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How government procurement measures can affect trade

Julien Gourdon, James Messent

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HOW GOVERNMENT PROCUREMENT MEASURES CAN AFFECT TRADE

Julien Gourdon and James Messent, OECD

A number of countries used discriminatory government procurement policies as part of stimulus packages designed to alleviate the effects of the global economic crisis. This paper collates and updates the evidence related to the size of procurement markets, the level of home bias they exhibit, and the effectiveness of multilateral and bilateral procurement agreements in reducing that bias. The share of procurement in GDP has been increasing gradually since 1995 with clear spikes during 2000-2002 and 2008-2010, the latter in response to the global economic crisis. The analysis presents evidence of domestic bias in government procurement markets, bias which has been increasing over recent years. The analysis in this paper suggests that the results of international efforts to address home bias in government procurement have been mixed to date. The World Trade Organisation's Government Procurement Agreement (GPA) is found to reduce discrimination in procurement markets, although available -- but limited -- evidence does not indicate a significant effect for bilateral agreements. The evidence suggests liberalisation of investment barriers undertaken in parallel with trade agreements increases the ability of those agreements to reduce discrimination. This suggests that countries negotiating procurement agreements could also benefit from negotiating investment agreements in parallel.

Keywords: Government procurement, home bias, Government Procurement Agreement (GPA). preferential trade agreements , International Trade, Auctions

JEL code: F13, F14, F15, F53, D44, H57

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Executive Summary

A number of countries used discriminatory government procurement policies as part of stimulus packages designed to alleviate the effects of the global economic crisis. The re-emergence of these policies has caught the attention of trade policy makers and highlighted gaps in the evidence base needed for policy decisions. Government procurement information at the global level is sparse. There is a lack of statistics related to the size of procurement markets, the flows of trade in procurement, and the types of discriminatory procurement measures implemented by governments.

This paper is the first part of an OECD project to fill some of these evidence gaps; it collates and updates the evidence related to the size of procurement markets, the level of home bias they exhibit, and the effectiveness of multilateral and bilateral procurement agreements in reducing that bias. Creation of a taxonomy of measures affecting government procurement represents the second part of the project.

The size of government procurement markets is estimated to be between, on average, 11% and 12% of GDP in 2011, based on a sample of 89 countries (not including the People's Republic of China). Government procurement expenditure appears to be increasing both in terms of value and share of GDP. The share of procurement in GDP has been increasing gradually since 1995 with clear spikes during 2000-2002 and 2008-2010, the latter in response to the global economic crisis.

The analysis presents evidence of domestic bias in government procurement markets, bias which has been increasing over recent years. Home-biased procurement is more pronounced in developed economies, though procurement in developing economies has become increasingly more home-biased since 2000.

The analysis in this paper suggests that the results of international efforts to address home bias in government procurement have been mixed to date. The World Trade Organisation's Government Procurement Agreement (GPA) is found to reduce discrimination in procurement markets, although available -- but limited -- evidence does not indicate a significant effect for bilateral agreements. The results on the impact of bilateral agreements could reflect a low level of coverage within those agreements, or the fact that they do not go beyond access already granted through other agreements such as the GPA. The evidence suggests that signing the GPA increases trade in procurement among signatories, but not necessarily overall procurement trade.

Liberalisation of investment barriers undertaken in parallel with trade agreements increases the ability of those agreements to reduce discrimination. The effect of the GPA in reducing home bias is strengthened in economies with low barriers to FDI, or which are also signatories to trade agreements that include investment provisions. This suggests that countries negotiating procurement agreements could also benefit from negotiating investment agreements in parallel.

This study benefited from access to an EC award-level procurement dataset which resulted in richer analysis of, particularly, the effectiveness of procurement agreements on foreign participation in procurement markets. By the nature of the dataset, the story that the data tells is EU-centric, but it does highlight the benefits from developing and analysing datasets of this type. Access to similar datasets from other OECD countries would extend the analysis and allow more powerful insights and policy recommendations to be developed.

Introduction

In the face of falling tariffs, behind-the-border measures have become increasingly important barriers to economic integration. Policies providing preferences for domestic over foreign firms in government procurement are one such example. Home-biased government procurement is widely believed to be a pervasive phenomenon (Brülhart and Trionfetti 2004; Shingal, 2015). More recently, in response to the global economic crisis, governments have increased the use of home bias in procurement policies to avoid, inter alia, leakages from their fiscal stimulus packages (OECD, 2013). The re-emergence of these policies has caught the attention of international trade policy makers and highlighted gaps in the evidence base.

There is a lack of reliable information, at the global level, about government procurement markets and the policies that govern them. Few statistics are widely available to understand the size of procurement markets, the flows of trade in procurement, and the types of discriminatory procurement measures that governments choose to implement.[1] There is therefore, uncertainty, not only about the size of procurement markets, but also the degree to which governments actually discriminate in their own markets. Finally, uncertainty about the scale of discriminatory procurement creates difficulty in assessing the effectiveness of international agreements in reducing that home bias.

This paper aims to collect all available information, drawing on current methods, based on indirect estimation methods, to give an updated picture of the size of government procurement, to define what can be considered as "contestable" procurement and to look at the trend in size of procurement markets since the mid-nineties. The study also looks at the available evidence of discrimination and the efficiency of government procurement agreements in reducing levels of discrimination. The paper begins by providing some context to government procurement, before updating each aspect of the evidence base in turn. While the paper draws upon all available evidence, it should be noted that there is still a dearth of reliable data in this area (China, for example, is not included in this study due to the absence of data), and this caveat should be borne in mind in interpreting the paper's conclusions.

1. Contextualising government procurement

Government expenditure can be considerable, with a significant share spent on social policies and redistribution (e.g. transfer payments). A large share is also spent on products that are used as inputs to produce public goods and services – education, defence, utilities, infrastructure, public health, and so forth. In 2013 OECD governments spent on average 28.4% of the total general government expenditure on public procurement (OECD, 2015), and the public procurement market amounts to 10-15% of GDP in developed countries. This level of spending suggests that governments can exert significant influence on the outcomes of markets in their country by means of public procurement. Typically, government procurement policies are made up of procedures and rules which government entities must follow in order to meet the objectives of their procurement spending, while minimising the costs to taxpayers. Efficiency is important in this policy area, as it is often claimed that an overarching goal of procurement policies is "value for money."

The objectives underlying discriminatory procurement can vary, but tend to be based on economic development, social and national security grounds (Evenett and Hoekman, 2005). Whether these policies are the most efficient at meeting their stated policy goal is an important question to investigate. There are a number of theoretical circumstances where discriminatory policies could potentially improve national welfare, although actual evidence is rare (Evenett and Hoekman, 2005). Empirical analysis suggests that welfare gains from discriminatory procurement are modest at best, with increased domestic profits offset by higher procurement costs (Deltas and Evenett, 1997) and that discriminatory procurement is more likely to be welfare reducing (Evenett and Hoekman, 2005). Overall, a main explanation for preferences is that they generate large increases in domestic firms' profits, creating a strong incentive for these firms to lobby for the maintenance of preferences (Deltas and Evenett, 1997).

1. The WTO Government Procurement Agreement (GPA) seeks to enhance transparency in this area.

Governments can favour their own industry through explicit or implicit discrimination. A variety of policies can be used to explicitly discriminate against foreign suppliers, with "preferential price margin" and "domestic content requirements" being two common approaches (Ssennoga, 2006). Domestic content requirements require procurement to be sourced locally, while preferential margins provide domestic firms with a specific level of preference.

Implicit discrimination occurs even though biases may not be formalised through legislation, regulation or government policy. The explicit exclusion of foreign firms is rare, but commonly occurs de facto. Tendering processes with no explicit discrimination may not guarantee fair treatment of foreign firms, as the discriminatory behaviour may be left unstated (Trionfetti, 2000). For example, limitations on electronic submission and acceptance of bids to documents containing electronic signatures, while on the face of it non-discriminatory, could have a de facto discriminatory effect in the absence of reciprocal recognition of the validity of e-signature tools.

Such discriminatory procurement policies and practices constitute a barrier to trade and international competition. These barriers can be prohibitive when they take the form of bans on foreign producers, or can be similar to a tariff when a preferential margin is used. Some of the policies are similar to barriers to specific modes of services trade, for instance, discrimination may occur against foreign firms even if they have established a commercial presence in the country through direct investment (Evenett and Hoekman, 2013). Facilitating market access has generally been the main reason for negotiating disciplines on government-procurement policy in international trade agreements (Hoekman, 2015)

Efforts to open public procurement markets are not new. As the potential inefficiencies imposed by preference regimes have become more understood, countries have negotiated agreements in order to address the situation (Fronk, 2015b). At the multilateral level, procurement was brought into the Tokyo Round of Trade Negotiations under the GATT in 1976 and resulted in the first agreement on government procurement (the "Tokyo Round Code on Government Procurement"), signed in 1979. Parties to the agreement then held negotiations to extend the scope and coverage of the agreement in parallel with the Uruguay Round. Growing recognition of the importance of eliminating discriminatory procurement policies led the Members of the World Trade Organization (WTO) to negotiate the Government Procurement Agreement (GPA), an agreement intended to eliminate preferential treatment of national suppliers in covered procurement deals (Garcia-Alonso and Levine, 2008).

The GPA was signed in 1994, and entered into force in 1996. It regulates public tenders with a view to guaranteeing the transparency of procedures and to ensure equal treatment of domestic and foreign suppliers. The GPA was successfully renegotiated and a revised agreement entered into force in 2014. The revised GPA increased the level of market access available under the agreement by adding new entities to its scope and by expanding its coverage to new service sectors and other areas of public procurement activities, and by reducing the number of miscellaneous restrictions on market access that were previously applied. However, the GPA is a plurilateral agreement and its rules apply only to those WTO Members that have agreed to abide by them and only to the extent that they have made market commitments under the agreement.

Countries are also increasingly including disciplines on government procurement in their bilateral and regional free trade agreements. In 1990, only seven international trade agreement included provisions regarding government procurement; by 2010, this number had grown to at least seventy, comprising over fifty signatory countries. These numbers have risen further since 2010 and now include over 80 WTO Members (Anderson, Muller and Pelletier, 2016). Most procurement agreements of this kind exist as chapters in bilateral free trade agreements and are heterogeneous in entity coverage, threshold and coverage for goods and services.

2. What is the size of the Public Procurement market?

Countries rarely publish procurement statistics, which makes analysis reliant on estimates. Trionfetti (2000) estimates the procurement market for nine OECD countries and arrives at two different value ranges depending on the data source: 7 to 9% based on UN data and 10 to 18% based on IMF data. The OECD (Audet, 2002) has estimated the value of government procurement in OECD countries to be roughly 9% of GDP.[2] More recently Fronk (2015a) found that the average procurement market size represent 8.7% of GDP across 48 countries over 1990-2010 with System of National Accounts (SNA) data and 13.6% across 67 countries over the same period using national sources.

Attempts to estimate the size of national procurement markets have taken one of two approaches: a top-down method based on the SNA or a bottom-up method incorporating data drawn directly from national authorities. The majority of studies rely on SNA data and restrict their estimates to relatively brief time periods. When estimating procurement, it is important to differentiate between tradable and non-tradable procurement. Tradable government procurements includes the provision of goods and services that can be readily supplied across national borders. This includes goods (such as machines, tools or airplanes) and services (such as project consulting or construction management) and it excludes from procurement the compensation of employees.

The SNA does not include a specific measurement of procurement spending, so this value must be estimated based on other SNA series. The two most pertinent series are Intermediate Consumption (IC) and Gross Fixed Capital Formation (GFCF). IC consists of gross consumption spending on goods and services, whereas GFCF represents government expenditure on investment in new physical capital. An approximation of total procurement is the sum of IC and GFCF and this measurement is defined as 'standard GP' for the remainder of this study.

As part of its Government at a Glance statistics, the OECD uses OECD-National accounts Statistics and defines GP as the sum of IC, GFCF and also social transfers in kind (ST). This ST component contains purchases by general government of goods and services produced by market producers and supplied to households. However this series is usually only found in the National Accounts Statistics of OECD countries, therefore using this definition would restrict the coverage of the analysis. For the rest of the study this measurement will be called 'tradable GP'. None of those measures include State Owned enterprises (SOEs) nor Public Private Partnerships (PPPs).

Alternately, Rickard and Kono (2010, 2014) and Fronk (2015a) use government spending on goods and services, and exclude defence spending (DF) which is generally restricted to domestic suppliers and a handful of close military allies[3]. They define therefore what they call “contestable procurement” and consider that defence procurement, which tends to be domestically oriented for national-security reasons, lies outside the scope of non-discrimination provisions included in procurement agreements.[4] The authors obtain those data from the World Bank’s World Development Indicators, although the original source is the International Monetary Fund’s Government Finance Statistics (GFS) which allows a slightly larger sample.

2. Audet (2002) also estimates the size of procurement markets in over 130 countries, based on 1998 data.

3. While it is true that within the group of pre-qualified firms contracts are often awarded through competitive bidding the exigencies of defence considerations make non-discriminatory processes unsuitable for defence spending.

4. The lack of reliable procurement statistics makes it difficult to assess the level of defence procurement included under international agreements. For example, the importance of defence procurement reported by parties to the Government Procurement Agreement differs by party, ranging from less than 1% to more than 80% of above-threshold procurement. Additionally, a lack of clarity exists about whether 'above-threshold procurement' includes defence procurement that is discriminatory due to national security exemptions. This lack of clarity makes it harder to assess how much defence procurement is covered under international agreements.

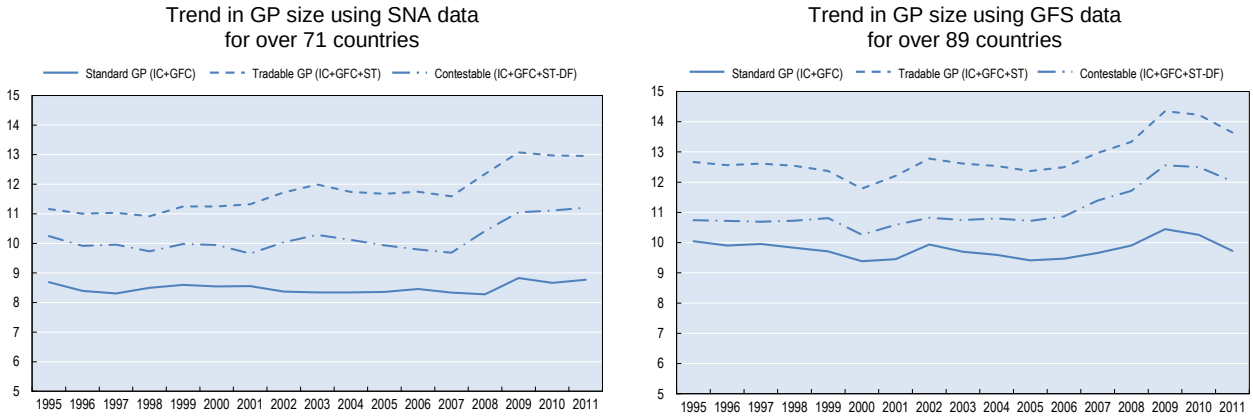
However, it must be noted that for social transfers in kind[5] the DF series is not available for all countries in the sample.

In this section, the size of GP markets is calculated for the maximum number of countries using SNA data or GFS data (and not data from national authorities because a lack of available data limits the coverage). SNA data has been collected for 71 countries and data from the GFS covers 89 countries[6]. The trend in GP size over 1995-2011 is presented in Figure 1, under three different measurements, the standard GP using exclusively IC and GFC components that are available for all countries, the tradable GP adding social transfer in kind[7] (ST) and the contestable GP excluding defence spending (DF).

Both data sources deliver the same messages. First there have been two increases in GP size, one around 2000-2002 and a more significant over 2008-2010 in response to the financial crisis.[8] Second, adding social transfers in kind (ST) increases considerably the size of GP, from 8-9% to 11-13% (although this series is not available for all countries). Third, excluding defence spending decreases significantly the amount of contestable GP, by 2 percentage points on average. Overall, different measurements produce different levels of GP but the evolution over the years is not that much affected by the choice of the measurement, in either IC or GFCF.

