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Monitoring Implementation of Public Procurement Disciplines

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INCOMPLETE AND VERY PRELIMINARY VERSION: TO BE EXTENSIVELY REVISED

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I. Introduction

The growth of spending by central and local governments was one of the most profound economic changes of the twentieth century (Tanzi and Schuknecht, 2000). Although a large portion of government expenditures is devoted to social spending and redistribution (e.g., transfer payments), government entities of all types spend considerable sums on a wide range of products as inputs into the production of public goods and services—education, defense, utilities, infrastructure, public health, and so forth. According to one estimate, some 70 percent of all central government expenditure is associated with a contract of some type (Transparency International, 2006).¹ As a consequence, the state has considerable influence over the allocation of resources in market-based economies. The purchases by the entities concerned are governed by various procedures and mechanisms that aim to ensure that the specific objectives of each agency or activity are achieved while minimizing costs to taxpayers. Such procedures and mechanisms constitute government-procurement policy.

Given that government procurement often involves large projects and is an important interface between the public and private sectors, many countries have made attaining efficiency in public purchasing a priority. This requires that procurement be undertaken on the basis of a public, and competitive process by independent and impartial tender boards that are to maintain records of decisions and motivate their decisions to interested parties. A common element of procurement systems that aim to ensure value for money is to mimic the working of the market by requiring that public entities seek competitive bids from potential suppliers of goods and services.

There is often a tension between the focus on efficiency (“value for money”) and other policy objectives that are pursued by governments in the context of procurement. Government entities are often supplied by domestic firms. This reflects a number of drivers, including a desire to protect domestic firms, to keep tax revenues at home – in the process generating political support for politician; to safeguard national security, to attain industrial policy objectives, or non-economic objectives (e.g., to support minorities or disadvantaged groups).

Insofar as procurement policies favor domestic firms and products, they can impede international commerce. Such impediments can be prohibitive; for example, when there is an outright ban on purchases from foreign providers. Alternatively, they may be similar in some respects to an import tariff by the granting a margin of preference to domestic bidders for state contracts. Effective market access could also be constrained if procurement rules prohibit sourcing from foreign owned firms, even if they have established a presence in the market through foreign direct investment (FDI). It is this market access dimension of discriminatory procurement practices

¹ http://www.transparency.org/global_priorities/public_contracting.

that has generally provided the rationale for negotiating disciplines on government-procurement policy in international trade agreements.

The desire to discriminate against foreign suppliers in public purchases was the major reason that government procurement was excluded from the original General Agreement on Tariffs and Trade (GATT) in 1947. It was not until the completion of the Tokyo Round of multilateral trade negotiations in 1979 that an agreement on disciplines for government-procurement practices was introduced into the world trading system. This agreement bound only those countries willing to sign it—at the time only a subset of the OECD membership. During the Uruguay Round of multilateral trade negotiations, the coverage of the Agreement on Government Procurement (GPA) was expanded but participation remains voluntary and limited to mostly OECD countries. In addition to the GPA, preferential trade agreements (PTAs) often include provisions on procurement. A recent analysis identified 43 PTAs with explicit procurement rules and other provisions that aim to open the procurement market on a preferential basis to firms from participating nations (Rickard and Kono, 2013).

A number of factors underlie the gradual shift towards negotiation of international rules on national procurement practices. One driver is a desire to control spending and ensure “value for money” – greater competition, including by foreign suppliers, is one way of reducing costs. Directly subjecting production units to competitive forces is another—e.g., through privatization of state-owned enterprises, permitting entry of privately-owned firms into sectors traditionally reserved for public entities (such as utilities) and contracting out activities to independent suppliers. What was once produced ‘in-house’ by government entities is increasingly supplied by private operators – resulting in a shift towards real market-based contracting as opposed to one where the focus was on mimicking the role of the market through competitive bidding for government contracts. Privatization reduces the size of the procurement market, but outsourcing of government activities increases it. Much of what is outsourced comprises services, resulting in new interest by foreign services firms to ensure that they are able to compete for the associated contracts.

Such “export politics” are a major factor driving interest by governments to negotiate rules for procurement policies. Domestic firms eye profitable opportunities in supplying foreign governments and press their own government to negotiate “access” to those overseas procurement markets. In industries where there are strong economies of scale—that is, average costs which fall as production levels increase—firms have an incentive to increase sales at home or abroad. Although one government could begin bilateral negotiations with another government to open the latter’s procurement market, the most prevalent path to reform has been for nations in the same region to simultaneously increase the access to their procurement markets to firms from the same region. Reciprocity is at the core of such agreements to liberalize access to government contracts, as the loss of a sheltered home market for domestic firms is offset by an increase in contracts won in trading partners.

In this paper, we discuss prevailing international disciplines on government procurement practices, including in the WTO and regional trade agreements, and summarize available information and the extant literature on public procurement data. We use the Tenders Electronic Daily (TED) database – the only cross-EU source of detailed information on public purchasing – as well as information reported by members of the WTO Government Procurement Agreement and other sources to explore what indicators could be used with extant data to assess the degree to which public purchasing is “open” to foreign firms. The aim is not so much to undertake a detailed analysis of procurement patterns by countries reporting data, but to assess what can be learned from the EU and WTO data collection and reporting efforts for a broader, international effort to use available data to assess the magnitude of cross-border procurement and the prevalence of discrimination in public purchasing.

[NOTE: To be added/expanded: Discussion of sources of data on procurement and review of literature; Indicators – identifying discrimination; the TED database; matching procurement data with trade, FDI and firm-level data; implications for data collection/analysis]

II. Procurement Markets: Size, Policy Objectives and Instruments

There is very little systematic cross-country analysis of the size of national procurement markets. OECD (2002) remains the only comprehensive effort to quantify the magnitude of procurement contracts across a large number of countries. This report uses National Accounts data to compute the magnitude of government spending in the OECD member states and in 106 non-OECD economies for the year 1998. On average, government procurement of items other than defense and compensation for state employees in the OECD nations entailed outlays equivalent to 7.6 percent of national income. These calculations imply that in 1998 approximately US \$1.8 trillion of government expenditures were potentially contestable by firms located at home and abroad. Adjusting for the growth in GDP in current prices between 1998 and 2012 (which doubled for the OECD in this period), this suggests the total OECD government market is some \$3.5 trillion. Only between a quarter and a third of all outlays are undertaken by central governments, highlighting the importance of sub-national authorities as a source of demand. On average contestable government expenditures in non-OECD countries were some 5-10 percent of national incomes. The total amount of such expenditures in these non-OECD nations equaled US\$287 billion in 1998, approximately one-sixth of the size of the contestable procurement markets in OECD nations. Given a quadrupling of GDP in current prices between 1998 and 2012, this translates into over \$1 trillion as of 2012, assuming ratios of procurement to national income did not change.

Targets and Instruments of National Procurement Policies

Government-procurement policies tend to have multiple targets and numerous instruments. This reality complicates an analysis of procurement policies, and in part accounts for the multi-faced nature of international disciplines on the design and implementation of such policies. Perhaps the most common objective of procurement policies is to obtain “value for money” for the government in its purchases. This objective in turn has many facets. It could mean the purchase of products that satisfy certain performance standards at lowest cost. Alternatively, it could mean choosing the highest quality product among a set of similarly priced goods. While value for money seems an obvious objective, from an economic perspective the appropriate metric is economic efficiency. Efficiency is attained when the price paid for a good (service) reflects the value to society of the resources used to produce the last unit of that good. A classic source of inefficiency occurs when a buyer with market power reduces the quantity purchased so as to induce suppliers to lower their prices. Therefore, it is important to bear in mind that attaining the lowest possible price, or “value for money,” in government purchasing need not generate efficient economic outcomes.

A common element of procurement procedures is an effort to mimic the working of the market by requiring that public entities seek competitive bids from potential suppliers of goods and services. The cost-minimizing goal underlying competitive bidding requirements for purchases by public entities is frequently not attained because legislation requires procuring entities to pursue other objectives as well. These may include a desire to promote the development of domestic industry or technology, to support particular types of firms (such as small and medium-sized enterprises), to safeguard national security or to favor certain groups or regions within a country. Economists refer to such policies as pursuing “non-economic” objectives, a term that does not imply that these objectives are misguided or unattainable, but that the objective is not economic efficiency. Often the pursuit of such objectives involves discriminating against foreign suppliers. Examples include outright prohibitions on foreign sourcing (civil servants must fly national airlines), threshold criteria for foreign sourcing to be permitted (minimum cost or price differentials compared to local suppliers), or offset and local content requirements. Chinese public procurement procedures, for example, require that purchasing entities give priority to products developed by

domestic firms so as to help support the development of innovative capabilities of indigenous firms (OECD, 2010).²

The existence of multiple objectives implies that government procurement policies are often an exercise in 'constrained cost minimization'. The basic goal is value for money, subject to the other policy goals that need to be taken into account. In practice, these other goals often imply that, for all or part of any contract, the scope of competition is reduced to the set of firms that meet specific criteria laid out in legislation or procurement regulations. In some instances, there may not be any competition at all. Many governments use selective or single tendering procedures under which a procuring entity directly approaches a specific firm for a bid.

