



## EU public procurement markets: How open are they?

Patrick Messerlin  
Sébastien Miroudot<sup>1</sup>

The two last years, some European Union Member States (EUMS) and the Commission have claimed that the EU public procurement markets are more open than those of its main competitors and hence that the EU is entitled to “reciprocity”—meaning increased EU access to foreign public procurement markets without the EU being obliged to provide concessions. In March 2012, the Commission has gone one step further by tabling a proposal for a Regulation giving to it the right to block access to EU public procurement markets for foreign firms originating from countries not delivering enough “reciprocity.”

This brief note suggests that there is no evidence that the EU public procurement markets are more open than those of a few large trading partners. Indeed, available evidence points to the opposite direction. The note then tries to understand the reasons for such a divergence between discourse and reality. It concludes with lessons for EU trade policy.

### Section 1. How open are the EU public procurement markets: first evidence

One of the background papers commissioned by the Commission for its recent proposed Regulation on public procurement provides a first evidence on the relative openness of the EU public procurement markets compared to those of four large countries (Canada, China, Japan and the US) [Ramboll 2012]. The Ramboll study relies on two key variables available in the National Accounts:

- total demand of goods and services, defined as the sum of intermediate consumption plus final consumption expenditures, gross capital formation and exports for every sector.
- imports of goods and services for every sector.

<sup>1</sup> Director, Groupe d'Économie Mondiale (GEM) at Sciences Po and Senior Trade Policy Analyst at OECD, respectively. The authors are writing in a strictly personal capacity. The views expressed are theirs only, and do not reflect in any way those of the OECD Secretariat or the member countries of the OECD. We would like to thank Bernard Hoekman for very helpful comments. All remaining errors are ours.

Each of these two variables is split into a private and a public component. Public sector demand (hereafter public demand) of goods and services is defined as the final consumption expenditure by governments plus intermediate consumption by the sectors carrying out procurement procedures (for details, see Ramboll pp. 17-18).<sup>2</sup> Public sector imports of goods and services are defined accordingly.

In Table 1, ratios 1 are defined as the shares of total—extra-EU and intra-EU—public imports to public demand of goods and services for the 21 EUMS for which there are data (Britain is the only large missing EUMS) and the aggregate EU21 in 2005. Ratios 1 are drawn from Table 6 of the Ramboll study.<sup>3</sup> However, comparing EU ratios 1 with the shares of public imports to public demand for the four other countries would strongly over-estimate the relative openness of the EU public procurement markets. This is because ratios 1 take into account intra-EU imports in addition to extra-EU imports. In trade in goods, it would come to nobody's mind to compare the EU share of total (extra-EU plus intra-EU) imports to GDP and the shares of imports to GDP for the four other countries.

The correct comparison should rely on the shares of only extra-EU public imports to the EU public demand of goods and services. As there is no systematic data on intra-EU or extra-EU public imports for the year 2005, two methods provide an acceptable solution giving a good sense of the relative openness of the EU public procurement markets compared to the others.

The first method assumes that the shares of public intra-EU imports to public total (intra- and extra-EU) imports are the same than the shares of public and private intra-EU imports to public and private total (intra- and extra-EU) imports. This assumption makes sense because data from National Accounts are very aggregated. Ratios 2 in Table 1 present these estimated (based on the above assumption) shares of public intra-EU imports (using the shares reported in Tables 6 and 8 of the Ramboll study). Ratios 3 provide then the EU “penetration ratios” (the shares of extra-EU public imports to total demand for public goods and services for each EUMS and for

---

<sup>2</sup> These industries are (i) electricity, gas and hot water supply, (ii) collection and purification of water, (iii) land transport and transport via pipelines, (iv) post and telecoms, (v) public administration and defense, compulsory social security, (vi) education, (vii) health and social work, and (viii) sewage, sanitation and similar activities.

<sup>3</sup> There is no available data for six EUMS: Bulgaria, Cyprus, Latvia, Luxembourg, Malta and Britain.

the EU21 as a whole) which are truly comparable to the penetration ratios of the four other non-EU countries.