Figure 1. Evolution in GP size over 1995-2011

Government procurement as a percentage of GDP



IC: Intermediate Consumption / GFCF: Gross Fixed Capital Formation/ ST: Social Transfer on kind/ DF: Defence.

5. Social transfers in kind consist of individual goods and services provided as transfers in kind to individual households by government, examples can include social security benefits, social assistance benefits, or transfers of individual non-market goods or services.

6. Note that China is not included as the lack of government statistics for China makes it difficult to provide estimates.

7. Social transfers in kind are included in OECD definition of government procurement. In theory they could be possibly tradable (i.e. provided by a foreign supplier). However it should be noted that they do not fall under the scope of the GPA or preferential trade agreements.

8. The share of GP in GDP could increase during a recession because of three reasons. First the level of GDP could fall, procurement spending could increase, or a combination of both.

Table 1 presents descriptive statistics for the average estimated size of GP markets between 2006-2011, first for 71 countries based on SNA data, using the tradable measurement and then for 89 countries based on GFS data. The mean is around 9% of GDP, which is similar to the other studies mentioned above that drew on international data sources;[9] however the ranking may differ from one source to another. A high ratio is found for Netherlands, similar to that found in the OECD Governance at a Glance reports, because of the ST component. Israel, Georgia, Yemen and United States have a lower GP size if defence spending is excluded.

Table 1. Different estimates of the size of GP market

Tradable GP size (IC+GFCG+ST) in percentage of GDP with GFS data over 2006-2011				Tradable GP size (IC+GFCG+ST) in percentage of GDP with SNA data over 2006-2011			
Europe and Central Asia	**7.1**	***Asia***	**6.0**	***Europe and Central Asia***	**9.4**	***Asia***	**9.2**
Albania	3.9	Bhutan	9.1	Armenia	9.4	India	8.4
Armenia	4.3	China, Hong Kong	6.4	Azerbaijan	12.1	Korea, Rep.	12.7
Azerbaijan	2.1	Indonesia	2.9	Belarus	7.6	Macao	6.5
Belarus	8.0	Korea	3.4	Bulgaria	10.8		
Bosnia and Herzegovina	9.1	Mongolia	7.2	Kazakhstan	10.2	***Other OECD***	**10.7**
Bulgaria	9.9	Singapore	5.0	Kyrgyz Republic	7.9	Canada	13.5
Georgia	6.7	Thailand	6.5	Moldova	8.5	Israel	15.7
Macedonia, F.Y.R. of	8.8	Timor-Leste	7.7	Russian Federation	9.6	Japan	7.1
Moldova	8.6			Serbia	9.2	New Zealand	10.0
Russian Federation	9.7	***Other OECD***	**9.1**	Ukraine	8.2	Switzerland	6.9
Serbia, Republic of	7.0	Australia	7.8			United States	11.3
Ukraine	7.1	Canada	12.3				
		Israel	13.3	***European Union***	**12.2**	***Latin America***	**7.8**
European Union	**11.2**	Japan	6.5	Austria	9.2	Bolivia	12.1
Austria	12.8	New Zealand	9.0	Belgium	13.1	Brazil	9.4
Belgium	13.9	Switzerland	5.8	Croatia	10.4	Chile	6.2
Croatia	4.6	United States	8.8	Cyprus	8.6	Colombia	8.5
Cyprus	6.4			Czech Republic	15.8	Ecuador	8.9
Czech Republic	3.4	***Latin America***	**4.1**	Denmark	13.4	Guatemala	6.5
Denmark	14.1	Brazil	6.4	Estonia	12.5	Honduras	6.3
Estonia	10.8	Chile	3.6	Finland	13.5	Mexico	5.3
Finland	16.4	Colombia	6.3	France	14.4	Nicaragua	10.4
France	14.4	Costa Rica	3.1	Germany	6.3	Venezuela	4.9
Germany	14.6	El Salvador	3.9	Greece	8.7		
Greece	12.2	Honduras	4.0	Hungary	13.4	***Middle East/North Africa***	**8.2**
Hungary	13.4	Jamaica	2.7	Iceland	14.9	Bahrain	8.5
Iceland	13.8	Paraguay	2.4	Ireland	11.8	Egypt, Arab Rep.	6.5
Ireland	9.5	Peru	4.9	Italy	10.6	Iran, Islamic Rep.	6.1
Italy	10.8			Latvia	11.1	Kuwait	7.1
Latvia	16.0	***Middle East /North Africa***	**3.8**	Lithuania	10.0	Morocco	7.4
Lithuania	9.8	Egypt	2.1	Luxembourg	12.5	Qatar	14.1
Luxembourg	10.4	Iran	2.3	Malta	8.8	Tunisia	7.7
Malta	8.0	Jordan	7.7	Netherlands	21.8	Turkey	8.2
Netherlands	21.2	Morocco	3.2	Norway	11.5		
Norway	8.0	Tunisia	1.9	Poland	10.9	***Sub-Saharan Africa***	**13.5**
Poland	8.1	Turkey	6.3	Portugal	9.6	Botswana	25.7
Portugal	10.2	United Arab Emirates	3.5	Romania	11.6	Burkina Faso	16.6
Romania	9.4	Yemen, Republic of	3.4	Slovak Republic	11.8	Burundi	8.3
Slovak Republic	7.1			Slovenia	12.7	Cameroon	6.8
Slovenia	10.7	***Sub-Saharan Africa***	**8.2**	Spain	12.1	Guinea	10.3
Spain	7.9	Cabo Verde	4.5	Sweden	17.1	Namibia	12.1
Sweden	13.7	Congo, Republic of	6.0	United Kingdom	14.8	Niger	12.5
United Kingdom	13.0	Lesotho	14.2			South Africa	15.4
		Mauritius	2.7				
		Seychelles	10.5				
		South Africa	11.5				

Footnote by Turkey

The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the "Cyprus" issue.

Footnote by all the European Union Member States of the OECD and the European Union

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus

Note: IC: Intermediate Consumption, GFCF: Gross Fixed Capital Formation, ST: Social Transfer on kind, DF: Defence.

9. 8.7% in Fronk (2015a), 7-9% in Trionfetti (2000) and in Audet (2002).

The second main observation is that with GFS data the GP size tends to be very low for some developing countries and one can assume that some amounts are missing in this series; hence Komo and Rickard (2014) when using those GFS data estimate an average GP size of 4.4% over 1990-2008 for 138 countries. This is why the remainder of the study uses SNA data to calculate the size of GP markets. Furthermore, the definition adopted for the remainder of the study is the standard definition of GP (IC+GFCF) since information on social transfers (ST) and Defence (DF) are missing for several developing countries in SNA data.

3. Domestic bias in Government Procurement

Measuring domestic bias in government procurement is difficult. Looking at the text of law is unhelpful because domestic bias is typically not explicit: except when it is institutionalised, the home bias is not directly observable for it is usually the result of tacit discriminatory behaviour not codified in written rules or it can be the result of procurement procedures that unintentionally impede foreign firms from applying or winning contract awards. Further, even when domestic bias is explicit, its impact on the procurement market cannot be found by simply reading the regulations.

The existence of explicitly discriminatory policies, like price preferences, are often considered as proof of protectionism—after all, governments explicitly prefer domestic over foreign suppliers. The actual economic effect of domestic bias can depend on the market structure and the size of government demand for the product in question. Thus, a price-preference policy, while conceptually similar to an import tariff, is unlikely to show the same effects as a tariff, because a tariff gives preferential treatment to the domestic producer across all purchasers, while a procurement price preference applies only to government purchases, which can be offset by an increase in imports by the private sector (Evenett and Hoekman, 2013).

Detailed information on offers submitted in and conduct of the tendering process would also be important in analysing discrimination in government procurement—governments that consistently choose higher-priced domestic bids might be guilty of discrimination. Despite the WTO GPA's efforts to enhance the transparency of relevant data, such information is not widely available.[10] The recent OECD taxonomy displayed in Gourdon et al. (2017) is the first step to start collecting such information. Scholars attempting to measure discrimination across a wide range of countries have thus turned to outcome-based measures, using imports. This is the approach adopted in this study: first, with a method which compares the propensity to buy national between the public and the private sector; and then with a method which looks at the impact on imports of a shift from private spending to public spending via public procurement.

3.1 Comparing the government's propensity to import with that of the private sector

This method entails comparing the import share of governments with that of the private sector.[11] If the import share is lower for governments, and is large and diffused across all categories of purchase, then it could suggest some type of discriminatory policy. A comparison of this nature depends on the use of data on unbiased imports. Trionfetti (2000) suggests the use of households' or firms' import shares as "their expenditure is driven by profit and utility maximisation and, likely, is not affected by any sort of discriminatory behaviour." Trionfetti follows such an approach and finds evidence to suggest that government purchases are home biased. Thus, a systematic comparison between import shares of the government and of the private economy is a promising method for investigating the presence of discriminatory behaviour.

10. Collecting such information across a wide range of countries is beyond the scope of this paper.

11. Here the import share is the ratio of the value of foreign purchases to the value of total purchases

The main drawback of Trionfetti (2000) is that it examined only a handful of OECD countries in a single year during the eighties using Eurostat data. This study adopts Trionfetti's approach using Input-Output Tables from GTAP[12] to compute those import shares for public and private sectors for 50 countries. GTAP reports government purchases and government imports by country for four years, 2001, 2004, 2007 and 2011. However, given that GTAP is a harmonised data source and the different years cannot be treated as independent observations, this exercise can only give indicative results. As such, these estimates do not necessarily capture discriminatory behaviour but simply a bias, unintentional or not, toward home consumption. This bias could be natural given that GP spending may be more heavily weighted towards non-tradable items than private sector spending -- although this approach aims to control for differences in consumption bundles between public and private sectors by dropping all consumption of public administration, health, and education services, which by definition are more prominent in public expenditure and less tradable.[13] We also compare the ratio at the broad sector level (agriculture, mining, manufacturing and services) to account for differences in consumption bundles between private and public sectors.

We estimate the propensity to import of the private sector (PI_i^{priv}), and the propensity to import of the public sector (PI_i^{ub}) as the share of imports in total purchases:

$$PI_i^{priv} = \frac{Import_i^{priv}}{Purchase_i^{priv}} \text{ and } PI_i^{pub} = \frac{Import_i^{pub}}{Purchase_i^{pub}}$$

Then the ratio of those import shares is calculated as: $R_i = {PI_i^{pub}}/{PI_i^{priv}}$

Figure 2 shows the distribution of the ratio of public to private import share across the 50 countries and four sectors (agriculture, mining, manufacturing and services) in the dataset (after excluding consumption of public services and normalising the ratio[14]), and the median of this distribution (line). These ratios are in general below 1, indicating that the government's propensity to import is below that of the private sector. This is normal since the public sector is more inclined to buy non-tradeable products and services[15]. Using Eurostat data Trionfetti (2001) also found ratios below one, (between 0.27 and 0.78). The data, while subject to some limitations, provide evidence that the import share of governments is systematically lower than the import share of the private economy. It is plausible that this is a reflection of the presence of some form of government bias in favour of domestically produced products. But more importantly, there is a slight declining trend over the years and especially between 2001 (for which the mean, not reported, is 0.686) and 2011 (with a mean over the same countries of 0.621) suggesting that "domestic bias" as approximated by this approach is growing in importance over this period. The median line on the figure also shows this slight declining trend with a value of 0.67 in 2001 and 0.55 in 2011. Annex 1 shows the distribution of ratios estimated at the detailed sector level (for the 34 sectors); the resulting figure is messier because it includes values at the extremes, but it allows for better control for differences in consumption bundles. Results and conclusion remain unchanged.

12. One must keep in mind that GTAP data are reconstructed data. It should be noted, therefore, that using partially 'reconstructed data' to estimate procurement discrimination may bias results. However, Fontagne et al (2013) used the GTAP data to estimate tariff equivalent of protection in services and found plausible results. In addition, we only use data for the 50 countries considered as most reliable in their output-input matrix (mostly developed economies).

13. Hence we compare the consumption of private and public sectors solely in goods and private services (excluding consumption of the public services sector).

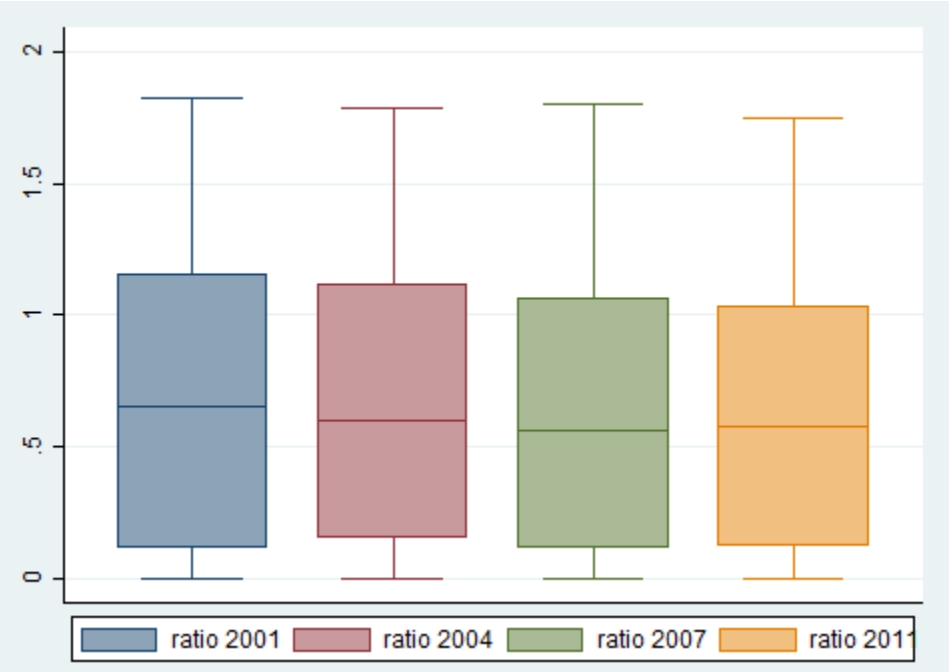
14. In some cases the ratio could be extremely large and such large numbers exert a disproportionate influence on sector averages.

15. GTAP also provides figures at the product level, but the information is heavily constructed and very different from actual figures, suggesting that GTAP data is not well suited to this methodology.

It appears that domestic bias in public spending is more common in developed economies, although developing countries are becoming increasingly biased. Figure 3 shows the change for developed and developing countries in this ratio between 2004 and 2011 (for a sample of 118 countries) compared to their initial ratio in 2004 (blue triangles and red dots respectively). The bias toward internal purchases (of which we assume some is due to discrimination) seems larger in developed countries (most of the developed countries are below 0.60 on the x-axis) while a significant number of developing countries show a higher ratio. However, the reduction in this ratio is slightly more pronounced for developing countries (below the zero line on the y-axis), which could indicate that home bias in measures taken in response to the global economic crisis occurred marginally more in the developing regions.