Research has shown that the pursuit of non-economic objectives by governments can have very different implications for the amount of economic efficiency sacrificed, depending on the instrument that is used. In general, the extent of the efficiency loss will be minimized if instruments target directly the source of problem at hand: lack of economic opportunities for minority groups; regional economic wealth differentials; etc. For example, governments may want to promote the number and production levels of small firms by awarding these firms state contracts even though at least one large firm submitted a lower bid. An economic approach might point to a different course of action: first, the government should identify the impediments faced by small businesses and take measures that directly remedy them. If, for example, the critical impediment to the growth of small firms is access to financial credit, then policies should be directed towards bolstering the supply of credit to small firms—rather than using indirect means such as increasing the sales of small firms through government contracts that can then be used to obtain credit lines from banks.

A recent study that analyzed selected country experiences in promoting the participation of small and medium scale enterprises (SMEs), female entrepreneurs, firms owned and managed or employing indigenous peoples, and/or other designated disadvantaged groups concludes it is difficult to evaluate how effective or efficient procurement policies are in assisting such groups because most countries do not have a system for evaluating costs and benefits and thus their impact (or costs). Available audit information demonstrates high potential for fraud and corruption and high compliance costs for such programs. Matters are compounded by evidence of "creep" as political pressure results in more and more groups becoming eligible for preferences. In practice other instruments are likely to be more effective and less costly to achieve social goals (Horowitz, 2012).

These considerations have direct relevance for the design of government procurement policies. Governments may be more inclined to eliminate a procurement scheme that favors a certain industry if they know that other forms of state intervention can better attain this objective. Furthermore, if the chosen form of state intervention directly tackles the constraints confronting the favored industry's or group's performance, then economic efficiency can be improved also.

Economic Analysis of Discrimination in Procurement

Discriminatory public procurement practices are a major market access issue on the agenda of trade agreements. Given a global contestable market of some \$5 trillion and procurement markets that account for 5 to 10 percent of GDP or more, if many countries pursue discriminatory procurement practices, the end result for the world as a whole is likely to be inferior in welfare terms to a cooperative outcome where governments agree to refrain from using procurement as a tool to protect national industries or to pursue non-economic objectives.

The effect of discrimination depends on market structure and on the size of government demand. Baldwin (1970) and Baldwin and Richardson (1972) have pointed out that if domestic and foreign products are good substitutes, markets are competitive and government demand is less than the initial domestic supply capacity, discrimination will have no effect on imports, prices, overall

² The law requires that more than 30% of technology and equipment purchased with public funds be for domestic equipment and grants indigenous innovative products a price preference of 8% (OECD, 2010).

output and welfare. Although discrimination results in increased demand by the government for domestic output, this will be offset by greater private-sector imports, so that the policy has no effect on equilibrium prices and production of the domestic industry. If, however, government demand exceeded domestic supply at the prices that prevailed before the ban was imposed, the price of cars for the government must increase to encourage domestic supply to expand to meet government demand. The end result is that domestic sales to the government rise and imports fall. New firms will want to enter this protected industry, driving down the price paid by the government until the incentive to enter this market (the higher-than-usual profits) has gone. Whether entry occurs depends on the prevalence of natural—and policy-induced barriers—to entry. Therefore, the long-term consequences of a procurement ban are determined in part by domestic competition policies and restrictions on FDI. This result continues to obtain if there is imperfect competition (oligopoly) as long as goods are perfect substitutes.³

Matters are different if the procurement is for products for which there are just a few suppliers. In such situations there may be a potential economic rationale for discrimination. Discrimination will increase domestic output and thereby it can help local firms achieve economies of scale (lower unit costs of production) (Trionfetti, 2000). McAfee and McMillan (1989) show that if domestic firms have a competitive disadvantage in producing the product (are higher cost producers compared to foreign firms), and only a limited number of firms (foreign and domestic) bid for the contract, a price-preference policy may induce foreign firms to lower their bids. Even if the cost structures of domestic and foreign firms are identical and account is taken of the social cost of distortionary taxation, discrimination may be optimal simply because foreign firms' profits do not enter into domestic welfare (Branco, 1994; Vagstad, 1995). In the small-number of bidders context, prices (bids) will exceed marginal costs, so that shifting demand to domestic firms may also reduce price-cost margins as domestic output expands (Chen, 1995).

If the products procured are intangible (services) or there are problems in monitoring and enforcing contract compliance, discrimination can increase the likelihood of performance by suppliers. The best (economic) case for discrimination revolves around situations where there is asymmetric information, e.g., difficulties in monitoring the performance of a contractor if buyer and provider are located far from each other, or there is a need to offer a firm quasi-rents in order to increase the probability of contract compliance through the threat of losing repeat business (Laffont and Tirole, 1991).⁴ Moreover, geographic proximity may be a precondition for effectively contesting procurement markets—making some products, in particular services, in essence non-tradable. Problems of asymmetric information and contract compliance may imply that entities can economize on monitoring costs by choosing suppliers that are located within their jurisdictions. In turn, this will make it more difficult for foreign firms to successfully bid for contracts, even if the goods or services involved are tradable and in the absence of formal discrimination. Such rationales have been explored extensively by Laffont and Tirole (1993); many of the underlying technical arguments are summarized and synthesized in Breton and Salmon (1995). The policy issue that arises in such situations is whether there are barriers against establishment (FDI) by foreign suppliers, as this is a precondition for them to bid for/supply contracts (Evenett and Hoekman, 2005).

While discriminatory procurement may enhance national welfare by lowering procurement costs in small numbers settings, simulation studies suggest that welfare gains are likely to be modest at best. Greater profits of domestic firms or cost savings to public entities will tend to be offset by increased prices. As a result, the potential cost savings are reduced (Deltas and Evenett, 1997). Given that in most instances the optimal discriminatory policy will be difficult to determine (it generally

³ See Evenett and Hoekman (2005) for a more in-depth discussion.

⁴ Discrimination is not necessarily the optimal instrument. Naegelen and Mougeot (1998) show that alternative instruments, such as cost targets, can be more efficient. Governments may also want to consider dual sourcing in such situations: see for example McGuire and Riordan (1995).

will vary depending on the specifics of the situation), in practice procurement favoritism can be expected to be more costly than a policy of nondiscrimination. In many situations the information required to judge if diverging from nondiscrimination is beneficial will not be available. Nondiscrimination has therefore been argued to be a good rule of thumb (Hoekman, 1998).

The foregoing discussion has ignored the possible dynamic effects of alternative procurement procedures. From a governance perspective, if account is taken of the rent seeking distortions that may be induced by discriminatory policies and the social cost of corruption and bribery, the case for nondiscrimination is substantially strengthened. All of the above arguments regarding the economic pros and cons of discrimination cease to apply if government entities do not maximize social welfare. Nondiscrimination will generally reduce discretion and enhance transparency of the procurement process and thus reduce the scope for rent-seeking. Most important in this connection is transparency and a system of rules to impede corruption. Open and competitive bidding, whether or not there are preferences for domestic industry, is a key instrument in this regard.⁵

Such unambiguous conclusions may not apply if what is being procured has significant positive dynamic spillover effects. An example is procurement that seeks to encourage the development of new technologies. Geroski (1990) argues that targeted procurement in which the government creates demand for new or innovative technologies may be superior to policies that target the supply side such as R&D subsidies by both stimulating innovation and allowing firms to learn by doing through the process of producing associated products for the government.⁶ Insofar as governments care about the nationality or ownership of the firms that acquire and control such technologies, discrimination will be a feature of the associated procurement process. However, it is not obvious that this will be optimal in terms of increasing the likelihood that the new desired technologies or products are in fact generated. If control is an objective then contracts can be structured so as to ensure that the government will be able to determine how the results of what is being financed can be used/made available. If one of the objectives is to utilize and develop local capacity and expertise, then this can be specified as well, implying that firms bidding for the contract need to have a local presence. As in other instances, therefore, per se discrimination against foreign firms in such “public procurement for innovation” is therefore neither needed nor likely to be desirable in attaining the innovation objective.⁷

III. The WTO Agreement on Government Procurement

Art. III:8 GATT excludes procurement from the national treatment obligation. Art. XIII GATS does the same for services. The 1979 Tokyo Round Government Procurement Agreement (GPA) extended basic GATT obligations such as nondiscrimination and transparency to the purchases of goods by selected government entities. The GPA has been renegotiated several times to expand its coverage, update its rules and reflect advances in information technology. Membership of the GPA is limited to mostly OECD countries.

