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INDUSTRIAL SECTOR SENSITIVITY IN TERMS OF PUBLIC PROCUREMENT: POLAND AND THE EUROPEAN UNION

1. Introduction

Discriminatory public procurement constitutes an important barrier to trade, and the opening up of public markets may facilitate free trade on the basis of comparative advantage. Discriminatory government procurement has trade effects when government demand exceeds national supply (see: Mattoo 1996; Trionfetti 2000).

In the European Union, discrimination in public procurement against firms and products from other Member States is prohibited by the general European Community Treatment provisions on free movement¹. However, many obstacles appeared because of ignoring in practice early rules of award procedures. From 1985 procurement was made one of the main priorities in the drive towards the single market of 1992, resulting in an intensive programme in this field.

Until January, 1995 Poland lacked uniform rules or procedures for purchases made by the state and local public administration. While the Act of Public Procurement was a major step forward in the process of public procurement liberalisation, some points of dissatisfaction remained. Many changes in the rules of public procurement, which have taken place in recent years, try to facilitate a system that will be compatible with the public procurement provisions of the General Agreement and Tariffs and the Public Procurement Directives of the European Union.

To investigate the implementation of the rules dealing with public procurement it is important to know whether the contracting entities are willing

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¹ In particular: Articles 30 (free movement of goods), Article 52 (freedom of establishment) and Article 59 (freedom to provide services).

to apply the appropriate mechanism of the public procurement system and how to assess their impact.

The paper tries to analyse the sensitivity of products (sectors) being subject of public procurement in Poland and in the European Union. Using proposal of a range of performance and structural indicators all goods being subject of supply in terms of public procurement in years 1998 and 2002 are divided into four groups: strongly, average, and weakly sensitive, from one side, and insensitive, from the other side. Some comparisons between Poland, the European Union (as average), and the United Kingdom have been made.

Those investigations take into account different data sources which may be used for possible international comparisons.

2. Data sources

One key consideration in quantifying procurement markets refers to the selection of the data sources, on which reliable country comparisons ultimately depend.

The Central Statistical Office in Poland does not create any data bank about public contracts. Indirect information comes from the System of National Accounts which contains statistical definitions on a wide range of economic activities, including government activities. The most important series for measurement of current government procurement are final consumption expenditure and intermediate consumption. Statistics published by the OECD and the UN are fully compatible, so international comparisons in this field may be made.

Every year the Office of Public Procurement in Poland publishes reports about functioning of a system of public procurements. However, the data are very general, not sufficient for a deeper analysis.

For purpose of this paper ungrouped data of all contracts which value is over 30 000 euros are used. They come from the Bulletin of Public Procurement from years 1998 and 2002. Around 15 thousand of contracts of goods have been observed and grouped according to the European classification NACE Rev.1. Some additional data about the industrial production, imports and exports at the NACE Rev.1 two – digit level come from the yearbooks of the Central Statistical Office at Warsaw.

Table 1 presents possible data sources about public procurement in Poland by procedures and values.

As we can from the Table 1 public procurement entities are obliged to publish information about realized tenders and also about planned goods,

services, and works. This obligation concerns public procurements which are characterized by high values, i.e. in case of more than 500 thousand euros for goods, services, and public works.

High values such as more than 750 thousand for planned goods and services and more than 5000 thousand for planned public works are published in the EU Official Journal of Public Procurement.

Table 1. Data sources about Polish public procurements by procedures and values

	Seat of public entity	Bulletin of Public Procurement			The EU Official Journal		
	less than 30 th. euro	more than 30 th. euro	more than 130 th. euro	more than 500 th. euro	more than 130 th. euro	more than 750 th. euro	more than 5 000 th. euro
Planned goods				X		X	
Planned services				X		X	
Planned public works				X			X
Preliminary qualifications:							
– goods	X	X	X	X	X	X	X
– services	X	X	X	X	X	X	X
– public works	X	X	X	X			X
Open procedures							
– goods	X	X	X	X	X	X	X
– services	X	X	X	X	X	X	X
– public works	X	X	X	X			X
Restrictive procedures:	X	X	X	X	X	X	X
– goods	X	X	X	X	X	X	X
– services	X	X	X	X			X
– public works							
Two – stage tendering	X	X	X	X	X	X	X
– goods	X	X	X	X	X	X	X
– services	X	X	X	X			X
– public works							
Negotiations – with retaining – competition (award procedures results):							
– goods		X	X	X	X	X	X
– services		X	X	X	X	X	X
– public works		X	X	X			X
Request – for quotations		X					
Single – source procurement		X					

Source: On the basis of Czaban and Czaban 2001.

