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THE GOVERNMENT PROCUREMENT AGREEMENT:

IMPLICATIONS OF ECONOMIC THEORY

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(Revised)

This paper analyzes the provisions of the new Agreement on Government Procurement (GPA), drawing insights from trade theory and recent developments in the economics of information and law. A central conclusion is that in a world where imperfectly informed procurers purchase from imperfectly competitive firms on behalf of imperfectly informed tax-payers, it is not easy to devise rules which would be optimal in all situations. Nevertheless, the non-discriminatory provisions of the GPA seem to approximate closely the rules which would maximize global welfare. A significant benefit of the GPA is in helping to overcome national agency problems in procurement by creating mechanisms for reciprocal international monitoring supported by multilateral enforcement. There is, however, scope for improvement. First, the GPA does not equip bidders for government contracts to vault over trade restrictions, so the creation of genuine international competition for government procurement remains crucially dependent on the liberalization of trade. Secondly, weaknesses remain in the enforcement mechanism. These include the low level of compensation to a successful challenger, the absence of restrictions on settlements, and the lack of provision for challenge and review of bail-outs. The paper proposes certain improvements.

Keywords: government procurement agreement, trade policy

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THE GOVERNMENT PROCUREMENT AGREEMENT: IMPLICATIONS OF ECONOMIC THEORY

The new Agreement on Government Procurement (GPA), to which there are 22 signatories, entered into force on 1 January 1996.[1] Its objective, stated in the preamble, is to contribute to the liberalization and expansion of world trade. This is to be achieved by eliminating discrimination against, and between, foreign products, services and suppliers, by enhancing transparency of laws and practices, and by ensuring fair, prompt and effective enforcement of international provisions on government procurement. This paper examines the GPA from the point of view of economic theory and attempts a normative analysis of its provisions.

Section I provides a brief description of how the GPA has changed since it was originally negotiated, and of how it may be expected to change in the future. Section II of the paper deals with the GPA's fundamental principles of non-discrimination. These are based on the general presumption that discriminatory procurement adversely affects trade and that the prohibition of preferences in procurement creates welfare benefits analogous to those arising from trade liberalization. This view has, however, been challenged by two rather striking results of economic theory. First, it has been shown that under certain conditions it may simply not matter if governments discriminate in their procurement - output and trade are unlikely to be affected. Secondly, it has been demonstrated that in so far as preferential procurement does have real effects, it may enhance the welfare of the procuring country. If these propositions were generally true, then the GPA would at best be irrelevant in the context of international trade, and at worst prevent countries from maximising their national welfare. The paper attempts to reconcile the non-discriminatory provisions of the GPA with the results of economic theory and argues that, despite certain qualifications, the provisions constitute sensible policy. Nevertheless, there may be a need to compromise on their strictness if membership of the Agreement is to be widened in a world where the desire to protect persists - regardless of economic merits.

Section III examines the relationship between procurement and other trade policies, identifying a

[1]The new Agreement on Government Procurement was negotiated simultaneously with the Uruguay Round negotiations. The signatories to the Agreement are Canada, the 15 Member States of the European Union, Israel, Japan, Korea, Norway, Switzerland and the United States.

crucial provision of the GPA. This states that the disciplines of the Agreement apply only to government purchase per se and excludes from its domain trade measures that have been taken under multilateral trade agreements. Foreign suppliers' ability to effectively contest the market for government procurement may thus be limited by restrictive trade measures. Such measures are far more significant in the case of services than in the case of goods, since in the former case innumerable restrictions are still in place on market access and national treatment. The creation of genuine international competition for procurement contracts thus remains crucially dependent on the liberalization of trade.

Section IV describes the relevance of the GPA to the agency problems that arise in procurement. Informational asymmetries lie at the heart of any analysis of procurement policies. The literature on government procurement in the international context, in focusing on the tension between minimization of procurement cost and protection of domestic firms, has paid relatively less attention to the problem of moral hazard on the part of the procurer. A significant benefit of the GPA is in helping to overcome national agency problems in procurement by creating mechanisms for reciprocal international monitoring. It achieves this by shifting the legal scope for monitoring from dispersed tax-payers, who have little interest in monitoring individual procurement decisions, to the bidders for contracts who have a significant stake. Two elements of the GPA are crucial in this context. First, the agency problem is mitigated by creating obligations on the procurer to be transparent. Secondly, foreign suppliers are given the opportunity to challenge the decisions of the procurer before national courts or independent and impartial review bodies.

However, several weaknesses are identified in the GPA's enforcement mechanism. First, the Agreement allows the compensation to a successful challenger to be limited to the cost for tender preparation or protest. Hence, the anticipated gain from private action, and the incentives for it, are not very high. Consequently, the scope for private litigation to exercise a socially desirable corrective or deterrent effect is limited. Secondly, the Agreement imposes no restrictions on the common practice of settlements, i.e. the exchange of a cash payment in return for a promise by the protester to drop its suit. Settlements between the procurement official and a dissatisfied firm circumvent the enforcement role of the protester, while settlements between the successful and unsuccessful firms can lead to collusive outcomes. Finally, the enforcement mechanism does not provide for challenge and judicial review of bail-outs, i.e. when a government chooses to reimburse unanticipated cost overruns of a firm which has won a procurement contract. If the government

exercises its discretion in favour of domestic firms, i.e. domestic firms are more likely to be bailed out while foreign firms are more likely to be sued, then it can bias ex ante bidding behaviour in favour of domestic firms. Given the likelihood of cost overruns in certain types of procurement contracts, this may create scope for discriminatory procurement.

Finally, the paper examines some of the restrictions that the GPA imposes on the method of procurement. It shows that while the ability of the procurer to alleviate problems of asymmetric information has been constrained in some minor ways, considerable scope remains for using competition as an efficient incentive mechanism. For instance, procurers are free to introduce yardstick competition, which involves fragmenting contracts between firms and basing the rewards to each on the costs of others. Provided the contracts for each unit, even if they fell below scheduled thresholds, were subject to international competitive bidding, there would be no violation of GPA obligations. As long as there is no collusion and conditions facing each firm are similar, this method offers the possibility of achieving the goals of both internal and allocative efficiency.

I. The GPA: Past, present and future?

The Agreement on Government Procurement was originally negotiated during the Tokyo Round of Trade Negotiations and entered into force on 1 January 1981.[2] This extended, for the first time, the fundamental obligations of non-discrimination, i.e. national treatment and most favoured nation (MFN) treatment, to covered government procurement. National treatment means that products from other parties to the Agreement should benefit from a treatment "no less favourable" than domestic products. MFN treatment prohibits discrimination between products of other Parties to the Agreement. Furthermore, in order to ensure the implementation of its basic principles, the Agreement laid down detailed operational rules, with particular emphasis on transparency at each step of the procurement process, and provided for multilateral dispute settlement.

