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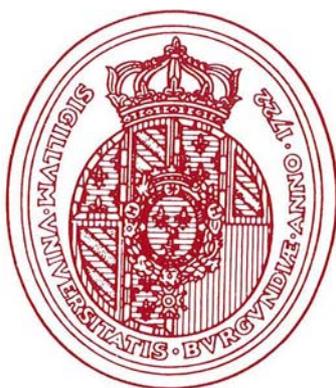
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**Are discriminatory procurement policies
motivated by protectionism ?**

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Résumé
Abstract

**Are Discriminatory Procurement Policies
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Dans leurs achats de biens et services, les Etats discriminent souvent en faveur des producteurs nationaux. On attribue généralement ce comportement à une motivation protectionniste. Cette interprétation est parfois valide, mais elle est aussi problématique. Après avoir exposé certaines des interrogations qu'elle suscite, le texte propose une autre explication de la discrimination dans les achats publics, fondée sur l'hypothèse que les acheteurs publics veulent se procurer des biens et services au coût minimum mais, en raison de la présence de services non-vérifiables, doivent le faire dans un contexte de contrats incomplets. L'article essaie de montrer que la discrimination peut garantir une fourniture efficace de ces services non-vérifiables.

Mots-clés: protectionnisme, achats publics, contrats incomplets.

JEL: F13, H57

When purchasing goods and services, governments often discriminate in favour of domestic suppliers. It is widely assumed that such behaviour is motivated by protectionism. Although this interpretation is sometimes valid, it is also puzzling. After reviewing some of the puzzles, the paper proposes an alternative explanation of preferential procurement based on the assumption that governmental buyers want to purchase goods and services at minimum cost, but must do this in a context in which, because of the presence of unverifiable services, contracts are necessarily incomplete. The paper argues that preferential purchasing can guarantee the efficient delivery of these unverifiable services.

Keywords: protectionism, government procurement, incomplete contracts.

JEL: F13, H57

Are Discriminatory Procurement Policies Motivated by Protectionism?

Albert Breton and Pierre Salmon*

I. PUZZLES CREATED BY THE DOMINANT INTERPRETATION OF PREFERENTIAL PURCHASING

When purchasing goods and services, governments often discriminate against foreign suppliers. The available estimates of the size of the bias are precarious, but the existence of a bias is well-documented for both central and sub-central (*i.e.*, regional and local) governments¹. In this paper, we take the discrimination as fact. There is, in addition, a general agreement that discriminatory practices should be eliminated. That prescription has been largely endorsed, as a matter of principle, in the agreements that concluded GATT's Tokyo and Uruguay Rounds, in a series of Directives from the European Union (formerly European Community), in the decisions of the European Court of Justice, and in the comments of almost all economics and law scholarship concerned with the issue. We also note that governments, even though collectively the source of the prescription, have been severally reluctant to implement it.

Our main concern is not normative. The prescription is interesting to us because it reflects the quasi-unanimous belief that preferential procurement policies are exclusively motivated by protectionism. We therefore ask: Are discriminatory procurement policies always motivated by protectionism? Although it seems to be perfectly obvious, a positive answer to this question is puzzling in several ways. The main puzzle stems from a point made several years ago by Baldwin and Richardson (1972) which has not, however, received sufficient attention. Baldwin and Richardson showed that when imported goods and domestically produced goods are perfect substitutes, and when government purchases of these goods are only a fraction of domestic supply, discriminatory government procurement is completely ineffective as a protectionist device. Because it plays an important role in the development of our own argument, we reproduce the essential of their basic proposition.

[Figure 1 to be inserted about here]

Figure 1 is a simplified version of Baldwin's Figure 6.1 (1984, p. 602) and is similar to the figure used by Baldwin and Richardson (1972). For a good whose characteristics are as stated above, let D_G be the demand curve of the public sector, D_T the total demand curve in the country (public plus private sector demand), S_D the supply curve of domestic producers, and S_T the total supply curve in the country (domestic supply plus imports). In the absence of discrimination, the price of the good is equal to OP , total consumption equal to OC , domestic supply to OD , government purchases to OG and imports to DC . Even if the government decides to buy exclusively from domestic suppliers, the values taken by these variables do not change. The upward pressure on price resulting from the government's exclusive patronage of domestic suppliers is offset by an increase in the purchase of imports by the private sector. In Baldwin's opinion, this result is not an artefact of modelling but is highly relevant in the real world. He writes: "Since government purchases of most non-military items represent only a fraction of the domestic supply of these items, the preceding analysis suggests that government preferential purchasing policies are generally ineffective in raising the price received by domestic suppliers. Nor will they affect domestic employment, production, profits, or growth" (p. 603).

Baldwin and Richardson's analysis was limited to competitive industries but it has been extended to oligopolistic settings by Miyagiwa (1991). Although the results are ambiguous in some cases, the proposition that discriminatory procurement policies are ineffective is generally confirmed - and indeed reinforced (imports increase) - under various assumptions about substitutability, the precise form given to discrimination, and returns to scale. When the conditions for Baldwin and Richardson's and Miyagiwa's results hold, even exogenous tariff or pressure groups explanations cannot be used to support the interpretation of discrimination as a manifestation of protectionism. The only possibility that remains is that governments and/or voters are ignorant - an assumption that we should use sparingly at least for persistent and widespread behaviours.