3. General characteristics of public procurement in Poland in the years 1998–2002

The most easily measured indicator of development of public procurement market is number of notices published in the Bulletin of Public Procurement. The total number of notices has risen from around 26,000 in 1997 to over 40,000 in 2002².

According to the information received from the Office of Public Procurement, Table 2 presents the country's distribution of public procurements which values are over 30 thousand euros.

Not surprisingly, given the need to reconstruct some parts of the country during the transition period the highest share of the construction works is observed. However, this percentage is significantly decreasing. It means that the role of goods and services will increase in the near future.

Table 2. Structure of the public procurements contracts by types of contracts in the years 1997–2002

Years	Construction works	Goods	Services
1997	82	10	8
1998	77	17	6
1999	79	15	6
2000	79	13	8
2001	75	15	10
2002	68	19	12

Source: Office of Public Procurement, Warsaw 1998–2003.

Taking into account an average number of offering entities per one contract in the period under investigation construction works are characterized by highest values of this statistical measure (see Table 3).

Table 3. Average number of offering subjects per one award by types of contracts in the years 1998–2002

Years	Construction works	Goods	Services
1998	4.47	4.60	5.32
1999	5.40	5.34	5.57
2000	5.50	4.52	4.85
2001	5.71	4.45	4.84
2002 ^{*)}	5.08	3.66	4.36

*) Data from 2002 are not compatible with the previous years because of different system of calculations.

Source: As same as Tab. 2.

² See: Sprawozdania z funkcjonowania systemu zamówień publicznych w 2002 r., Urząd Zamówień Publicznych, Warszawa, maj 2003.

For goods and services, the biggest average per one award procedure was observed in 1999. A certain level of stabilisation for years 2000–2001 appeared in the market of goods and services while the construction works were characterized by positive tendency of this statistical indicator (not including 2002 year).

Table 4 contains some estimations concerning the value and number of public contracts for goods which are subject of our deeper analysis.

Table 4. Changes in values and quantities of public procurements for goods in years 1998–2002

Years	Value		Quantity		Average value per one contract in th zl
	in millions zl	previous year = 100	number	previous year = 100	
1998	1074.7	–	2648	–	406
1999	2123.2	197.6	5130	193.7	414
2000	2097.3	98.8	6980	136.2	300
2001	2057.2	98.1	7731	110.6	266
2002	4380.0*	209.3	12122*	183.2	361*

*) Estimation made on condition of constant public procurement values at 2-digit levels of NACE Rev. 1.

S o u r c e: Own calculations.

The total value of public procurements for goods increased more than twice in 2002 in comparison with years 1998–2001. The implementation of new regulations in 2001 which are harmonised with the European directives resulted in strange rise in the number of notices published by public entities.

The most popular procedure of public procurement in Poland is open tender. The negotiated and restricted procedures are used exceptionally. In 2002, they counted only 8,75% of all public procurement results published in the Bulletin of Public Procurement.

4. The EC and OECD estimates of public procurement markets

In 1988 and 1997, the EC published two comprehensive reports on public procurement in the context of the Single European Market programme. Table 5 shows the estimated size of public procurement for individual EU member states calculated for 1987 and 1994. The EU public procurement is estimated at 11.7% in 1987 and at between 11.7% and 11.8% in 1994. As reported in the 1997 EC publications there are significant differences in the particular ratios for both years. The ratios are lower in 1994 for all EU – 12 member states, except Germany (owing to reunification).

Table 5. EU public procurement, 1987 and 1994. Percentage of GDP and ECU billions

European Union	Public procurement (includes government and public services)	
	1987 (%)	1994 (%)
Belgium (Luxembourg 1994)	12.7 11.6	5.8 – 7.2 11.0 – 11.1
Denmark	11.5	10.2 – 10.7
France	9.9	13.0 – 13.5
Germany	15.7	6.5 – 8.2
Greece	11.5	8.7 – 9.8
Ireland	10.4	8.6 – 9.6
Italy	11.6	8.5 – 9.0
Netherlands	14.5	11.4 – 12.0
Portugal	10.4	9.4 – 9.9
Spain	16.5	14.4 – 14.5
United Kingdom	11.7	11.1 – 11.6
EU – 12	11.7	11.6 – 12.0
Austria	11.6	10.8 – 12.3
Finland	11.7	14.6 – 14.7
Sweden		
EU – 15 (ECU billions)	476.1	704.1 – 737.6
EU – 15 (%)	11.7	11.2 – 11.8

Source: OECD, *The Size of Government Procurement Markets*, *Journal of Budgeting* 2002, Vol. 1, No 4.