Even though this Agreement was an important first step in creating international disciplines on procurement, it was limited in membership and narrow in scope since it only covered the procurement of goods above a certain threshold by central government entities. Furthermore, there is

[2]The older Agreement has the same membership as the new one except that it includes Hong Kong and Singapore and does not include Korea.

evidence that even within this limited domain, covered entities avoided the GPA's obligations through a variety of means (Hoekman and Stern, 1993). These included the use of non-competitive procurement procedures such as single tendering, and splitting large contracts into smaller lots so as to fall below the GPA threshold. The problems encountered in monitoring the implementation of the GPA and enforcing its rules suggested that the GPA dispute settlement rules needed to be adapted to the specific nature of procurement - often a single event, costly to reverse, and where modifications to national rules of general application would not necessarily provide adequate guarantees of non-recurrence.[3]

The renegotiation of the GPA in parallel with the Uruguay Round focused primarily on expanding its coverage, strengthening its enforcement provisions and expanding its membership.[4] Services contracts, including construction, were included in the GPA, and the reach of the Agreement was extended to sub-central government entities and public undertakings.[5] Enforcement provisions were strengthened, in particular, by the introduction of a bid-challenge mechanism, which allows aggrieved private parties to invoke the GPA before national courts. Attempts to widen the membership of the Agreement, however, were not successful: even though Korea joined the new Agreement, Hong Kong and Singapore, both signatories to the old Agreement, did not.

An indication of future trends may be contained in a recent Economic Communique from the G7. It states one of the goals to be "enhancing the disciplines of and expanding the number of countries subscribing to the Agreement on Government Procurement and, in furtherance of this goal, by developing an interim arrangement on transparency, openness and due process in government

[3]One of the key problems in the old GPA was the lack of provision for timely remedies (Mavroidis, 1993). For instance in the case involving Norway's procurement of toll collection equipment for the city of Trondheim, the dispute settlement panel found that the procurement procedures that were employed violated the GPA (GATT, 1995, pp. 319-47). However, the panel also concluded that it was too late to remedy the situation and decided to accept an undertaking by Norway that the procedures that were followed would not be repeated in the future. Only one other dispute settlement panel report was adopted under the old GPA: the United States' complained that the EC had failed to take value added tax into account in determining whether a procurement was above the GPA threshold (GATT, 1985, pp. 247-56). The panel ruled in favour of the United States.

[4]Blank (1995), Hoekman and Mavroidis (1995), and Messerlin (1994) contain useful discussions of the new GPA. The Agreement applies to any law, regulation, procedure or practice regarding any procurement, above a certain threshold value, by entities which are specifically listed by each party.

[5]Appendix 1 of the GPA contains five Annexes for each signatory. The first three Annexes contain lists of covered entities, the fourth an indication of covered services, and the fifth pertains to construction services. In the case of goods, all procurement is covered unless otherwise specified in the Annex - except in the case of procurement of goods by Defence Ministries which is often subject to a positive list, i.e. only items explicitly scheduled are covered. Procurement of services is also generally subject to a positive list, i.e. only services expressly indicated by the signatory are covered by the GPA. The telecommunications sector, for instance, remains outside the scope of the GPA.

procurement practices."[6] This suggests that the some of the current signatories to the plurilateral GPA may be willing to sacrifice temporarily the principle of strict non-discrimination, and press instead for multilateral disciplines which ensure transparency of procedures and opportunities, and create mechanisms for challenge and review of procurement decisions. It remains to be seen whether this approach is sufficiently attractive to induce more countries to assume disciplines on procurement.

II. Trade and welfare effects of discriminatory procurement

Article III of the GPA states the fundamental principles of non-discrimination: national treatment and MFN treatment (described in the previous Section). These principles are stated both in terms of the country of origin (Article III:1) as well as in terms of the degree of foreign affiliation or ownership (Article III:2). However, Article V of the GPA allows developing countries to negotiate mutually acceptable exclusions from the rules on national treatment with respect to certain entities, products or services that are included in their lists of entities. Even though there is no explicit provision for it, most developed country members of the Agreement have specified exclusions from its basic disciplines in their schedules.

The rationale for these basic principles of non-discrimination is put in question by two results of economic theory. First, it has been shown that under certain conditions it may simply not matter if governments discriminate in their procurement - output and trade are unlikely to be affected. If this were generally true, then the GPA would be irrelevant in the context of international trade, and the administrative costs of compliance with it would be an unnecessary burden on society.[7] Secondly, it has been demonstrated that in so far as preferential procurement does have real effects, it is likely to enhance the welfare of the procuring country. This would seem to imply that the prohibition of preferences under the GPA actually prevents countries from maximising their national welfare. It is the purpose of this Section to examine whether the non-discriminatory provisions of the GPA survive these theoretical assaults.

[6] G7 Lyon Summit Economic Communique, "Making a Success of Globalization for the Benefit of All", Lyon, 28 June 1996.

[7] Bronckers (1995), for instance, has argued that in certain cases the administrative burden of having to follow public procurement rules may have been too high in relation to the likely return.

Implications of preferences for trade and output

The general presumption that discriminatory procurement reduces imports and increases domestic output in comparison to free trade is the primary motivation for the GPA. However, Baldwin (1970, 1984) and Baldwin and Richardson (1972) are among those who have argued against this presumption in a perfectly competitive context. They have shown that if private demand is sufficiently large, and domestic and foreign goods are perfect substitutes, then extending preferential treatment to domestic industry neither reduces imports nor increases domestic price, output and employment. Discriminatory procurement is ineffectual because shifting government demand towards domestic products tends to increase their prices and, therefore, generates an equal and opposite shift in consumer demand toward imports. Any price preference is simply a transfer from the government to domestic producers.

This result can be qualified in three important respects. First, in certain sectors, *government demand may be a large part of total domestic demand*. More precisely, if government demand is larger than the quantity supplied domestically in the non-discriminatory equilibrium, then shifting domestic demand towards domestic producers can clearly have real effects - i.e. increased domestic output and reduced imports. Thus, a revealing empirical test would involve comparing the magnitude of procurement with the quantity supplied domestically at the notional free trade price to determine when discriminatory procurement is likely to affect trade and output.[8]

Data on procurement, which is sufficiently disaggregated to make the homogeneity assumption plausible, is difficult to find. At a somewhat aggregated level, Francois et al. (1995) find that even though public purchases in the United States are large ($440 million in 1993), they tend to be concentrated in a few sectors. Government accounts for 80 per cent of demand for ordnance and accessories, and over 40 per cent of demand for aircraft and parts, and a substantial part of demand in categories such as scientific equipment, transport equipment and computers. However, the exclusion of defence purchases, which are mostly outside the scope of the GPA, changes the picture substantially. It turns out that services like construction, maintenance and repair, computer and data processing services are some of the most important. A key variable, in terms of the test identified

[8]In principle, it may be possible to directly estimate the impact, if any, of the GPA on trade flows. Such an exercise has not yet been attempted, and is beyond the scope of this paper. There is some evidence to suggest that the share of domestic sources in aggregate procurement has declined since the inception of the GPA (Hoekman, 1995). But the extent to which even these changes can be attributed to the GPA is not clear.

above, is the share of public purchases in total domestic production. Again, non-defence procurement accounts for a substantial share of domestic output only in the services identified above, and in the ophthalmic and photographic equipment sector.