When government demand is not a fraction of domestic supply, but instead exceeds that supply, discrimination raises domestic prices and production and reduces imports. But the price of imports to private consumers falls and the private sector imports more². As a consequence, the aggregate effect of discrimination on imports is likely to be small (see especially Richardson 1972). This means that if discrimination is to be used as an instrument of protectionism, it is likely to be expensive in terms of procurement costs and yield little in terms of protection — it is likely to be cost-ineffective. If we now assume that central and sub-central governments, not unlike business enterprise, are competitive, we must then suppose that these governments supply goods and services to their citizens at the lowest possible unit cost. A well-known mechanism that drives governments to minimise costs is based on the mobility of people and capital (Tiebout 1956, Stigler 1972). Another less well-known mechanism is based on the assumption that voters assess the performance of their government - in respect of the volume and quality of the goods and services which it makes available to them at specified prices - by comparing that performance with the performance of governments in corresponding jurisdictions elsewhere, in respect of the same variables (see Salmon 1987, Breton 1996). With electoral competition in each jurisdiction and uncertainty on the part of office-holders about the assessments of voters, the comparison of performances provides these office-holders with an incentive to perform as best as they can on all dimensions and, therefore, to minimise costs. Recent empirical work (Besley and Case 1995) as well as casual observation of budgetary discussion and of budget-making at all levels of government suggest that governments are indeed constrained both in the raising of funds and in the allocation of these funds between competing requirements. On the basis of this analysis, we consider a policy likely to be cost-ineffective as also puzzling³.

A third puzzle is the following. In every country there are many public sector buyers rather than a single unitary actor called "the government". Each one of them is submitted to budgetary constraints and to competition. Why, insofar as they remain free - or even exhorted - not to discriminate against foreign suppliers, would these public sector buyers discriminate

more against foreign suppliers than against out-of-jurisdiction suppliers in general? In the case of a state or local government, preferential treatment of own-jurisdiction suppliers can be understood within the dominant paradigm, but favourable treatment of domestic albeit out-of-jurisdiction suppliers is more difficult to explain. Still, that is what we observe in a number of countries. For example, a number of states in the United States impose upon themselves "buy-American" constraints, in addition to the constraints that are imposed on them by the federal government (see, *e.g.*, Peterson 1980, p. 336).

The view that discrimination is obviously motivated by protectionism rests on an implicit model of what government procurement would be in the absence of protectionist motivations. This model is itself based on a conception of exchange in which transactions between buyers and sellers are embodied in complete contracts that are legally enforceable at zero cost. Because of this assumption, any difference between the long-run market-clearing price and marginal cost is *prima facie* evidence of imperfections in competition of which discrimination and protectionism are examples. Under the influence of Armen Alchian, Benjamin Klein, Keith Leffler and others, this conception has been modified to permit a reinterpretation of practices such as price discrimination, resale price maintenance, exclusive territories, franchising and other manifestations of vertical restraint which is not only more realistic but which is consistent with resource-economising behaviour on the part of economic agents.

Incomplete contracts are an essential ingredient in this conceptual transformation. They embody transactions in which the parties can be symmetrically informed, can monitor each other (at the limit at zero cost), but which, because of the high cost of ascertaining all relevant circumstances, cannot be monitored by a third party⁴. Performance is then said to be non-verifiable, which implies that incomplete contracts cannot be legally enforced. Still, as long as net gains to trade are assumed to exist, it must be presumed that rational actors will want to exploit these gains and that they will, as a consequence, strive to invent an effective enforcement mechanism. On the assumption of repeat business, such a mechanism will exist

if a buyer (say) is capable of creating, for the benefit of the seller, a stream of quasi-rents whose present worth is at least as large as the value to the seller of defaulting on the contract. In the theory of efficiency wages for example, employees are offered the prospect of a flow of quasi-rents - a premium over the market clearing wage - if they behave according to the wishes of the employer and are dismissed if they behave otherwise, which implies losing the quasi-rents. This logic is basic to our analysis of governmental procurements. Indeed, we attempt to show that preferential purchasing, by making the creation of a flow of quasi-rents feasible, can be an effective way of securing seller performance⁵.

The objective of the paper is a relatively simple one. It is to construct a model capable of explaining why a practice such as preferential purchasing by governments continues to be observed in the face of a nearly universal consensus, endorsed by these governments themselves, that these preferences are to be condemned. In other words, our purpose is to provide a rationale derived from, and consistent with, recent developments in the theory of contracts to explain the long-term persistence of preferential procurement policies by governments.

II. BUYING AS A QUASI-HIERARCHICAL RELATIONSHIP

In their well-known paper on the organisational forms of production structures, Alchian and Demsetz (1972) argued that there is no more authority in firms than there is in markets, in which, they claimed also, there is none. This view that authority is not an essential characteristic of firms has been widely criticised. One objection is that most contracts within firms are incomplete. But Alchian and Demsetz's proposition provides us with an important insight, namely that relations in markets are not in all dimensions different from those in enterprises. In markets as in firms, quasi-rents are created by one party to the benefit of others as inducements to deliver what has been promised. One application of this enforcement mechanism is to vertical relationships between firms, namely to the relation of industrial buyers with their suppliers and to the relation of firms with their franchisees or retailers

(Klein and Murphy 1988). In this context, the enforcement mechanism which is often the most powerful and the most robust to changing circumstances is also the simplest : it relies exclusively on the unilateral creation of a prospective stream of quasi-rents in exchange for performance. To borrow a phrase coined by Arthur Stinchcombe (1985), the buyer-seller relationship, then, "simulates the operations of hierarchies".

Notwithstanding national accounting conventions, governments are seldom (final) consumers of the goods and services they buy. For the great bulk of their activities they are, indeed, better conceived as producers and suppliers of goods and services and, therefore, as buyers of inputs. Furthermore, they are not single monolithic providers, but generally operate in competitive environments. As suggested earlier, there is competition, based on relative performance, between the multiplicity of governments that make up governmental systems. In addition, within each government, there is competition between different branches, departments and agencies. It is, therefore, reasonable to assume that governmental agencies will require and expect from their own suppliers, at least in part, the same kind of services that business firms require from their suppliers. It is also reasonable to suppose, consequently, that the analyses which have been developed to understand buyer-seller relationships in regard to business enterprises have some relevance for the analysis of similar relationships in the context of governmental agencies.