⁵ See Ades and Di Tella (1997), Auriol (2006), Auriol, Flochel, and Straub (2009), Borges de Oliveira (2010), Di Tella and Schargrotsky (2003), Hunja (2003) and Hyttinen, Lundberg, and Toivanen (2007) for studies that document the importance of procurement rules and transparency to reduce corruption. A 2012 World Bank report analyzing cases of fraud and corruption in projects that led to sanctions being imposed found that there were 54 projects with 157 fraudulent contracts investigated during a 5-year period (2007 to early 2012), worth some US\$245 million, a very small share of total loans. The analysis did not reveal any relationship between type of procurement procedure used, the type of contract (works, goods, or services) or the sector involved. The main explanatory factor appeared to be weaknesses in the institutional environment and economic governance (Alexander and Fletcher, 2012b).

⁶ See Nelson (1982) for an early study of how government can use procurement among other instruments to stimulate technical progress.

⁷ For discussions of the use of procurement to achieve innovation objectives, see Edler and Georghiou (2007) and European Commission (2004).

The GPA applies to ‘any measure regarding covered procurement, whether or not it is conducted exclusively or partially by electronic means’ (Article II:1). The concept of procurement covers all contractual options, including purchase, leasing, rental and hire purchase, with or without the option to buy.⁸ A positive list is used to determine what procurement is covered. The GPA applies *only* to entities listed in Appendix I of the agreement. There are three ‘entity annexes’: Annex 1 lists cover central government entities; Annex 2 lists sub-central government entities; and Annex 3 lists all other entities that procure ‘in accordance with the provisions of this Agreement’. Annex 3 is a catch-all category that includes bodies such as utilities. Entities listed in Annex 3 may be partially or totally private. What constitutes a government entity is nowhere defined in the agreement, reflecting a lack of consensus on what constitutes a public undertaking – more specifically, whether a former state-owned or controlled enterprise that has been privatized or that is subject to competition should be required to follow GPA procurement practices. Instead a pragmatic approach is taken – governments negotiate which entities are listed. The entities listed in the three annexes are subject to the rules and disciplines of the GPA if the value of the procurement exceeds certain specified thresholds, and the goods or services involved are not exempted from the coverage of the Agreement.

The primary obligation imposed by the GPA on covered entities is nondiscrimination – national treatment and MFN (Art. V). This extends not only to imports but also to subsidiaries of locally established foreign firms. The GPA thus goes beyond the GATT, which does not extend national treatment to foreign affiliates, and the GATS which does so only if specific commitments to that effect have been made. Under the GPA, all foreign affiliates established in the country are to be treated the same as national firms. Local content, price preferences and similar discriminatory policies are prohibited. Moreover, signatories may not discriminate against foreign suppliers by applying rules of origin that differ from those they apply in general to MFN-based trade.

The GPA does not explicitly require that procurement be competitive or that certain procurement methods be used. In this regard it is quite different from the procurement guidelines that international development organizations and national governments apply. Regarding conduct of procurement, signatories are simply required to “...conduct covered procurement in a transparent and impartial manner that is consistent with this Agreement, using methods such as open tendering, selective tendering and limited tendering; avoids conflicts of interest and prevents corrupt practices (Art. V:4). Open tendering is any method that allows any supplier to bid (i.e., competitive tendering). Selective tendering is a method where only suppliers that satisfy specific criteria for participation may bid (usually prequalified suppliers). Limited tendering is non-competitive and usually involves a procuring entity approaching one or more potential suppliers of its choice.

The rules in the GPA regarding selective tendering are basically aimed at ensuring that foreign suppliers can demonstrate that they qualify and are not discriminated against in this regard (e.g., have the information needed). Limited tendering may only be used if no tenders were received or they were not responsive, only one supplier can provide the good or service (e.g., artwork, products protected by intellectual property rights), for additional, follow-on deliveries, in situations of extreme urgency, for commodities (the presumption being that there is a world price for standardized, homogenous goods), or for prototypes.

There is no explicit hierarchy of the three tendering methods mentioned in Art. V and governments are free to use others. The preference for competitive procurement methods is implicit in the agreement, reflected in requirements that notices of intended or planned procurement be published (including information on the mode of procurement, its nature and quantity, dates of delivery, economic and technical requirements, and amounts and terms of payment), in the conditions that must be satisfied if governments use limited tendering, and in the disciplines on

⁸ The GPA applies to purchases of goods and services that are not intended for re-sale. If government entities engage in trade (buying and selling) Art. XVII GATT applies (Hoekman and Kosteci, 2009).

treatment of tenders and contract awards. Art. XIII on limited tendering makes it clear that competition is preferred by making use of this method conditional on it not being used to avoid competition among suppliers, to discriminate or protect domestic suppliers. Art. XV requires that entities award contracts to the supplier 'determined to be fully capable of undertaking the contract' and who is either the lowest tender (if price is the sole criterion) or the tender that is most advantageous (in terms of the evaluation criteria set out in the notices or tender documentation). It is rather surprising that the objective of competitive procurement is not embedded in the preamble of the agreement. The 'fuzziness' as regards the preference for competitive bidding may reflect the desire of signatories to see membership of the GPA expand to include developing countries.

Price-preference policies, offsets and similar policies that are widely used by governments are in principle prohibited for covered procurement as a result of the national treatment rule (Art. V). This has been a problem for developing countries, as these countries use procurement as an instrument to achieve objectives other than 'value for money'. Article IV of the 2006 GPA permits developing countries to negotiate the right to adopt or retain price-preference policies and offset requirements on a transitional basis, and delay the implementation of any and all provisions other than MFN for up to 3 years (5 years for a LDC). Moreover, after accession, the GPA Committee may extend the transition periods or approve the use of new transitional price preferences or offsets if there are "special circumstances that were unforeseen during the accession process" (Art. IV:7). Existing signatories also commit themselves to "give due consideration to any request by a developing country for technical cooperation and capacity building" (Art. IV:8). Some scope therefore exists for maintaining a price preference or offset policy – but it is time limited.⁹

The nature of procurement is such that unless rapid action can be taken, firms may not have an interest in contesting violations of the rules of the game. Accordingly, the GPA supplements the right of signatories to invoke the WTO dispute settlement mechanism – which is too slow to be relevant for much real world procurement situations – with a requirement that members establish domestic review procedures. These bid-protest or challenge mechanisms should provide for rapid interim measures to correct breaches of the agreement or a failure of a government entity to comply with the measures implementing the GPA (Art. XVIII). Measures to preserve commercial opportunities may involve suspension of the procurement process, or compensation for the loss or damages suffered. This may be limited to the costs for preparing the tender or the costs relating to the challenge, or both.

Enhancing Transparency in Procurement

Most of the provisions of the GPA concern transparency broadly defined. Thus, much attention is given to requiring signatories to specify where information on procurement systems and opportunities will be published (including through electronic means). These must be listed in Appendices II through IV to the GPA. There are detailed requirements for publication of notices of intended procurement, the conditions for participation and permitted systems to ascertain that suppliers are qualified, technical specifications and tender documentation, minimum time periods to allow bids to occur, and regular reporting of statistics on procurement activities of covered entities.¹⁰

⁹ Very little is known about the incidence and prevalence of price preferences in the allocation of contracts. A recent study of the use by borrowers from the World Bank of domestic price preferences – permitted under its procurement guidelines – found that in the 1998-2009 period a total of 153 such contracts were approved, with a value of US\$ 280 million. This compares to a total number of 57,000 contracts issued during this period. In only 12 contracts, worth \$4.3 million, did the price preference for domestic suppliers appear to alter the outcome of the bidding process; that is, the domestic supplier won over a foreign supplier. See Alexander and Fletcher (2012a).

¹⁰ The GPA does not define specific operational procedures such as whether bids should be assessed on price before determining whether bidders can satisfy technical requirements or whether technical selections should

Arts. IX and XVII GPA require each signatory, on request from another party, to promptly provide pertinent information concerning the reasons why the supplier's application to qualify was rejected, why an existing qualification was terminated, and information necessary to determine whether a procurement was conducted in accordance with the GPA, including pertinent information on the characteristics and relative advantages of the tender that was selected. The 2006 provisions in this area are weaker than those in the 1996 agreement.