The finding that government procurement is of the greatest relative importance in defence-related sectors probably holds, not just for the United States, but for many other countries . However, the finding that non-defence related procurement is relatively important only in a few sectors is probably less generalizable. In contrast to many other countries, the United States does not have a telecommunications monopoly, state-owned airlines, or full state ownership of airlines. Thus, Francois, et al. (1995) show that public ownership of the type found in certain European Union states would imply significant government presence in the markets for engines, turbines, transportation equipment, communications, pipelines, air transport services, communications equipment, and a number of utility-related sectors

A second qualification of the neutrality result is that *domestic and foreign goods may not be perfect substitutes*. Shifts in government expenditure towards domestic goods and the associated price changes may not then induce fully offsetting shifts in private demand towards foreign goods. Under assumptions of imperfect substitutability, Baldwin and Richardson (1972) estimate that the Buy American program (excluding agricultural commodities, minerals and armaments) reduced total imports in 1963 by between $76 million and $110 million (depending on the precise elasticity assumptions) from a base of approximately $20 billion. Furthermore, in markets for differentiated goods, discrimination need not always be through price preferences, it could also take the form of choice of inferior domestic goods, or choice of domestic goods which are more distant from the preferences of domestic consumers than foreign alternatives. The implications of such discrimination have not been fully explored, but some work in this area is described in the next section.

A third qualification is that *markets are rarely perfectly competitive*. Miyagiwa (1991) has examined the validity of the Baldwin-Richardson ineffectiveness proposition in imperfectly competitive situations. It emerges that if goods are perfect substitutes, then the proposition continues to hold under various types of industrial organization. However, if the government pays the domestic supplier a premium proportional to the import price, discriminatory procurement results in increased imports. The intuition is the following. The domestic supplier has a strategic incentive to raise the import price since this leads to an increase in the procurement price and therefore an increase in

revenue from sales to the government. The increase in import price can be accomplished by curtailing its sales to the private sector which prompt a (less than offsetting) increase in sales by the foreign supplier. In the new equilibrium, the domestic firm's loss in the private sector is balanced at the margin by the increased profits from sales to the government. When goods are differentiated, the same counterintuitive mechanism still operates, but the results are less clear-cut.

An important assumption in the above analysis is that the government purchases at a price dependent on the market price. The results are somewhat different if government procurement is decoupled from private-sector demand, i.e. firms bid a price for government demand independent of the market price. Discriminatory procurement then effects imports both directly and indirectly, through a change in marginal costs. Three cases can be distinguished depending on whether marginal costs are increasing, constant or decreasing. When marginal costs are increasing, shifting government purchases from foreign to domestic firms weakens the latter's competitive position in meeting private demand. Thus, private sector purchases from foreign firms increase. The aggregate impact on imports is ambiguous. If marginal costs are declining, shifting government purchases towards domestic firms enhances the latter's competitive position in the private sector. Imports by both the government and the private sector are therefore likely to decline. If marginal costs are constant, shifting government purchases do not affect the private sector equilibrium, and the decline in imports is equal to the shift in government purchases.

Where does all this leave us? We can conclude that from the international trade point of view, discriminatory procurement is ineffectual in competitive markets only when government demand is small relative to domestic demand and domestic supply, and domestic and foreign goods are perfect substitutes. In imperfectly competitive markets, a further requirement for discrimination not to affect imports adversely is that the government buys at the private market price. While more empirical research is needed on all these questions, the limited evidence available suggests that in a wide variety of situations discriminatory procurement can adversely affect trade and the non-discriminatory disciplines of the GPA are necessary to prevent distortions.

It could, of course, be argued that there is a case for selective application of the GPA rules depending on characteristics of specific sectors, such as the relative importance of government demand, substitutability of domestic and foreign goods, market structure and the manner in which procurement price is determined. This would eliminate the administrative costs of compliance with the GPA

where it is unnecessary. However, there are three reasons why there may be little reason to modify the GPA's disciplines: first, there will be considerable conceptual and empirical difficulty in establishing clear rules for inclusion of sectors; secondly, the costs of compliance with the GPA where it is not necessary are likely to be small compared to the benefits of compliance where it is; and finally, coverage of sectors and entities is in any case negotiated between countries, so there is already an element of selectivity, with countries presumably unwilling to waste negotiating currency to secure the inclusion of sectors and entities where rules are redundant.

The cost of procurement and welfare implications of price preferences

The second theoretical argument against the GPA is that its prohibition of preferences may sometimes preclude the pursuit of socially optimal policy. At first sight, the GPA's prohibition of preferences in procurement would seem to create welfare benefits analogous to those arising from trade liberalization: the procuring country would benefit from cheaper purchases, other countries would benefit from increased market access, and the world in general would benefit from improved resource allocation. However, just as the benefits from free trade have been questioned in certain situations, doubts have also been expressed about the gains from non-discrimination in procurement.[9] The supposed virtues of preferences derive first, from fact that domestic firms' profits are part of domestic welfare whereas those of foreign firms are not. Secondly, when costs differ between imperfectly competitive firms, preferences can lead to greater effective competition and help to minimize the costs of procurement. Both arguments are considered in turn.

Consider a procurement policy which is designed to maximize domestic welfare. Optimal favouritism of the domestic firm would follow simply from the asymmetry between the profits of the domestic firm and the foreign firm from the point of view of domestic welfare. The underlying intuition here is similar to the profit-shifting argument due to Brander and Spencer (1981). McAfee and McMillan (1989) has shown that if domestic firms' profits enter the social welfare function with the same weight as consumer surplus, the government should always offer a price preference to the domestic industry. Branco (1994a) finds that this is also true when explicit consideration of the social cost of distortionary taxation endogenously determines distinct weights for consumer surplus and domestic firms' profits.

[9]This paper concentrates on arguments for preferences which are specific to procurement, and not on other, more general arguments for protection - for instance, those based on the positive externalities generated by high-technology industries, or variants of the infant-industry argument.

The second argument for preferences is less obvious. McAfee and McMillan (1989) show that even if the government were indifferent to the distribution of profits between domestic and foreign firms, welfare could be improved by discriminatory procurement polices. In their model, there is imperfect competition in the bidding for a contract, and each bidder is better informed about his own costs than either rival bidders or the procurer. If foreign firms have cost advantages and the government is interested in minimizing the expected procurement cost, then the government should discriminate in favour of domestic firms. In the absence of such discrimination, foreign firms may choose to bid just below what they expect domestic firms to bid, which will be higher than their actual costs. A price preference policy increases the "effective" competition from domestic firms and forces the foreign firms to lower their bids.[10]

This argument can be illustrated by a simple numerical example in which we assume away uncertainty and asymmetric information. Say there are only two firms, a domestic firm with constant marginal costs of 121, and a foreign firm with constant marginal costs of 100. In the absence of preferences, the foreign firm would bid slightly less than 121 (say 120), and be sure to win the contract. Now the domestic government announces that it will grant a 20 per cent preference to domestic firms - i.e. domestic bids will be accepted as long as they are not more than 20 per cent higher than foreign bids. This would force the foreign firm to bid close to its cost of 100 in order to be sure of winning the contract - only then will its preference-inflated price be lower than the domestic firm's cost of production. The preference policy means that the government can procure from the foreign firm at a price of around 100 rather than at a price close to 121. The gain in domestic welfare, and the reduction in foreign rents, would be around 20.