Figure 1. Ratio Public to Private import share

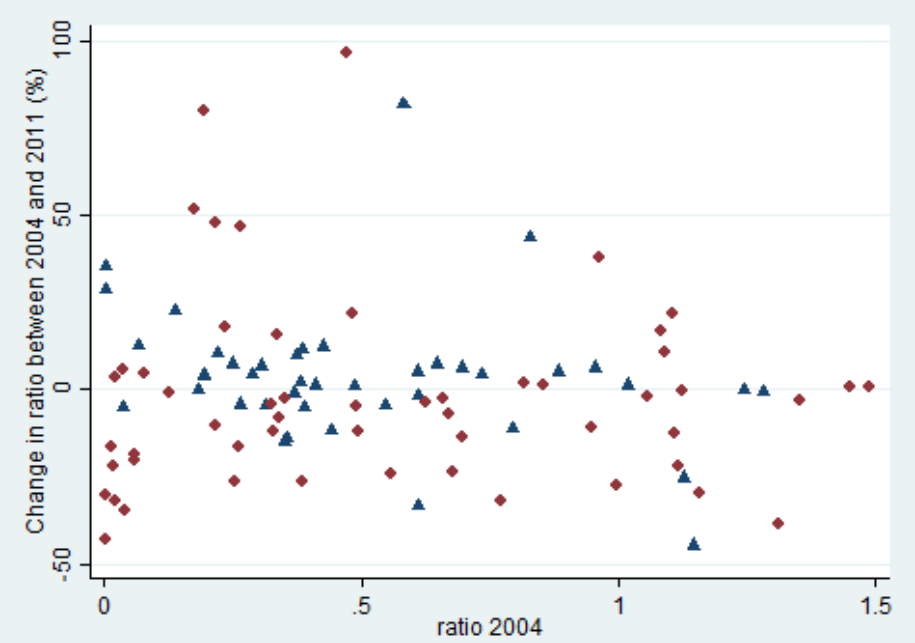
In 2001, 2004, 2007 and 2011



Note: The figure shows the distribution of the ratio of public to private imports across each country. The bottom line reflects the minimum ratio, the bottom of the box represents the first quartile (or 25th percentile), the line in the box is the median (or 50th percentile), the top of the box is the third quartile (or 75th percentile), and the top line represents the maximum ratio in each year.

Source: Authors' calculations based on GTAP.

Figure 2. Change in ratio public to private propensity to import over 2004-2011



Note: Developed countries: blue dots, Developing: red dots.

Source: Authors' calculations based on GTAP.

3.2 Assessing the effect of public spending on imports

Another method to approximate home-bias in government procurement is to estimate the impact of procurement spending (measured as the value of GP) on the imports of goods and services, controlling for other factors (see Annex 1) (Kono and Rickard 2014). The basic assumption is that the relationship between spending and imports allows for conclusions related to procurement discrimination. The dependent variable is the country's imports of goods and services, expressed as a percentage of GDP. The key independent variable is the country's procurement, also as a percentage of GDP. The proposition is that the procurement coefficient indicates the government's propensity to spend procurement funds on imported rather than domestic goods and services.

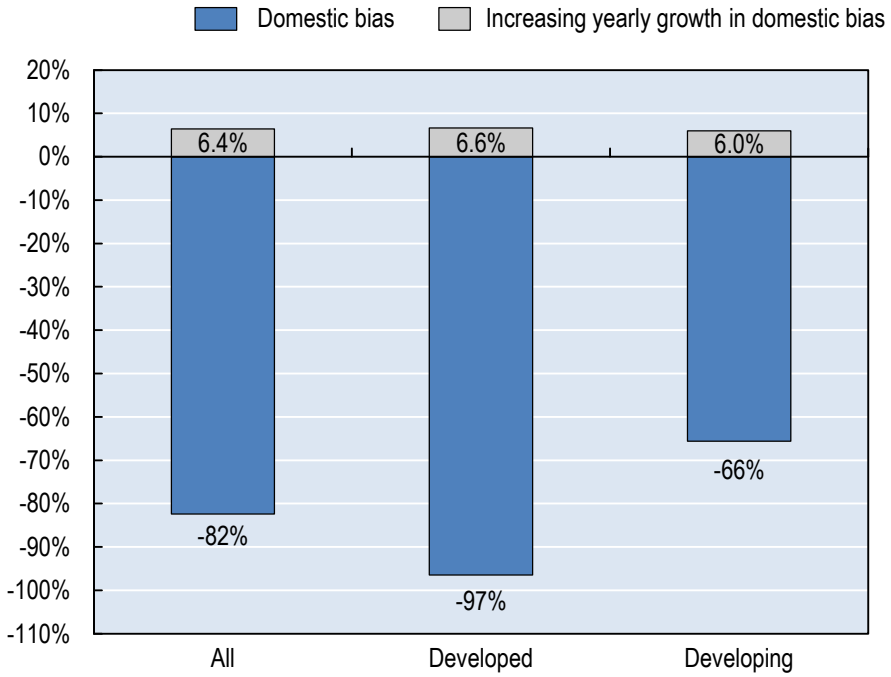
Before hypotheses regarding the spending coefficient can be posed, it is necessary to understand how procurement spending changes total demand for imports. As noted by Kono and Rickard (2014), an increase in procurement shifts spending from the private to the public sector – government uses tax revenues from the private sector to meet government objectives. How this changes total imports depends on the level of discrimination in the procurement market.

The estimated procurement coefficients should range from zero to negative, with larger negative coefficients suggesting higher levels of domestic bias, assuming the private sector does not discriminate. This approach, however, does not account for the fact that public spending could be more oriented toward non-tradable expenditures. A coefficient of zero would mean that an increase in procurement has no impact on imports, implying there is no home bias at all. If, however, the coefficient is negative and closer to -1, then this could imply that the government favours domestic producers, and an increase in procurement shifts spending from a non-discriminatory private sector to a discriminatory government. In that instance, procurement spending would lower imports. These results should be treated cautiously, however, as even when including only intermediate consumption and investment in the estimates of GP, the estimates may still capture more than pure discrimination with this method.

Details on the econometric estimations equation and full results are given in Annex 1. Figure 4 below shows percentage impacts for bias toward national consumption (derived from coefficients of

Table A1.1[16]), with the level of home bias (negative terms) and the increasing trend in this home bias over time (positive term).

Figure 3. Estimation of Domestic Bias in GP



Note: Percentages above come from column 1 (negative coefficients capturing home bias) and column 2 (trend) for the sample all countries and columns 3 and 4 for developed and developing countries.

Source: Coefficients from estimations.

Substantively, these results indicate that a one percentage point increase in the share of procurement in GDP reduces the share of imports in GDP by an average of 0.82%. This means that, on average, increasing the share of procurement in GDP by one standard deviation (3.6 percentage points) should reduce the share of imports in GDP by around 2.9 percentage points. Those 2.9 percentage points iare around one-tenth of a standard deviation across countries of the share of imports in GDP (i.e. 26% in the sample). Hence the results do not indicate that procurement discrimination explains the bulk of variation in trade openness in the context of procurement spending that amounts, on average, to 9.7% of GDP in the sample over 1995-2011.

This analysis attempts to measure the government's propensity to discriminate against imports relative to domestic private consumers. As noted earlier, a procurement spending coefficient of zero implies that the government is not more home biased than the private sector. Hence the transfer of purchasing power from private to public hands has no effect on imports. At the other extreme, a procurement spending coefficient of –1.0 implies that the government discriminates completely: the government spends nothing on imports, so any transfer of money from private to public hands results in an equally large fall in imports. Viewed from this perspective, an average procurement spending coefficient of –0.82 seems like a large effect. For every dollar that the private sector spends on imports, governments spend only 18 cents, and the remaining 82 cents goes to domestic producers. Put differently, any amount that the government taxes and spends—

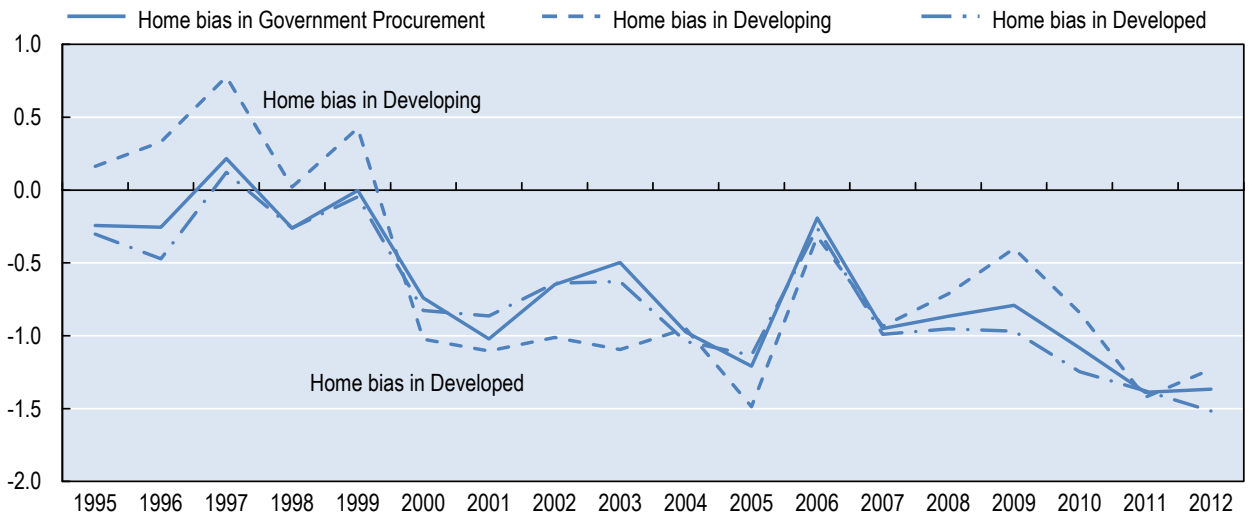
16. Column 1, Table A1.1, presents general results on the effect of GP spending on import spending, Column 2 shows how the trend of this effect evolved over 1995-2011. Columns 3 and 4 replicate but disaggregate the effect between developed and developing countries.

again, on goods and services that can in principle be imported—reduces imports by over half that amount. This would appear to suggest domestic bias in public procurement. How much this domestic bias affects trade depends, of course, on how much a given government taxes and spends.

This home bias effect increases throughout the sample period, by 6.4% each year. Figure 4 shows interesting insights on the heterogeneity in this relationship: the home bias is more pronounced in developed economies with a coefficient of approximately -1 (-97%) implying that the government discriminates completely, while the home bias is significantly less in developing countries (-66%). Results also indicate that discrimination is becoming more severe in both regions, by 6.6% and 6% respectively, similar to the conclusion drawn from the previous approach (when comparing propensity to import) in Figure 3.

Figure 5 below, shows the interaction in the estimation of year fixed effects with the GP/GDP series, which permits identification of this declining trend year by year. There is an increase in discrimination, over the 2000-2004 and 2007-2011 periods. For developing countries, it seems that home bias in government expenditures was not large before the end of the nineties, which might reflect a more limited number of sufficiently large local suppliers at that stage, and potentially also a part of procurement in public infrastructure financed under international loans.

Figure 4. Trend of domestic bias in GP over years



Source: Coefficients from estimations.

Using the share of imports in government expenditure to identify whether barriers to trade exist in countries' public procurement should, however, be interpreted cautiously. First, the goods and services that governments procure are likely to have a higher proportion of non-tradeable products than those of the private sector, meaning that some bias toward national sourcing is normal. Second, national companies can win competitive procurement processes against foreign companies in a fair way; procurement settings between public and private sectors are different; and local companies are by definition better placed for certain types of works and services (e.g. cleaning services and construction works). These issues should not be seen as artificially favouring national companies over foreigners.

4. Impact of Procurement Agreements: Some evidence

4.1 Development and incidence of GPAs and Procurement Discipline in Agreements (PDAs)

Market access is one of the main rationales for negotiating disciplines on government procurement in international trade agreements (Hoekman, 2015). Other rationales include preventing discriminatory procurement practices and agreeing transparent procurement rules between parties. These agreements are designed to guarantee foreign firms the right to tender for procurement contracts, and to be treated no differently from domestic firms in those processes.

The WTO GPA has developed in a number of ways since it first entered into force in 1996, particularly through regular expansions in national commitments. Membership of the agreement is one area where growth was more limited initially, although faster growth in membership is being witnessed since the entry into force of the revised GPA. The GPA is a plurilateral agreement, with voluntary membership. Approximately three-quarters of the WTO members do not participate, and those that do are mostly OECD member countries. Currently there are 19 parties to the agreement, representing 47 WTO members. The EU and its 28 member states represent 29 of the current members, in total, 31 OECD members are parties to the GPA.[17] The integration of the European Economic Community into the EU has contributed significantly to the growth in GPA membership since 1996 (Hoekman, 2015). That said, there are currently 30 observers to the GPA, 10 of which are in the process of accession[18].

Preferential trade agreements (PTAs) are increasingly including provisions on procurement and have become the preferred path to extend procurement rules to non-GPA members (Hoekman, 2015). These PTAs match the GPA in terms of providing liberalisation on a preferential basis, where the market opening is restricted to parties of each agreement. Prior to 1990, there existed seven international agreements covering government procurement: six bilateral agreements with procurement disciplines (PDA) plus the Government Procurement Agreement (GPA). In 2000, this number had risen to twenty agreements. However, by 2010, there were closer to seventy bilateral GP agreements (as notified to the WTO, Figure 6). As new agreements formed and existing agreements added members, the number of trading relationships governed by PDA has exploded.

PTAs with GP provisions tend to be between parties to the WTO GPA.[19] An analysis of 60 PTAs suggests that more than 78% of those agreements involve at least one party to the GPA. Only 13 of the 60 agreements reviewed were between parties with no WTO GPA commitments (see black lines, Figure 7).[20]

Ueno (2013) reviewed the provisions of 47 OECD member PTAs with both coverage commitments and detailed provisions on procurement rules. Each member's commitments in terms of entities covered appear similar across their agreements, especially for central government and other entities. Some of the other entities were included on a reciprocal basis; this was the dominant approach for commitments on the coverage of sub-central government entities. The difficulty of making commitments for sub-central government entities is reflected in the fact that such commitments are included in only about half of the PTAs. The vast majority of the thresholds included in the PTAs of GPA parties are at least at the same level as thresholds under the GPA, while there were a small number of "below GPAs" thresholds.

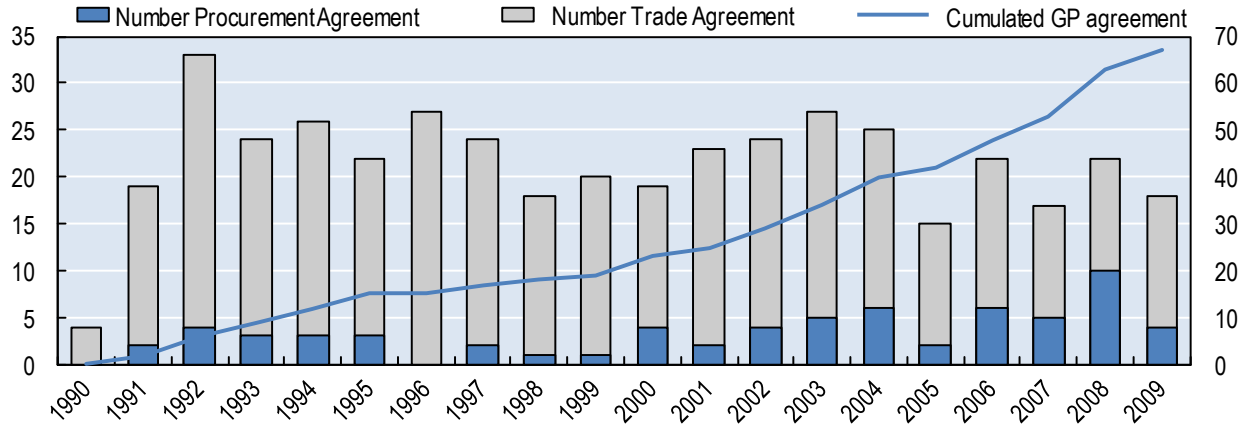
17. Australia, Chile, and Turkey are observers to the agreement. Mexico is the only OECD country that is neither a party nor an observer to the agreement.

18. These are: Albania, Australia, China, Georgia, Jordan, Kyrgyz Republic, Oman, Tajikistan and the Russian Federation. Six other members have undertaken commitments in their WTO accession protocols to initiate accession to the GPA: Afghanistan, Kazakhstan, Mongolia, Saudi Arabia, Seychelles and the Former Yugoslav Republic of Macedonia.

19. The sequencing can vary, however. In some cases, countries may have concluded FTAs covering GP prior to acceding to the GPA.