There are significant potential gains from disciplines that promote transparent procurement mechanisms, thereby reducing the scope for corruption and rent seeking. There is an increasing body of evidence, mostly of a case study nature, that documents that the associated costs, both direct and indirect, can be very large. For example, Auriol, Flochel, and Straub (2009) use on a database of some 50,000 procurement contracts in Paraguay over a 4-year period in the mid 2000s to both document and estimate the effects of rent-seeking in procurement in Paraguay. They show that corruption in procurement generated a far-reaching system of favoritism that inflated costs and created incentives to engage in directly unproductive rent-seeking activity: firms that obtained government contracts were estimated to have an average 35 percent excess rate of return relative to competing firms that sold to private clients (did not get public contracts). They argue that procurement favoritism and corruption helps explain the bad growth and export performance of the Paraguayan economy.¹¹ Noteworthy is that discrimination against foreign suppliers was not a prominent feature of procurement favoritism in Paraguay as most goods were imported—what was at stake is the allocation of contracts and the associated rents generated by inflated markups resulting from bid-rigging and sole tendering (about a quarter of all contracts in 2004-05).

An important aspect of procurement therefore relates to the transparency of the numerous steps associated with the implementation of procurement law and regulation. Transparency, which refers to the publication, notification, and dissemination of pertinent information about a procurement regime to actual and potential bidders and to the public at large. Even if procurement is not collusive or corrupt, a lack of transparency will reduce the number of firms able and willing to bid for state contracts, so reducing competition and increasing costs.

Data on GPA Implementation

Signatories to the GPA are required to report data annually on procurement that is covered by their commitments (Art. XIX:5 GPA). Statistics to be provided include data on the number and estimated value of contracts awarded, broken down by entity and categories of products and services. To the extent possible, statistics must also be provided on the country of origin of products and services purchased by a Party's entities. Signatories began reporting statistics for the year 1983. Only 6 members regularly notify data: Canada, the EU, Hong Kong, Japan, Norway and the United States (Shingal, 2011b). Since 1997 submissions are made electronically; before that data have to be processed manually from hardcopy reports. There are substantial differences across countries in what is reported and how data are classified. The US and Canada, for example, have different classification systems than the EU, Japan and Switzerland.

The data are reported to the WTO at the "sector" level, i.e., they tend to be relatively aggregated—generally less than 100 categories of products and some countries only report data by entity. Classifications tend to be country-specific and thus not readily comparable. As discussed below, in order to assess the extent to which government entities are open to cross-border procurement it is necessary to compare their sourcing behaviour to a "market benchmark" – what

precede an assessment of price. In practice such matters can have an effect on expected procurement costs. See e.g., Blancas et al. (2011).

¹¹ Other contributions to this literature include Di Tella and Schargrotsky (2003), who assess the effects of reducing corruption in procurement in Argentine hospitals and Hyytinen, Lundberg, and Toivanen (2007), who analyze municipal cleaning contracts in Sweden.

private firms that are unconstrained by political objectives and procurement policy do. But to do this it is necessary to have not just information on trade flows but also data on domestic production. As production data is much more aggregated than trade data, in practice the available production data will be the binding constraint.

Very few of the GPA signatories provide data on the national breakdown of winning tenders on contracts that are covered by the GPA. However, some do – Japan is one of the few examples. Data reporting requirements under Article XVI: 4 of the last revision of the GPA deal have been made less demanding than in previous incarnations of the GPA. Of particular note, contra to Article XIX: 5(b) of the Uruguay Round GPA, it is no longer required to report the number and value of central government contracts by nationality of the winning supplier. This makes it impossible to assess the effective level of foreign market access in the central government procurement markets of GPA signatories even they were to comply with reporting requirements.

Data reported in Hoekman (1998) for the 1983-92 period—when only central government procurement of goods was covered by the GPA—suggest that the largest procurement market, by a substantial margin, opened up under the first version of the GPA was that of the United States, which accounted for almost half of the total procurement reported. Smaller countries, on average, procured much more on international markets than did large countries. If Canada, the EU, Japan and the US were excluded, about 60 percent of purchases by covered entities exceeding the threshold went to national suppliers. This compared to more than 90 percent for the large players. As EU statistics defined ‘domestic’ as including intra-EU sourcing, reported self-sufficiency ratios for the EU-12 were above 90 percent on average. In interpreting these statistics it should be noted that no distinction is made between domestic firms proper and foreign firms that have established a local presence. To the extent that large countries attract a greater amount of FDI, higher self-sufficiency ratios are not indicative of discriminatory policies.

In the EU, Japan and the US, the share of domestic firms in total above threshold procurement by covered entities remained virtually unchanged during 1983-92. For the smaller countries, however, with the exception of Singapore and Switzerland, the share of procurement from national sources declined over time. It is impossible to attribute such changes in sourcing patterns to the GPA—regional developments also played a role, such as the NAFTA in North America and efforts to liberalize EU procurement markets. Unilateral deregulation and privatization policies also must have had an impact. Nonetheless, the finding that smaller GPA members became less nationalistic in their purchasing decisions suggests that practices did become more open. During the same period, the share of contracts that exceeded the threshold tended to increase. In 1983-5, some 39 percent of all procurement by covered entities fell above the threshold. By 1991-2, it had risen to 49 percent. This can be explained in part by a reduction in the threshold in 1988, from SDR 150,000 to SDR 130,000. As of the early 1990s, the share of above threshold contracts for both EU and US entities averaged around 60 percent.

To undertake an assessment of procurement patterns industry-specific data is needed on output, employment and trade for the categories of goods and services for which procurement data are reported. This requires developing concordances between the national accounts and trade data and the procurement classifications that are used by countries. Weaknesses in data for trade in services make any analysis of services procurement much more difficult than for goods (Shingal, 2011b). The type of data that is reported by GPA members that do report is illustrated in Annex tables 1 and 2 with data for Japan and Switzerland that are drawn from Shingal (2011a).

Choi (2003), Evenett and Shingal (2006) and Shingal (2011a) have undertaken country-specific studies of the operation and impact of the GPA, focusing on Korea, Japan, and Switzerland, respectively. Choi finds that accession to the agreement by Korea was followed by a reduction in the share of procurement using limited tendering (which fell from 27 percent in 1993-95 to 22.5 percent in 1996-98. However, the share of foreign supplied goods during this period fell. Evenett and Shingal

conclude that in 1999 in Japan more contracts fell below the GPA thresholds than in earlier years, and that of the contracts that exceeded the threshold – and thus were covered by the GPA – a smaller share was awarded to foreign suppliers in 1998-99 than in 1990-91. Thus, during the 1990s, it appears that the GPA did nothing to increase the market access for foreign suppliers.

[Shingal 2014 analysis]

The very limited evidence available for services procurement suggests the same conclusion applies. Shingal (2011b) investigates whether the extension of the GPA to include services procurement has led to an expansion in purchases from foreign suppliers. Using data reported by Japan and Switzerland to the WTO Committee on Government Procurement, he concludes that the share of services contracts awarded to foreigners has declined over time for both countries. Indeed, he finds that in the absence of this decline, the value of services contracts awarded to foreign firms would have been more than 15 times higher in the case of Japan and nearly 68 times more in the case of Switzerland. Using a commonly used metric in the procurement literature – a comparison on the foreign share of purchases of a given product by government with that of the private sector (see, e.g., Francois, Nelson, and Palmeter, 1997), Shingal finds that, for the similar categories of services, the Japanese government purchased less from foreign suppliers.

The data reporting requirements of the GPA are not as useful or informative as they might be because most signatories do not report on a timely or comprehensive basis. One reason the studies just mentioned focus on Korea and Japan is that these countries report regularly. More regular reporting – and analysis of the reports by the WTO secretariat – would do much to improve knowledge regarding implementation of the agreement. That said, what matters from an economic point of view is primarily the size of government demand for a good or service relative to total domestic supply. As discussed previously, it is especially in cases where the government is a big player relative to domestic supply that there can be significant effects on national welfare and foreign suppliers. Multilateral scrutiny will have potentially the largest payoff if it focuses on such situations. As the GPA reporting requirements are quite burdensome, an added benefit of a more focused approach to data collection would be a reduction in the costs of surveillance.