[10]When optimal policy requires discrimination in favour of domestic firms, it is important to know how to implement such a policy. Branco (1994) shows that the correct way to implement the discrimination policy varies according to the mechanism used. Most procurements are organized (due to legal requirements?) as first price sealed-bid auctions, with the payment to the winner depending on its own bid only. Discrimination issues are more complex in these mechanisms than in mechanisms where the payment depends on the losing bids. Furthermore, a constant price preference ratio is usually not optimal policy.

Of course, a cost-minimizing government may be tempted to abandon the policy ex post, i.e. to select the lowest bidder - even if it is a foreign firm whose bid is not sufficiently low to satisfy the requirements of the preference policy. In the numerical example given above, the preference margin of 20 per cent was tailored to maximise rent extraction given the cost differences between firms, while ensuring that procurement was still from the low cost source. This may not be possible if a uniform preference margin is applied to several sectors where cost differences are not the same, or the preference margin has to be chosen for a particular sector before the government can observe cost differences. Say the preference margin is again announced to be 20 per cent, foreign costs in a particular sector are still 100 but domestic costs are 115. In this case, a cost-minimizing government would prefer to abandon its preference policy, which would force it to buy from the more expensive domestic firm, and buy from abroad. But for the policy to be credible, the government must in certain cases award the contract to a domestic firm even when it is not the lowest bidder. Though this may raise the costs to the government in specific instances, it will have the effect of inducing lower bids in general by firms with a cost advantage.[11]

Perhaps the most significant contribution of this literature is to make us aware that attempts to estimate the cost of procurement preferences without taking into account their effects on bidding behaviour may produce biased estimates. Thus a zero preference should not be used as a benchmark with which to evaluate the welfare effects of procurement policies in the same way that a zero tariff is used to evaluate the welfare effects of trade policies.

Can we bring together the two arguments for preferences: one based on the inclusion of domestic firms profits in the government's objective function and the other on cost differences between firms? The analysis of McAfee and McMillan (1989) and Branco (1994a) suggests that the second consideration may reinforce, but never offsets, the case for preferences based on the first consideration. Thus, the optimal extent of discrimination against foreign firms may be greater in comparative disadvantage industries than in comparative advantage industries.[12]

[11]In the McAfee and McMillan model, the foreign industry is assumed to have a stochastic comparative advantage over the domestic industry. In the simplest case, the extent of cost variation among domestic firms and foreign firms is the same, but foreign firms have on average lower costs than domestic firms. Favouring high cost firms raises the probability that a high cost firm will win. But it also increases the competitive pressure on the low cost firms, forcing them to bid lower. The former effect tends to higher procurement costs and the latter tends to lower it. The resolution of this tradeoff always involves some preference being given to the high-cost firms.

[12]Branco (1994b) extends the analysis of procurement preferences to a dynamic context, and examines the argument that procurement preferences may reduce incentives for domestic firms to invest in new and more efficient technologies. He finds that if the cost of adopting a new technology is low, favouring the domestic firms is harmful, in the sense that it makes welfare

How realistic are the assumptions on which these arguments are based, and how do they compare with the world in which the GPA exists? Consider first the argument for preference based on cost differences between firms. There are at least three important qualifications. First, this is not an argument for preferences being given to *all* domestic firms since a country is unlikely to have relatively high costs in all industries from which the government purchases. It would seem, therefore, that the government would wish to give preferences to some local industries, while in others it would give preference to foreign industries.

This proposition can be put to a simple test. As noted above, the GPA allows parties to pick and choose services sectors that will be subject to its disciplines, which prohibit any preference being given to domestic firms but do not prevent preferential treatment of foreigners.[13] Now according to the above argument, each Member would wish to retain the right to grant preferences in sectors in which it had a cost disadvantage, but be willing to foreclose this option in industries in which it had a cost advantage. Thus, somewhat ironically, Members would tend to include the industries in which they have comparative advantage and are anyway unlikely to award contracts to foreigners; and exclude the industries in which they have a comparative disadvantage and where foreign competition could play a meaningful role. In fact, the lists of included services sectors of the Members are fairly similar, at least at an aggregative level, so there is little obvious support for this argument.

Secondly, in practice governments do not use finely-tuned preferences which are sensitive to sectoral cost differences between countries. Frequently, uniform preferences are granted to a wide range of sectors.[14] Therefore, procurement costs are unlikely to be minimized even in industries where the country has a comparative disadvantage. In industries where it has a comparative advantage, procurement cost would be lower in the absence of preferences - and still lower if preferences were given to foreign firms.

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improving adoption less attractive to the firms. However, if the cost of adoption is high from the firm's point of view but not the government's, then some degree of favouritism may be needed to induce the firm to adopt the new technology. Branco (1995) comes to similar conclusions, and demonstrates that non-discriminatory treatment is usually not too far from the optimal discriminatory mechanism.

[13]Exclusions are also permitted in the case of goods, but these are more the exception than the rule.

[14]For instance, the Buy American Act in the United States stipulates preferences of 50 per cent for defence items, and 6 to 12 per cent for non-defence procurement - with the 6 per cent differential applied for large businesses and the 12 per cent factor for small businesses (see Francois et al., 1995).

Thirdly, some governments do not use price preference policies but exclude foreign bidders through other means.[15] Price preferences can be effective in reducing procurement costs because they lead to greater "effective" competition. On the other hand, policies which implicitly or explicitly exclude a whole class of bidders reduce competition and therefore are bound to increase procurement costs.

Some of these arguments against preferences motivated by cost differences also apply to preferences motivated by profit-shifting considerations. On the whole, the main weaknesses of this literature are similar to those of the argument for protection based on strategic trade considerations (see Krugman, 1987). The first is the partial equilibrium nature of the analysis. While Branco (1994) does take into account the social cost of distortionary taxation, the resource allocation effects of procurement preferences are not examined. These may turn out to be significant when procurement preferences cause excessive investment in industries in which the country does not have a comparative advantage.

Second, and perhaps most important, is the neglect of political economy considerations. At the domestic level, an effort to pursue welfare gains through preferences is likely to be captured by special interests and turned into an inefficient redistributionist programme. In this context, certain simulations carried out by Deltas and Evenett (1995) using models similar to those in the papers referred to above are revealing. They find that price preference policies generate at best only marginal improvements in social welfare. However, even small price preferences are found to generate substantial increases in the domestic firms' expected profits at the expense of not only foreign firms, but also domestic consumers and taxpayers - so the domestic distributional consequences of preferences are substantial. Deltas and Evenett (1995, p. 1) conclude that their results "cast doubt on the validity of the claim that nations are reluctant to join the GPA because of the welfare losses associated with foregoing the use of price preferences." Rather, they find that it is the large economic rents generated by preferences, concentrated in those domestic firms that bid for contracts, that create a powerful constituency opposed to assuming non-discriminatory disciplines.

[15]Some of these practices are documented in Industrial Structure Council of Japan (1996, pp. 157-73), Services of the European Commission (1996, pp. 15-17), United States Trade Representative (1996), and the Trade Policy Reviews of various countries conducted by the World Trade Organization.