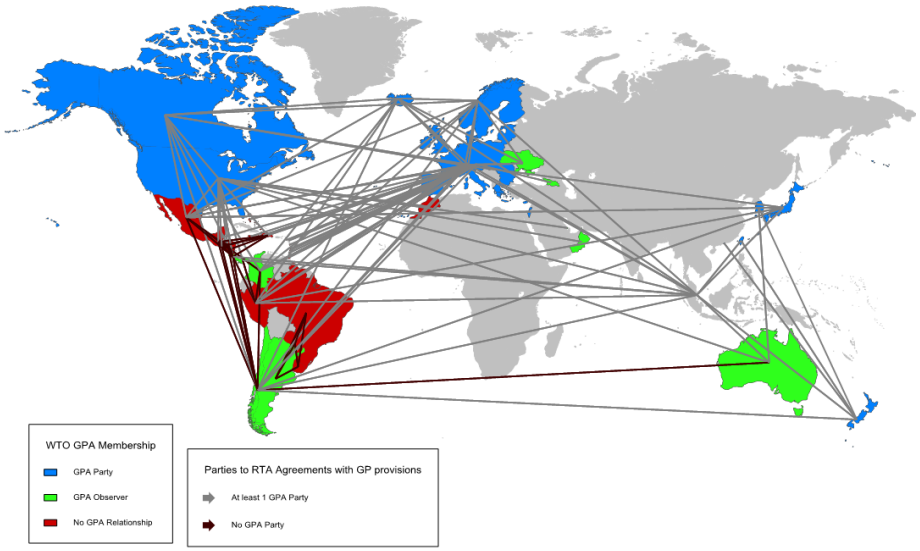
20. This analysis expands on Ueno (2013). Details of the agreements covered in Ueno (2013) as well as the expanded coverage from this analysis are detailed in Annexes 4 and 5.

Figure 5. Number of GP agreements



Source: Authors' calculations based on Desta.

Figure 6. Parties to RTAs with GP provisions and their WTO GPA status



An additional 13 agreements were identified from the WTO PTA database using the same parameters as Ueno (2013) although also including non-OECD members.[21] The provisions in these agreements support Ueno's initial findings. There is little variation in coverage across a party's agreements for its central government entities, although the number of schedules with commitments in sub-central coverage is slightly greater, with approximately 60% including at least some sub-central entities.[22] Other entities are covered in all but one of the schedules. The thresholds in these new agreements appear to be negotiated on a reciprocal basis, and are closely related to those agreed in each country's existing agreements.

4.2 Do government procurement provisions in trade agreements reduce domestic bias?

The impact of international procurement rules on discrimination is assessed using the methodology developed by Rickard and Kono (2014). The elasticity of imports to procurement spending is estimated, while controlling for other determinants of imports. The impact of both multilateral and preferential procurement agreements on these import procurement elasticities is then estimated. A summary results table is provided below, while full results in Table A2.1 and more details of the methodology are provided in Annex 2.[23]

Overall it seems that the GPA has a significant impact on reducing home bias in government procurement. This confirms earlier results, albeit using a different approach, from Chen and Walley (2011). Moreover, Anderson et al. (2011) note that some 25% of recent PTAs include GPA like disciplines and that they mostly involve countries that are not GPA members. One interpretation of this observation is that PTAs can be seen as a form of de facto multilateralisation of the GPA, especially as in practice market access concessions in the GPA are negotiated and applied (on a preferential basis) bilaterally. However, whether the inclusion of procurement disciplines in PTAs has any impact on outcomes is an empirical matter – there is little research evidence to date suggesting a significant economic impact (Rickard and Kono, 2014).

The results from this analysis do not indicate a significant effect from procurement disciplines in PTAs (PDA) in reducing procurement discrimination. While subject to some data and methodological limitations, this result could reflect the relatively shallow commitments in most of PDAs– they either simply reflect the prevailing status quo in procurement policy for signatories or limit commitments to best endeavour-type (non-binding, non-enforceable) language. Clearly much depends on each agreement's level of ambition. The recent Comprehensive Economic and Trade Agreement (CETA) between Canada and the EU is an example of a PTA that should have a major impact on opening up Canadian procurement markets to EU firms (Hoekman, 2015).

4.3 The role of investment agreements

Many of the purchases by government entities comprise services or products where economic forces favour suppliers with a local presence. In such cases, procurement will only be discriminatory if foreign firms cannot contest the market through FDI, or if government entities differentiate among firms on the basis of their nationality. FDI barriers are costly to the economy as a whole, and policy efforts that focus on eliminating such barriers are likely to have a greater payoff than attempting to outlaw discrimination. International investment agreements are one option for countries to eliminate barriers to FDI.

21. These additional 13 agreements were signed by Australia, Argentina, Brazil, Canada, Chinese Taipei, Colombia, Costa Rica, the European Union, Georgia, Korea, New Zealand, Panama, Paraguay, Peru, Singapore, and Uruguay. They included 25 schedules, taking the total number of agreements to 60.

22. Of course sub-central coverage can reflect a variety of factors, including governmental structure (whether a unitary or federal state) and size of the economy.

23. Coefficients are not often significant, indicating that agreements are not very influential, and the sign can differ depending on the method of measurement. Both of these factors underscore the need for caution in interpreting the results from this approach.

In theory, barriers to firm entry and exit are a key determinant of the welfare effects of discriminatory procurement practices (Evenett and Hoekman, 2005). In the absence of such barriers, local preference may lead to an expansion of local output as new firms (potentially including foreign firms) enter the market. This means that, in general, the impact of government procurement discrimination would be contingent on national competition policy. Recent empirical support for this theory found that anticompetitive practices such as regulatory protection of incumbent firms and barriers to FDI have significant negative impact on the probability of a cross-border award (Kutlina-Dimitrova and Lakatos, 2016).

The analysis presented in Table 2 below suggests that the GPA reduces home bias in general and even more when signatory countries also have international investment disciplines. This sustains the assumption that part of procurement discrimination is focused on local economic activity, rather than national versus foreign firms.

Table 2. Gravity model with Imports: Summary of result

Agreements	Impact
Government Procurement Agreement (GPA)	Reduce Home bias
Procurement Disciplines in PTAs (PDA)	Not significant
Government Procurement Agreement and Investment Disciplines (GPA+INV)	Reduce Home bias
Procurement and Investment Disciplines in PTAs (PDA + INV)	Not significant

Note: Summary of results from the estimations in Table A.2.1.

The potential of better data

Finally, a finer analysis of home bias in government procurement can be obtained using award-level data, which allows for a richer assessment of home bias determinants than the use of trade flows as a proxy. However such data are not widely available.

VVA consulting/London Economics (2017) reports figures using such award–level data on cross-border procurement above EU thresholds (based on Tenders Electronic Daily (TED) dataset), At the central and sub-central level, the share of cross border contracts ranging from 1.5% to 2% per year (see Figure 8). The share of direct cross-border contract value is found to be significantly higher, ranging 2.5% in 2009 to 3.5% in 2015.

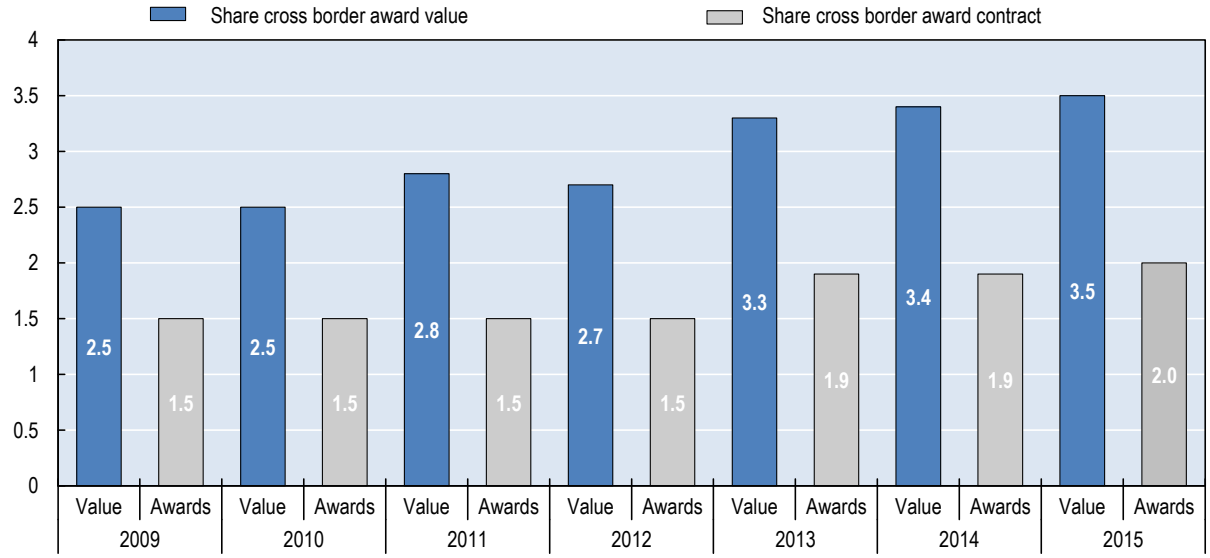
In addition to the European Union, we include a review of similar studies for the US (although only at the federal level), Japan, and Switzerland. Fronk (2015b) drew on US data from the US Federal Procurement Data System and Shingal (2015) used data from two signatories of GPA, Japan and Switzerland, which more consistently report their contract awards covered under GPA.

US figures, at the federal level only, have been estimated by Fronk (2015b). As seen in Figure 9 below, until 2007, foreign firms were awarded less than 1% of procurement contracts. Only in the final few years of the sample did foreign firms begin to increase their share. By 2010, foreign firms secured almost 3% of all contracts and 4% of all spending (as measured by the total value of contracts). Firms from countries with a PDA received the bulk of foreign-awarded procurement over the length of the dataset. The preference in favour of partners to these agreements is clear, but the question of the counter-factual remains; that is, would they have received the same outcome without the agreement? Fronk (2015b)[24] finds that signing PDA agreements with the US increased a partner's probability of success by 174%, however these gains come primarily from trade diversion (i.e. gains taken from other non-US companies).

24. Fronk (2015b) used a probit selection model with two steps approach.

Figure 7. EU cross-border procurement

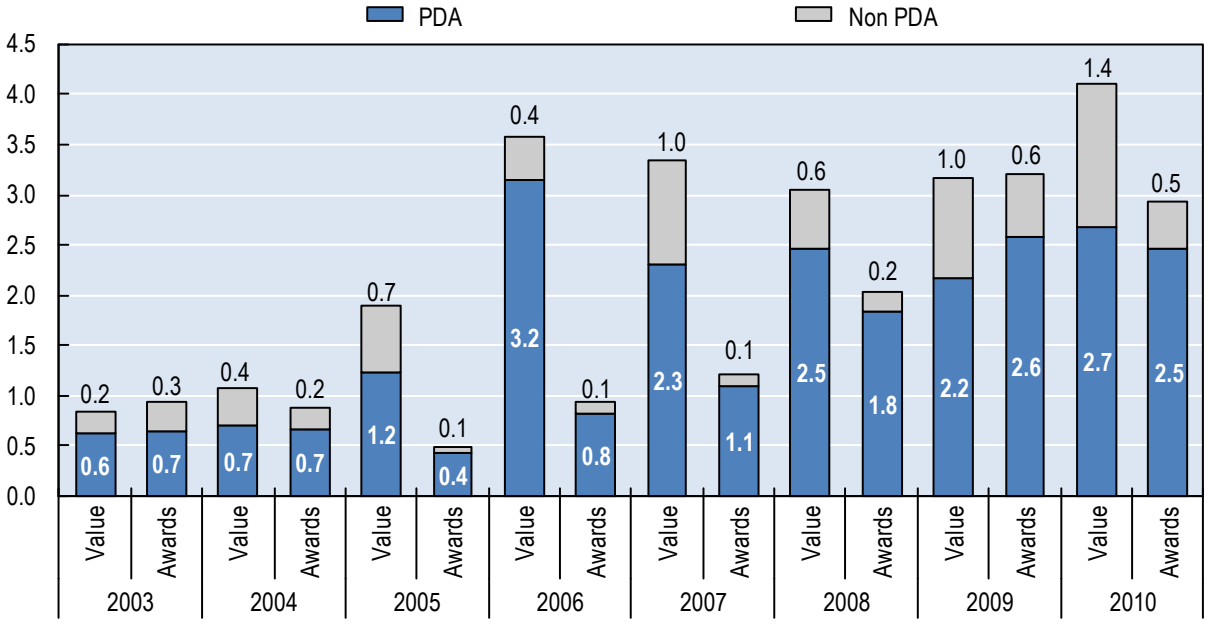
Percentages



Source VVA consulting – London economics (2017) based on Tender Electronic Database.

Figure 8. US procurement to foreign recipients

Percentages



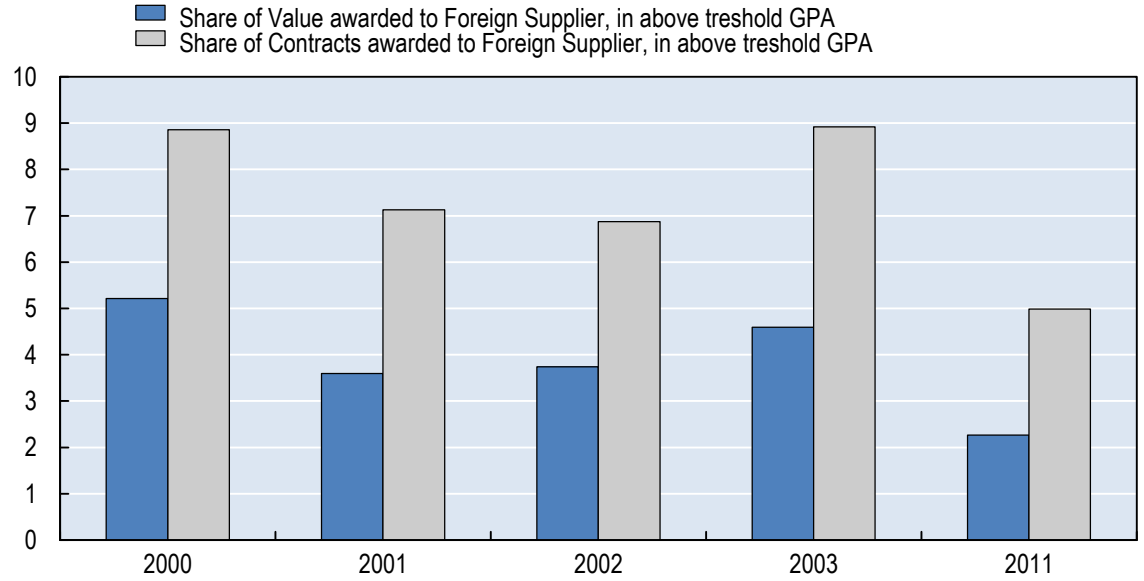
Source: Fronk (2015a) based on US Federal Procurement Data System (FPDS).

Figures reported by Shingal (2015) for Japan and Switzerland end in 2003 so a probable rising trend since 2005 could not be observed. Japan is one exception, as the average share of contracts won by foreign firms is higher than the average value indicating that contracts won by foreign suppliers are of a smaller than average value (Figure 10).[25] Recent statistics provided by the Government Procurement and Competition Policy Group of the WTO Secretariat (IPD) will allow extension of the series for Japan.

Using a commonly used metric in the procurement literature – a comparison of the foreign share of purchases of a given product by government with that of the private sector (see Francois, Nelson, and Palmeter, 1997), Shingal (2011) finds that, for similar categories of services, the Japanese government purchased less from foreign suppliers, Figure 10 shows that the share of value and awards to foreign supplier in goods and services is somewhat similar in 2011 to those in Figures 9 and 8 for the United States and European Union respectively over the same period, and slightly below the levels in the pre-global economic crisis period.

Figure 10. Japan procurement under GPA

Percentages



Source: Shingal (2015) and WTO.

A contribution of this study is to use a novel award-level public procurement dataset to investigate the effect of public procurement agreements on market access. This is the EC Tenders Electronic Daily (TED) dataset, which covers cross border procurement award notices in the European Union for the period 2009-2014, based on the requirement to publish public procurement data on TED.[26] In the European Union, the share of direct cross-border contracts increased in recent years.[27] Over 2009-2014, the EC TED data set includes almost 4 000 cross-border awards per year. Analysis of the EC dataset focuses on three key questions.[28] Does GPA membership increase the chances of a country's firms being successful in the EU

25. Japan is among the few GPA countries who consistently report statistics.

26. Observations without any information on the value of the award (around 30% of the contracts), or on the nationality of the selected firm as well as observations with a total award value below EUR 1 000 and above EUR 200 million were removed.