The Table 6 contains a total of ten estimates of government procurement markets, including six indicators which are designed to capture the tradable shares of government expenditure. Potential central and local governments expenditure going through public procurement are presented as a share of GDP for the European countries being members of OECD. It illustrates differences in their patterns of expenditure.

For all analysed OECD countries, the share of government procurement is lower for the central government than for local government and social security funds taken together. France and Italy have almost equal ratios for central and sub-central governments. Finally, nine countries have a centralised structure, with higher ratios in central government than in subcentral governments. When the ratios of total expenditure, excluding compensation of employees are compared, only five countries: Greece, Poland, Portugal, Turkey, and the United Kingdom still have a centralised structure of procurement.

The last two columns of Table 6 shows two ratios of potentially contestable total expenditure, excluding compensation of employees and defence – related expenditure, for the general government level and central governments. Central government expenditure accounts for slightly less than a quarter of total potentially contestable general government expenditure.

Table 6. Government procurement in the European countries, by government levels (percentage of GDP)

The OECD European Countries	Total expenditure (consumption and investment)									
	Total expenditure (TE)				TE less compensation				TE less compensation and defence	
	general	central	local	social	general	central	local	social	general	government
	1	2	3	4	5	6	7	8	9	10
Austria	24.68	7.67	12.63	4.38	12.16	2.75	5.70	3.70	11.71	2.31
Belgium	17.23	10.09	5.63	0.86	5.37	2.48	1.95	0.30	4.84	1.95
Czech Republic	24.94	9.30	8.40	5.28	17.03	4.45	6.53	5.18	15.74	2.71
Danmark	28.29	8.71	19.30	0.29	10.63	3.34	7.20	0.09	10.04	2.75
Finland	25.63	8.58	18.77	1.53	9.64	4.22	7.44	1.22	9.00	3.58
France	23.10	11.03	7.33	4.74	9.05	3.24	4.22	1.60	7.63	1.81
Germany	17.81	2.94	13.77	1.10	7.32	1.52	5.39	0.40	6.72	0.81
Greece	18.64	12.98	1.61	3.22	7.29	4.32	0.84	1.30	6.73	3.76
Hungary	29.77	13.47	13.76	2.22	18.31	8.56	7.38	2.05	16.78	7.03
Ireland	20.81	8.73	11.70	0.28	10.08	2.73	7.11	0.12	9.93	2.59
Italy	20.03	9.99	9.69	0.70	7.99	2.72	4.90	0.43	7.38	2.12
Netherlands	18.74	7.67	10.16	0.91	8.96	3.68	4.90	0.37	7.98	2.71
Norway	25.44	9.61	16.05	x	11.44	5.61	6.06	x	9.65	3.82
Poland	22.57	14.40	7.41	x	10.69	6.65	4.31	x	9.72	5.57
Portugal	20.98	16.42	4.41	0.46	7.24	4.83	2.59	0.13	6.22	3.80
Slovak Republic	25.08	18.09	3.70	3.30	15.34	9.46	2.79	2.98	14.09	8.21
Spain	20.51	7.11	8.88	4.49	8.74	2.63	4.44	1.64	8.06	1.96
Sweden	33.15	10.66	23.14	0.04	14.60	6.25	9.00	0.04	13.01	4.67
Switzerland	19.58	3.43	15.68	0.30	8.60	2.08	6.24	0.12	8.02	1.50
Turkey	17.72	14.83	2.13	x	7.47	5.58	1.13	x	6.84	4.96
United Kingdom	25.17	14.57	9.71	0.20	13.08	9.00	3.29	0.10	9.97	5.88
EU – weighted av.	21.48	8.87	10.79	1.79	9.24	3.76	4.67	0.72	8.03	2.53

x – phenomenon did not appear

S o u r c e: OECD, The Size of Government Procurement Market, *Journal on Budgeting* 2002, Vol. 1, No 4, pp. 39–40.

5. Statistical indicators of public procurements for goods

This part of the analysis focuses on the alternative approach based upon a series of specific indicators which can be constructed following the existing data availability, providing information about market structure and production internationalisation (Mardas 1994, Mardas, Triantatyllou 1997, pp. 91–112).

For identification of sensitive products and their types in terms of public procurement four statistical indicators will be used (see Tab. 7).