[World input-output data are another source of information on public purchasing and the share of total purchases that are allocated to foreign suppliers. Messerlin and Miroudot (2012 show that there is significant variation across countries in overall “import penetration” – see Table 1. Asian economies that are GPA members appear to be more open]

Table 1: Import penetration ratios based on WIOD data (from Messerlin and Miroudot, 2012)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
A. Penetration ratios (ratios 3 of Table 1)															
Australia	5.1	5.0	5.4	5.4	5.9	5.9	5.8	6.1	5.9	5.9	6.0	5.9	6.2	5.7	5.3
Brazil	2.1	2.0	2.1	2.1	2.7	3.1	3.5	3.5	3.3	3.3	3.1	2.9	3.0	3.3	2.8
Canada	4.2	4.3	4.6	4.9	5.1	5.1	5.0	4.9	4.7	4.7	4.9	4.6	4.6	4.8	4.8
China	3.8	3.1	3.3	2.8	3.0	3.4	3.3	3.6	5.5	5.5	5.6	5.7	5.2	7.9	6.1
EU27 extra	2.6	2.7	2.8	2.7	2.8	3.6	3.7	3.5	3.7	3.7	4.2	4.6	4.5	5.3	4.5
EU2 extra	2.2	2.2	2.4	2.3	2.3	2.8	3.1	2.9	2.8	3.0	3.4	3.8	3.9	4.3	3.5
India	4.2	4.4	4.0	4.4	4.5	4.4	4.0	3.5	4.6	4.6	5.8	6.3	6.3	6.2	5.7
Indonesia	7.9	7.8	7.9	13.9	9.3	11.4	11.6	9.5	9.9	9.9	10.6	8.9	8.8	8.8	6.1
Japan	1.9	2.2	2.3	2.1	2.0	2.3	2.3	2.4	2.8	2.8	3.2	3.8	4.2	5.3	3.5
Korea	7.5	7.5	8.4	8.1	7.7	9.6	9.3	8.9	9.7	9.7	9.9	9.9	10.2	13.9	11.2
Mexico	4.8	4.9	5.2	5.1	4.9	5.2	4.9	4.5	5.6	5.6	5.8	5.9	6.3	6.4	5.7
Russia	3.3	3.5	3.6	4.6	6.2	5.3	4.7	4.2	3.7	3.7	3.8	3.3	3.1	3.1	2.5
Taiwan	9.9	10.1	10.8	11.9	10.7	10.5	10.2	11.3	12.4	12.4	11.9	12.9	13.5	12.9	11.9
Turkey	5.4	7.3	6.5	5.2	4.4	5.8	7.2	8.3	8.8	8.8	9.5	11.3	10.9	13.0	9.5
United States	2.7	2.8	2.9	2.8	3.0	3.6	3.5	3.3	4.0	4.0	4.4	4.3	4.4	4.8	3.7
Rest of World	6.4	6.8	6.9	6.9	6.7	7.1	7.2	7.9	8.8	8.8	9.4	9.1	9.1	10.1	8.3
World	4.2	4.5	4.6	4.6	4.6	5.1	5.2	5.2	6.0	6.0	6.4	6.7	6.8	7.6	6.3
B. Relative sizes of the public procurements markets (ratios of EU public demand to trading partner's public demand)															
EU27/USA	1.30	1.29	1.14	1.13	1.04	0.90	0.84	0.91	1.06	1.16	1.16	1.19	1.28	1.32	1.24
EU2/China	0.92	1.06	1.02	1.10	0.89	0.73	0.81	0.90	1.03	1.08	1.11	1.23	1.37	1.33	1.19
EU2/China	7.61	6.39	4.67	4.20	3.61	2.85	2.54	2.59	2.78	2.52	2.15	1.95	1.65	1.47	1.27
C. Intra-EU ratios (ratios 4 of Table 1)															
EU27 intra	3.2	3.3	3.5	3.6	3.6	3.9	4.1	4.2	4.3	4.3	4.3	4.5	4.6	4.6	4.4
EU2 intra	2.3	2.5	2.7	2.9	2.8	3.0	3.3	3.6	3.7	3.7	3.9	4.1	4.2	4.1	3.8

Source: World Input-Output Database 2012. Authors' calculations.

IV. Regional Trade Agreements

There are dozens of preferential trade agreements (PTAs) with developing country signatories that include chapters on government procurement policies (Rickard and Kono, 2013).¹² Many of these are not far-reaching – they either simply reflect the prevailing status quo as regards procurement policy in signatories or limit commitments to best endeavor-type (non-binding, non-enforceable) language. However, many of the more recent vintage agreements include enforceable provisions – including through domestic bid-challenge type mechanisms—and some lay out a path for future reform, including in a few cases with the explicit aim to integrate government procurement markets along the lines of what has been achieved in the European Union.

The more ambitious PTAs go beyond commitments to remove discrimination in procurement and include language pertaining to the objectives of procurement policy (e.g., attaining best value for money); the use of new technologies, such as electronic procurement, provisions to create or strengthen national institutions that implement national procurement policies and associated reforms; how to address likely changes in the scope of transactions falling under the disciplines of the agreement as a result of privatization of government entities; and agreement to cooperate in the execution of national procurement policies and in the development of reform initiatives. Many of the more ambitious agreements also define the coverage of procurement disciplines to extend beyond central or national government. Noteworthy as well is that some agreements define circumstances under which non-trade objectives of government-procurement policy dominate, or are subservient to, market access (national treatment) provisions/disciplines.

The recent agreements reveal that it is possible to go beyond the GPA approach, which is essentially limited to promoting foreign competition for state contracts. What the recent regional or bilateral agreements suggest is that complementary measures may be important in supporting international cooperation, and that an approach that allows governments to pre-commit to reforms may be seen as particularly useful. Recent agreements in Asia emulate earlier Association Agreements that the EU has concluded with neighboring states in that significant attention is paid to supporting efforts to build state institutions and expertise. Provisions in many North-South agreements aim at fostering cooperation, information exchange, and training of staff strengthen the resources and the authority of state bodies. The newer PTAs also often establish future timetables for deliberation and review processes. What this suggests is that binding commitments on market access (non-discrimination) may be conditional on governments perceiving that the preconditions for effective implementation and “ownership” of the procurement disciplines – including by civil society and business – have been satisfied. This in turn can be pursued through technical assistance and capacity building and sequenced approach to implementation of specific commitments. Rather than regard trade agreements such as the GPA as an opportunity to generate one-off reforms, the review provisions that are found in some of the newer FTAs suggest a more dynamic approach is both feasible and desirable, one that revolves around helping partner countries achieve development objectives.

[Rickard and Kono (2013): no apparent effects of any of these agreements in changing government purchasing behaviorPTAs no different from what analyses of the GPA suggest. However, contrast this with WIOD-based data]

V. Data Reporting Requirements and Availability – A Selective Survey

[Review of literature on applicable national legislation and rules on reporting on procurement and sources of information, including e-government and e-portals]

¹² Bourgeois, Dawar, and Evenett (2007) and Evenett (2010) discuss government-procurement provisions in regional agreements at greater length.

VI. Monitoring and policy impact analyses—lessons from the EU experience

Cross-border procurement can occur through different channels: foreign firms, foreign products, foreign subsidiaries and international consortia. Direct cross-border procurement occurs when firms bid and win contracts for which invitation to tender was launched in another country (foreign firms). Indirect cross-border procurement takes place when companies bid for the tender via their subsidiaries; when bidders use foreign subcontractors; when consortia consist of home and foreign companies; and when a national company imports all or part of the goods or services that are supplied to a contracting authority.

Direct cross-border procurement and indirect procurement via foreign subsidiaries or sourcing of products from other countries is very difficult to measure because procuring entities often will not know (and will not necessarily care) where the goods or services that go into a project originate. Their concern will be whether the contractor performs in a manner that satisfies the terms of the winning bid. In most jurisdictions around the world the focus of procurement regulation is on obtaining 'value for money' and on the efficient pursuit of ancillary objectives that may be pursued through procurement policy—a common example being to support the activities of certain types of firms (e.g., SMEs) or to ensure that all national firms are given a price preference when they bid against foreign firms. The latter type of policy does not require procuring entities to track or monitor the foreign content of contracts ex post: the policy applies ex ante and simply serves as a criterion that is considered in the award of a contract.

Impact assessment and monitoring systems are crucial tools in order to assess if public procurement rules are effective and efficient in improving the quality and or price of goods and services by increasing competition. Relevant questions here include whether the level of cross-border tendering is increasing over time following the adoption of new procurement disciplines and whether more bids are contracted from foreign countries. Given any observed changes and trends an assessment can then be made regarding the impacts of greater foreign competition on prices and quality of offers which can then be compared with the additional administrative costs for the public procurement agencies and firms (bidders). This will require the use of interviews, surveys and workshops with procurement bodies and a sample of bidders.