At the international level, preferences may have a beggar-thy-neighbour component which has led to retaliation and mutually harmful non-cooperative outcomes.[16] For instance, in the McAfee and McMillan (1989) model, in so far as the preference policy creates a likelihood of the relatively high-cost firm actually winning the contract, it could lead to a misallocation of global resources, and therefore to a reduction in global welfare. In fact, the GPA is best seen as an agreement to cooperate in order to avoid such sub-optimal outcomes.[17]

Do the non-discriminatory disciplines of the GPA withstand the theoretical assault? It must be acknowledged that in certain circumstances the strict non-discrimination rules may prevent governments from pursuing preferential policies which would enhance national welfare. However, the qualifications presented above suggest that the design of optimal discriminatory policy is likely to be difficult, and, in any case, the gains are unlikely to be large. Most seriously, the legitimisation of discrimination may lead to adverse political consequences, both at the national and international level, which outweigh any potential gains.[18]

[16]The European telecommunications equipment industry is a good example of this kind of situation.

[17]Flatters and Lipsey (1983, pp. 47-49) have shown how individual governments may be trapped into a prisoner's dilemma situation, where each acting in isolation pursues discriminatory policies that collectively damage the interests of all.

[18]Krugman's (1987, p. 143) conclusion about free trade would also seem appropriate in the context of government procurement: "The economic cautions about the difficulty of formulating useful interventions and the political economy concerns that intervention may go astray combine into a new case for free trade. This is not the old argument that free-trade is optimal because markets are efficient. Instead it is a sadder but wiser argument for free trade as a rule of thumb in a world whose politics are as imperfect as its markets."

The theoretical arguments in favour of preferences alone would, therefore, not be compelling, but there is another consideration which suggests that the GPA may need to compromise on its requirement of complete non-discrimination. This concerns the desirability of expanding the limited membership of the GPA in a world where governments, for a variety of reasons, wish to continue protection of domestic industry. In the present GPA, governments are confronted with an "all or nothing" choice - either a sector is not included at all or, if it is, procurement must be strictly non-discriminatory. One possibility would be for countries to maintain preference margins, but to bind them and make them subject to unilateral or negotiated reductions - in a manner analogous to tariffs (see Low et al, 1996, and Hoekman and Mavroidis, 1995). Such a sacrifice of the strict principle of non-discrimination in return for increased transparency and strengthened enforcement (discussed in the next Section) reflects the current thinking of some signatories of the GPA (as discussed in Section I). Whether, this approach is sufficiently attractive to countries who have so far been unwilling to assume any international disciplines on their procurement remains to be seen.[19]

Discrimination through quality rather than price

As noted above, in markets for differentiated goods, discrimination need not always be through price preferences. It could also take the form of choice of inferior domestic goods, or choice of domestic goods which are more distant from the preferences of domestic consumers than foreign alternatives. How far does the GPA address this problem? Article XIII:4(b) of the GPA stipulates that the entity shall make the award to the tenderer whose tender is either the lowest tender or the tender which in terms of the specific evaluation criteria set forth in the tender documentation is determined to be the most advantageous. The procurer thus retains the freedom to take non-price factors, such as quality, into account in the award of the contract but is required to *ex ante* specify the criteria that will be taken into account.

The procurer has much greater discretion in the award of a contract when quality or other non-price criteria are taken into account than in the case of a strictly price-based decision. But is it desirable or possible to prevent this? Firm-specific favouritism has been studied in the context of a model in which incentive contracts are auctioned off to a pair of bidders with differing quality (Laffont and

[19]Article V of the GPA already allows developing countries to negotiate mutually acceptable exclusions from the rules on national treatment, but perhaps the need for exclusions to be "mutually acceptable" has reduced the attractiveness of this provision.

Tirole, 1993). The procuring official can bias the award toward a favoured bidder. The tax-payer or government cannot control the abuse of discretion because they cannot easily observe quality. It is shown that it may be desirable in this situation for the government to respond to possible favouritism by manipulation of the procurement mechanism, for example, by prohibiting the use of quality attributes as a basis for award. However, even if this is possible in the national context, it is doubtful that an international agreement could significantly restrict such discretion even though it is clearly open to abuse. But the enforcement procedures of the GPA may offer some defence to foreign bidders as well as help alleviate the agency problems in procurement, as is discussed in Section IV.

III. Procurement and trade policies

It has not been adequately recognized how crucially the potential benefits of the GPA are dependent on the prevailing trade regimes for goods and services. Article III.3 of the GPA states that "the provisions of paragraphs 1 and 2 [forbidding discrimination against, and between, foreign products, services and suppliers] shall not apply to customs duties and charges of any kind imposed on or in connection with importation, the method of levying such duties and charges, other import regulations and formalities, and measure affecting trade in services other than laws, regulations, procedures and practices regarding government procurement covered by this Agreement."

This provision makes it clear that the GPA contains rules only on the government purchase *per se* of goods and services, and does not deal with other measures affecting market access and competitive conditions. These measures remain subject to other multilateral trade rules. Before the GPA, foreign bidders were faced with discrimination both at the border (in terms of tariffs, etc.) and in government procurement (in terms of preference margins, etc.).[20] After the GPA they need only confront the former in areas covered by the Agreement and not the latter. Hence, even though the GPA has limited the ability of governments to discriminate against foreign suppliers as far as government procurement is concerned, it has excluded from its domain tariffs and other trade measures.[21]

[20]Kim (1994) shows that in certain circumstances price-preference polices and tariff policies are equivalent both in terms of the government's expected procurement costs and the domestic and foreign bidders' expected profits. The crucial assumption is that the government considers the foreign firm's bid price inclusive of the tariff payment. Thus the tariff exerts the same downward pressure on foreign bids as does the preference margin. If, as in certain developing countries, governments consider foreign bids exclusive of tariff payments, then of course a tariff is not discriminatory. See also Herander (1982).

[21]Kim (1994) draws the conclusion that "The analysis in this paper has an important policy implication for government procurement as the Agreement on Government Procurement of 1979 has replaced non-tariff barriers with tariffs... However, the

Thus, the benefit that may be gained from any concession on goods in the context of the GPA is subject to the tariffs and any other trade restrictions consistent with the Multilateral Agreements on Trade in Goods, and on services is subject to the commitments on market access and national treatment under the General Agreement on Trade in Services (GATS). Foreign suppliers can only effectively contest the market for government procurement if they are not unduly handicapped by restrictive trade measures. In the case of goods, despite increasing liberalization, border measures like tariffs are not insignificant relative to procurement preference margins. For instance, while the European Union granted a 3 per cent price preference to domestic firms, and the United States a preference of 6 to 12 per cent for non-defence related procurement, industrial countries import-weighted average bound tariffs on industrial products will be around 3.8 per cent even after the Uruguay Round results are implemented (Blackhurst et al., 1995).

Trade restrictions are far more significant in the case of services than in the case of goods (see Low et al., 1996). For instance, one of the most important services sectors in the context of government procurement is construction. All signatories to the GPA have accepted its disciplines in this sector above a certain threshold value. Yet in the GATS, Members have usually not bound themselves to grant market access to the supply of construction services through the presence of natural persons, except for certain limited categories of intra-corporate transferees. The lack of assurance that workers can be moved to construction sites is an example of how limitations on market access may reduce the benefit of non-discriminatory government procurement. The creation of genuine international competition for procurement contracts thus depends crucially on the liberalization of trade.

