (1983) and Alston and Hurd (1990), the position of the upper envelope curve depends on the demand and supply parameters and the marginal tax deadweight cost,  $\epsilon$ . The present analysis, which takes into account the deadweight cost entailed by rent seeking behavior and output control measures, shows that the upper envelope curve depends on  $\delta$ ,  $\eta$  and  $F(\cdot, \cdot)$  as well. Thus, when  $\delta$  and  $\eta F$  are sufficiently large, (a') will pass uniformly below (b') and output control would be precluded altogether.

Secondly, the political-economic equilibrium policy regime is shown to depend on the power structure. This is because policy is chosen to maximize the policy governance function,  $W = u_o + b_1 u_1$ . Thus, in terms of the political-economy portrayed in Figure 1 and Figure 2, if  $b_1 = 1$ , then a nonintervention policy (E) will result; and if  $-\frac{du_1}{du_o} (F) \leq 1 \setminus b_1$

$< 1$ , then a pure output control regime is selected with  $Q_f \leq \hat{Q} < Q_e$ . However, if  $1 \setminus b_1 < -$

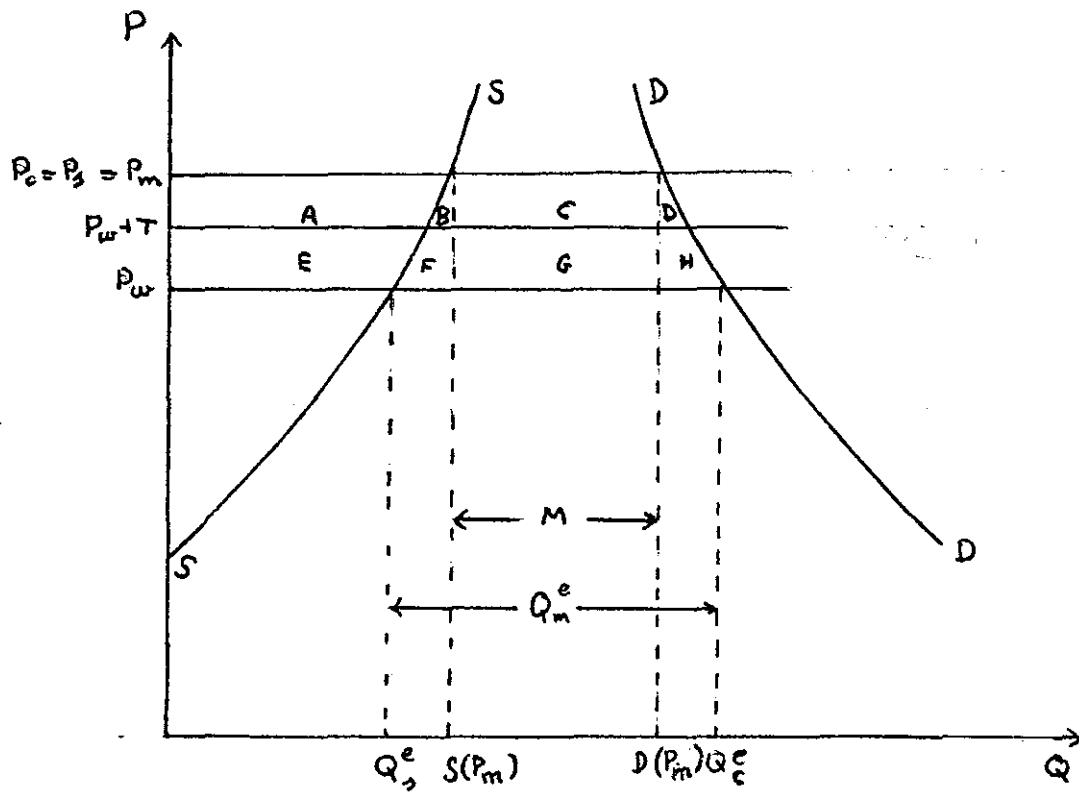
$\frac{du_1}{du_0}$  (F) then a mixed output control cum output subsidy policy regime will result with

$\hat{Q} = Q_f$  and an output subsidy  $s = P_s - P_c > 0$ . Note that only values of  $b_1$  equal to or greater than one were considered because producers were assumed to be the beneficiaries of the redistributive policy intervention in the commodity market. However, if in fact producers are politically weaker so that  $b_1 < 1$ , then some sort of output tax (or low, politically set, output price) cum "Stalinist" type output delivery quota would constitute the political-economic equilibrium policy regime. Such intervention reflects a strong "urban bias".