When we turn our attention to the literature that addresses these concerns - especially to the work on marketing - we note that it begins by stressing the importance of the services which accompany the delivery of goods to industrial firms. The following list of the more salient of these services is adapted from that literature (see for example Noordewier, John and Nevin 1990, and the references therein). It includes:

1. Information
The provision, prior to signing the contract, of adequate information about the goods and services to be supplied;
2. Client's needs
A recognition of the particular needs of the buyer and a willingness to adjust to these needs;
3. Maintenance

The capacity and willingness to provide after-sale maintenance services, to deal with follow-up problems, to deliver replacement parts, etc.;

4. Purchasing

The ease with which the buyer can deal with invoicing, accounting, stock-keeping and other problems related to the acquisition or purchase itself;

5. Assistance

The capacity and willingness to install the purchased input, to train personnel in using it, to smooth out the psychological costs of using the input, etc.;

6. Exclusivity and secrecy

Buyers may want that one or more inputs be of exclusive design and not made available to other suppliers, at least for a period of time, and they may also require that the exact nature of the inputs be kept secret. The willingness and ability of the seller to oblige is, then, a valuable complementary service to buyers;

7. Monitoring

The ease with which the behaviour of sellers can be monitored not only in respect of the inputs supplied, but also in respect of other actions which could be a source of public embarrassment to buyers;

8. Flexibility

The willingness and capacity of sellers to forgive payment delays, alterations in the conditions of supply while delivery is in progress, trespass on agreed rules or conditions, cancellations, short notice acceleration of delivery, etc.⁶

Most purchases will not require all of these services. For some inputs, it is easy to verify quantity, quality and other characteristics of services; for others, buyers can rely on the reputation of sellers. But, for some of the services just listed - and, no doubt, for others - neither third-party enforcement nor the reputation of sellers will do. For these, the prospect of repeat business and of quasi-rents is essential to insure performance.

To proceed, we assume without loss of generality that a particular government agency, G_x , buys the same bundle of goods every period, say every year. For that bundle of goods, G_x is one among M buyers. Over a single period, together with the goods themselves, G_x buys from supplier S_i (one among N potential suppliers) the provision of a number of complementary services. We make no assumption about the acquisition procedure used, which can range from public bidding to free negotiation, except that we suppose that G_x selects the proposal that it finds the most advantageous. The delivery of the goods and their quality, as well as the provision of some associated services, are verifiable; the other services are not. To simplify, we further assume that all transactions take place at the beginning of the period (thus eliminating discounting problems) and according to the following timing:

- . G_x selects S_i and signs a contract with that supplier ;
- . S_i delivers the bundle of goods and the associated verifiable services;

- . G_x controls their quality;
- . G_x pays the agreed price (for the whole package);
- . S_i provides the unverifiable services;
- . G_x observes the unverifiable services.

The first thing that G_x does at the beginning of the period therefore is to select S_i . That supplier is the successful bidder because (if "most advantageous" is equated with "least costly") the total cost of the bundle of goods plus the verifiable and unverifiable services it offers is lower than that of the other firms in the pool of potential suppliers. If we let g be the cost of the bundle of goods plus that of the verifiable services, u the cost of the unverifiable services, q the quasi-rent and m the monopoly-oligopoly rent (see below), the total cost of procurement is $g + u + c$, where $c = q + m$. To simplify, and again without loss of generality, we assume throughout that u is the same for all suppliers; we also assume that once the size of the pool of potential suppliers (N) has been determined (Sections III and IV), the excess costs c are also the same for all firms. The selection of the successful bidder is, therefore, made on the basis of total cost or of g alone because, once N is known, both lead to the same selection.

In the remainder of this section and in the two that follow, we propose a model of the determination of the pool of successful suppliers and of the level of $c (= q + m)$ and, therefore, a model of total cost that G_x must pay to purchase a bundle of goods (plus accompanying services). We begin by recognising that S_i may not provide the unverifiable services expected by G_x . To avoid this outcome, G_x includes in the price a quasi-rent (a premium) in addition to the total cost of the bundle of goods plus the verifiable and unverifiable services. Associated with the prospect of repeat business, this may prove effective in inducing S_i to perform. S_i will compare V_p , the remuneration expected in the case of performance and V_{np} , the remuneration expected in the case of non-performance. It will decide to perform if $V_p \geq V_{np}$.

Let us consider V_p first. It is assumed that in future periods G_x will continue to buy the same unverifiable services (along with the same goods and verifiable services) from some supplier. But even if satisfied with the unverifiable services provided by S_i , G_x by no means commits itself to again select S_i in these future periods. Since costs vary from firm to firm -

and, for each firm, from period to period - in any future period another supplier may make a more advantageous offer to G_x than S_i could profitably make. G_x would then turn to this new supplier (this does not imply that G_x would not, at a still later date, contract anew with S_i)⁷.

What then is the probability that S_i will be selected by G_x in each future period when S_i provides the unverifiable services it has promised to deliver? That question, it should be stressed, will be central to S_i 's decision as to whether it should perform or shirk. In what follows, we assume that this probability is related to the size of the pool of potential suppliers of the goods and services under consideration. To be more specific, assume that S_i is risk-neutral and that, in period 1, it forms the following expectations: first, that the number of firms (N) able to supply the relevant inputs is constant over time; second, that the probability for any of these firms (including itself) to make the most favourable offer in each future period is equal to $1/N$; and, third, that both the cost of the unverifiable services and the size of the quasi-rent remain constant over time. If r is the rate of interest and q the quasi-rent received in each period, then the present (expected) value of the future stream of quasi-rents (*i.e.*, V_p), assuming an infinite time horizon, is equal to q/rN .