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equivalence between price-preferences and tariffs shows that ironically enough, in equilibrium the Agreement is institutionally identical to the Buy American Act." The GPA has not and, under the current institutional arrangements, cannot replace non-tariff barriers with tariffs. Of course, if countries were to increase their tariffs by the same amount that they reduced procurement preferences, the equilibrium outcome with respect to procurement would be similar. But tariff increases have been generally precluded by the widening of tariff bindings, and, in any case, tariffs have steadily declined since the Tokyo Round when the GPA was first negotiated. In no way is the GPA institutionally identical to the Buy American Act or any other form of preferential procurement.

IV. Agency problems in procurement

This Section describes the relevance of the GPA to the agency problems that arise in procurement. Informational asymmetries lie at the heart of any analysis of procurement policies. A central feature of procurement problem is that the government cannot observe the current and expected costs of any particular firm. If it did, then there would often be no need to organise tenders, since the government, if it wished, could simply purchase the item from the lowest-cost supplier. However, there is a possibly more significant agency problem in procurement: the procuring officials themselves are agents for other parties which include politicians and their constituency. The goals of the procurer and the constituency may differ, and the former must be given incentives to implement the goals of the latter.[22]

The literature on government procurement in the international context, in focusing on the tension between minimization of procurement cost and protection of domestic firms, has paid relatively less attention to the problem of moral hazard on part of the procurer. Furthermore, the welfare costs of the abuse of discretion by the procurer, or collusion between the procurer and a supplier, domestic or foreign, may well be as significant as those arising from the failure to devise cost-minimizing procurement mechanisms or from protectionist procurement. This Section discusses the relevance of the GPA to each of the principal-agent problems that arise in procurement: the constituency vis-a-vis the procurer and the procurer vis-a-vis supplying firms.

Disciplines on the procurer: transparency and challenge provisions

[22]McLachlan (1985) in a study on Canada, the EC and the United states finds that a discrepancy is likely to arise between the degree of discrimination designated by government (sometimes zero as a result of international agreements) and that which is actually implemented by bureaucrats. He provides evidence, for instance, from the statements of the Auditor General of Canada, of how purchasing departments have devised means of retaining their discretion and avoiding the scrutiny of the Treasury Board or the Department of Supply and Services. He concludes that "In general, many of the Reports of the of the Auditor General combine to give the impression of rather inadequate control of federal public expenditure in Canada, and hence to confirm implicitly the existence of scope for discretionary behaviour" (p. 364). Benson (1981) finds that even though Congressional Review Committees in the United States play an important monitoring role, their effect is to reduce rather than eliminate bureaucratic discretion in purchasing.

Even though the GPA's procedural disciplines and the enforcement mechanisms are motivated primarily by the need to safeguard the rights of foreign suppliers, they play an important role in alleviating the domestic agency problem in procurement. This is achieved by creating mechanisms for reciprocal international monitoring. The legal scope for monitoring and enforcement is shifted from dispersed tax-payers, who have little interest in monitoring individual procurement decisions, to the bidders for contracts who have a significant stake. As Laffont and Tirole (1993, p. 9) write, "the fact that consumers have no individual stake in procurement (the taxpayers do but are poorly organized) means that they are unlikely to be active in hearings and to act as watchdogs of the agency (unless the good procured is a local public good and local advocacy groups are well organized)." Two elements of the GPA are crucial in this context. First, the agency problem is mitigated by creating obligations on the procurer to be transparent. Secondly, foreign suppliers are given the opportunity to challenge the decisions of the procurer before national courts or independent and impartial review bodies.

It may be asked, what does the GPA add to national legislation which often contains similar provisions to mitigate agency problems? First, the GPA extends the obligation to create detailed procedural and enforcement disciplines even to Members who previously did not have such disciplines, or not at the level contained in the GPA. This obligation is enforced by the system of multilateral dispute settlement. Second, where collusion amongst domestic bidders has been perceived to be a significant problem, the creation of the right to challenge for foreign bidders, who are less susceptible to these problems, may enhance the scope for private enforcement.[23]

In order to ensure the implementation of its basic principles of non-discrimination, the GPA places particular emphasis on *transparency* at each step of the procurement process. *Ex ante* transparency requirements stipulate that adequate efforts be made to inform all interested bidders about relevant aspects of the procurement in question (Articles VII to XVII). *Ex post* transparency requirements stipulate that adequate information be provided regarding the decisions that are taken (XVIII and XIX). The GPA also contains an obligation to *justify* the decisions that are taken upon request.[24]

[23]This may also be important where the procurer and domestic bidders are closely associated. McLachlan (1985), for instance, suggests that in certain countries, representatives of domestic industry were closely involved in procurement review right up to (but not including) the final decision stage. He finds that the relationship between domestic industry and procuring bureaucrats is often extremely close.

[24]Are there reasons why transparency may be socially undesirable? In the negotiations prior to the GPA, the Europeans were opposed to introducing the obligations of ex post transparency and were reluctant to change their practice of not publishing procurement decisions. Their argument was that publication would endanger subsequent competition, result in collusion on the

This obligation applies both to purchasing entities vis-a-vis unsuccessful tenderers, and to the government of the former vis-a-vis the government of the latter.

The *challenge procedures* of the GPA make procurement decisions subject to challenge by private bidders before national courts or impartial administrative bodies. Thus Article XX:2 of the GPA stipulates that "each Party shall provide non-discriminatory, timely, transparent and effective procedures enabling suppliers to challenge alleged breaches of the Agreement arising in the context of procurements in which they have, or have had, an interest." Dispersed tax payers are among the beneficiaries of the public service that these private litigants may perform. Such private enforcement of regulatory policy is, of course, not unique to public procurement but also a feature of other areas like anti-trust.

Private litigation serves a public purpose when the state carries out prosecutorial activities at levels that produce less than optimal deterrence.[25] While the rationale for private action is usually to obtain compensation, the action may also have a socially desirable corrective and deterrent effect. Profit-maximizing victims of illegal behaviour will take legal action when the amounts they may recover, multiplied by the probability of their success, exceed their litigation costs. The barriers to litigation, which may usually deter private action, include those which increase the victim's litigation expenses, lower the amount of any damage award, and reduce the probability that a victim will prevail in court.[26]

The detailed enforcement obligations of the GPA, subject to multilateral dispute settlement, certainly

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part of suppliers, and invite identical bids in new contracts for the same items. Even though these arguments were not accepted and the GPA does not reflect their concerns, they may not have been entirely without basis.