27. Here, direct cross border contracts covers only direct cross-border public procurement contracts and does not specifically include the international procurement through domestic commercial presence. Therefore, it excludes public contracts won across the EU by domestic subsidiaries of foreign firms in Europe.

28. Details on the model and estimations as well as complete tables of results are given in Annex 2.

procurement market? Does signing a PDA with the European Union improve a country's firms' success in EU procurement tenders? And to what extent does FDI restrictiveness affect the efficiency of these public procurement agreements?

The questions are answered with the help of the public procurement award notices in the EU for the period 2009-2014, for which the methodology is detailed in Annex 3. The period does not allow then to estimate the positive effect of the GPA before 2009 when most of the important signatory countries joined the GPA; therefore the results presented below must be taken with caution. Table 3 summarises the results of the estimation and shows that the GPA has a greater impact on foreign awards than PDAs, which are found to have no effect on cross-border procurement. However the non-significant impact of PDAs partly reflects the fact that there are relatively few PTAs that include procurement disciplines between EU and non-EU countries.[29]

A country's membership of the GPA increases the probability of their firms being awarded a procurement contract in the EU, through the cross-border mode of supply. However, GPA membership does not change the total tradable procurement nor the total procurement awarded through the cross-border mode of supply. Instead, as a preferential trade agreement, the GPA redistributes the share of total value amongst cross-border suppliers, favouring GPA members. This suggests that while foreign suppliers may win a greater share of available contracts, the procurement pie is not expanding-- the number of available procurement contracts may not increase just because a country has signed the GPA. This approach does not allow to capture other potential gains from GPA such as i) enhanced competition in procurement markets, leading to improved value for money ii) good governance, i.e. enhanced integrity through transparency and fair procedures and iii) encouraging inward foreign direct investment through a commitment to transparent and non-discriminatory rules.

Finally the results provide further evidence that FDI barriers reduce the effectiveness of the GPA and PDA in increasing the chance of a cross-border award.[30] The output here is direct cross-border procurement so we do not capture how FDI restrictions would impede access to GP through local presence of foreign firms but mostly how FDI restrictiveness would impede foreign firms to comply with requirement such as merger with national supplier. In the same vein the relevance of GPA also on participation by locally established affiliates of international suppliers in procurements in light of its Article IV:2 is not captured by this estimation. Indeed contracts won in this fashion will not show as "cross border procurement" in trade statistics and are therefore not taken into consideration in the analysis summarized in Table 3. This suggests that to maximise the gains from GPA accession, a country should also undertake investment liberalisation.

Table 1. Effectiveness of procurement agreements using award data: Summary of results

Output agreements	Share in total government procurement	Share of cross-border awards	Share of non-EU cross-border awards
Government Procurement Agreement (GPA)	Improve access to contract *Not significant for value*	Improve access to contract and total value of procurement	Improve access to contract and total value of procurement
Procurement Disciplines in PTAs (PDA)	Improve access to contract	*Not significant*	*Not significant*
FDI restrictiveness	Reduce market access and efficiency of GPA and PDA	Reduce market access and efficiency of GPA	Reduce market access and efficiency of GPA

Note: Summary of results from the estimations in Table A.2.1

29. That said, PDAs do increase partners' share of awards within all government procurement awards, just not the share of cross-border awards, or the share of non-EU cross-border awards.

30. The FDI restrictiveness indicator used in the model is drawn from the OECD Product Market Regulation database.

5. Conclusion

This study collects new information, to present, in one place, an updated picture of the size of government procurement markets, and how these have been evolving. It also draws on current methods to provide evidence of the level of discrimination in government procurement markets, and the efficiency of government procurement agreements in reducing those levels of discrimination.

The size of government procurement markets is estimated to be between, on average, 11% and 12% of GDP in 2011 and the share of procurement in GDP has been increasing gradually since 1995, with clear spikes during 2000-2002 and 2008-2010, the latter in response to the global economic crisis.

Evidence suggests that there is domestic bias in government procurement markets, and this bias has been increasing over recent years. Biased procurement is more pronounced in developed economies, though procurement in developing economies has become increasingly more biased since 2000.

The effectiveness of international government procurement agreements in reducing home-bias is mixed. Accession to the WTO's GPA reduces discrimination in procurement markets, increasing trade among members to the agreement (but not necessarily increasing overall procurement trade). Available evidence at this stage indicates no significant effect in reducing domestic bias from bilateral agreements, by themselves. Joining the GPA appears to be the most efficient strategy in the absence of deeper procurement disciplines in other trade agreements.

Liberalisation of investment barriers undertaken in parallel with trade agreements, however, increases the ability of those agreements to reduce discrimination. The effect of the GPA in reducing discrimination is greater in economies with low barriers to FDI, while trade agreements that include investment provisions enable those agreements to reduce home bias. This suggests that countries negotiating procurement agreements could also benefit from negotiating investment agreements in parallel.

This study benefited from access to an EC award-level procurement dataset which resulted in richer analysis of, particularly, the effectiveness of procurement agreements on trade in procurement. By the nature of the dataset, the story that the data tells is EU-centric, but it does illustrate the value of developing and analysing datasets of this type. Access to similar datasets from other countries would extend the analysis and allow for powerful insights and policy recommendations to be realised.

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Annex 1. Estimation of Home-Bias in Government Procurement

Figure below shows the distribution of the ratio of public to private import share for 50 countries but for 34 sectors in the dataset (after excluding public administration, health, education and defence spending, and normalising the ratio), which allows comparison of the same types of spending and controls more effectively for differences in spending bundles. These ratios are still in general below 1, although there are more extreme values, above 1.5 or close to the zero line. The data still show clearly that the import share of governments is systematically lower than the import share of the private economy (although this may also reflect the lesser role of tradables government procurement). We still observe a slight declining trend over the years and especially between 2001 (for which the mean, not reported, is 0.478) and 2011 (with a mean over the countries of 0.392) suggesting that "discrimination" approximated by this approach is more and more important over this period. The median line on the figure shows a slighter declining trend with a value of 0.11 in 2001 and 0.09 in 2011. Again most of those extreme values need to be taken with a great deal of caution since GTAP are constructed data, and we rely more on values at the broad sector level (Agriculture, Mining, Industry and Services) as in Figure 2 (page 11).

A simple approach developed by Kono and Rickard (2014) is adopted: The impact of procurement spending on imports is estimated, controlling for other gravity factors (size, GDP, GDP-weighted distance, tariff and number of trade agreement signed by the country) in an OLS regression. The dependent variable, *Imports/GDPi,t* is country *i's* imports of goods and services in year *t*, expressed as a percentage of GDP. The key independent variable, *GP/GDPi,t*, is *i*'s contestable procurement spending (including defense and excluding social transfers in kind) in year *t*, also as a percentage of GDP. Ceteris paribus, the procurement coefficient indicates the government's propensity to spend procurement funds on imported rather than domestic goods and services. Year fixed effects are included. Overall the sample covers the period 1995-2012 and comprises 72 countries (35 developed and 37 developing).

Table A1.1. Econometric results of discrimination in GP

	(1)	(2)	(4)	(5)
VARIABLES	Import/GDP	Import/GDP	Import/GDP	Import/GDP
Land Area (Log)	-3.495***	-3.490***	-3.439***	-3.431***
	(0.426)	(0.426)	(0.429)	(0.430)
Population (Log)	-3.286***	-3.350***	-3.406***	-3.470***
	(1.041)	(1.047)	(1.096)	(1.105)
GDP (Log)	-1.192	-1.154	-1.137	-1.103
	(0.780)	(0.785)	(0.806)	(0.812)
Distance (Log)	-13.573***	-13.179***	-13.593***	-13.162***
	(1.489)	(1.489)	(1.488)	(1.509)
Tariff (Log)	-2.911**	-2.572**	-2.773**	-2.448**
	(1.135)	(1.151)	(1.184)	(1.208)
RTA (number)	-0.010	0.001	-0.012	0.002
	(0.041)	(0.041)	(0.041)	(0.042)
Developed	-4.701**	-4.690**	-1.772	-1.951
	(1.904)	(1.917)	(3.316)	(3.444)
GP/GDP	-0.824***	-0.110		
	(0.182)	(0.323)		
Trend*(GP/GDP)		-0.064**		
		(0.031)		
(GP/GDP)*Developed			-0.965***	-0.224
			(0.244)	(0.345)
(GP/GDP)*Developing			-0.656**	-0.004
			(0.258)	(0.460)
Trend*(GP/GDP)*Developed				-0.066**
				(0.031)
Trend*(GP/GDP)*Developing				-0.060*
				(0.036)
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	887	887	887	887
R-squared	0.64	0.64	0.64	0.64

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Annex 2. Estimating the Efficiency of Procurement Agreements

Following Rickard and Kono (2014) the impact of international agreements on the elasticity of imports of goods to procurement spending is observed. A bilateral gravity model of imports between country *i* and country *j* is used with controls that either theory or previous research suggests should influence imports (Size, GDP, tariff and existence of trade agreements between countries) and the level of procurement spending.

To answer the question, two interaction terms are included: *ln(Procurementit)*GPAijt and ln(Procurementit)*PDAijt.* These are interactions, respectively, between procurement spending and dummy variables for joint membership in the WTO GPA and signing a Procurement discipline agreements PDAs. Both dummies are coded 1 if countries *i* and *j* belong to the given procurement agreement and 0 otherwise. If these agreements reduce discrimination, the elasticity of imports to procurement spending will be higher among the signatories, and the coefficient on the interactions will be positively signed. Conversely, a small and insignificant coefficient would imply that PDAs or GPA do not discourage discrimination in public procurement.

The existence of a joint Procurement and Investment Agreement and joint GPA membership and Investments Disciplines are also included, in order to account for the reinforced effects of procurement disciplines in the agreement where investment liberalisation provisions are also included. Here again a positive sign is expected on the interaction of efficiency is there.

The specification follows the most recent robust techniques developed (in Head and Mayer 2014[31]): we use a PPML (Poisson) estimator to account for zero value in bilateral trade and we include exporter and year fixed effects. Since our interest variable (share of GP in GDP) is importer-year specific we cannot include importer-year fixed effects but an index of remoteness is used, as in Helliwell (1998)[32][33] , and standards errors are clustrered at importer-year level. And standard gravity variables are included such as common border, common language and colonial relationship

Overall the sample with bilateral imports from UN Comtrade covers the period 1995-2013 and comprises 74 countries (35 developed and 39 developing). 44 countries have PDA with at least one other country in the sample, among which 32 have also an investment agreement and 35 countries are GPA signatories.

31. Head, K. and T. Mayer (2014), "Gravity Equations: Workhorse,Toolkit,and Cookbook", in *Handbook of Econometrics*.

32. Helliwell, J. (1998), *How Much Do National Borders Matter?* Brookings Institution Press,Washington,D.C.

33. One could not use importer-year dummies which is the first best option because one of the main explanatory variable is importer year specific and would have been the dropped from the estimations, this is why one had to rely on this second best option

Table A2.1 Gravity model with Imports

	1	2
Estimator	PPML	PPML
VARIABLES	Import	Import
GDP exporter*GDP importer (Log)	0.008***	0.008***
	(0.002)	(0.002)
Land exporter*Land importer (Log)	-0.009	-0.014*
	(0.008)	(0.008)
Pop exporter* Pop importer (Log)	-0.007***	-0.007***
	(0.003)	(0.003)
Tariff (Log)	-0.318***	-0.320***
	(0.086)	(0.086)
RTA (Trade Agreement)	0.468***	0.455***
	(0.044)	(0.045)
Government Procurement (GP) (Log)	-0.044***	-0.046***
	(0.017)	(0.017)
GP*GPA	0.044***	0.044***
	(0.015)	(0.015)
GP*PDA	0.006	0.010
	(0.010)	(0.009)
GP*PDA-INV		-0.001
		(0.027)
GP*GPA-INV		0.042**
		(0.020)
PDA (Procurement Discipline Agreement	-0.091	0.046
	(0.225)	(0.252)
GPA (Government Procurement Agreement-WTO)	-1.518***	-1.507***
	(0.415)	(0.421)
PDA-INV (Procurement & Investment Agreement)		-0.156
		(0.680)
GPA-INV (GPA and Investment Agreement)		-0.784
		(0.498)
Distance	-0.592***	-0.594***
	(0.023)	(0.023)
Common border	0.929***	0.923***
	(0.043)	(0.043)
Common language	0.149***	0.144***
	(0.031)	(0.031)
Colony	0.814***	0.812***
	(0.098)	(0.097)
Remoteness	1.349***	1.381***
	(0.273)	(0.276)
Year Fixed Effects	Yes	Yes
Exporter Fixed Effects	Yes	Yes
Importer Fixed Effects	Yes	Yes
Observations	**161,803**	**161,803**

Robust standard errors in parentheses cluster at import-year level.

Annex 3. Estimating the Efficiency of Procurement Agreements Using EC award data

The econometric analysis here is based on recent studies by Kutlina-Dimitrova and Lakatos (2016), Shinghal (2015) and Fronk (2015b). The impact of a set of selected explanatory variables on the probability of awarding public procurement contracts directly cross-border is estimated. The response variables are alternately the share of a country j in the number of contracts awarded and the value of awards in a reporting EU country *i*. Consecutively the share in total award, the share in total awards to foreign companies and the share of awards to foreign and non-EU companies are used.

Dummies are included if the reporting i and partner j countries are both in the GPA or have signed an agreement with procurement disciplines (PDA) to assess the efficiency of such agreements. Following the assumption of Kutlina-Dimitrova and Lakatos (2016) the OECD index of restrictiveness to FDI in reporter i from the Product Market Regulation database (PMRfdi) is also included and this is interacted with GPA.

Variables are included that control for awarding country characteristics found in Shinghal (2015) or Fronk (2015b) such as GDP of of reporter, size of public procurement market (GP) in reporter *i*, and Import to GdP ratio of reporter *i*, government expenditure to GDP ratio. And standard gravity variables are included such as common border, common language and colonial relationship.

The specification follow the most recent robust techniques developed (in Head and Mayer 2014[34]): we use a PPML (Poisson) estimator to account for zero value in bilateral cross border flows and we include exporter-year fixed effects. Since our interest variable (PMR index) is importer-year specific we cannot include importer-year fixed effects but an index of remoteness is used, as in Helliwell (1998),[35] and standards errors are clustered at importer-year level.

Overall the sample covers the period 2009-2013 and comprises the contract between 30 reporting countries and 95 wining countries, 37 of wining countries are GPA members and 33 have a PDA with a reporting country but only four if EU countries already in GPA are excluded.