Ratios 3 (the comparable “penetration ratios”) provide a clear result: the EU public procurement markets do not look more open than those of the four non-EU countries covered.

**Table 1. Penetration ratios of public procurement markets, selected countries**

	<u>Ratio 1</u> Total public imports to public demand	<u>Ratio 2</u> Estimated public intra-EU imports to total imports	<u>Ratio 3</u> Extra-EU public imports to public demand	<u>Ratio 2b</u> Ratio 2 required for EUMS to be as open as Japan	<u>Ratio 4</u> Intra-EU public imports to public demand
	% [a]	% [b]	% [c]	[d]	% [c]
Austria	9.6	74.1	2.5	51.4	7.1
Belgium	7.0	74.2	1.8	33.1	5.2
Czech Rep.*	13.9	81.4	2.6	66.2	11.3
Denmark	5.6	65.1	2.0	16.3	3.6
Estonia*	12.5	76.3	3.0	62.6	9.5
Finland	7.0	61.2	2.7	32.8	4.3
France	5.8	61.0	2.3	19.6	3.6
Germany	6.5	58.3	2.7	28.3	3.8
Greece*	7.1	58.2	3.0	34.2	4.1
Hungary	12.6	68.4	4.0	62.8	8.6
Ireland*	9.3	66.7	3.1	49.9	6.2
Italy*	6.0	59.4	2.4	21.8	3.6
Lithuania	12.3	59.3	5.0	62.0	7.3
Netherlands*	6.8	49.4	3.4	31.0	3.3
Poland	6.1	65.3	2.1	23.1	4.0
Portugal*	8.5	76.6	2.0	44.8	6.5
Romania*	18.1	63.0	6.7	74.1	11.4
Slovak Rep.*	16.3	77.8	3.6	71.3	12.7
Slovenia*	11.1	79.4	2.3	57.9	8.8
Spain	8.3	62.8	3.1	43.8	5.2
Sweden*	5.7	70.4	1.7	17.4	4.0
EU21 [e]	9.3	67.1	3.1	49.9	6.3
EU21 [f]	7.0	61.8	2.7	33.4	4.3
Canada	--	--	6.9	--	--
China	--	--	6.1	--	--
Japan	--	--	4.7	--	--
USA	--	--	4.6	--	--

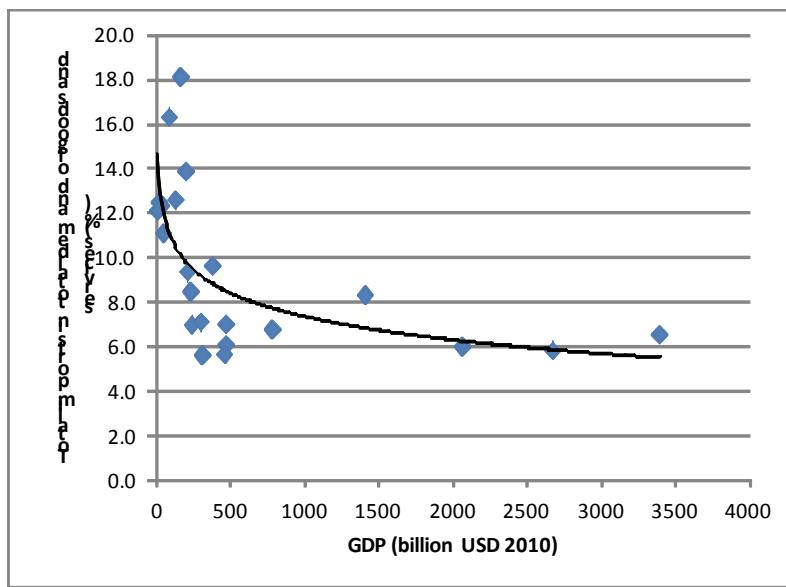
Source: Ramboll [2012]. Notes: Public imports mean public sector imports. [a] the source is Ramboll Table 6, page 24. [b] shares of public intra-EU imports assuming that these shares are the same than the shares of public and private intra-EU imports (see text above) based on data drawn from Table 6 (EUMS not followed by a star) and from Table 8 (EUMS followed by a star) of the Ramboll study. [c] Ratios 3 are derived from ratios 1 and 2 and constitute the “penetration” ratios comparable to those for the four non-EU countries. [d] Ratios 2b are the ratio of intra-EU public imports to EU total imports that are required for the EUMS and the EU21 to be as open as Japan’s