Oligopolistic bidders must choose between a multiplicity of pricing alternatives, a choice that is made even more difficult by anti-trust laws which prohibit communication. Schelling (1960) has provided an insight into how "focal points" may help such firms resolve their coordination problems and achieve tacit collusion. In a variety of situations, when behaviour must be coordinated tacitly, there is a tendency for choices to converge on some focal point which may owe their prominence to symmetry, precedent or any other consideration. Scherer and Ross (1990) provide an interesting example of a procurement of antibiotics by the U.S Veterans Administration in 1955, when five different companies submitted sealed bids each quoting an effective net price of $19.1884 per bottle. It is possible that the bids were the result, not of collusion, but the influence of two kinds of focal points. First, the price of $19.1884 was arrived at through a series of round number discounts to round number base prices. Second, and more importantly for the present purpose, there was a past history of price quotations that provided a focal point for these particular bids. A price that had no particular uniqueness or compulsion became a focal point simply because it had been quoted repeatedly. Thus, it is possible that revealing the precise terms of a procurement contract may provide bidders for future contracts a focal point on which to converge. The empirical significance of this possibility is unclear.

[25]The optimal level of deterrence results when the burden to the wrong-doer of the sanctions for a given act equals the net harm which the act causes to other members of society, divided by the probability of the wrong-doer's apprehension and successful prosecution. See Cooter and Rubinfeld (1989) for an economic analysis of legal disputes.

help to reduce the barriers to private litigation. The role of private parties in deterring illegal activity is thus likely to expand. However, in one respect the Agreement is somewhat weak: it provides for compensation which may be related, not to the profits foregone, but to the costs incurred. Thus, the Agreement stipulates that "challenge procedures shall provide for correction of the breach of the Agreement *or compensation for the loss or damages suffered, which may be limited to costs for tender preparation or protest*" (Article XX:7(c), emphasis added). In the light of this provision, the anticipated gain from private action, and hence the incentives for it, may not be very high.[27]

However, it must also be recognized that the scope for private legal action that the GPA has instituted need not always be beneficial. Studies of the efficacy of private protests in deterring and correcting decisions by procurement officials, reveal that protests may be an imperfect deterrent to malfeasance by procurement officials (Marshall et al., 1994a). While protests occur to correct bad decisions, there are also a variety of frictional costs induced by protest activity. On the one hand, proper procurement decisions are protested, imposing delay and protest costs. On the other hand, overdeterrence is possible so that the risk of protest biases the procurement method away from the optimal one. For instance, competitive procurement may be chosen even though tax-payers would prefer a sole-source procurement to avoid cost of administering the procurement process or switching from one product or seller to another. The bid-challenge mechanism of the GPA is too new to enable an assessment of the empirical significance of these issues.

It is also relevant, in this context, to consider the implications of the common practice of settlement, i.e. the exchange of a cash payment in return for a promise by the protester to drop its suit. It is ironic that the GPA, a product of a system in which settlements of various types flourish, is completely silent on this issue. This silence may not be inconsequential because recent research reveals that, in contrast to typical private litigation where settlement should be encouraged, settlement in the procurement context may be socially undesirable (Marshall et al., 1994a and 1994b). There are two types of settlements: one between the procurement official and a dissatisfied firm, and the other between the successful firm and other firms. The first type of settlement circumvents the enforcement role of the protester. The second type of settlement is shown to produce outcomes that are equivalent to those that would be attained through explicit collusion between firms.

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[26]See Ramseyer (1985), for instance, on the barriers to litigation in Japan

[27]The importance of private enforcement of anti-trust in the United States, relative to other countries, is often explained by the fact that triple-damages are awarded to successful complainants in antitrust cases in the United States while only single-damages are awarded in other countries.

While interfirm settlements are unambiguously welfare-reducing and should be banned,[28] this is not the case with settlements involving the procurement official and unsuccessful firms.[29] In the latter case, there are again two kinds of settlements. First, the procurement official may have made an appropriate decision but still faces a protest from a less well-informed firm. The official may settle to avoid delay in acquiring the commodity and the expense of preparing a defense. Second, the official may have made an inappropriate decision, and may settle to avoid a negative decision from the court or review body. Taxpayers, unable to distinguish ex ante between the two cases, will prefer to leave small abuses by procurement officials unaltered rather than incur the frictional costs of protest litigation. Thus, it would seem desirable to tighten the GPA provisions to ban interfirm settlements (though in some countries existing competition policy provisions may already do so) but it would not be necessarily welfare-improving to insist on judicial review of the procurer's actions without scope for settlement.

Design and implementation of procurement contracts: discriminatory consequences of bail-outs

Now consider the relationship between the GPA and issues of procurement contract design and implementation in situations of asymmetric information, shifting the focus from the procurer as agent to the procurer as principal. The large and growing literature on procurement mechanisms has focused on the problems of both moral hazard and adverse selection (see Laffont and Tirole, 1993). The former can arise when the procurer cannot observe endogenous variables such as cost reducing effort by the firm which has been awarded a contract based on cost-reimbursement. The latter arise when the firm has more information than the procurer about some exogenous variables such as the firm's technological possibilities.

Procurement contracts are typically of three types: fixed price contracts, incentive contracts and cost-plus contracts. In fixed price contracts, the government does not reimburse any of the costs and only pays a fixed fee. Such contracts make the firm the residual claimant for any cost savings. In the cost-plus contract, the firm does not bear any of its costs. These are reimbursed by the government who

[28]Marshall, et al. (1994b) show that settlement of postaward protests by favoured firms can induce bidding behaviour in the first stage of the game that is indistinguishable from the bidding behaviour of firms that are engaging in explicit collusion.

[29]Most jurisdictions do not seem to prohibit settlements. Thus, the only difficulty for private parties is actually negotiating a settlement. However, there are likely to be administrative difficulties for a government official in making a settlement since this could be seen as an acknowledgement of an error.

also provides an additional fixed fee. In between these two polar cases are various incentive contracts in which the firm bears a part of its costs and also receives an additional fixed fee.[30]

The procurer's problem is to devise a contract which achieves the most desirable balance between two conflicting goals: to promote cost reduction and to extract the firm's rent. A fixed price contract induces the right amount of effort because it makes the firm residual claimant for its cost savings. Since any cost savings translate into increased profits for a firm, it has the socially optimal incentive to reduce costs. In contrast, a cost-plus contract offers no incentive for cost reduction, since the firm does not appropriate any of its cost savings. With regard to the goal of rent extraction, the ranking of the two types of contracts is reversed. The fixed price contract enables the firm to gain from any exogenous cost reduction. In contrast, the cost plus contract enables the government to extract maximum rent since the benefits of any exogenous cost reduction are appropriated by the government. Optimal contracts are usually incentive contracts trading-off effort inducement, which calls for a fixed price contract, and rent extraction which calls for a cost plus contract.[31]

The GPA does not limit governments' freedom to devise procurement contracts provided they are not offered in a discriminatory manner. Thus, as long as both domestic and foreign firms are offered the same (menu of) contracts, the GPA non-discriminatory provisions would not be violated. However, a crucial problem arises in fixed price contracts when the fixed price at which the contract was awarded cannot be credibly enforced. When a firm has ex post cost overruns, it can threaten to go bankrupt unless the government renegotiates the price upward. The government is then confronted with the choice of either reimbursing the additional costs or switching to other sources. If switching costs are significant, then the government may choose the former option.