Suppose that S_i does not provide the unverifiable services. The simplest and, at the same time, the limiting case is when S_i assumes that this will lead to a permanent discontinuance of every kind of relation with G_x . Then, future quasi-rents are completely lost⁸, and the gain from reneging on the promise to deliver unverifiable services is simply the cost of these services, that is, u . In that simple case, $V_{np} = u$ and the condition that $V_p \geq V_{np}$ reduces to:

$$q/rN \geq u$$

or, assuming strict equality:

$$q = urN \tag{1}$$

This expression tells us that as N increases continuously, the size of the quasi-rent that the buyer must create to prevent shirking by the seller also rises. For example, with 3 potential suppliers and an interest rate equal to 5 percent, the quasi-rent must be equal to 15 percent of

the cost of the unverifiable services to discourage shirking; with 100 suppliers and the same rate of interest, the quasi-rent must be 5 times the cost of the unverifiable services to achieve the same end.

It should be clear however that the buyer will not pay any sum whatsoever for the unverifiable services and, consequently, that the linear relationship between N and q [equation (1)] is upwardly bounded by a constraint defined either by the monetary equivalent of the utility derived from the services or by the money cost of the best alternative available, the smaller of the two being shown as OJ in *Figure 2*. In other words, that *Figure 2*'s ORQ curve, passing through the origin and having slope ur [equation (1)] has a discontinuity at R (height equal to OJ), the point at which the value of the unverifiable services to the buyer, or the cost of an alternative arrangement, is equal to the cost of the quasi-rent.

[Figure 2 to be inserted about here]

Following a long tradition which to our knowledge begins with Edgeworth, it is reasonable to assume that, as the number of enterprises in an industry increases from one to a very large number — at the theoretical limit, infinity — the monopoly-oligopoly rents accruing to the firms and, therefore, the price in excess of the competitive price which the buyer must pay, decrease giving rise to a curve such as MK in *Figure 2*. Two features of that curve should be noted. One, the height of point M is determined by the equilibrium monopoly price — the monopoly rent when there is only one firm in the industry. Two, the reduction in the monopoly-oligopoly rent brought about by the addition of one firm will be smaller when there are many firms than when there are a few. This is depicted in *Figure 2* by the shape of the MK curve: falling rapidly at first and more slowly afterwards. Two rationales can be given for that shape of MK . First, under, certain types of interactions - for example, under Bertrand competition - the competitive result is obtained after the entry of only one additional firm. Under other types of interaction, the competitive outcome is obtained or approached less rapidly. Being uncertain about the exact weight that should be given to the various types of

interaction, it must be assumed that on the average MK will fall more rapidly when there are only a few firms than when there are many. Second, collusion and the probability of its incidence will be larger the smaller the number of firms - a result that can be ascribed to the more than proportional increase in coordination and monitoring costs as the number of firms increases (Scherer and Ross 1990, chapter 8).

Taking the vertical sum of the two curves (ORQ and MK), and neglecting possible corner solutions, we obtain a curve such as ZT which has an interior minimum at E corresponding to an optimal pool of suppliers N^* — at which the expected excess costs ($c = q + m$) paid by the public purchaser to the successful bidder is at a minimum.

III. DISCRIMINATION AGAINST OUT-OF-JURISDICTION SUPPLIERS

So far we have derived the magnitudes of the quasi-rents and of the monopoly-oligopoly rents, as they are related to the size of the pool of potential suppliers (N), that G_X must expect to pay if it wishes to be provided with non-verifiable services by S_i . Assuming that G_X 's decisions are made on the basis of ZT, G_X 's only decision, if N is given, is whether to purchase or not to purchase the unverifiable services, that is, for any N , whether the associated expected cost of the quasi-rent is lower or higher than OJ.

In the remainder of the paper, we examine alternative ways that G_X may use to alter the size of the pool of potential suppliers so as to minimise the expected excess costs of non-verifiable services. A basic consideration that we will have to keep in mind is that G_X is a governmental or public decision-maker and subjected to constraints that are not binding for private purchasers that are in other respect similarly positioned.

[Figure 3 to be inserted about here]

In particular, G_X is bound by what is in effect a basic principle of democracy which asserts the equality of citizens before government agencies or, as it applies to procurements, the equal opportunity for all 'domestic' supply sources to bid for government contracts. At any

moment, there will be derogations of various sorts from that principle but we neglect these in what immediately follows. It is this principle which will lead G_x , if it wants to reduce the pool of potential suppliers, to discriminate against 'foreign' or, more precisely, out-of-jurisdiction suppliers. To understand how discrimination under the principle of democracy operates consider *Figure 3*. Assume first that the total (world) pool of suppliers is equal to N'_w of which N_d are 'domestic' enterprises. Under these circumstances, the expected costs of unverifiable services to G_x are less when no restrictions are placed on the size of N ; that is, because $c'_w < c_d$ — the expected excess costs associated with N'_w and N_d respectively — there is no need to discriminate. N'_w is the size of the pool of suppliers that make expected excess costs as small as possible. If, however, the world pool of suppliers is N_w of which the domestic component is still N_d , the expected excess costs are c_w and c_d , and $c_d < c_w$. Under these circumstances, G_x will want to reduce N and, because of the principle of democracy, will do so by discriminating against foreign or out-of-jurisdiction enterprises⁹.

[Figure 4 to be inserted about here]

The reader will recall our discussion, identified above as the 'third puzzle', of the situation which is sometimes encountered of local jurisdictions which discriminate more against foreign suppliers than against other out-of-jurisdiction enterprises, as happens when American state, Canadian provincial, or French regional authorities decide to abide by a 'buy American', 'buy Canadian' or a 'buy French' policy. That such a policy may be efficient can be seen by reference to *Figure 4* in which N_w is again the worldwide pool of suppliers, while N_d and N_L are respectively its 'domestic' (American, Canadian, or French) and 'local' (state, provincial or regional) components. As drawn, *Figure 4* makes clear that 'local' jurisdictions can reduce the expected excess costs of non-verifiable services by adopting 'buy-domestic' policies. We note that the discrimination enacted by the 'local' authorities when they adopt such policies is based on a differentiation between 'foreign' (genuinely foreign plus domestic

out-of jurisdiction) sources of supply but not between their 'own' suppliers. Thus, it does not violate the democratic principle discussed earlier.