public procurement markets (4.7 percent). [e] Unweighted average for the 21 EUMS with available data. [f] GDP-weighted average for the 21 EUMS with available data.

The second method is to calculate “ratios 2b”, that is, the shares of intra-EU public imports to EU total imports which would make EU public procurement markets as open as those of a non-EU country taken as a reference. Japan is used as the reference country because public procurement issues have been at the core of the negotiations on the Japan-EU preferential trade agreement. For instance, France’s penetration ratio equivalent to Japan’s penetration ratio would require that the share of French intra-EU imports to French total imports would fall from 61 percent to 19.6 percent. Such a huge fall is highly unlikely, all the more because, as underlined by the Ramboll study, public procurements markets tend to make a higher use of services, and in particular of local services—two features which would tend to increase the shares of intra-EU imports to total imports for all the EUMS rather than to decrease them.

Table 1 deserves three additional observations. Firstly, Graph 1 shows a (logarithmic) correlation between EUMS ratios 1 and their GDP. This correlation makes sense. It seems quite reasonable to argue that a small country can less easily satisfy its needs of goods and services for its public procurement markets than a large country which has a wider, more diverse domestic production base.

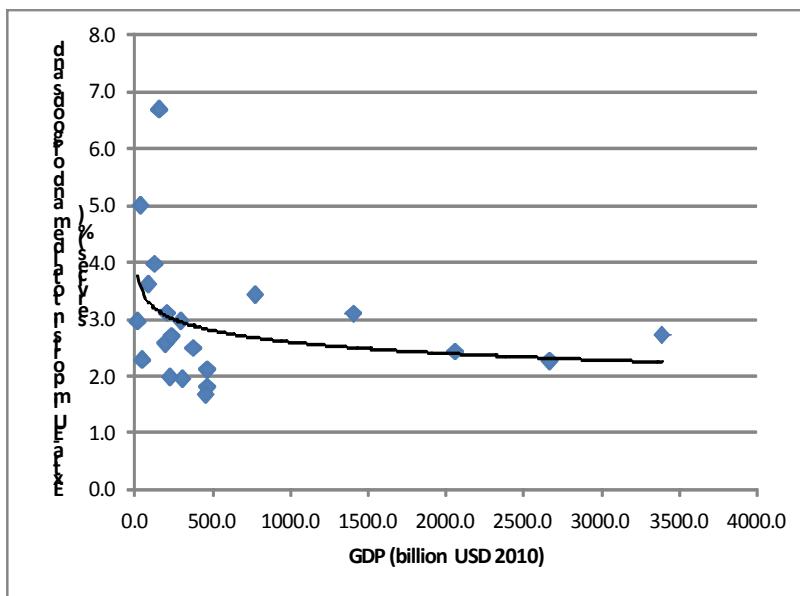
### Graph 1. GDP and ratios 1



Source: Table 1 and World Bank GDP data.

Secondly, Graph 2 shows that the slope of the correlation between ratios 3 based on only extra-EU public imports and GDPs is somewhat flatter than Graph 1 slope. This observation seems consistent with the plausible following proposition: for some public procurements, suppliers are less easily available in the domestic economy of the EUMS in question and in the other EUMS, hence require the recourse to firms originating from the whole world—whether the EUMS in question is small or large. This phenomenon explains the fact that the GDP-weighted average ratios for the EU are smaller than the unweighted average ratios (see Table 1).