The anticipation of ex post cost reimbursement may clearly influence firms' bidding behaviour (and their ex post incentives to reduce costs). Thus if all firms had an equal probability of bail-outs by the government, then all would choose to underbid. But the government has significant discretion in

[30]Scherer (1964) found that in 1960, 40.9 per cent of U.S. military procurement dollars involved cost plus contracts, 13.6 per cent incentive contracts, 31.4 per cent fixed-price contracts, and the rest were hybrid contracts. He also found that cost-plus contracts were more employed for high technology than for standard equipment. More recent empirical investigations of procurement contract structures, found, for instance, in Vistnes (1994) and Crocker and Reynolds (1993), confirm the use of a variety of contract types.

[31]As Laffont and Tirole (1993) show, it is actually optimal for the regulator to offer a menu of incentive contracts. The reasoning is that the contract should be tailored to the firm's information. The regulator discriminates among or screens the different potential types of the firm in the same way a monopolist price discriminates among consumers with different valuations for quantity or quality.

whether it chooses to bail-out or to sue for non-fulfilment of the contract. If it chooses to exercise this discretion in favour of domestic firms, i.e. domestic firms are more likely to be bailed out while foreign firms are more likely to be sued, then it will bias ex ante bidding behaviour in favour of domestic firms. The latter will be able to systematically outbid foreign firms. While the foreign firm would be bidding for a fixed price contract with a built in premium against the risk of unanticipated cost-rises, the domestic firm would be bidding for an implicit cost-reimbursement contract and would need to include no risk premium.[32]

Now, whether or not a firm is bailed out may seem a domestic contract issue. But it is not more so than the primary act of procurement because the latter takes place in anticipation of the former. This reveals a gap in the GPA disciplines: while the challenge provision has made the initial procurement decision subject to challenge and review, there is no provision for the ex post bail out. Given the likelihood of cost overruns in procurement contracts, this may create significant scope for de facto discrimination in procurement.[33] It is unlikely that the precise nature of contract offered by a government can be specified by an international agreement. But there could be a provision which, in the case of fix-price contracts, allowed any ex post bail-outs to be challenged by ex ante competitors.

Restrictions on the method of procurement

In some minor ways, the GPA's restrictions on the method of procurement may limit the ability of the procurer to alleviate problems of asymmetric information. However, there remains significant scope for remedying these problems in other ways.

Article XV of the GPA contains an exhaustive list of circumstances in which Governments may resort to limited tendering procedures "where the entity contacts suppliers individually." For

[32]Laffont and Tirole (1993) offer several explanations for cost overruns, including the possibility that the government keeps adding design changes, but do not address the possibility raised here of implicit collusion between the procurer and the firm.

[33]Surprisingly, there does not yet seem to be any formal empirical study of cost overruns which would enable us to judge whether they are a common occurrence and whether the frequency and magnitude of overruns vary by industry or country. But anecdotal evidence suggests that they are an important phenomenon, at least in procurement contracts pertaining to defence (still mostly outside the GPA) and construction (now covered by the GPA). For instance, Scherer (1964, p. 27) reports that actual costs in the 12 weapon system developments covered by his case studies exceeded original contractor predictions by 220 per cent on the average, and actual costs turned out to be less than original predictions in only one program. More recently, Aviation Week and Space Technology (30 July 1990) reported that General Dynamics Corporation faced a pretax cost overrun of at least $450 million by in its contract for the United States Navy's A-12 advanced attack aircraft. The same journal (30 January 1989) reported that additional government funds were needed to overcome a $1.12 billion cost overrun for the second batch of multirole combat aircraft ordered by the Swedish Government. McKay (1983) provides evidence of cost-overruns in the

instance, the need for standardization and interchangeability, as for instance when existing computer facilities have to be upgraded, has been recognized. There are, however, factors which may justify limited procurement rather than competitive tendering which have not been recognized.[34] For instance, the GPA leaves no scope for limited procurements from a single source when this serves a useful strategic function. Repeated procurement from the same source coupled with the threat of termination may alleviate moral hazard problems.

However, the stipulation that "...nor shall any procurement be divided, with the intention of avoiding the application of this Agreement" (Article II.3) does not limit the scope for exploiting the benefits of yardstick competition (see Laffont and Tirole, 1993; and Vickers and Yarrow, 1988). The latter is a method of remedying informational asymmetries by promoting competition between firms. For instance, concerning the regulation of water utilities in the United Kingdom, Littlechild (1986) proposed a division of what could have been a single monopoly for the whole country into separate regional units. Provided the contracts for each unit, even if they fell below scheduled thresholds, were subject to international competitive bidding, there would be no violation of the GPA obligations. The payment to a single regional unit could then be based on the costs of other regional units. As long as there is no collusion and regional conditions are similar, this method offers the possibility of achieving the goals of both cost reduction and rent extraction. Good incentives for cost reduction exist because a firm keeps the benefits of its cost-reducing activities, since its price is linked to the cost performance of other firms. Rent extraction is accomplished if there is symmetry between firms, because industry prices are kept in line with industry costs.

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electrical industry. See also Fox (1988) and McAfee and McMillan (1988).

[34]An obvious one is that the administrative cost of limited tendering could be lower. But it was presumably felt that the additional costs of competitive tendering would be more than offset by the gains from safeguarding against latent discrimination.

V. Conclusions

This paper analyzed the provisions of the GPA, drawing insights from standard trade theory and recent developments in the economics of information and law. A central conclusion is that in a world where imperfectly informed procurers purchase from imperfectly competitive firms on behalf of imperfectly informed tax-payers, it is not easy to devise rules which would be optimal in all situations. Nevertheless, the non-discrimination provisions of the GPA seem to approximate closely those which would on average maximize global welfare. Despite this, the GPA may need to compromise on its basic non-discrimination disciplines. This would be out of the need to make its procedural and enforcement disciplines more widely acceptable in a world where there is a persistent desire to protect - regardless of economic merits.

Four areas where improvement is possible were identified. First, since the GPA does not equip bidders for procurement contracts to vault over trade restrictions, the creation of genuine international competition for government procurement remains crucially dependent on the liberalization of trade. Secondly, compensation for successful challengers of procurement decisions could be related to some approximation of the profits foregone rather than the costs incurred. This may enhance their socially desirable enforcement role. Thirdly, while settlements between firms should not be allowed, settlements between the procurer and unsuccessful firms should at least be monitored so that the enforcement role is not circumvented. Finally, any ex post bail-outs should be subject to judicial review if challenged by ex ante competitors. This may be quite important in preventing the non-discriminatory provisions of the GPA from being undermined.

In its focus on relatively new issues, this paper has chosen not to address two important, but well researched, areas: the use of offsets and competition policy. While the Agreement forbids developed countries the use of offsets, such as domestic content or countertrade requirements, developing countries may continue to use them, provided they are negotiated during accession, clearly defined, and are applied non-discriminatorily (Article XVI). The impact of such measures has been analyzed at length in the literature.[35] The Agreement addresses competition policy issues only in so far as limited tendering is allowed when collusive tenders have been submitted (Article XV). Implicit collusion through settlement has been discussed in this paper, while other issues have received significant attention in both the theoretical and policy-oriented literature.[36]

[35]See, for instance, Vousden (1990).
[36]See Hoekman and Mavroidis (1995).

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