IV. FINE-TUNING THE NUMBER OF SUPPLIERS

In the discussion of the last section, we were concerned with the analysis of discrimination under the equalitarian principle of democracy. G_x , the public decision-maker, was therefore limited to actions that would restrict or increase the pool of potential suppliers through discrimination that was respectful of that principle. It is time to recognise that, except by accident, the pool of suppliers obtained through that instrumentality will not be N^* , the size of the pool that would minimise the expected excess costs of the unverifiable services. We should therefore expect that government purchasers will seek to reduce — or, possibly, increase — the pool of suppliers by making use of different instruments. This section is concerned with the analysis of the operation of a subset of these instruments and begins by focusing on instruments used to reduce N .

Consider the situation depicted in *Figure 5* when the world pool of suppliers is N_w of which N_d are domestic firms. G_x will first discriminate against foreign suppliers, but will in addition wish to reduce the pool of 'domestic' firms to attain N^* . How can this objective be achieved? We suggest that this is done by implementing rules of transparency (such as open bidding and public disclosure of sealed bids) and regulatory controls (like bookkeeping requirements, proof of internal monitoring, and certification of compliance) which in the words of Kovacik (1992, p. 34) "discourage otherwise eligible firms from taking risks and bearing costs uniquely associated with regulatory compliance in public contracting."

[Figure 5 to be inserted about here]

Kovacik, though he decries the regulatory measures as inefficient, argues that they act as "barriers to entry in government procurement". We agree, but contend that, as long as $N_d > N^*$ in *Figure 5*, the barriers promote efficiency by allowing government purchasers to reduce

the excess costs of buying non-verifiable services. Kovacik's general line of reasoning raises an interesting problem. He points out that the Competition in Contracting Act of 1984 "required each executive agency to establish a 'competition advocate' who would promote ...'full and open competition' and 'challenge barriers to such competition' "(p. 39). The pursuit of these objectives, Kovacik argues, was frustrated by the expansion of regulatory controls which, in effect, led to the opposite result (p. 30).

On the general precept, formulated earlier, that it is inadvisable to presume persistent and widespread ignorance and irrationality, we would argue, on the contrary, that the Act of 1984 was always intended by Congress to generate barriers that would induce purchasers to economise on scarce resources. In addition, we insist that the Act had to be formulated in a language consistent with the equalitarian principle of democracy as well as acceptable to the era's *Zeitgeist*.

We must now consider briefly the situation depicted in *Figure 5* when the world pool of suppliers is N_w , but the domestic pool is $N'_d < N^*$. To reduce the excess cost of buying unverifiable services, the public purchaser will want to increase the number of domestic suppliers. This situation is not likely to be encountered for the bulk of the goods purchased by governments, but can still be important, measured by dollars of expenditures, for certain goods such as military hardware, nuclear installations and transportation equipment such as trains, aeroplanes, buses and subway cars when public purchasers prefer to have three or, at least, two potential suppliers instead of one. Under these circumstances, we expect governments to subsidise either directly or indirectly the development of one or two domestic enterprises.

Figure 5 is not very useful to analyse this case because the public subsidies will displace the *ZT* curve upward and to the right — the subsidy will increase the unit cost of non-verifiable services and the increase in N will move N_w to the right, because N'_d plus the additional firms are part of the world total — but the general idea that the excess cost of non-verifiable services can in some cases be lowered by the public subsidisation of new ventures

is, however, easily intuited with the help of the figure which makes clear that an increase in the number of domestic suppliers will lead to a downward movement on the new curve, signalling a reduction in the excess costs of unverifiable services which can, in some cases, exceed the cost of the subsidy.

V. IMPLICATIONS

Some of the implications of the foregoing analysis have already been noted. In this section, after a brief discussion of how the approach we are proposing can in principle be tested, we examine two additional implications of the model, both of which pertain to the relationship between the size of jurisdictions and the incidence of non-protectionist procurement policies.

It would be a simple matter to test the hypothesis if information on the following variables (measured across categories or classes of goods and services) was readily available:

- the level of discrimination and/or the speed (or lack thereof) at which discrimination is reduced;
- the degree to which the conditions for the Baldwin-Richardson-Miyagiwa ineffectiveness proposition are satisfied;
- the relative importance of unverifiable services;
- the effect of discrimination on the excess cost of procurement (as measured vertically in *Figures 3, 4 and 5*) or, more precisely, on the two components of that cost, namely the monopoly-oligopoly rent and the quasi-rent.

Then, for any class of goods, if discrimination in government procurement is significant and has resisted liberalisation efforts, if the Baldwin-Richardson-Miyagiwa conditions are satisfied, if unverifiable services are important, and if the reduction in the pool of suppliers caused by the exclusion of out-of-jurisdiction supply has a negative effect on the quasi-rent which is larger than the reduction's positive effect on the monopoly-oligopoly rent, we would

have to conclude that, with respect to these goods, our analysis is capable of accounting for the facts and that, as a consequence public procurement is not motivated by protectionism.