#### **Case 2: A single importable commodity (small country)**

The following analysis deals with the political-economy of intervention in the market for an imported commodity under a small country assumption which implies that the commodity's world price,  $P_w$ , is invariant under changes in the domestic intervention policy. The assumption is made in the interest of simplicity and brevity. In contrast with the case of a non-tradable commodity, the group configuration now consist of a policy making center (indexed by  $i = 0$ ) and two organized interest groups: producers (indexed by  $i = 1$ ) and importers (indexed by  $i = m$ ). There are also two unorganized but responsive interest groups: consumers and tax payers. As before, both groups are assumed to be represented

FIG. 3 The domestic market in an importable commodity.



by the government. Since  $u = (u_0, u_1, u_m)$  is now three dimensional, the graphic presentation employed in Figure 1 is no more applicable. However, the domestic market may still be presented graphically as is done in Figure 3. The domestic supply function  $Q_s = S(P_s)$  is represented by the curve SS, while the domestic demand function  $Q_c = D(P_c)$  is depicted by the curve DD.  $P_w$  is the ruling world price<sup>8</sup>, so that in a non-intervention equilibrium domestic supply is  $Q_s^e = S(P_w)$  and domestic consumption is  $Q_c^e = D(P_w)$ . The quantity imported is, consequently,  $Q_m^e = Q_c^e - Q_s^e = D(P_w) - S(P_w)$ .

Two modes of intervention are considered: (i) a tariff at the rate T dollars per unit import; and (ii) an import quota, M. Hence, there are three possible policy regimes: pure tariff, pure import quota and a combined tariff cum import-quota regime. Let  $P_m$  be the solution of  $D(P_m) - S(P_m) = M$ , then under either of the three regimes mentioned above

$$(6) \quad P_c = P_s = \max [P_m, P_w + T]$$

Thus, if  $P_w + T > P_m$ , then  $Q_m = D(P_w + T) - S(P_w + T) < M$  so that the import quota constraint is not binding. In Figure 3,  $P_w + T < P_m$ , so that the import quota constraint is binding. Since international movements of commodities are easily monitored, the quota enforcement cost appears negligible. In terms of the case described in Figure 3, the government policy objective function is

$$(7) \quad u_0(T, M) = CS(P_w) - \text{Area (A + B + C + D + E + F + G + H)} + (1 + \epsilon) \text{Area G}$$

The policy objective function of the producers interest group is

$$(8) \quad u_1(T, M) = PS(P_w) + \text{Area (A + E)}$$

The policy objective function of the importers interest group is identified with importers' income comprising two components: (i) importers' fee which is equal to a certain

percentage of their sales, i.e.,  $\mu P_w Q_m$  where  $\mu$  is a constant ( $0 < \mu < 1$ ); and (ii) net importers' rent,  $(1 - \lambda) Q_m(P_c - P_w - T)$ , where  $\lambda$  is an arguably small rent dissipation factor.

Hence,

$$(9) \quad \begin{aligned} u_m(T, M) &= \mu P_w Q_m + (1 - \lambda) Q_m (P_c - P_w - T) \\ &= \mu P_w Q_m + (1 - \lambda) \text{Area } C \end{aligned}$$

Note that when government contrived rent is fully dissipated ( $\lambda = 1$ ), import quota is not chosen as a policy instrument, since no group can benefit from quantitative import restriction. Evidently, producers will do no worse under an equivalent tariff policy which is also preferred to a quota by the government. However, if  $\lambda$  is smaller than one as was argued above, a quota is preferred by importers and will be instituted if importers are, sufficiently powerful. If the importers interest group is politically weak while domestic producers are strong, a protective policy will still be pursued but a tariff rather than an import quota will be adopted. If the marginal excess burden of tax collection is high, tariff rather than import quota is favored. If both producers and importers are politically weak, a protective policy, whether by tariff or import quota, is less likely to emerge in the political-economic equilibrium. On the other hand, powerful producers, weak importers, less responsive consumers, and a high marginal deadweight cost of taxation are conducive to a high tariff policy. The tradeoffs among the groups' policy objective functions, and the resulting equilibrium policy choices also depend on the elasticities of domestic supply and demand.