**Graph 2. GDP and ratios 3 (“penetration ratios”)**



Source: Table 1 and World Bank GDP data.

Lastly, ratios 4 (the differences between ratios 1 and 3) can be interpreted as the “penetration ratios” for the EU Internal Market. These ratios are often higher than ratios 3 of the non-EU countries. But, it is not always the case. This last observation suggests that there exist still substantial limits to the functioning of the EU Internal Market in terms of public procurement. Indeed, it would be interesting to have similar data for the US States or the Canadian Provinces (or maybe the Chinese Provinces) in order to compare the level of internal market integration in the EU, US and Canada (and probably China).

## **Section 2. How open are the EU public procurement markets: more evidence**

The conclusion that EU public procurement markets are less open than those of its main trading partners is so diametrically opposed to the views expressed by a few EU Member States (France, Germany and Italy) and the Commission that it deserves to be backed by more evidence in order to check its robustness.

The recent World Input-Output Database [Timmer *et al.*, 2012] appears the perfect instrument to do such a test. It has three key advantages: it covers goods and services, it provides individual data for the 14 largest world economies (EU being one) as well as for all the EU Member States, and it covers the whole period (1995-2009) since the conclusion of the Government Procurement Agreement under the Uruguay Round. Although based on National Accounts, the WIOD differs somewhat from the data used by the Ramboll study, but, as explained in more detail in Annex 1 to this paper, these differences do not put at risk the desired robustness test.

Block A of Table 2 provides the “penetration” rates (ratios 3 in Table 1) for the 13 individual EU trading partners by the WIOD. It also gives those rates for the EU27 as well as for the EU2, a subset of two EU Member States (France and Germany).<sup>4</sup> This subset has two objectives:

- it allows to take into account the size effect of public demand underscored in section 1—larger countries tend to have smaller penetration ratios. As shown in Block B of Table 2, the EU2 combined public demand is very close to the Japanese public demand (1.1 times on the whole period, 1.2 times during the last five years).<sup>5</sup>
- it allows to focus on Member States that have expressed reserves against opening negotiations with Japan on a preferential trade agreement. A third one would be Italy, but adding Italy would make the subset much larger than Japan and impede the comparison. However, it should be noted that adding Italy does not change the results presented below.

---

<sup>4</sup> Differences between the EU15 and the EU27 are small enough to use the EU27 for the whole period for the sake of simplicity.

<sup>5</sup> The EU2 public demand is an aggregated figure of two economies which, individually, are significantly smaller than Japan (Germany and France are 0.6 and 0.5 times the Japanese economy). Hence, the EU2 penetration ratios are systematic over-estimates of what would have been the penetration ratios of a fully unified EU2 economy since aggregating these two economies do not eliminate the fact that decisions have been taken in the context of these two notably smaller economies.

Table 2 deserves a preliminary observation. As shown in Block A, all the 14 individual countries show a marked decline in the penetration ratios between 2008 and 2009. The fall is huge—higher than 10 percent except for only four countries (Australia, Canada, India and Taiwan). There is little doubt that this evolution is, at least partly, related to the stimulus packages enforced during the 2007-2008 crisis peak. These packages have had a “domestic bias” for different reasons: they may have focused on public demand in sectors having relatively low foreign penetration (a mere composition effect) or they may have used procedures discriminating against foreign competitors (a protectionist effect).