Turning our attention to the first of the two implications we wish to discuss, we note that, if for some bundle of goods, $c_d < c_w$, but the number of potential suppliers within the jurisdiction is large such that N_d lies to the right of N^* (as in Figures 4 or 5), we expect to observe, as noted earlier, not only discrimination against out-of-jurisdiction sources of supply but also the implementation of policies aimed at reducing N_d . In addition to what has been said about this in Section IV, the model also suggests that, *ceteris paribus*, the flow of regulatory measures whose indirect effect is to reduce N_d would increase as the size of markets increases and with it the number of potential suppliers. A *ceteris paribus* comparison between large and small jurisdictions for example, should reveal that the conditions for the Baldwin-Richardson-Miyagiwa ineffectiveness proposition will be satisfied more often and that N_d will be large more frequently in larger jurisdictions than in the smaller ones. As a consequence, we should expect both the incidence of non-protectionist public procurement and the incidence of measures designed to reduce N_d to be greater in larger than in smaller jurisdictions.

The second implication adds another dimension - the presence of economies of scale in production - to the size of the jurisdiction. The liberalisation of procurement policies — the elimination or reduction of discrimination and preferential treatment — currently implemented in Europe (see, *e.g.*, Hartley and Uttley 1994) is mainly motivated by the gains expected from the exploitation of scale economies. The quantitative estimates presented in the Atkins Report (1988) indicate that these economies constitute the main part of the benefit expected from liberalisation. As a result of discrimination, and thus of fragmentation of markets, the size of many European firms in sectors in which government procurement is important or even dominant (*e.g.*, defence or telecommunications) - or the scale of production for particular goods (*e.g.*, a particular fighter aircraft) - is small relative to the optimum. Liberalisation of procurement *within* Europe is expected to generate a reorganisation of

European industries that will entail the survival, in each of these sectors, of only a few large firms. According to the Atkins Report, this will considerably reduce the cost of procurement for all European governments (for defence procurement, see some impressive estimates in Fontanel and Smith 1991).

Our hypothesis can account for the willingness of member states to accept a liberalisation of government procurements which leads to diminished procurement costs for goods and verifiable services and which, at the same time, maintains a small number of suppliers and therefore a lower cost for unverifiable services. It can also account for the reluctance of the same member states to liberalise on a wider scale — that is, on one in which the number of potential suppliers would be much larger. Hence, their attachment to *préférence communautaire* and their timidity in implementing liberalisation in a GATT setting - a phenomenon which international relations specialists find puzzling (see Grieco 1990).

V. CONCLUSION

Discriminatory governmental procurement policies are habitually taken to be *prima facie* evidence of protectionism. Without denying that discrimination may sometimes be motivated by protectionism, we have suggested a hypothesis based on the idea that discrimination may be an efficient method of dealing with the problems posed by the existence of incomplete contracts, namely contracts whose terms, while observable by the signing parties, cannot be verified by third parties and are, therefore, legally unenforceable. Discrimination is, in that framework, a way of assisting in the creation of a stream of quasi-rents to the benefit of suppliers, which, if they decide to shirk on their contractual commitments, they will lose. Discrimination is then an instrument that serves to make incomplete contracts enforceable. Granted that our hypothesis has some validity, it becomes important to design empirical work in such a way as to permit identification of those instances when procurement policies are protectionist and those when they are used to enhance overall

efficiency. Though we have not considered normative issues, it is also clear that the hypothesis has far-reaching policy implications which future work will have to draw out.

NOTES

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1. For some estimates at the level of central governments see, *e.g.*, Baldwin (1970), Lowinger (1976), Atkins (1988) and the references therein. At the level of sub-central governments see, *e.g.*, Breton (1967), Finsinger (1988), Dalpé (1992) and, again, the references therein. The bias is typically measured by contrasting public sector with overall purchases of foreign (or out-of-jurisdiction) goods. In European countries, for instance, according to the Atkins Report, imports represented in 1986-88, on average, 22 percent of GNP but only 2 percent of public purchasing. For some evidence that figures such as these underestimate public purchasing of foreign goods and services, see Hartley and Uttley (1994).

2. This formulation, borrowed from Baldwin (1984), implies that the government will pay for a homogeneous good a price which is higher than the price paid by private buyers, albeit, contrary to Herander (1982), not from the same sellers.

3. One could argue that the same kind of puzzle would be created by the assumption that office-holders maximise their rents and thus have no reason to buy above minimum cost even when not constrained by competition. But office-holders may have other objectives than maximising their (pecuniary) rents. They may, for instance, seek "a quiet life". The

information provided to voters by competition of the relative performance variety impedes this kind of behaviour. For a similar argument in the context of agency costs within firms, see Holmstrom and Tirole (1989, pp. 95-96).

4. As a consequence, the problem of incomplete contracting can arise not only in the context of long-run agreements but also when the relationship is modelled as a series of short-run contracts. This point is stressed by Williamson (1991) in his critical comments on the assumptions made in Fudenberg, Holmstrom and Milgrom (1990).

5. In the volume edited by Leitzel and Tirole (1993), several contributions analyse government procurement under the assumption that contracts are incomplete, and the importance of quasi-rents and repeat business as a way to ensure supplier performance is stressed in Julio Rothenberg's brief comment (pp. 72-73); discrimination against out-of-jurisdiction suppliers is not envisaged, though.

6. We note that in the case of "flexibility", third-party enforcement is ruled out almost by definition: as it is conceived in the text, flexibility typically consists in giving-up third-party enforcement.

7. To simplify, we assume that only one supplier is awarded a contract in each period.

8. Because S_i cannot really form the expectation that G_x will refuse to do business with it (S_i) under all circumstances, we should merely assume that, when G_x is dissatisfied with S_i 's performance, it places a lower value on S_i 's promise to perform in the future (see Laffont and Tirole 1993, p. 227, for a related discussion). Suppliers will remain uncertain about the exact effects of their actions but, with expected quasi-rents that are sufficiently attractive, they will nonetheless be induced to please G_x as much as they can. [This is exactly what happens in a hierarchy, as already argued by Albert Breton and Ronald Wintrobe (1982), when subordinates provide informal services to their superiors in the expectation of an undisclosed future reward]. Under these circumstances, the precise calculation of the quasi-rent provided in the text is no longer valid. Indeed, because S_i is now excluded from repeat business over a finite number of periods rather than forever and because it remains necessary that the

expected stream of quasi-rents be superior to the given gain from shirking (u), the value of the quasi-rent per period (q) must be higher. The main qualitative result of the analysis holds however: reducing the number of potential suppliers reduces the quasi-rent that must be paid by G_x and thus makes possible the obtaining, on "reasonable terms", of the desired unverifiable services.