34. Head, K. and T. Mayer (2014), "Gravity Equations: Workhorse,Toolkit,and Cookbook", in *Handbook of Econometrics.*

35. Helliwell, J. (1998), *How Much Do National Borders Matter?* Brookings Institution Press, Washington,D.C.

Table A3.1. Effectiveness of procUrement Agreements Using Award Data

Estimator PPML	Share in Total		Share in Non National		Share in Non EU	
	Value	**Contracts**	**Value**	**Contracts**	**Value**	**Contracts**
GDP (Log)	-0.796***	-0.752***	-0.341***	-0.276**	0.042	0.035
	(0.125)	(0.150)	(0.116)	(0.123)	(0.049)	(0.048)
Import (Log)	-1.029**	-1.322***	-1.109***	-0.983***	-0.105	-0.008
	(0.482)	(0.497)	(0.290)	(0.240)	(0.134)	(0.128)
Distance (Log)	0.249	-0.171	-0.270	-0.463*	-0.414	-0.641**
	(0.671)	(0.257)	(0.486)	(0.251)	(0.326)	(0.290)
GP share in Gdp (Log)	0.103	0.140*	0.111*	0.143***	0.010	0.015
	(0.098)	(0.081)	(0.062)	(0.039)	(0.023)	(0.020)
PDA	3.389	3.261**	-0.086	0.658	1.562	1.330
	(2.376)	(1.535)	(1.067)	(0.790)	(1.556)	(1.287)
GPA	0.671	7.986***	5.322**	6.231***	6.243***	7.131***
	(3.359)	(0.514)	(2.449)	(0.624)	(0.886)	(0.713)
PMRfdi	-1.064	0.298	-0.469	0.058	-0.181	-0.051
	(0.795)	(0.306)	(0.537)	(0.269)	(0.257)	(0.243)
GPA*PMRfdi	2.239***	-1.537***	0.045	-1.560***	0.134	-0.246
	(0.678)	(0.596)	(0.953)	(0.496)	(0.479)	(0.419)
PDA*PMRfdi	-9.958	-14.679**	-0.230	-3.076	-7.608	-7.598
	(7.112)	(6.811)	(0.977)	(2.164)	(6.481)	(5.301)
Common border	-0.683	1.375*	-0.805	0.304	0.418	0.491
	(1.062)	(0.812)	(0.801)	(0.500)	(0.585)	(0.469)
Common language	3.150***	2.376***	1.829***	0.937***	0.183	0.115
	(0.701)	(0.589)	(0.394)	(0.270)	(0.202)	(0.172)
Colony	-0.494	-0.565	-0.076	0.217	0.145	0.176
	(0.714)	(0.452)	(0.416)	(0.220)	(0.214)	(0.164)
Remoteness (Log)	2.963	4.595***	2.216	1.135	-0.506	-0.108
	(2.050)	(1.609)	(1.683)	(1.476)	(0.694)	(0.694)
Exporter-year Fixed effects						
Year Fixed Effects						
St errors clustered at importer-year level						
Obs.	4,216	4,215	4,151	4,152	4,153	4,154

Annex 4. Entity Coverage in Regional Trade Agreements

Table A4.1 Entity coverage in RTAs

			Central Government Entities	Sub-central government entities		Other Entities
Agreement	**Party**	**Year**		**Regional**	**Local**	
Australia - Chile	**Australia**	2009	75 entities in 18 portfolios	6 states+2 territories (= all regions)	not covered	30 entities
Australia - Chile	**Chile**	2009	21 entities	53 provinces in 15 regions (= all provinces) (conditions for central government entities are applied)	346 municipalities (= all municipalities)	11 entities (airports & ports)
Canada - Chile	**Canada**	1997	81 entities (= GPA94 - 1 entity (Public Health Agency of Canada))	not covered	not covered	10 entities (GPA=)
Canada - Chile	**Chile**	1997	20 entities	51 provinces in 13 regions (conditions for central government entities are applied)	not covered	11 entities (airports & ports)
Canada - Colombia	**Canada**	2011	78 entities (GPA=)	not covered	not covered	10 entities (GPA=)
Canada - Colombia	**Colombia**	2011	28 entities (including legislative and some judicial branches)	not covered	not covered	10 entities
Canada - Israel	**Canada**	1997	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)
Canada - Israel	**Israel**	1997	GPA= (by reference)	n.a.	GPA= (by reference)	GPA= (by reference)
Canada-Panama	**Canada**	2013	78 entities	not covered	not covered	10 entities(Post corporation, museums, tourism,mintage, transport)
Canada-Panama	**Panama**	2013	16 entities	not covered	not covered	34 entities(Food safety agency, SME agency, agricultural institute, bank, university, water service etc)
Canada - Peru	**Canada**	2009	78 entities (GPA=)	not covered	not covered	10 entities (GPA=)
Canada - Peru	**Peru**	2009	61 entities	not covered	not covered	21 entities (national bank, electricity, postal, airport, port, oil, drinking water companies etc.)
Chile - Colombia	**Chile**	2009	20 entities	51 provinces in 13 regions (conditions for central government entities are applied)	346 municipalities (=all municipalities)	10 entities
Chile - Colombia	**Colombia**	2009	28 entities (including legislative and some judicial branches)	all departments	all municipalities	11 entities
Chile - Central America	**Chile**	2002	negative list: some councils, legislative and judicial branches, armed forces etc, are excluded.	covered	not covered	negative list: central bank and state-owned enterprises etc. are excluded.

Note: This table adds the 11 agreements to the same table found in Ueno (2013).

			Central Government Entities	Sub-central government entities		Other Entities
Agreement	**Party**	**Year**		**Regional**	**Local**	
Chile - Central America	**Costa Rica**	2002	negative list: Ministry of Public Security, Ministry of Interior and Police, councils, legislative and judicial branches etc. are excluded.	covered	not covered	negative list: public entities and companies, non-governmental public entities, duty free shops etc. are excluded.
Chile - Central America	**El Salvador**	2002	negative list: Ministry of National Defense, Civil Police Force, legislative and judicial branches, Directorate General of Radio and TV, Directorate General of Post Office, Port Committee, Hydroelectric Committee etc. are excluded.	covered	not covered	Negative list: central reserve bank etc. are excluded.
Chile - Central America	**Guatemala**	2010	negative list: Ministry of Defense, Ministry of Interior, legislative and judicial branches etc. are excluded.	covered	not covered	negative list: central reserve bank, state and municipal public enterprises etc. are excluded.
Chile - Central America	**Honduras**	2008	negative list: Ministry of Defense, Ministry of Security, Office of the President, some committees etc. are not covered.	covered	not covered	negative list: state-owned public companies are excluded.
Chile - Japan	**Chile**	2007	21 entities	51 provinces in 13 regions (conditions for central government entities are applied)	346 municipalities (=all municipalities)	10 entities (ports)
Chile - Japan	**Japan**	2007	GPA94= (by reference)	GPA94= (by reference)	GPA94= (by reference)	GPA 94 (by reference) - entities which have been privatised (railway, tobacco, telecommunication companies etc.) or have been dissolved or transferred
Chile - Mexico	**Chile**	1999	20 entities	51 provinces in 13 regions (conditions for central government entities are applied)	346 municipalities (=all municipalities)	10 entities (ports)
Chile - Mexico	**Mexico**	1999	24 entities with subordinate entities (including all 19 ministries) (=NAFTA+2 entities (Secretaria de Seguridad Publica found in 2000 + Centro de Ingenieria y Desarrollo Industrial))	not covered	not covered	36 entities (airport service, telecommunication, postal, social security, oil, water, toll road, railway companies); similar to NAFTA
Colombia - Mexico	**Colombia**	1995	21 entities	not covered	not covered	29 entities (electricity, telecommunication, radio and TV, postal, railroad, maritime and internal waterway companies etc.)
Colombia - Mexico	**Mexico**	1995	22 entities (NAFTA=)	not covered	not covered	36 entities (NAFTA=)
Costa Rica - Mexico	**Costa Rica**	1995	24 entities	not covered	88 municipalities (=all municipalities) + 4 institutions	82 entities (water, electricity, railroad companies etc.)
Costa Rica - Mexico	**Mexico**	1995	22 entities with subordinate entities (NAFTA=)	not covered	not covered	36 entities (NAFTA=)
Costa Rica - Peru	**Costa Rica**	2013	23 entities	7 provinces	81 municipalities (=all municipalities)	13 entities (List A:Agriculture, bank, transport, port, public service, etc List B:Oil refinery,social service)
Costa Rica - Peru	**Peru**	2013	54 entities	25 regions (=all regions)	all municipalities	15 entities (List A:bank, finance, transport, water, postal service List B:petroleum, social health insurance)
Costa Rica - Singapore	**Costa Rica**	2013	22 entities	7 provinces	81 municipalities (=all municipalities)	13 entities (transportation, port, electricity,bank,water service etc.)
Costa Rica - Singapore	**Singapore**	2013	23 entities	Singapore does not have any sub-central government.	Singapore does not have any sub-central government.	21 entities(transport, enterprises, port, media, tourism, etc)
CAFTA - DR	**Dominican Republic**	2006	22 entities	31 provinces (=all provinces)	not covered	15 entities (List A)
CAFTA - DR	**Costa Rica**	2006	22 entities	not covered	81 municipalities (=all municipalities)	11 entities(List A), 2 entities(List B)
CAFTA - DR	**El Salvador**	2006	11 entities	not covered	25 municipalities (=not all municipalities)	55 entities (List A), 3 entities (List B)
CAFTA - DR	**Guatemala**	2006	35 entities	not covered	30 municipalities (=not all municipalities)	19 entities (List A)

			Central Government Entities	Sub-central government entities		Other Entities
Agreement	**Party**	**Year**		**Regional**	**Local**	
CAFTA - DR	**Honduras**	2006	16 entities	not covered	142 municipalities (=not all municipalities)	10 entities (List A)
CAFTA - DR	**Nicaragua**	2006	15 entities	not covered	88 municipalities (=not all municipalities)	32 entities (List A)
CAFTA - DR	**United States**	2006	79 entities (GPA94 - 1 entity (Uranium Enrichment Corporation) + 1 entity (Pennsylvania Avenue Development Corporation which has been dissolved))	List A (except Honduras):23 states, List B (Honduras):17 states	not covered	6 entities(List A) + Rural Utilities Services (List B) (=GPA94 - 1entity (Power Market Administrations of the Department of Energy in List A) - 3 entities(ports and the New York Power Authority in List B))
EU - CARIFORUM	**European Union**	2008	GPA94= (by reference)	not covered	not covered	not covered
EU - CARIFORUM	**CARIFORUM**	2008	Antigua and Barbuda 22 entities; the Bahamas 11 entities; Belize 18 entities; Dominica 12 entities; Dominican Republic 22 entities; Grenada 6 entities, Guyana 8 entities; Haiti 6 entities; Jamaica 22 entities; Saint Christopher and Nevis 3 entities; Saint Lucia 13 entities; Saint Vincent and the Grenadines 1 entity; Suriname17 entities; Trinidad and Tobago 23 entities	not covered	not covered	not covered
EU - Chile	**European Union**	2003	GPA94=	GPA94=	GPA94=	GPA94 - (entities having activities in the fields of maritime, inland port, or airport only)
EU - Chile	**Chile**	2003	20 ministries with subordinate entities + all other central public entities including their regional and sub-regional subdivisions	51 provinces in 13 regions (conditions for central government entities are applied)	341 municipalities + all other sub-central public entities + all other entities operating in the general interest and subject to effective and managerial or financial control by public entities	11 entities (airports and ports) + all other public entities in relation to airports or ports
EU-Colombia and Peru	**Colombia**	2013	28 entities	all departments	all municipalities	10 entities(Logisitics, instituite of science and technology, instituite of education, securities etc)
EU-Colombia and Peru	**European Union**	2013	All central government entities of EU member state and EU entities (The Council of the European Union and The European Commision)	all regional contracting entities	all local contracting entities	covered
EU-Colombia and Peru	**Peru**	2013	62 entities	25 regions(=all regions)	all municipalities	22 entities(national bank, electricity, postal, airport, port, oil, drinking water companies etc.)
EU-Georgia	**European Union**	2002	covered (GPA or wider GPS)	covered (GPA or wider GPS)	covered (GPA or wider GPS)	covered (GPA or wider GPS)
EU-Georgia	**Georgia**	2002	covered (Under process)	covered (Under process)	covered (Under process)	covered (Under process)
EU - Korea	**European Union**	2011	GPA94= (by reference)	GPA94= (by reference)	GPA94= (by reference)	GPA94= (by reference) Entities having activities in the fields of airports and urban transport are not covered.
EU - Korea	**Korea**	2011	GPA94= (by reference)	GPA94= (by reference)	GPA94= (by reference)	GPA94= (by reference) Entities having activities in the fields of airports and urban transport are not covered.
EU - Mexico	**European Union**	2000	GPA94=	not covered	not covered	GPA94=
EU - Mexico	**Mexico**	2000	18 entities (commissions and councils not subordinate to 18 ministries are covered by Annex 3; all ministries are included) NAFTA=	not covered	not covered	33 entities (29 entities (NAFTA- 7 entities) + 4 commissions and councils covered by Mexico's Annex 1 of other RTAs)
EFTA - Canada	**Iceland**	2009	GPA= (by reference)	GPA= (by reference) not applied to Canada	GPA= (by reference) not applied to Canada	GPA= (by reference)
EFTA - Canada	**Liechtenstein**	2009	GPA= (by reference)	GPA= (by reference) not applied to Canada	GPA= (by reference) not applied to Canada	GPA= (by reference)

			Central Government Entities	Sub-central government entities		Other Entities
Agreement	**Party**	**Year**		**Regional**	**Local**	
EFTA - Canada	**Norway**	2009	GPA= (by reference)	GPA= (by reference)	GPA= (by reference) not applied to Canada	GPA= (by reference)
EFTA - Canada	**Switzerland**	2009	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference) Entities having activities in the fields of water, electricity, ports, airports, urban transport are not covered vis-à-via Canada.
EFTA - Canada	**Canada**	2009	GPA= (by reference)	GPA= (by reference) not applied to Iceland and Liechtenstein	GPA= (by reference)	GPA= (by reference)
EFTA - Chile	**Iceland**	2004	GPA94=	GPA94 =	GPA94 =	GPA94 - entities having activities in electricity sector
EFTA - Chile	**Liechtenstein**	2004	GPA94=	GPA94 =	GPA94 =	GPA94 - entities having activities in electricity sector
EFTA - Chile	**Norway**	2004	GPA94=	GPA94 =	GPA94 =	GPA94 - entities having activities in electricity sector
EFTA - Chile	**Switzerland**	2004	GPA94=	GPA94 =	GPA94 =	GPA94 - entities having activities in electricity sector
EFTA - Chile	**Chile**	2004	20 ministries	51 provinces in 13 regions (conditions for central government entities are applied)	341 municipalities + all other sub-central public entities + all other entities operating in the general interest and subject to effective and managerial or financial control by public entities.	10 entities (ports) + state owned airports
EFTA - Colombia	**Iceland**	2011	GPA94=	GPA94 =	GPA94 =	GPA94 - entities having activities in electricity sector
EFTA - Colombia	**Liechtenstein**	2011	GPA94=	GPA94 =	GPA94 =	GPA94 - entities having activities in electricity sector
EFTA - Colombia	**Norway**	2011	GPA94=	GPA94 =	GPA94 =	GPA94 - entities having activities in electricity sector
EFTA - Colombia	**Switzerland**	2011	GPA94=	GPA94 =	GPA94 =	GPA94 - entities having activities in electricity sector
EFTA - Colombia	**Colombia**	2011	28 entities (including legislative and some judicial branches)	all departments	all municipalities	10 entities (institutions related to sport, higher education, development of science and technologies, police and army related fund etc.)
EFTA - Korea	**Iceland**	2006	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference) Entities having activities in the fields of airports and urban transport are not covered.
EFTA - Korea	**Liechtenstein**	2006	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)
EFTA - Korea	**Norway**	2006	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)
EFTA - Korea	**Switzerland**	2006	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference) Entities having activities in the field of airports are not covered.
EFTA - Korea	**Korea**	2006	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference) Korea Rail Network Authority and Korea Railroad Corporation are not covered vis-à-vis Norway and Switzerland,
EFTA - Mexico	**Iceland**	2001	GPA94=	not covered	not covered	GPA94=
EFTA - Mexico	**Liechtenstein**	2001	GPA94=	not covered	not covered	GPA94=
EFTA - Mexico	**Norway**	2001	GPA94=	not covered	not covered	GPA94=
EFTA - Mexico	**Switzerland**	2001	GPA94=	not covered	not covered	GPA94=
EFTA - Mexico	**Mexico**	2001	19 entities (including all ministries) (=NAFTA + 1 entity (Secretaria de Seguridad Publica founded in 2000))	not covered	not covered	36 entities (= Chile-Mexico RTA + 4 commissions and councils covered by Mexico's Annex 1 of other RTAs)
EFTA - Peru	**Iceland**	2011	GPA94=	GPA94=	GPA94=	GPA94 - entities having activities in electricity sector
EFTA - Peru	**Liechtenstein**	2011	GPA94=	GPA94=	GPA94=	GPA94 - entities having activities in electricity sector
EFTA - Peru	**Norway**	2011	GPA2012 =	GPA94=	GPA94=	GPA94 - entities having activities in electricity sector
EFTA - Peru	**Switzerland**	2011	GPA94=	GPA94=	GPA94=	GPA94 - entities having activities in electricity sector
EFTA - Peru	**Peru**	2011	61 entities (including legislative and some judicial branches)	25 regions (=all regions)	all municipalities	21 entities (national bank, electricity company, postal company, airport, port, oil, drinking water companies etc.)
EFTA - Singapore	**Iceland**	2003	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)
EFTA - Singapore	**Liechtenstein**	2003	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)
EFTA - Singapore	**Norway**	2003	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)