**Table 2. Penetration ratios of public procurement markets, selected countries**

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

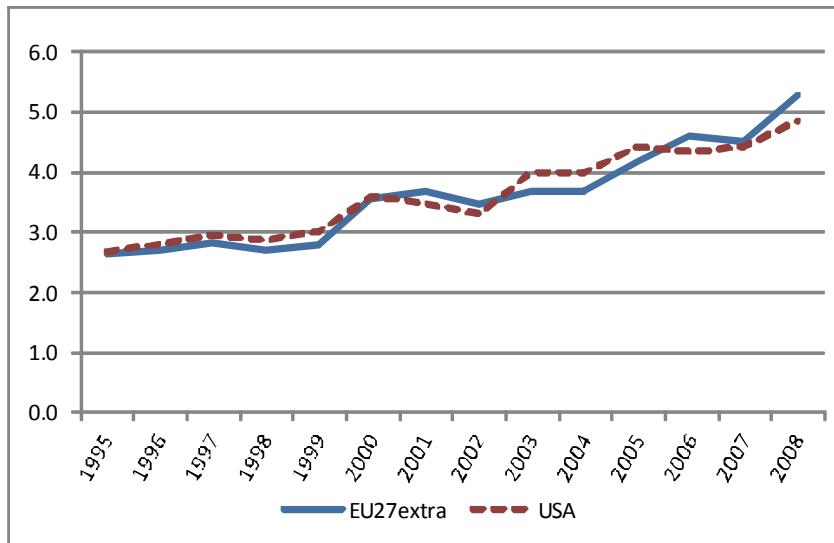
Source: World Input-Output Database 2012. Authors' calculations.

However, it would be unwise to draw lessons from data on a unique and exceptional year—if only because the stimulus packages have not been enforced simultaneously. As a result, what follows focuses on the period 1995-2008. It remains that such an evolution underlines the need for a fast conclusion and enforcement of the Government Procurement Agreement agreed in December 2011 in Geneva.

For the period 1995-2008, Block A of Table 2 suggests three observations which re-enforce strongly the conclusions drawn from the Ramboll study. These observations are based on comparing public demands of comparable size—first EU27 and US, second EU2 and Japan, and third EU2 and China:

- Graph 3 shows that the EU27 and US penetration ratios have been close from 1995 to 2002, but that, after 2004, the growth rate of the EU penetration ratio has been higher than the US growth rate to the point that the EU27 ratio is higher than the US one since 2006. In other words, the EU27 has become more open than the US since 2004, that is, at a time when, everything else being constant, the size effect should have rather induced the EU27 to become less open than the US. It is worth noting that the lower growth rate of the US penetration ratio dates from 2003, that is, a few years before the US proposals on the strengthening of restrictions in US public procurement tabled in the aftermath of the 2008 crisis.

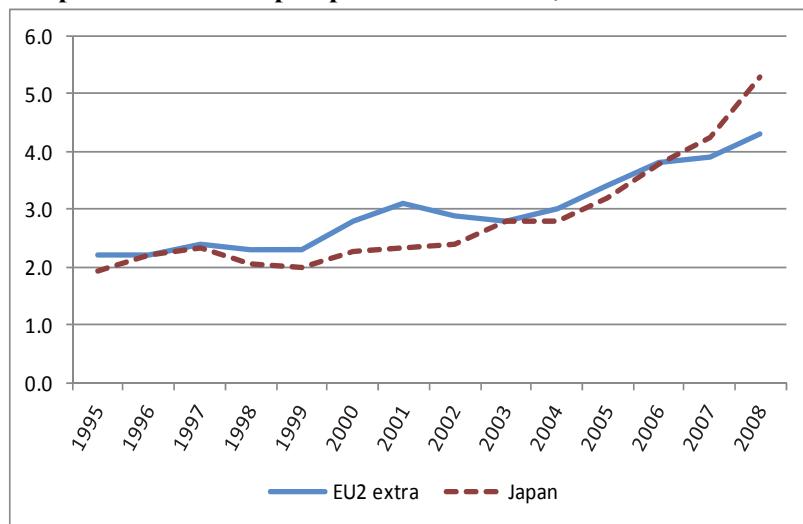
**Graph 3. EU27 and US penetration ratios, 1995-2008**



Source WIOD 2012. Authors' calculations.

- Graph 4 shows that since 2002 Japan's penetration ratios have caught up the EU2 penetration ratios and that Japan is more open than the EU2 since 2006, despite the systematic bias about EU openness when using EU2 aggregates (see above and footnote 5).