Table 7. Indicators used in classification of products in terms of public procurement

Types of indicators	Number of formula
<ul style="list-style-type: none"> • Indicator of market structure on product level (i) country (j) (supply side): $qq_{ij} = \frac{Qp_{ij}}{Q_{ij}} \cdot 100,$ <p>where Qp_{ij} – production of (i) towards the public sector of a country (j) Q_{ij} – production of a product (i) of country (j)</p>	(1)
<ul style="list-style-type: none"> • Share of public sector consumption of a product (i) in total consumption of country (j) (demand side): $dp_{ij} = \frac{z_{ij}}{d_{ij}},$ <p>where z_{ij} – share of public procurement of product (i) in total public procurements of country (j) d_{ij} – share of consumption of product (i) in total consumption of country (j)</p>	(2)
<ul style="list-style-type: none"> • Share of public procurement satisfied by domestic production: $q_{ij} = \frac{Qp_{ij}}{v_{ij}} \cdot 100,$ <p>where v_{ij} – public procurement of a product (i) of a country (j)</p>	(3)
<ul style="list-style-type: none"> • The import penetration ratio on product level (i) $i_{ij} = \frac{M_{ij}}{Q_{ij} + M_{ij} - X_{ij}},$ <p>where M_{ij} – total imports of product (i) of country (j) X_{ij} – total exports of product (i) of country (j)</p>	(4)

Source: Starzyńska 2001, pp. 193–204.

Using all those indicators presented in the Table 7, we assume that a product (i) is principally protected or else "sensitive" in terms of public procurement, when indicator q_{ij} (see formula (3) is high i.e. above 50% (see: Starzyńska 2003, pp. 112–124)

Table 8 presents classification of all sensitive products in terms of public procurement, when indicator $q_{ij} > 50\%$.

Table 8. "Sensitive" products in terms of public procurement ($q_{ij} > 50\%$)

Strong (1)	Average			Weak	
	(2)	(3)	(4)	(5)	(6)
$qq_{ij} > \alpha$	$qq_{ij} > \alpha$	$qq_{ij} > \alpha$	$qq_{ij} < \alpha$	$qq_{ij} < \alpha$	$qq_{ij} < \alpha$
$dp_{ij} > 1$	$dp_{ij} > 1$	$dp_{ij} < 1$	$dp_{ij} > 1$	$dp_{ij} > 1$	$dp_{ij} < 1$
$i_{ij} < \beta$	$i_{ij} < \beta$	$i_{ij} \ll \beta$	$i_{ij} < \beta$	$i_{ij} > \beta$	$i_{ij} \ll \beta$

Where $\alpha = q q_j$ a country average of the share of public procurement satisfied by domestic production at a product (i); β – the import penetration indicator at the EU countries level.

Source: Mardas, 1994.

6. Empirical verification of statistical methodology

The above presented interaction between four kinds of indicators has been tested at a level of subsection of the Polish economic activity for years 1998 and 2002 (see Tab. 9).

As we can see 12 and 14 subsections of economic activities were recognised as sensitive in terms of public procurements in years 1998 and 2002, respectively.

Among them only one product – manufacture of coal, refined petroleum products and nuclear fuel (DF) was classified as strongly sensitive in 1998. In 2002 there were no strongly sensitive products.

In the group of average sensitive sectors increasing tendency in number of subsections is observed. In 1998 only 4 products: DK, DL, DM, and DJ belonged to this group while in 2002 important changes have been observed. We may stress that beside DG, DL, and DM new subsections appeared: DF, CB, and DD. In the last group – weakly sensitive products – one change took place. Instead of DJ subsection DK appeared.

Table 9. Classification of subsections sensitive in terms of public procurements in Poland in years 1998 and 2002

Years	Strongly sensitive	Average sensitive			Weakly sensitive	
	(1)	(2)	(3)	(4)	(5)	(6)
1998	Manufacture of coal, refined petroleum products and nuclear fuel (DF)	Manufacture of machinery and equipment, n.e.c. (DK) Manufacture of electrical and optical equipment (DL) Manufacture of transport equipment (DM)	Manufacture of chemicals, chemical products and man-made fibres (DG)	–	Mining and quarrying of energy producing materials (CA) Manufacture of rubber and plastic products (DH) Manufacture of basic metals and fabricated metal products (DJ)	Manufacture of foods products; beverages and tobacco (DA) Manufacture of textiles and textile products (DB) Manufacture of pulp, paper and paper products; publishing and printing (DE) Manufacturing n.e.c (DN)
2002	----	Manufacture of coal, refined petroleum products and nuclear fuel (DF) Manufacture of chemicals, chemical products and man-made fibres (DG) Manufacture of electrical and optical equipment (DL) Manufacture of transport equipment (DM)	Mining and quarrying, except of energy producing materials (CB)	Manufacture of wood and wood products (DD)	Mining and quarrying of energy producing materials (CA) Manufacture of rubber and plastic products (DH) Manufacture of machinery and equipment, n.e.c (DK)	Manufacture of foods products; beverages and tobacco (DA) Manufacture of textiles and textile products (DB) Manufacture of pulp, paper and paper products; publishing and printing (DE) Manufacture of basic metals and fabricated metal products (DJ) Manufacturing n.e.c (DN)