9. Within the theory of auctions, some researchers have formally demonstrated that, in a context of competitive bidding, discrimination against foreign suppliers may significantly lower procurement costs. For two different analyses along that line, see McAfee and McMillan (1989) and Mougeot and Naegelen (1992). Both assume complete contracting.

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Figure 1

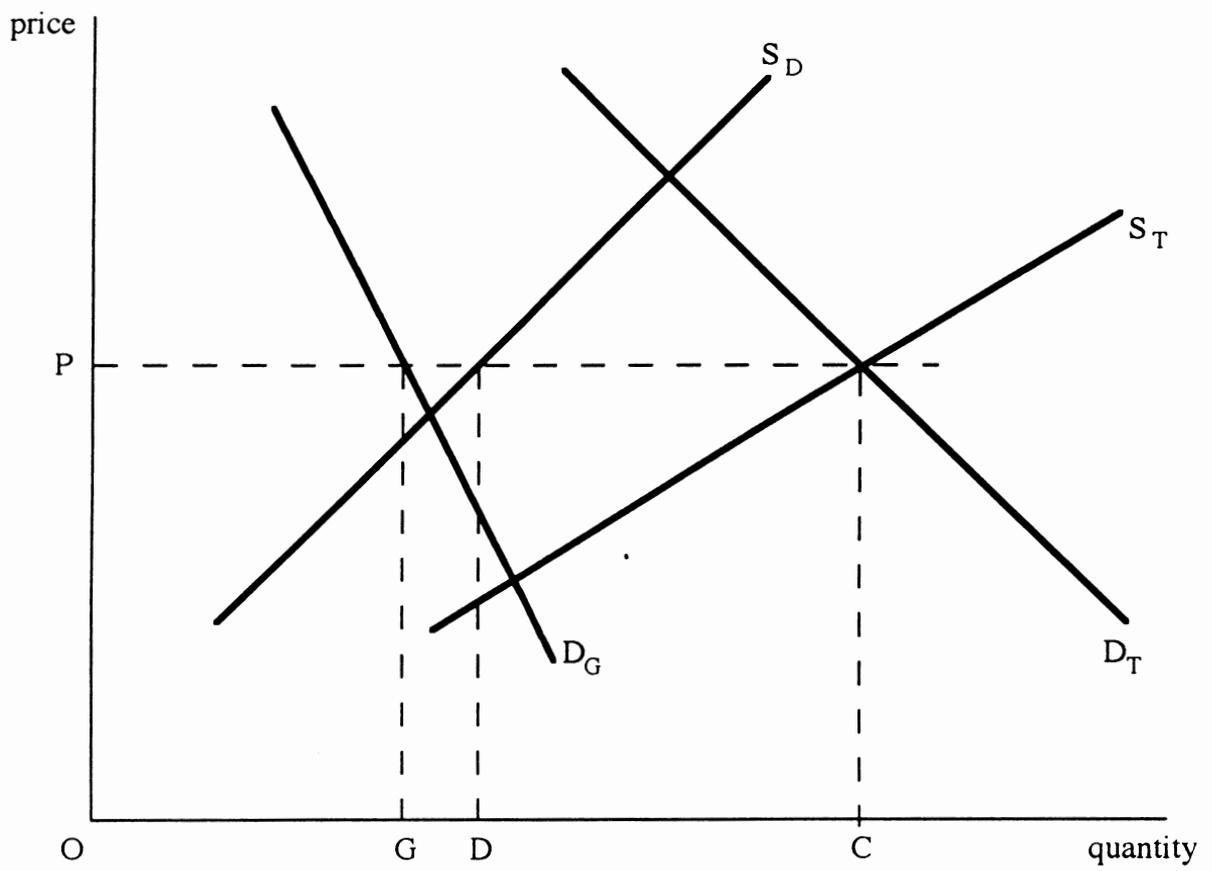


Figure 2

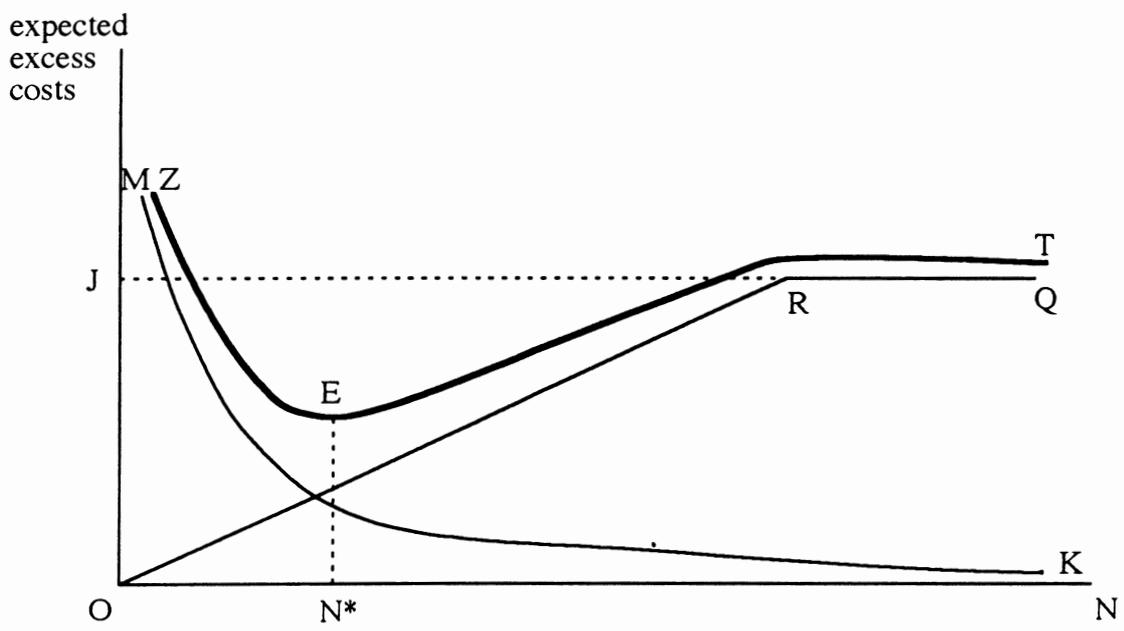


Figure 3

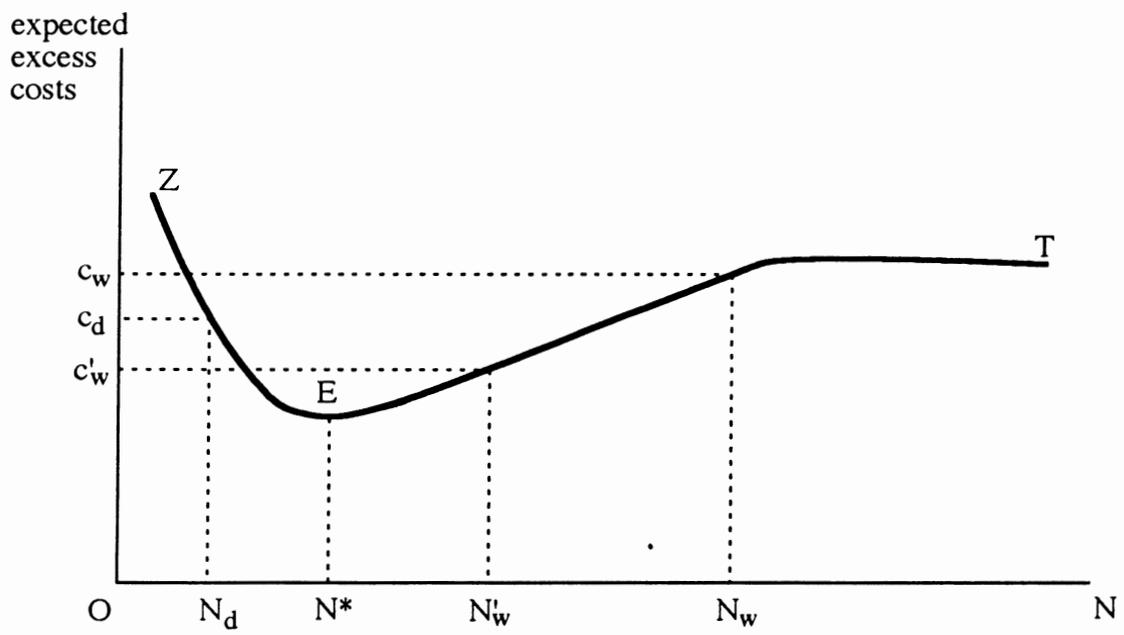


Figure 4

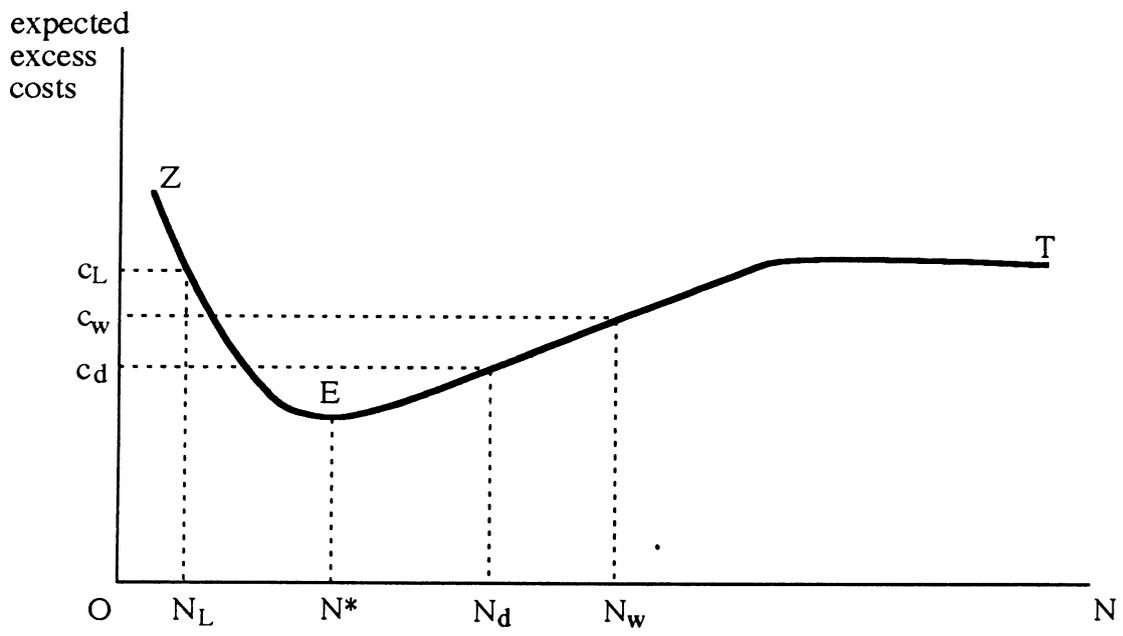


Figure 5