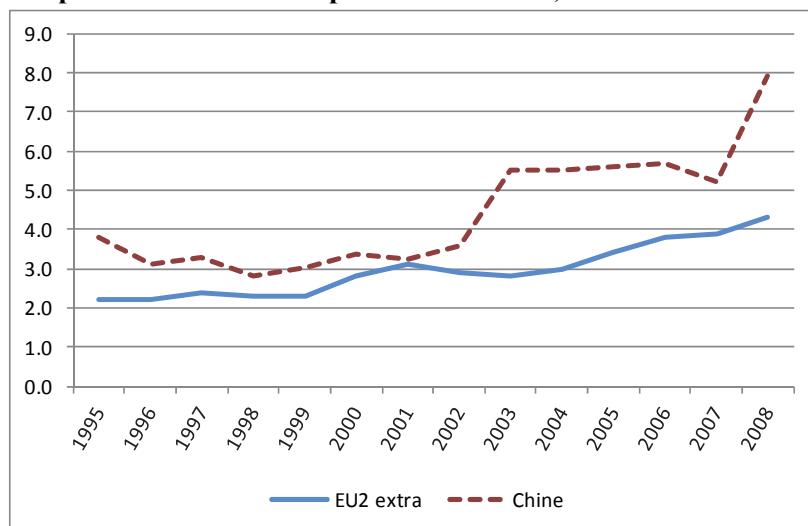
**Graph 4. EU2 and Japan penetration ratios, 1995-2008**



Source WIOD 2012. Authors' calculations.

- Graph 5 shows that China's penetration ratios are higher than the EU2 ratios for the whole period. Interestingly, it is increasingly higher since 2001, that is, when China's public demand was catching up at a very rapid pace EU2's public demand—which was 7.6 times larger than China's public demand in 1995, 2.9 times in 2000 and only 1.3 times in 2009. In short, the EU2 has become less open than China precisely at a time when the relative size effect should have induced it to become relatively more open.

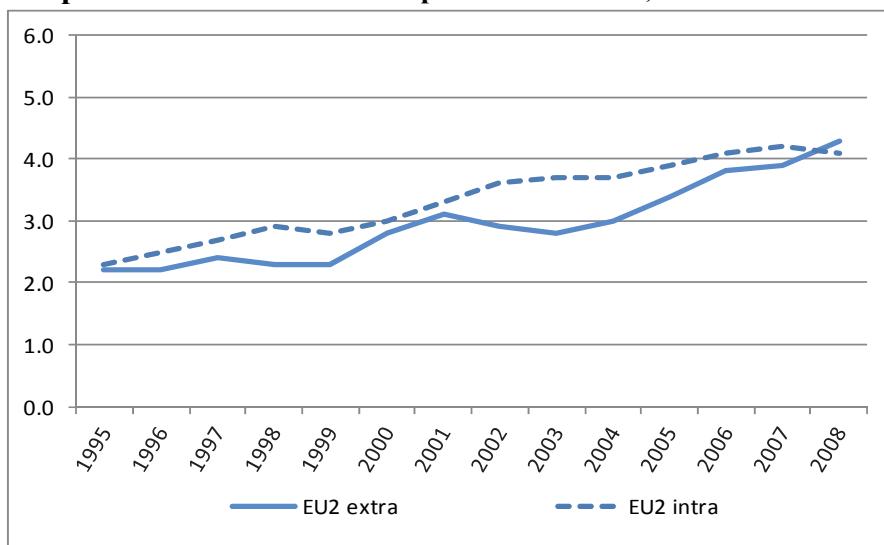
**Graph 5. EU2 and China penetration ratios, 1995-2008**



Source WIOD 2012. Authors' calculations.

Finally, Table 2 allows to compare the evolution of intra- and extra-EU2 penetration ratios. Block C provides these ratios (ratios 4 in Table 1). Graph 6 suggests a worrisome change (once again, adding Italy would not change the results). Since 2003, the average annual growth of the intra-EU2 penetration ratio is slowing down, even decreasing in 2008 (one year earlier than the rest of the penetration ratios). This evolution may reflect sluggish growth in these EU Member States. But it may also reflect an Internal Market in public procurement matters which does not function well.