				Central Government Entities	Sub-central government entities		Other Entities
	Agreement	Party	Year		Regional	Local	
85	EFTA - Singapore	Switzerland	2003	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)
86	EFTA - Singapore	Singapore	2003	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)	GPA= (by reference)
87	EFTA - Ukraine	Iceland	2012	GPA94=	GPA94=	GPA94=	GPA94=
88	EFTA - Ukraine	Liechtenstein	2012	GPA94=	GPA94=	GPA94=	GPA94=
89	EFTA - Ukraine	Norway	2012	GPA94=	GPA94=	GPA94=	GPA94=
90	EFTA - Ukraine	Switzerland	2012	GPA94=	GPA94=	GPA94=	GPA94=
91	EFTA - Ukraine	Ukraine	2012	executive branches, some legislative and judicial branches, institutions and organisations, national academy of science etc.	(for 130000 SDR) bodies of executive branch and courts (for 200000 SDR) regional public authorities and other entities financed by regional budgets	(for 130000 SDR) bodies of executive branch and courts (for 200000 SDR) local public authorities and other entities financed by local budgets	state enterprises or companies (with more than 50% of share held by the state) + central and sub-central entities listed in Annex 1 and 2 in the fields of drinking water, urban transport, airport, inland port or waterway, production of electricity.
92	EFTA	Iceland	2002	n.a.	n.a.	n.a.	GPA + railway operators
93	EFTA	Liechtenstein	2002	n.a.	n.a.	n.a.	GPA + railway operators
94	EFTA	Norway	2002	n.a.	n.a.	n.a.	GPA + railway operators
95	EFTA	Switzerland	2002	n.a.	n.a.	n.a.	GPA + railway operators
96	Hong Kong - New Zealand	Hong Kong	2011	59 entities (= GPA2012 - 4 entities (Chief Executive Office etc.))	n.a.	n.a.	not covered
97	Hong Kong - New Zealand	New Zealand	2011	30 entities	not covered	not covered	not covered
98	Israel - Mexico	Israel	2000	GPA94 + 1 entity (Ministry of Religious Affairs)	n.a.	not covered	10 entities (airport, port, broadcasting, postal, electricity enterprises etc.) = GPA94 - all entities in the field of urban transport except bus services
99	Israel - Mexico	Mexico	2000	18 entities with subordinate entities (NAFTA= (4 commissions and councils covered by NAFTA are stipulated in Annex3))	not covered	not covered	34 entities (airport service, railway, telecommunication, postal, electricity, social security, oil, water, road companies etc.) (= EU-Mexico (NAFTA - 7 entities + 4 commissions and councils covered by NAFTA in Annex1) + 1 entity (Laboratory of Biological and Reagents of Mexico))
100	Japan - Mexico	Japan	2005	GPA 94 =	not covered	not covered	GPA 94 - entities which have been privatised (railway, tobacco, telecommunication companies etc.) or have been dissolved or transferred
101	Japan - Mexico	Mexico	2005	23 entities with subordinate entities (= NAFTA +1 entity (secretaria de seguridad publica (found in 2000))	not covered	not covered	36 entities (airport services, telecommunication, postal, electricity, social security, oil, water, road enterprises etc.) = Mexico-Chile RTA
102	Japan - Peru	Japan	2012	GPA 94 = (as of 2010)	GPA 94 = (as of 2010)	GPA 94 = (as of 2010)	GPA2012 - entities which have been privatised (railway, tobacco, telecommunication companies etc.) or have been dissolved or transferred = Japan-Chile and Japan-Mexico EPAs
103	Japan - Peru	Peru	2012	62 entities	25 regions (= all regions)	not covered	22 entities (national bank, electricity company, postal company, airport, ports, oil, drinking water companies etc.)
104	Japan - Singapore	Japan	2002	GPA94 =	n.a.	n.a.	GPA94 - entities which have been privatised
105	Japan - Singapore	Singapore	2002	GPA94 =	n.a.	n.a.	GPA94= except entities which have been privatised
106	Japan - Switzerland	Japan	2009	GPA2012 = (by reference)	GPA2012 = (by reference)	GPA2012 = (by reference)	GPA2012 = (by reference)
107	Japan - Switzerland	Switzerland	2009	GPA2012 = (by reference)	GPA2012 = (by reference)	GPA2012 = (by reference)	GPA2012 = (by reference)

			Central Government Entities	Sub-central government entities		Other Entities
Agreement	**Party**	**Year**		**Regional**	**Local**	
Korea - Australia	**Korea**	2014	45 entities	16 entities	not covered	17 entities
Korea - Australia	**Australia**	2014	70 entities	6 states+2 territories	not covered	18 entities
Korea - Chile	**Korea**	2004	43 entities (considered as GPA 2012=)	GPA94=	GPA94=	18 entities + all other entities having activities in airport, maritime and inland port (= GPA 94 - Korea Railroad Corporation + Kookmin Bank + airports/ports)
Korea - Chile	**Chile**	2004	20 entities	51 provinces in 13 regions (conditions for central government entities are applied)	not covered	11 entities (ports and airport) +all other undertakings have activities in airport, maritime, inland port
Korea - New Zealand	**Korea**	2015	45 entities	not covered	not covered	not covered
Korea - New Zealand	**New Zealand**	2015	31 entities	not covered	not covered	not covered
Korea - Singapore	**Korea**	2006	43 entities with subordinate entities (considered as GPA 2012 =)	GPA94=	GPA94=	19 entities (= GPA94 + Korea General Chemical Corporation - Korea Railroad Corporation
Korea - Singapore	**Singapore**	2006	23 entities (GPA=)	n.a.	n.a.	GPA=
Korea - US	**Korea**	2012	51 entities (= GPA94 + 9 entities (according to USTR website))	n.a.	n.a.	n.a.
Korea - US	**United States**	2012	79 entities (GPA94 - 1 entity (Uranium Enrichment Corporation) +1 entity (Social Security Administration)); Social Security Administration is covered by GPA2012	n.a.	n.a.	n.a.
Mexico - Nicaragua	**Mexico**	1998	18 entities with subordinate entities (commissions and councils not subordinate to 18 ministries are covered by Annex 3; all ministries at that time) NAFTA=	not covered	not covered	35 entities (airport, postal, electricity, telecommunication, railroad, oil enterprises etc.) (= NAFTA - 5 entities + 4 commissions and councils covered by Mexico's Annex 1 of other RTAs)
Mexico - Nicaragua	**Nicaragua**	1998	40 entities	not covered	not covered	13 entities (telecommunication, electricity, airports etc.)
New Zealand - Singapore	**New Zealand**	2001	"government bodies"	on the best endeavours basis	on the best endeavours basis	on the best endeavours basis
New Zealand - Singapore	**Singapore**	2001	"government bodies"	on the best endeavours basis	on the best endeavours basis	on the best endeavours basis
New Zealand - Chinese Taipei	**New Zealand**	2013	24 entities	not covered	not covered	not covered
New Zealand - Chinese Taipei	**Chinese Taipei**	2013	32 entities	Taiwan Provincial Government (3 entities)	Taipei City government (39 entities), Kaohsiung City Government (68 entities)	62 entities(University,Hospital, transportation, etc)
NAFTA	**Canada**	1994	100 entities	not covered	not covered	11 entities
NAFTA	**Mexico**	1994	22 entities (NAFTA=)	not covered	not covered	36 entities (airport service, postal, electricity, telecommunication, railroad, oil companies etc.)
NAFTA	**United States**	1994	56 entities (= GPA94 - 28 entities (including Department of Homeland Security) +5 entities)	not covered	not covered	7 entities (= GPA94 list A entities + Alaska Power Administration - Power Marketing Administrations of the Department of Energy)

			Central Government Entities	Sub-central government entities		Other Entities
Agreement	**Party**	**Year**		**Regional**	**Local**	
Panama-Peru	**Panama**	2012	18 entities	12 provinces	75 cities/towns	40 entities
Panama-Peru	**Peru**	2012	59 entities	25 entities	all municipalities	20 entities
Panama-Singapore	**Panama**	2006	12 entities	not covered	not covered	28 entities(Municipal administration, tranportation, instition related to agriculture, university, etc)
Panama-Singapore	**Singapore**	2006	23 entities	Singapore does not have any sub-central government.	Singapore does not have any sub-central government.	24 entities(Port, national university, transport, monetary authority,etc)
Peru - Korea	**Peru**	2011	62 entities	25 regions (=all regions)	not covered	22 entities(national bank, electricity company, postal company, airport, port, oil, drinking water companies etc.)
Peru - Korea	**Korea**	2011	41 entities (= GPA2012 - National Human Right Commission of Korea)	GPA94=	GPA94=	GPA94=
Peru-Singapore	**Peru**	2009	61 entities	25 regions (=all regions)	not covered	23 entities(Banks, electricity company, natural resource company, transportation etc)
Peru-Singapore	**Singapore**	2009	23 entities	Non applicable.(Singapore does not have any sub-central government.)	Non applicable.(Singapore does not have any sub-central government.)	22 entities(Reseach institute, transport, port, media etc)
Singapore-Autralia	**Australia**	2003	78 entities (21 departments + 57 agencies covered by the Financial Management and Accountability Act	not covered	not covered	not covered
Singapore-Autralia	**Singapore**	2003	23 entities (GPA=)	n.a.	n.a.	24 entities (statutory boards) (GPA=)
Singapore-Chinese Taipei	**Singapore**	2014	23 entities	Non applicable.(Singapore does not have any sub-central government.)	Non applicable.(Singapore does not have any sub-central government.)	24 entities(Research institution, transport, national university, etc)
Singapore-Chinese Taipei	**Chinese Taipei**	2014	32 entities	Taiwan Provincial Government (3 entities)	4 city government (New Taipei city government, Taichung city government, Tainan city government, Taoyuan county government)	62 entities(National University,Hospital, transportation, etc)
Southern Common Market (MERCOSUR)	**Argentina**	2005	21 entities	not covered	not covered	76 entities(Service of business, communication, distribution, finance and tourism)
Southern Common Market (MERCOSUR)	**Brazil**	2005	not covered	not covered	not covered	34 entities(Service of business, commuinication, education, tourism, transportation, ect)
Southern Common Market (MERCOSUR)	**Paraguay**	2005	not covered	not covered	not covered	43 entities(Service of business, communication, distribution and tourism)
Southern Common Market (MERCOSUR)	**Urguay**	2005	not covered	not covered	not covered	80 entities(Service of business, tourism and transportation)
TPSEP	**Chile**	2006	20 entities	51 provinces in 13 regions (thresholds and other conditions for central government entities are applied)	not covered	not covered
TPSEP	**New Zealand**	2006	37 entities	not covered	not covered	not covered
TPSEP	**Singapore**	2006	23 entities (GPA=)	n.a.	n.a.	not covered

			Central Government Entities	Sub-central government entities		Other Entities
Agreement	**Party**	**Year**		**Regional**	**Local**	
US - Australia	**United States**	2005	78 entities (=GPA94 - 1 entity (Uranium Enrichment Corporation))	31 states (GPA - 7 states + 1 state)	not covered	6 entities(List A) + Rural Utilities Services (List B) (=GPA94 - 1 entity (Power Market Administrations of the Department of Energy in List A) - 3 entities(ports and the New York Power Authority in List B))
US - Australia	**Australia**	2005	77 entities (all federal departments and all other agencies covered by the Financial Management and Accountability act 1997. (according to the Australian government website.))	6 states and 2 territories (=all regions)	not covered	32 enterprises (= Australia-Chile RTA + 2 entities (Australian Safety and Compensation Council, the National Institute of Clinical Studies Ltd.))
US - Bahrain	**United States**	2006	52 entities (GPA 94 - Federal Reserve System, some federal corporations etc.); US-Oman RTA + Department of Defense + Department of Homeland Security	not covered	not covered	6 entities(List A) + Rural Utilities Services (List B) (=GPA94 - 1 entity (Power Market Administrations of the Department of Energy in List A) - 3 entities(ports and the New York Power Authority in List B))
US - Bahrain	**Bahrain**	2006	28 entities	not covered	not covered	17 entities
US - Chile	**United States**	2004	78 entities (GPA94 -1 entity (Uranium Enrichment Corporation)	37 states (GPA=)	not covered	6 entities (List A) + 4 entities (List B) (= GPA94 - 1 entity (Power Marketing Administrations of the DOE (List A)))
US - Chile	**Chile**	2004	20 entities	51 provinces in 13 regions (conditions for central government entities are applied)	341 municipalities	11 entities
US - Morocco	**United States**	2006	79 entities (GPA94 - 1 entity (Uranium Enrichment Corporation) + 1 entity (Pennsylvania Avenue Development Corporation which has been dissolved))	23 states (GPA-14 states)	not covered	6 entities(List A) + Rural Utilities Services (List B) (=GPA94 - 1 entity (Power Market Administrations of the Department of Energy in List A) - 3 entities(ports and the New York Power Authority in List B))
US - Morocco	**Morocco**	2006	30 entities	not covered	77 cities (= not all urban cities)	137 entities
US - Oman	**United States**	2009	50 entities (= GPA94 - 29 entities (Department of Defense, Department of Homeland Security, Federal	not covered	not covered	6 entities(List A) + Rural Utilities Services (List B) (=GPA94 - 1 entity (Power
US - Oman	**Oman**	2009	33 entities	not covered	not covered	5 entities
US - Peru	**United States**	2009	78 entities (GPA94-1 entity(Uranium Enrichment Corporation))	9 states (8 GPA states + Puerto Rico)	not covered	6 entities(List A) + Rural Utilities Services (List B) (=GPA94 - 1 entity (Power Market Administrations of the Department of Energy in List A) - 3 entities(ports and the New York Power Authority in List B))
US - Peru	**Peru**	2009	61 entities	25 regions (=all regions)	not covered	23 entities (national bank, electricity, postal, airport, port, oil, drinking water companies etc.)
US - Singapore	**United States**	2004	GPA94= (by reference)	GPA94= (by reference)	GPA94= (by reference)	GPA94= (by reference)
US - Singapore	**Singapore**	2004	GPA94= (by reference)	n.a.	n.a.	GPA94= (by reference)