[To be added: overview and analysis of TED data: what can be learned ...]

PWC and Ecorys (2010) analyses the relative value and number of direct cross-border procurements in the EU. These averaged about 3% of all procurement contracts, with smaller countries engaging more in cross-border procurement. These data are limited to what is reported in the TED dataset which only covers only direct cross-border procurement. The picture changes if account is taken of subcontracting and bids that are won by subsidiaries of foreign companies (FDI). An effort to do so by Ramboll and HTW (2011) identifies five different types of cross-border procurement. Estimates of the relative shares of each of these in total procurement are reported in Table 2. This reveals that indirect cross-border procurement is an order of magnitude greater than direct cross-border procurement.

The TED database includes all types of announcements of procurement opportunities and contract award decisions. It includes information such as year and date of award, type of award procedure, type of product or service procured, the type of awarding authority and geographical location where the contract is performed. There is also information on the nationality of the contract winner and the nationality of the awarding authority. Combining this information allows for a direct assessment of the direct cross-border procurement, as foreign companies that win a contract will be reported. But if a foreign company submitted a proposal for the tender and did not win it, it will not be included in the database. Therefore, we can measure cross-border competition using the TED

database assessing only foreign winners in the home country – a lower bound measure of cross-border competition.

Table 2: Shares of different types of cross-border procurement (from Ramboll and HTW, 2011)

	Number of contracts/awards	Value of contracts/awards
Direct cross-border procurement	1.6%	3.5%
Indirect cross-border procurement through foreign subsidiaries	11.4%	13.4%
Indirect cross-border procurement through foreign subcontracting	1.0%	0.2%
Indirect cross-border procurement through cross-border consortia	0.3%	0.1%
Indirect cross-border procurement through foreign suppliers	11.9%	11.9%

TED does not provide any information on the origin of the goods and services that are provided to a procuring entity—all it does is to provide information on whether the firm that wins a tender is foreign. Any effort to assess the degree of cross-border procurement that prevails using available data (TED) will therefore need to be indirect, relying on correlations, comparisons with the behaviour of private sector operators and inference based on observations of procuring entities over time and comparing their behaviour across countries.

Indicators to measure import penetration in public procurement

The most straightforward approach to measuring import penetration in procurement is to use data on overall purchases by procuring entities and determine what share of this is provided by foreign firms or constitutes goods and services that have been produced in foreign countries. Assuming data are reported, this can in principle be done by simply counting how often cross-border procurement happens – in terms of number of contracts going to foreign firms – and weighing this against the number of contracts that are issued to national firms. A complementary measure is to do the same for the value of what is procured in a given time period, and where data permit this, combining both types of data and distinguishing between contracts of different sizes and types (goods, services, works).

In TED the only field that can provide a potential direct measure of “import penetration” is information on whether the winner is located in a foreign country. Thus a first indicator that can be calculated is the share of contracts and overall value of procurement in a given period that is awarded to foreign firms. This will not necessarily be a very precise measure as the address field may not be an accurate indicator of where the value added is actually produced or where the headquarters of the company are located. More importantly, many “national” firms may be subsidiaries of foreign companies and all winners of bids are likely to source some of their goods and services from companies that are based in other countries. Thus, this measure is as much an indicator of cross-border procurement as it is of import penetration. That said, over time, both for a given country and across countries, this will provide a first cut at measuring the extent of import penetration, especially when measured in value terms.

The database that has been developed by ECORYS on the basis of TED information distinguishes between national and foreign winners of tenders. In case a foreign firm wins a bid the database also includes data on the nationality of the winning firm (based on the address that is provided by the winning firm). This variable allows analysis of the pattern of foreign procurement across different source countries. This variable will be a downward biased measure of the overall extent of cross-border procurement because winners may be subsidiaries of foreign companies. Because they are

established in the country they will have a national address, but from an economic perspective such foreign direct investment is an important channel for foreign firms to contest procurement markets. Thus, additional work is required to determine to what extent firms that win bids are strongly linked with foreign parent firms. This can be done by using other sources of information – such as firm-level databases like AMADEUS – to augment the TED-based data on foreign winners to identify subsidiaries of foreign firms.

The nationality of winning firms allows identification and analysis of several factors that may shed some light on the actual openness of awarding authorities toward cross-border offers. It may be for instance that cross-border offers are only seriously considered in cases where the value is above a certain threshold or is only pursued by certain (types of) awarding authorities. There may also be sectoral effects that may interact with market structure factors. For example, in some sectors, there may be only a few foreign firms that are able to deliver the required good or service. In that case, the extent of openness to cross-border procurement is meaningless in answering the question whether awarding authorities favour national offers as they do not have any choice. Of course, there may still be biases in procurement activity in such cases, reflecting preferences or deliberate skewing of awards towards “more favoured” countries or firms. Thus, simply counting the number or value of cross-border procurement as a measure of import penetration is not sufficient for the purposes of monitoring and assessing behaviour of procuring entities. .

A more precise measure of import competition would focus on a comparison of procurement with purchasing activity by the private sector in each country and across the EU as a whole. One way of calculating a private sector counterfactual is to start with trade data and determine import penetration ratios for each country as a whole on a product by product basis. To do such an exercise requires not just trade data but also production data. With information on exports, imports and production, apparent consumption (production minus net exports) can be calculated and thus actual import penetration (imports/apparent consumption). In the case of government the relevant ratio to compare this with is imports (sourcing from foreign firms/providers) divided by total consumption by the entity. As mentioned, the problem here is calculating government entity “imports” as it is only imperfectly captured by the variable on which we have data (whether a foreign firm gets an award and how large that contract is). But it is important for any assessment of cross-border procurement monitoring to know what is being done in the private sector. A necessary condition for doing this is to map trade data to the classification used in the procurement context, the Common Procurement Vocabulary (CPV) to the HS, and then to aggregate the data to the most disaggregated level available on a time series basis for EU member states (e.g., PRODCOM and/or OECD STAN for goods).

Matters are more complicated when it comes to services and works. Services trade data are much less accurate and much more aggregated than data on trade in goods. In practice many services are not tradable across borders—they need to be supplied locally, implying that foreign firms wishing to contest services procurement contracts will need to be established locally – i.e., engage in FDI and create branches or subsidiaries. From a national accounting perspective this implies that these firms are no longer foreign. Thus, while the same measure of winner’s being a foreign firm will still be relevant, in practice there is even more noise embedded in this measure when it comes to many services. However, much depends here on the type of activity that is involved. Construction, management consulting, software design and related IT services are examples of services that can be provided by firms that are headquartered or located primarily in other countries.

To get a sense of total import penetration the focus needs to be on all firms that supply all procuring entities. The only way to get data on how much of what is supplied to governments by all firms is to either survey them – which is a resource-intensive and burdensome activity both for the entities collecting the information and for the business community – or to rely on inferences that are based on the behaviour of a “control group.” A precondition for any proposal to use survey methods to be compelling – i.e., for the associated benefits to clearly exceed the aggregate compliance costs for businesses – is a determination that already available data are insufficient. We believe that data on

the pattern of purchases of certain types of products by the private sector can be used as a proxy for the actual level of cross-border purchases given the presumption that it is unlikely that firms will do anything different in the provision and sourcing for government contracts than they would for other clients unless there is an explicit requirement to do so, e.g., if there is a policy or regulation to that effect. The TED database does not include information on the existence of such public policy requirements. Governments may well be biased against allocation of contracts to foreign firms, but this does not necessarily mean that the foreign content of what is supplied to governments will be affected. Insofar as government entities do not track and monitor the foreign content of what firms supply, firms that win bids are unconstrained in their own sourcing behaviour. A home bias in procurement may then be associated with a transfer of rents to the national firms involved, but may not be associated with an efficiency loss that is generated by purchases of higher-cost, locally-supplied goods and services because the winning firms have no incentive to do so (as it would lower profits).

Indicators to measure cross-border competition

The measurement of cross-border competition is conceptually and empirically even more difficult than measuring import penetration. At the same time competition is a broader concept so that there is greater scope to develop and use indicators that are likely to be correlated with the intensity of cross-border competition in procurement markets. What follows focuses mainly on measurement of direct competition, as the section above has discussed what we propose to do on measurement of indirect competition. Note that this differs from an assessment of the effects of greater contestability of procurement markets—this is likely to have indirect effects in the sense of disciplining the behaviour on national incumbent firms. However, this is an empirical matter that will be analysed separately; it is an expected outcome, but not a variable that can be monitored on a regular, let alone a high frequency basis using TED and other databases mentioned above.