**Graph 6. Intra and extra EU2 penetration ratios, 1995-2008**



Source: WIOD 2012. Authors' calculations.

### Section 3. The divergence between the EU discourse and reality

The above robust evidence that the EU public procurement markets are increasingly less open than those of key East Asian trading partners (including Korea and Taiwan) raises the following question. How can one explain the huge divergence between the EU discourse and reality?

It is not easy to offer an explanation because the EU discourse consists in claims. The only source providing some evidence supporting such claims is a powerpoint by two staff members of the Commission [Jessen and Nooteboom undefined date]. A unique—rather cryptic—slide of this powerpoint claims that access of GPA foreign firms to EU public procurement would reach 85 percent, while access of EU firms to GPA partners' public procurement would range between

3 percent (Canada) to 50 percent (Korea). But, the authors do not quote their sources, and they do not provide any information on the data sources and methodology behind these astonishing figures, despite a written request by the author of this note.<sup>6</sup>

Leaving this—unanswered—question aside, all the signatories (including the EU) of the new WTO Government Procurement Agreement (GPA) have recently agreed that a huge effort should be made to collect much better data than the existing ones and to make their notifications much more comparable [Anderson 2012]. Indeed, the current methodologies used for estimating the GPA-covered public procurements are so different that it is impossible to try to reconcile them [Anderson et al. 2011, in particular footnotes 21 to 23].

The key question then is whether it makes sense to focus on narrow indicators based on GPA public procurement commitments, as those floating around today. For answering this question, it is useful to take the case of trade in goods as an illustrative example:

- it comes to nobody's mind to assess the openness of a country in trade in goods by focusing exclusively on the list of tariff concessions made by the country in question. Rather, assessments routinely take into account the whole universe of goods (the whole Harmonized System) including the zero tariffs that a country may enforce without having necessarily negotiated them.
- by contrast, the current way to assess the relative openness of public procurement markets based on GPA commitments is like assessing the relative openness in trade in goods by focusing on the limited lists of products which have been subjected to negotiations for being liberalized. It is like using variable yardsticks defined by widely different types of goods and services, and by almost totally incomparable ranges of public entities—not only central or local governments, but the amazingly heterogeneous set of institutions that countries have included in their GPA commitments.

There is thus a need to use an approach in public procurement similar to the sound one followed in trade in goods. Such an approach should be based on a unique definition of the whole set of

---

<sup>6</sup> These figures are astonishing all the more because, during the Uruguay Round, the EU and the US were very careful to open very similar values of the public procurement markets which were estimated to USD 103.2 billion for the US and USD 103.3 for the EC [Schott and Buurman 1994, p. 74].

economic activities subjected to the universe of “public procurement” (independently from the GPA commitments). National Accounts data offer such a basis for two reasons.

- public demand is the best common basis for assessing the relative size of the public procurements markets among economies since it takes into account every euro or dollar spent by any public authority, be local or central or specific.
- corresponding public imports benefit from the massive efforts pursued during the last fifty years by the National Accounts authorities in every country in the world for collecting comparable data.

Last but not least, National Accounts allow to have data over time, independently from GPA commitments related to specific negotiations.

### **Concluding remarks**

The first—and most important—conclusion to be drawn from this note is that the claim that the EU public procurement markets are relatively more open than those of key East Asian trading partners (China, Japan, Korea and Taiwan) is not substantiated by robust evidence.

Second, it is questionable to talk about penetration ratios for the EU as a whole since penetration ratios among the 27 EUMS vary by a factor of almost 5. Any comparison of an EU “average” openness to non-EU openness should be taken with caution. Even more interestingly, it is also counterproductive from a pure EU perspective: it reduces the incentives to improve the functioning of the EU Internal Market in public procurement since it reduces the incentives to open the most closed EU Member States not only to the non-EU firms, but also to the firms originating from the most open EU Member States.