Annex 5. Thresholds in Regional Trade Agreements

Table A5.1. Thresholds in RTAs

Agreement	Party	Year	Central Government			Sub-central Government			Other Entities			Typology	Comparison to GPA
			Goods	Services	Construction	Goods	Services	Construction	Goods	Services	Construction		
Australia - Chile	Australia	2009	45000	45000	5000000	355000	355000	5000000	224000	224000	5000000	GPA/NAFTA I	
Australia - Chile	Chile	2009	45000	45000	5000000	355000	355000	5000000	224000	224000	5000000	GPA/NAFTA I	
Canada - Chile	Canada	1997	45000	45000	5000000	n.a.	n.a.	n.a.	224000	224000	7200000	GPA/NAFTA III	GPA + / -
Canada - Chile	Chile	1997	45000	45000	5000000	n.a.	n.a.	n.a.	224000	224000	7200000	GPA/NAFTA III	
Canada - Colombia	Canada	2011	45000	45000	5000000	n.a.	n.a.	n.a.	224000	224000	7200000	GPA/NAFTA III	GPA + / -
Canada - Colombia	Colombia	2011	45000	45000	5000000	n.a.	n.a.	n.a.	224000	224000	7200000	GPA/NAFTA III	
Canada - Israel	Canada	1997	130000	130000	5000000	355000	355000	5000000	355000	355000	5000000	GPA	GPA =
Canada - Israel	Israel	1997	130000	130000	5000000	250000	250000	8500000	355000	355000	8500000	GPA	GPA =
Canada - Panama	Canada	2013	CAD76600	CAD76600	CAD8500000	n.a.	n.a.	n.a.	CAD383300	CAD383300	CAD12200000	GPA	
Canada - Panama	Panama	2013	USD70079	USD70079	USD7804000	n.a.	n.a.	n.a.	USD350396	USD350396	USD11213223		
Canada - Peru	Canada	2009	45000	45000	5000000	n.a.	n.a.	n.a.	224000	224000	7200000	GPA/NAFTA III	GPA + / -
Canada - Peru	Peru	2009	45000	45000	5000000	n.a.	n.a.	n.a.	224000	224000	7200000	GPA/NAFTA III	
Chile - Colombia	Chile	2009	50000	50000	5000000	200000	200000	5000000	220000	220000	5000000	GPA/NAFTA I	
Chile - Colombia	Colombia	2009	50000	50000	5000000	200000	200000	5000000	220000	220000	5000000	GPA/NAFTA I	
Chile - Central America	Chile	2002	0	0	0	0	0	0	0	0	0	Other	
Chile - Central America	Costa Rica	2002	0	0	0	0	0	0	0	0	0	Other	
Chile - Central America	El Salvador	2002	0	0	0	0	0	0	0	0	0	Other	
Chile - Central America	Guatemala	2010	0	0	0	0	0	0	0	0	0	Other	
Chile - Central America	Honduras	2008	0	0	0	0	0	0	0	0	0	Other	
Chile - Japan	Chile	2007	100000	100000	5000000	200000	200000	10000000	300000	300000	10000000	GPA	
											A: 15 000 000		
				100000			200000			100000	B: 4 500 000		
Chile - Japan	Japan	2007	100000	450000*	4500000	200000	1500000*	15000000	100000	450000*	4500000	GPA	GPA +
Chile - Mexico	Chile	1999	45000	45000	5800000	355000	355000	5000000	224000	224000	7200000	NAFTA	
Chile - Mexico	Mexico	1999	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
Colombia - Mexico	Colombia	1995	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
Colombia - Mexico	Mexico	1995	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
Costa Rica - Mexico	Costa Rica	1995	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
Costa Rica - Mexico	Mexico	1995	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
Costa Rica - Peru	Costa Rica	2013	95000	95000	5000000	355000	355000	5000000	A: 160000	A: 160000	5000000		
									B: 400 000	B: 400 000			
Costa Rica - Peru	Peru	2013	95000	95000	5000000	355000	355000	5000000	A: 160000	A: 160000	5000000		
									B: 400 000	B: 400 000			
Costa Rica - Singapore	Costa Rica	2013	130000	130000	5000000	355000	355000	5000000	4000000	4000000	5000000		
Costa Rica - Singapore	Singapore	2013	130000	130000	5000000	n.a.	n.a.	n.a.	4000000	4000000	5000000		
CAFTA - DR	Dominican Repu	2006	45000	45000	5000000	355000	355000	5000000	A: $250 000	A: $250 000	5000000	GPA/NAFTA I	
									A: $250 000	A: $250 000			
CAFTA - DR	Costa Rica	2006	45000	45000	5000000	355000	355000	5000000	B: 400 000	B: 400 000	5000000	GPA/NAFTA I	
									A: $250 000	A: $250 000			
CAFTA - DR	El Salvador	2006	45000	45000	5000000	355000	355000	5000000	B: 400 000	B: 400 000	5000000	GPA/NAFTA I	
CAFTA - DR	Guatemala	2006	45000	45000	5000000	355000	355000	5000000	A: $250 000	A: $250 000	5000000	GPA/NAFTA I	GPA +
CAFTA - DR	Honduras	2006	45000	45000	5000000	355000	355000	5000000	A: $250 000	A: $250 000	5000000	GPA/NAFTA I	GPA =
CAFTA - DR	Nicaragua	2006	45000	45000	5000000	355000	355000	5000000	A: $250 000	A: $250 000	5000000	GPA/NAFTA I	
									A: $250 000	A: $250 000			GPA =
CAFTA - DR	United States	2006	45000	45000	5000000	355000	355000	5000000	B: 400 000	B: 400 000	5000000	GPA/NAFTA I	
EU - CARIFORUM	European Union	2008	130000	130000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GPA	GPA =
EU - CARIFORUM	CARIFORUM	2008	155000	155000	6500000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GPA	
EU - Chile	European Union	2003	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EU - Chile	Chile	2003	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EU-Colombia and Peru	Colombia	2013	130000	130000	5000000	200000	200000	5000000	200000	200000	5000000		
EU-Colombia and Peru	European Union	2013	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
EU-Colombia and Peru	Peru	2013	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000		
EU-Geogia	European Union	2002	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
EU-Geogia	Geogia	2002	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000		
EU - Mexico	European Union	2000	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000	GPA	GPA =
EU - Mexico	Mexico	2000	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	GPA =
EFTA - Canada	Iceland	2009	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Canada	Liechtenstein	2009	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Canada	Norway	2009	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Canada	Switzerland	2009	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Canada	Canada	2009	130000	130000	5000000	355000	355000	5000000	355000	355000	5000000	GPA	GPA =
EFTA - Chile	Iceland	2004	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
EFTA - Chile	Liechtenstein	2004	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Chile	Norway	2004	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Chile	Switzerland	2004	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Chile	Chile	2004	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =

*Architectural, engineering and other techincal services

This table adds the 11 agreements to the same table found in Ueno (2013).

1."n.a.*" indicates that these entities are not included but considered tob e covered by their GPA commitments, while "n.a." indicates that these entities are not included or do not exist

2.In cases where the commitments are interpreted to be based on the GPA 1994, these are indicated as "GPA 94 = " / "GPA 94+".

3. "A" and "B" indicate Group/List A entities and Group/List B entities respectively. Ukraine (EFTA-Ukraine) also has two groups of sub-central entities subject to different levels of thresholds. In the case of Japan, architectural, engineering and other technical services are subject to the lower thresholds in the same way as its GPA commitments.

			Central Government			Sub-central Government			Other Entities			Typology	Comparison to GPA
Agreement	Party	Year	Goods	Services	Construction	Goods	Services	Construction	Goods	Services	Construction		
EFTA - Colombia	Iceland	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
EFTA - Colombia	Liechtenstein	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Colombia	Norway	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Colombia	Switzerland	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Colombia	Colombia	2011	130000	130000	5000000	200000	200000	5000000	220000	220000	5000000	GPA	GPA =
EFTA - Korea	Iceland	2006	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
EFTA - Korea	Liechtenstein	2006	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Korea	Norway	2006	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Korea	Switzerland	2006	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
						A: 200 000	A: 200 000						GPA =
EFTA - Korea	Korea	2006	130000	130000	5000000	B: 400 000	B: 400 000	15000000	400000	400000	15000000	GPA	GPA =
EFTA - Mexico	Iceland	2001	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000	GPA	
EFTA - Mexico	Liechtenstein	2001	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000	GPA	GPA =
EFTA - Mexico	Norway	2001	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000	GPA	GPA =
EFTA - Mexico	Switzerland	2001	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000	GPA	GPA =
EFTA - Mexico	Mexico	2001	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	GPA =
EFTA - Peru	Iceland	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
EFTA - Peru	Liechtenstein	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Peru	Norway	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Peru	Switzerland	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Peru	Peru	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Singapore	Iceland	2003	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Singapore	Liechtenstein	2003	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Singapore	Norway	2003	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Singapore	Switzerland	2003	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Singapore	Singapore	2003	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000	GPA	GPA =
EFTA - Ukraine	Iceland	2012	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
EFTA - Ukraine	Liechtenstein	2012	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
EFTA - Ukraine	Norway	2012	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Ukraine	Switzerland	2012	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EFTA - Ukraine	Ukraine	2012	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EU - Korea	European Union	2011	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
EU - Korea	Korea	2011	130000	130000	5000000	200000	200000	15000000	450000	n.a.	15000000	GPA	GPA =
EFTA	Iceland	2002	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	400000	400000	5000000	GPA	GPA =
EFTA	Liechtenstein	2002	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	400000	400000	5000000	GPA	
EFTA	Norway	2002	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	400000	400000	5000000	GPA	GPA =
EFTA	Switzerland	2002	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	400000	400000	5000000	GPA	
Hong Kong - New Zealand	Hong Kong	2011	130000	130000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GPA	
Hong Kong - New Zealand	New Zealand	2011	130000	130000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GPA	
Israel - Mexico	Israel	2000	130000	130000	8500000	n.a.	n.a.	n.a.	355000	355000	8500000	GPA	GPA94 =
Israel - Mexico	Mexico	2000	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
				130000						130000	A: 15 000 000		
Japan - Mexico	Japan	2005	130000	450000*	4500000	n.a.	n.a.	n.a.	130000	450000*	B: 4 500 000	GPA	GPA94 =
Japan - Mexico	Mexico	2005	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
				130000			200000			130000			GPA + GPA +
Japan - Peru	Japan	2012	130000	450000*	4500000	200000	1500000*	15000000	130000	450000*	A: 15 000 000	GPA	
Japan - Peru	Peru	2012	130000	130000	5000000	200000	200000	15000000	160000	160000	B: 4 500 000	GPA	
Japan - Singapore	Japan	2002	100000	100000	n.a.*	n.a.*	n.a.*	n.a.*	100000	100000	n.a.*	GPA	GPA +
Japan - Singapore	Singapore	2002	100000	100000	n.a.*	n.a.	n.a.	n.a.	100000	100000	n.a.*	GPA	GPA +
				130000			200000			130000	A: 15 000 000		GPA94 +
Japan - Switzerland	Japan	2009	130000	450000*	4500000	200000	1500000*	15000000	130000	450000*	B: 4 500 000	GPA	GPA =
Japan - Switzerland	Switzerland	2009	130000	130000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	GPA =
Korea - Australia	Korea	2014	130000	130000	5000000	200000	200000	15000000	450000	n.a.	15000000		
Korea - Australia	Australia	2014	130000	130000	5000000	355000	355000	5000000	450000	n.a.	15000000		
Korea - Chile	Korea	2004	50000	50000	5000000	200000	200000	15000000	450000	n.a.	15000000	GPA	
Korea - Chile	Chile	2004	50000	50000	5000000	n.a.	n.a.	n.a.	450000	n.a.	15000000	GPA	
Korea - New Zealand	Korea	2015	130000	130000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
Korea - New Zealand	New Zealand	2015	130000	130000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
Korea - Singapore	Korea	2006	100000	100000	5000000	200000	200000	15000000	400000	n.a.	15000000	GPA	
Korea - Singapore	Singapore	2006	100000	100000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000	GPA	GPA +
Mexico - Nicaragua	Mexico	1998	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	GPA + / -
Mexico - Nicaragua	Nicaragua	1998	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	

*Architectural, engineering and other techincal services

Agreement	Party	Year	Central Government			Sub-central Government			Other Entities			Typology	Comparison to GPA
			Goods	Services	Construction	Goods	Services	Construction	Goods	Services	Construction		
New Zealand - Singapore	New Zealand	2001	50000	50000	50000	50000	50000	50000	50000	50000	50000	Other	
New Zealand - Singapore	Singapore	2001	50000	50000	50000	50000	50000	50000	50000	50000	50000	Other	
New Zealand - Chinese Taipei	New Zealand	2013	130000	130000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		GPA + / -
New Zealand - Chinese Taipei	Chinese Taipei	2013	130000	130000	5000000	200000	200000	5000000	4000000	4000000	5000000	GPA	
NAFTA	Canada	1994	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	GPA +
NAFTA	Mexico	1994	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
NAFTA	United States	1994	45000	45000	5800000	n.a.	n.a.	n.a.	224000	224000	7200000	NAFTA	
Panama-Peru	Peru	2012	130000	130000	5000000	355000	355000	5000000	200000	200000	5000000		
Panama-Singapore	Panama	2006	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000		GPA +
Panama-Singapore	Singapore	2006	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000		
Peru - Korea	Peru	2011	95000	95000	5000000	200000	200000	15000000	400000	400000	15000000	GPA	
Peru - Korea	Korea	2011	95000	95000	5000000	200000	200000	15000000	400000	400000	15000000	GPA	
Peru-Singapore	Peru	2009	130000	130000	5000000	130000	130000	5000000	400000	400000	5000000		GPA +
Peru-Singapore	Singapore	2009	130000	130000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000		GPA +
Singapore - Australia	Singapore	2003	0	0	0	n.a.	n.a.	n.a.	0	0	0	Other	
Singapore - Australia	Australia	2003	0	0	0	n.a.	n.a.	n.a.	0	0	0	Other	
Singapore-Chinese Taipei	Singapore	2014	100000	10000	5000000	n.a.	n.a.	n.a.	400000	100000	5000000	GPA	
Singapore-Chinese Taipei	Chinese Taipei	2014	100000	10000	5000000	200000	200000	5000000	400000	400000	5000000	GPA	
Southern Common Market (MERCOSUR)	Argentina	2005	150000	150000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
Southern Common Market (MERCOSUR)	Brazil	2005	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	75000	75000	n.a.		
Southern Common Market (MERCOSUR)	Paraguay	2005	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	200000	200000	n.a.		
Southern Common Market (MERCOSUR)	Uruguay	2005	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20000	20000	n.a.		
Korea - US	Korea	2012	68000	68000	5000000	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	GPA	GPA +
Korea - US	United States	2012	68000	68000	5000000	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	n.a.*	GPA	
TPSEP	Chile	2006	50000	50000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GPA/NAFTA I	GPA +
TPSEP	New Zealand	2006	50000	50000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GPA/NAFTA I	
TPSEP	Singapore	2006	50000	50000	5000000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	GPA/NAFTA I	
									A: 224 000	A: 224 000			GPA -
US - Australia	United States	2005	45000	45000	5000000	355000	355000	5000000	B: 400 000	B: 400 000	5000000	GPA/NAFTA I	
US - Australia	Australia	2005	45000	45000	5000000	355000	355000	5000000	A: 224 000	A: 224 000	5000000	GPA/NAFTA I	
									A: $250 000	A: $250 000			GPA +
US - Bahrain	United States	2006	130000	130000	5800000	n.a.	n.a.	n.a.	B: 400 000	B: 400 000	7200000	GPA/NAFTA II	
US - Bahrain	Bahrain	2006	130000	130000	5800000	n.a.	n.a.	n.a.	A: $250 000	A: $250 000	7200000	GPA/NAFTA II	
									A: 224 000	A :224 000			GPA =
US - Chile	United States	2004	45000	45000	5000000	355000	355000	5000000	B: 400 000	B :400 000	5000000	GPA/NAFTA I	
US - Chile	Chile	2004	45000	45000	5000000	355000	355000	5000000	A: 224 000	A :224 000	5000000	GPA/NAFTA I	
									A: $250 000	A: $250 000			GPA -
US - Morocco	United States	2006	130000	130000	5000000	355000	355000	5000000	B: 400 000	B: 400 000	5000000	GPA	
US - Morroco	Morocco	2006	130000	130000	5000000	355000	355000	5000000	A: 618 000	A: 618 000	5000000	GPA	
									A: $250 000	A: $250 000			GPA =
US - Oman	United States	2009	130000	130000	5800000	n.a.	n.a.	n.a.	B: 400 000	B: 400 000	7200000	GPA/NAFTA II	
US - Oman	Oman	2009	130000	130000	5800000	n.a.	n.a.	n.a.	A: $250 000	A: $250 000	7200000	GPA/NAFTA II	
									A: $250 000	A: $250 000			GPA +
US - Peru	United States	2009	130000	130000	5000000	355000	355000	5000000	B: 400 000	B: 400 000	5000000	GPA	GPA +
US - Peru	Peru	2009	130000	130000	5000000	355000	355000	5000000	A: $250 000	A: $250 000	5000000	GPA	
									A: $250 000	A: $250 000			
US - Singapore	United States	2004	45000	45000	5000000	355000	355000	5000000	B: 400 000	B: 400 000	5000000	GPA/NAFTA I	
US - Singapore	Singapore	2004	45000	45000	5000000	n.a.	n.a.	n.a.	400000	400000	5000000	GPA/NAFTA I	