Where $\beta = 0.208$ or 20.8%

Source: Own calculations based on notices published in Bulletin of Public Procurement, official publications of Central Statistical Office, Warsaw; EUROSTAT Yearbook 2002; *The Statistical Guide to Europe*, Office for Official Publications of the E.U., Luxembourg 2002; A. Cox and P. Furlong 1996.

Table 10 presents results of some kind of comparison made between Poland, the EU, as an average, and the United Kingdom. Poland with seven strongly and average sensitive products is relatively more similar to the European Union as a whole. The United Kingdom seems to be more protected in terms of public procurement.

Table 10. Comparisons of strong and average sensitive products in terms of public procurement in the EU, United Kingdom and Poland

Sectors	Sensitivity of public procurement		
	the EU av.	the United Kingdom	Poland
Mining and quarrying, except of energy producing materials	No	No	Yes
Manufacture of coal, refined petroleum products and nuclear fuel	No	Partially	Yes
Coke	No	Yes	No
Pharmaceuticals	No	Yes	Yes
Office data processing	Yes	Yes	Yes
Medical surgical equipment	No	Yes	Yes
Electrical machinery	Yes	Yes	No
Metal products	Yes	No	No
Motor vehicles	Yes	Yes	Yes
Textiles and clothing	Yes	Yes	No
Wood and wooden products	No	No	Yes
Footwear	Yes	Yes	No
Rubber	No	Yes	No
Paper	Yes	No	No
Aerospace and shipbuilding	No	Yes	No
Gas, water, glas	No	Yes	No

Source: A. Cox, P. Furlang, K. Hartley, M. Uttley 1995 and own calculations.

7. Final remarks

The analysed sensitive products in years 1998 and 2002 account for 88% and 86.3% of the total Polish industrial production, respectively. However, only a small part of this production goes directly to the public sector.

Positive tendency in internationalization of products being subject of public procurements has been observed. One subsection which was strongly sensitive in 1998 became average sensitive in 2002. The number of average sensitive products increased from 4 in 1998 do 6 in 2002. The position of weakly subsections hardly changed.

Estimations have been made on the basis on notices published in the Bulletin of Public Procurement in Poland from years 1998–2001 (2). It is worth mentioning that those public contracts are higher than 30 th. euros, so our analysis did not consider other public procurements which may constitute an important share of total production.

The theoretical approach identified cost disadvantage and adverse agglomeration as structural reasons while joining the EU might be unfavourable for countries joining the EU in the near future. An abrupt opening up of the procurement market when market size is very uneven may cause excessive pressure on the firms in the small market and leave no time for them to adjust to the competition (Trionfetti 2000, pp. 57–75). One possible measure that may help here is gradual accession. Poland is a good example of such a policy. However, in 2004 the obligation of removing the discriminatory procurement policy will open the public procurement market for the EU countries and some negative tendency in sensitive products may appear.

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WRAŻLIWOŚĆ PRODUKCJI PRZEMYSŁOWEJ NA ZAMÓWIENIA PUBLICZNE: POLSKA I UNIA EUROPEJSKA

Rynek zamówień publicznych w Unii Europejskiej ulega dynamicznym zmianom, stanowiąc jednocześnie ogromny potencjał gospodarczy zarówno dla zamawiających, jak i przedsiębiorstw biorących udział w przetargach publicznych.

W artykule ma miejsce próba oceny funkcjonowania tego rynku w Polsce i w wybranych krajach europejskich za pomocą odpowiednio dobranych mierników statystycznych. Na przykładzie dostaw realizowanych poprzez zamówienia publiczne przeprowadzona została empiryczna weryfikacja zaprezentowanej metodologii oceny wrażliwości sektorów produkcji dla dwóch lat: 1998 i 2002.

Wybrane aspekty badanego rynku i wrażliwości ważniejszych sektorów działalności wytwórczej na zamówienia publiczne omówiono na tle porównań z Unią Europejską jako całością i Wielką Brytanią.