Third, were the observed lower EU openness based on National Accounts coincide with EU deeper GPA commitments, the EU situation would be similar to the one of a country with zero tariffs but limited imports—a situation similar to Japan in trade in goods. Such a situation has two possible explanations. First, there may be good reasons—in the case of public procurements, granting bids to the firms best known because they are geographically close and/or more trusted. Second, there are some hidden “non-tariff barriers” at work in the EU

public procurement markets. Both explanations require a change in the way the EU negotiates. For instance, in the Japan-EU case, they should strongly induce the EU to stop using claims on alleged but unobserved openness for requesting down-payments, and rather to start to sit at the negotiating table for the benefits of both parties.

Last but not least, the evidence gathered in this paper shows the intrinsic weakness of the notion of “reciprocity”. To be useful, such a notion requires two conditions:

- the first one is that the EU is more open than its trading partners. Above evidence refutes such claims, in particular when they come from the most vocal EUMSSs.
- the second one—the EU has a strong negotiating power due to its large size—has been shown rapidly vanishing. China’s public demand has caught up at such a rapid pace EU public demand that it is already probably larger than the EU2 public demand in 2012.

Absent these two conditions, threatening to close the EU markets on “reciprocity” ground is doomed to fail, and it is likely to generate rapidly increasing costs of retaliation for EU firms. Worse, it may induce powerful EU trading partners to use such a tactic when they meet these two conditions.

## References

Anderson, R.D., P. Pelletier, K. Osei-lah and A.C. Muller, 2011. Assessing the value of future accessions to the WTO agreement on public procurement: Some new data sources, provisional estimates, and an evaluative framework for individual WTO Members considering accession. Staff Working Paper ERSD 2011-15. WTO Secretariat, Geneva.

Anderson, R.D., 2012. The conclusion of the renegotiation of the WTO Agreement on Government Procurement: what it means for the Agreement and for the world economy. Mimeo, WTO Secretariat. Forthcoming in the Public Procurement Law Review.

Nooteboom, E. and A. Jessen, undated, The new EU initiative on the access to the EU PP markets. Unspecified institution (the two authors are members of the Commission). PowerPoint.

Ramboll Management Consulting and HTW Chur, 2012. Cross-border procurement above EU threshold. Ramboll, Copenhagen.

Schott, J.J., and J.W. Buurman. 1994. The Uruguay Round. Institute for International Economics. Washington, DC.

Timmer, M. *et al.* 2012. The World Input-Output Database (WIOD): Contents, Sources and Methods. Available at [www.wiod.org](http://www.wiod.org).

## Annex 1

As in the Ramboll report, our analysis of import penetration ratios is based on Input-Output data. But instead of using OECD harmonized tables, we rely on the World Input-Output Database. This recently released set of input-output tables offers two advantages:

- First, it covers all EU economies, as well as 13 other major countries, over the period 1995-2009. We thus have a better geographic and time coverage.
- In addition, the dataset provides a global (world) matrix of inter-country and inter-industry transactions. Therefore, we can distinguish between extra-EU and intra-EU imports when it comes to public demand.

The methodology used to construct the WIOD tables is explained in Timmer *et al.* (2012). The benchmark being national accounts, the data are comparable to the ones analysed in the Ramboll study. But figures are not exactly the same because of differences in the way data are harmonised and balanced in the WIOD and OECD tables.

We calculate public demand as the sum of:

- Final consumption expenditure by governments
- Intermediate consumption by industries in public sectors

The public sectors are defined as: ‘electricity, gas and water supply’ (100%), ‘post and telecommunications’ (50%), ‘public administrations and defence; compulsory social security’ (100%), ‘education’ (100%) and ‘health and social work’ (100%).

We depart from the Ramboll list of public procurement industries (table 2, p. 18) only with respect to ‘sewage and refuse disposal, sanitation and similar services’ for which we don’t have specific data (the sector is aggregated with ‘other community, social and personal services’ in the WIOD data). As this industry represents a small share of public demand (in terms of imports of intermediate products), our results can only be marginally affected by its omission.