Direct competition can be defined as an organisation that bids for a contract in another country, possibly as subcontractor. TED captures whether the winner is a foreign firm. It also includes data on whether the winner will use subcontractors, and what percentage of the contract is going to be executed by the subcontractors. However, it does not include information on whether subcontractors are foreign. Moreover, the data on subcontractors are highly unreliable—there is a lot of variance across contracts and countries in the degree to which these data are reported. In practice generating data on the extent of subcontracting to foreign firms and the import content more generally of contracts will need to rely on measurement of a baseline that is established by private sector sourcing behaviour, potentially supplemented by carefully targeted surveys. As there is no information on the location of subcontractors in the TED database an effort will be made to determine if other sources of firm-level data such as AMADEUS can be used to determine the origin of subcontractors insofar as data on subcontracting is reported in TED.

Whether or not foreign participation will have a significant impact on procurement outcomes (prices, quality, etc.) will depend on a number of factors including in particular how open the economy is and how many bidders there are for a contract. Even if all bidders are national firms, if the market is competitive—which will depend on factors such as the level of external protection (tariffs, prevalence of nontariff barriers for the products concerned), market structure, and type of product (tradable, nontradable, regulated, etc.)—there is much less reason to be concerned about the actual level of cross-border procurement that is observed. Therefore we propose that any assessment and indicators of cross-border competition consider such more general variables.

TED includes data on the number of bidders for a contract which in itself is an indicator of competition. It also tracks the type of procurement procedure used, which is another direct indicator of the degree to which there was competition in the award (restricted or negotiated awards have the presumption of limited competition). Transparency-related variables will have a direct bearing on the contestability of contracts, including whether a call was translated into English,

French or German. A final variable that is of interest here is the extent to which a country or type of procuring entity posts calls in TED that are below the threshold at which an entity is required to publish the call in TED. This is a variable that can be calculated using the TED-based dataset as the value of all contracts awarded are posted, whether they are above or below the applicable threshold for the type of procurement that is involved.

In principle another important indicator of cross-border competition is measurement of the number of foreign firms that participate in a tender. Whatever the outcome, this will provide information on the extent to which information on opportunities is being provided – and thus whether transparency provisions are working. Such data would also be valuable in allowing an assessment of the extent to which there are differences in foreign participation across countries for a given sector or a given type of entity. Unfortunately, data on the number of foreign bidders is not included in TED—the only information that is provided is on the total number of bidders. These data will be used to construct an indicator of the extent to which the procurement process for different types of products and procuring entities is associated with competition, based on the economic literature on the relationship between number of bidders and prices, and on the market structures that prevail for different categories of goods and services that are procured.

Finally, import penetration data can provide a useful baseline and counterfactual to assess the extent of cross-border competition. A comparison of import penetration across countries for the same product/sector that controls for comparative advantage factors that determine whether a nation is a net importer or exporter and gravity-type variables that determine overall trade volumes can help identify where the pattern of procurement behaviour may reflect a deliberate policy or efforts by entities to skew procurement decisions towards local firms.

The most direct method that in principle could be used to determine the extent to which procurement results in a competitive outcome would be to compare the average price paid for a good or service with that prevailing in the market, based on electronic databases, the International Comparison Program (ICP) or unit values derived from trade data. Unfortunately, it is very difficult if not impossible to adequately control for product differentiation and heterogeneity so as to be sure that apples are compared with apples (indeed, to be more precise, to compare apples of a similar variety). Take the case of a product that would appear at first sight to be a homogenous product: A4 paper. But there are many varieties of A4 paper: there are different qualities, thicknesses, and types – recycled; white; etc. As a result of these difficulties we do not believe it will be fruitful to undertake an effort to compare unit values of contracts based on the CPV classification and, for example, unit values for products as reflected in trade data.

VII. Concluding Remarks

[To be added once paper is revised]

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Annex Table 1: Japanese procurement reported to the WTO, 1990-2003 (from Shingal, 2011a)

(Value data in real USD mn)	1990-91				1997-98				2002-03			
	AT Value	Share of FP(%)	AT Number	Share of FP(%)	AT Value	Share of FP(%)	AT Number	Share of FP(%)	AT Value	Share of FP(%)	AT Number	Share of FP(%)
1	0.0	np	0.0	np	2.1	9.4	4.5	33.3	0.8	100.0	0.5	100.0
2	80.8	100.0	607.5	100.0	140.8	95.3	577.5	98.3	82.8	95.1	467.5	98.0
3	10.8	7.6	99.0	5.6	35.1	54.7	55.5	20.7	14.5	4.1	59.5	5.9
4	187.3	39.6	2649.5	27.2	236.6	28.8	1411.0	26.5	207.9	36.9	1255.5	33.7
5	19.8	0.0	40.5	0.0	31.5	0.5	45.5	1.1	12.1	1.1	27.5	1.8
6	246.1	6.7	231.5	11.7	247.4	0.5	290.0	0.9	147.5	0.0	301.5	0.0
7	88.7	1.4	266.0	1.1	131.1	3.1	91.0	3.8	76.2	0.0	98.5	0.0
8	2.0	4.9	22.0	2.3	12.8	0.0	7.5	0.0	1.2	0.0	2.0	0.0
9	115.9	0.2	109.0	1.4	51.3	1.5	64.0	2.3	14.6	0.0	27.5	0.0
10	129.6	7.0	170.0	8.5	109.8	3.5	99.0	5.1	27.6	1.6	52.0	1.9
11	69.9	3.4	141.5	2.1	44.6	4.5	36.0	2.8	70.9	7.7	36.0	8.3
12	41.6	17.2	91.5	4.9	113.9	6.0	85.0	10.0	44.9	4.2	59.0	6.8
13	69.0	16.3	286.0	3.0	136.7	0.7	165.5	1.5	35.4	21.5	131.5	3.4
14	882.4	9.9	394.0	14.2	4324.9	9.0	956.5	11.6	2488.2	5.8	873.0	6.1
15	410.9	1.0	343.5	3.3	1140.9	4.2	514.5	5.6	581.7	4.1	416.0	6.6
16	101.2	7.4	172.0	4.7	261.3	4.5	162.5	9.8	179.3	19.8	203.0	15.8
17	109.4	2.8	251.0	3.6	318.4	1.2	283.0	1.1	235.4	0.6	350.0	1.0
18	52.4	46.5	21.0	21.4	0.1	0.0	0.5	0.0	0.1	0.0	0.5	0.0
19	41.5	23.2	41.0	52.4	75.3	82.2	30.0	86.7	26.3	75.5	24.0	66.7
20	15.1	1.8	22.5	2.2	71.1	0.0	14.0	0.0	65.9	0.7	22.0	2.3
21	0.1	0.0	0.5	0.0	0.9	0.0	4.0	0.0	2.3	0.0	8.5	0.0
22	219.8	34.9	374.0	26.5	712.8	46.1	666.0	38.8	372.0	48.8	447.0	35.7
23	6.5	0.0	33.0	0.0	61.1	0.2	146.0	0.3	39.4	1.6	107.5	0.9
24	237.6	15.2	339.5	24.2	812.8	24.3	770.5	33.0	479.3	26.8	516.0	36.8
25	41.4	19.2	758.0	36.5	123.1	31.5	2960.0	29.1	83.1	8.7	1893.5	18.7
26	95.8	10.4	112.5	15.6	176.0	10.8	194.5	12.1	158.1	4.7	248.5	13.3
All goods	3275.8	14.4	7576.5	26.2	9372.3	14.3	9634.0	26.6	5447.4	13.3	7628.0	23.2
41					12430.3	0.4	552.5	0.5	8638.4	0.0	559.0	0.1
42					106.2	0.0	14.5	0.0	82.0	0.0	53.0	0.0
51					0.2	0.0	0.5	0.0	60.8	0.0	6.0	0.0
52					0.2	0.0	0.5	0.0	0.0	np	0.0	np
53					26.0	0.0	34.0	0.0	37.9	0.0	54.5	0.0
54					19.8	0.0	14.0	0.0	8.9	0.0	7.0	0.0
55					0.0	np	0.0	np	0.0	np	0.0	np
56					1.0	0.0	2.0	0.0	11.4	6.4	14.5	6.9
57					6.2	0.0	8.0	0.0	19.4	0.0	26.5	0.0
58					0.0	np	0.0	np	0.0	np	0.0	np
61					0.0	np	0.0	np	1.7	0.0	3.5	0.0
62					0.0	np	0.0	np	0.4	0.0	1.0	0.0
63					5.8	22.2	10.0	20.0	9.3	10.2	20.0	20.0
64					0.3	0.0	0.5	0.0	0.3	0.0	0.5	0.0
65					0.7	0.0	2.0	0.0	1.3	0.0	5.0	0.0
66					0.0	np	0.0	np	0.0	np	0.0	np
67					8.5	9.8	7.5	6.7	41.6	9.5	33.0	6.1
71					1811.0	8.1	766.0	8.5	1797.7	6.3	1370.5	6.1
72					1.5	0.0	3.5	0.0	9.9	3.5	13.5	7.4
73					135.7	0.3	220.0	1.1	104.5	1.2	136.5	1.1
74					24.3	0.0	29.0	0.0	17.1	0.0	79.0	0.0
75					135.3	0.0	261.0	0.0	108.4	0.0	335.0	0.0
76					26.2	0.0	60.0	0.0	45.4	0.0	108.0	0.0
77					102.6	2.2	148.5	1.3	60.1	4.6	114.0	2.2
78					13.0	0.0	46.5	0.0	20.3	0.0	67.5	0.0
All services					14854.8	1.3	2180.5	3.4	11076.9	1.1	3007.5	3.2
Total AT procurement	3275.8	14.4	7576.5	26.2	24227.1	6.3	11814.5	22.3	16524.3	5.2	10635.5	17.5
Total procurement	7644.5				66922.5				51370.1			
AT share in total procurement (%)	42.9				36.2				32.2			