The political-economic equilibrium policy regime and values of the policy instruments thus depend on the economic structural parameters and the prevailing power structures.

#### 4. Welfare Implications

As externalities and other market failure causing forces are absent in commodity markets, the non-intervention competitive equilibrium is Pareto efficient. Hence, intervention policies in these markets' equilibrium states are essentially redistributive and are often instigated by powerful interest groups seeking to realize potential benefits entailed by their political power<sup>9</sup>. Non-intervention will usually occur when power is uniformly distributed among all policy making centers and organized interest groups (i.e.,  $b_i = 1$  for all  $i$ ). A redistributive policy intervention is pursued when for some interest group,  $i$ ,  $b_i$  is greater than the other  $b_i$ 's and greater than 1. As demonstrated in the foregoing analysis a redistributive policy gives rise to social deadweight losses, some of which are captured by Harberger's triangles. However, sizeable political-economic transaction cost, and especially, rent seeking and program administration costs are usually not reflected in Harberger's triangles.

Distortions in groups' policy objective functions also contribute to the social cost of policy intervention in commodity markets. The principal distortions, in this respect, are due to special personal interests of organized groups' leaderships. As the present analysis is exclusively concerned with static equilibria, the time preference distortions in social choice among alternative trajectories described in Zusman and Rauser (1990b) have been assumed away.

Finally, it should be emphasized that when unorganized groups (whether responsive or inert) are misrepresented in the political process, the social cost of the intervention is further exacerbated.

### **5. A Concluding Remark**

The analysis of the political-economy of intervention in statically efficient commodity markets highlights the role of non-uniform political power structures in inducing economically inefficient redistributive policy interventions. The positive theory of endogenous policy formation employed in the present analysis thus predicts active transfer seeking interventionist policy even when no market failure occurs. According to this theory, then, political-economies fail to heed the policy prescription offered by received welfare theory that government intervention should be exclusively restricted to systems plagued by severe market failures.

## Footnotes

<sup>1</sup>For instance, see Gardner (1983, 1987a, 1987b) and Alston and Hurd (1990). The present analysis draws heavily on these studies.

<sup>2</sup>Gardner (1987b) analyzed quantitatively the relationships between potential determinants of interest groups political power and the nature of U.S. farm commodity programs. While Gardner's analysis revealed several interesting quantitative relationships, the adopted underlying theory was couched in terms of a "political market" approach which is intuitively suggestive, but conceptually unsatisfactory.

<sup>3</sup>On this issue, see Zusman and Amiad (1977).

<sup>4</sup>In Israel, for instance, the powerful general trade union organization (the Histadruth) represents consumers' interest in the political process.

<sup>5</sup>Alston and Hurd (1990) cite estimates of the marginal excess burden for the U.S. in the range of 20 cents to 50 cents per dollar revenue.

<sup>6</sup>Stigler, apparently has this relationship in mind when commenting on the oil import quota system ". . . why does not the powerful industry. . . instead choose direct cash subsidies from the public treasury?. . . Our profit maximizing theory says that the explanation. . . (is): the present members of the refining industries would have to share a cash subsidy with all new entrants into the refining industry" [Stigler (1971), p.4]

<sup>7</sup>As the excess production cost vary over time, the "constant cost equivalent", i.e., the constant cost stream yielding the same present value as the excessive cost stream actually generated by the program should be used in a static analysis like the present one.

<sup>8</sup> $P_w$  is the price c.i.f., and is assumed to include importers' margin.

<sup>9</sup>Recall that intervention in a commodity market may also seek to remedy poor dynamic performance. Yet, such intervention is often motivated by redistributive objectives.

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