Source: WTO (various years); own calculations

Note: (1) "AT" stands for above-threshold procurement; "FP" stands for foreign procurement; "np" denotes no AT procurement (2) Data are averaged over 1990-91, 1997-98 and 2002-03 (3) Contract values in SDR converted to real US dollar using the SDR-USD exchange rate and the US GDP Implicit Price Deflator (4) There are no data on services contracts in 1990-91 as the coverage of services in the GPA only began with the Uruguay Round (5) Categories 4, 6, 14-17, 22, 24 and 26 in goods and categories 41 and 71 in services account for the majority of Japanese public purchases over time.

Annex Table 2: Swiss procurement reported to the WTO, 1990-2003 (from Shingal, 2011a)

Procurement categories	1990-91				1996-97				2002-03			
	AT Value	Share of FP(%)	AT Number	Share of FP(%)	AT Value	Share of FP(%)	AT Number	Share of FP(%)	AT Value	Share of FP(%)	AT Number	Share of FP(%)
1	11.3	100.0	22.5	100.0	12.8	70.2	13.5	92.6	27.6	54.7	54.5	73.4
2	0.0	np	0	np	4.7	97.3	37.0	98.6	25.7	0.0	72.5	0.0
3	0.1	100.0	0.5	100.0	0.1	0.0	0.5	0.0	0.0	np	0	np
4	0.0	np	0	np	3.1	0.0	4.0	0.0	1.5	27.7	5.5	36.4
5	3.9	19.3	8	6.3	9.4	1.3	12.5	4.0	6.9	88.9	10	40.0
6	2.4	69.2	8	68.8	1.7	85.2	3.5	71.4	6.4	52.2	14	50.0
7	6.7	10.6	30	23.3	7.6	32.7	19.5	35.9	1.8	17.8	2	25.0
8	0.3	0.0	0.5	0.0	1.0	0.0	10.0	0.0	0.0	np	0	np
9	9.8	16.9	17	11.8	9.4	1.3	8.0	6.3	1.2	0.0	8.5	0.0
10	0.0	np	0	np	6.5	18.8	10.0	15.0	1.8	55.6	4	50.0
11	3.2	26.7	4	37.5	0.6	58.5	1.5	66.7	6.2	66.0	6.5	30.8
12	54.5	90.6	38.5	62.3	5.6	9.4	5.5	27.3	4.9	28.9	13.5	25.9
13	5.8	23.6	4	62.5	8.4	53.7	17.5	71.4	3.1	16.4	6	25.0
14	99.7	84.2	137	88.3	38.3	89.8	111.0	95.5	78.1	72.2	108	52.3
15	4.3	75.6	9	88.9	2.0	47.7	5.0	40.0	1.2	0.0	1	0.0
16	3.6	7.6	9.5	10.5	7.6	4.0	18.0	8.3	7.2	79.3	16.5	48.5
17	44.4	63.0	63.5	52.0	91.0	26.0	26.5	3.8	7.1	9.1	10.5	4.8
18	14.5	70.7	15.5	83.9	3.1	0.0	6.5	0.0	1.0	100.0	3	100.0
19	0.0	np	0	np	0.5	0.0	1.5	0.0	0.0	np	0	np
20	0.8	17.6	1.5	33.3	0.0	np	0.0	np	0.0	np	0	np
21	1.4	81.9	1.5	33.3	0.6	0.0	1.0	0.0	0.0	np	0	np
22	1.7	60.9	2	25.0	0.3	0.0	0.5	0.0	1.2	100.0	4	100.0
23	6.3	3.9	11	9.1	6.0	0.0	7.5	0.0	9.7	15.1	9	27.8
24	9.0	54.5	21.5	62.8	6.7	56.6	22.5	62.2	15.5	61.8	40	58.8
25	0.2	100.0	1	100.0	0.2	100.0	1.0	100.0	0.0	np	0	np
26	0.1	0.0	0.5	0.0	5.9	0.0	10.5	0.0	4.1	63.7	551.5	86.6
All goods	284.0	70.9	406.5	63.7	233.2	37.5	355.0	56.8	212.3	52.3	940.5	67.8
1					20.7	0.5	34.0	1.5	17.4	4.4	28.5	3.5
2					9.8	7.8	9.0	27.8	1.5	0.0	1.5	0.0
3					1.5	6.1	1.5	33.3	0.0	np	0.0	np
4					0.0	np	0.0	np	0.0	np	0.0	np
5					0.1	0.0	0.5	0.0	3.0	0.0	3	0.0
6					0.0	np	0.0	np	0.0	np	0.0	np
7					15.2	0.7	33.0	1.5	60.0	3.8	99	2.5
8					0.0	np	0.0	np	0.2	0.0	0.5	0.0
9					3.4	0.0	1.5	0.0	5.9	0.0	7.5	0.0
10					1.4	7.4	5.0	10.0	6.1	24.6	14.5	17.2
11					20.5	19.6	14.5	17.2	0.1	0.0	0.5	0.0
12					1.6	82.6	14.0	7.1	8.5	9.5	22	4.5
13					0.0	np	0.0	np	1.2	0.0	1	0.0
14					129.5	3.1	119.0	4.2	141.1	46.0	124.5	42.2
15					0.4	0.0	1.5	0.0	5.4	0.0	8	0.0
16					0.2	0.0	0.5	0.0	0.5	0.0	1	0.0
17					0.0	np	0.0	np	3.5	0.0	10	0.0
18					0.0	np	0.0	np	0.0	np	0.0	np
All non-construction services					204.4	5.2	234.0	5.6	254.5	27.6	321.5	18.5
1					0.6	0.0	7.5	0.0	0.1	0.0	3	0
2					3.7	100.0	5.0	100.0	53.3	0.0	28.5	0
3					0.0	np	0.0	np	0.0	np	0	np
4					0.0	np	0.0	np	0.2	0.0	2	0
5					4.3	3.8	2.0	25.0	0.0	np	0	np
6					2.0	0.0	8.0	0.0	16.9	0.0	16	0
7					5.8	0.0	8.0	0.0	4.1	0.0	16.5	0
8					0.0	np	0.0	np	14.3	0.0	24	0
All construction services					16.5	23.3	30.5	18.0	88.9	0.0	90	0
All services					220.8	6.5	264.5	7.0	343.3	20.5	411.5	14.5
Total AT procurement	283.9	70.9	406.5	63.7	454.0	22.4	619.5	35.5	555.6	32.6	1352.0	51.6
Total procurement	681.5				1630.4				2007.9			
AT share in total procurement (%)	41.7				27.8				27.7			

Source: WTO (various years); own calculations

Note: (1) "AT" stands for above-threshold procurement; "FP" stands for foreign procurement; "np" denotes no AT procurement (2) Data are averaged over 1990-91, 1996-97 and 2002-03 (3) Contract values in SDR converted to real US dollar using the SDR-USD exchange rate and the US GDP Implicit Price Deflator (4) There are no data on services contracts in 1990-91 as the coverage of services in the GPA only began with the Uruguay Round (5) Categories 1, 14 and 17 in goods; categories 1, 7 and 14 in services; and categories 2, 6 and 8 within construction services account for the majority of Swiss public purchases over time.