

FOREWORD

Governments at central and sub-central levels are significant purchasers of goods and services, and these markets represent huge opportunities for international trade. While the largest opportunities, in value terms, arise in the industrialised countries, emerging economies also offer markets with considerable potential. There are few studies on the quantification of the size of government procurement markets and their results are not necessarily comparable owing to differences in methodological approaches or in data series.

Consistent measurement of the size of government procurement markets for a large number of countries is not a trivial task. The task is even more challenging if one seeks to measure the shares of government procurement markets that are potentially opened to international trade (*i.e.* contestable). This document presents a synthesis of the analytical studies on the quantification of government procurement markets and highlights recent work carried out by the OECD Trade Committee on over 130 countries.

As background, there is a brief historical review of the GATT and WTO multilateral disciplines in respect of government procurement and a second brief review of the academic research on the impact of discriminatory procurement practices on trade. The body of the publication compares the methodological approaches and results drawn from publicly available studies on the quantification of government procurement markets and highlights the recent work carried out by the Trade Committee. Various indicators of the size of government procurement markets are estimated, including detailed ratios broken down by government levels, types of expenditure and potentially contestable shares.

This publication supports ongoing efforts by governments to prepare for discussions on public procurement in the World Trade Organization. It further aims at building better understanding and appreciation in the general public of the benefits arising from improved multilateral disciplines in government procurement matters.

This volume was prepared by Denis Audet of the Trade Directorate under the supervision of Anthony Kleitz. It benefited from contributions by Dohoon Kim and Seppo Varjonen. The project also involved collaboration with many representatives of national statistical offices in OECD Member countries and the assistance of the OECD Statistics Directorate and the Statistics Division of the United Nations. It is published on the authority of the Secretary General of the OECD.

TABLE OF CONTENTS

Acronyms	6
Executive Summary	7
<i>Chapter 1. Introduction</i>	11
<i>Chapter 2. Evolving Multilateral Trade Disciplines</i>	13
<i>Chapter 3. Economic Literature on the Effects of Procurement Practices...</i>	15
<i>Chapter 4. The Size of Government Procurement Markets</i>	19
<i>Chapter 5. Conclusions</i>	33
Annexes.....	37
Annex I. Tables	39
Annex II. Glossary of Main Terms	46
Annex III. Reconciliation of Final Consumption Expenditure and Intermediate Consumption Data Series	48
Annex IV. Assumptions Used for Estimating Missing National Data	50
References	65

ACRONYMS

CE	compensation of employees
EC	European Commission
EU	European Union
FCE	final consumption expenditure
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GFCF	gross fixed capital formation
GPA	Government Procurement Agreement (WTO)
IC	intermediate consumption
IMF	International Monetary Fund
ITO	International Trade Organisation
MFN	most favoured nation
NAFTA	North America Free Trade Agreement
SNA	System of National Accounts
TE	total expenditure
UN	United Nations
WTO	World Trade Organization

EXECUTIVE SUMMARY

Governments are significant purchasers of goods and services and these markets represent huge opportunities for international trade. Measuring government procurement for a large number of countries, in a consistent manner, is not a trivial task and careful attention must be paid to ensure that national data are gathered on the basis of harmonised procedures in all countries covered. Quantifying the size of government procurement becomes even more complicated when attempts are made to distinguish procurement between central and sub-central government levels, or by types of expenditure (consumption versus investment), or to measure the share of procurement that is potentially opened to international trade (*i.e.* contestable). The latter indicator is meant to capture tradable purchases and excludes two categories of government purchases that are assumed to be non-tradable, *i.e.* the compensation of government employees and defence-related expenditure.

For a large number of countries, the absence of detailed and consistent measurements of government procurement markets, broken down by government levels, types of expenditure and potentially contestable shares, represented an information gap which needed to be filled. Informed knowledge about the size of government procurement markets and in particular the shares of national markets that are potentially contestable is important for the business community, governments and trade negotiators.

The challenge was addressed by the OECD Trade Committee, by undertaking quantitative work covering over 130 countries and proposing a series of detailed estimates. This report offers a synthesis of studies aimed at quantifying the size of government procurement markets and highlights the recent OECD efforts.

According to the results obtained by the OECD, the main estimates of the size of government procurement markets, expressed as a percentage of 1998 GDP data and in billions of USD, are:

- For the OECD countries as a whole, the ratio of total procurement (consumption and investment expenditure) for all levels of government

is estimated at 19.96% or USD 4 733 billion, and for the non-OECD countries it is estimated at 14.48% or USD 816 billion.

- Total government procurement worldwide is estimated to be roughly equivalent to 82.3% of world merchandise and commercial services exports in 1998. Country-specific procurement estimates are detailed for 28 OECD countries and for 106 non-OECD countries.
- The ratios of government procurement markets that are potentially contestable are estimated at 7.57% or USD 1 795 billion for OECD countries and at 5.10% or USD 287 billion for non-OECD countries.
- The value of potentially contestable government procurement markets worldwide is estimated at USD 2 083 billion, which is equivalent to 7.1% of world GDP or 30.1% of world merchandise and commercial services exports in 1998.
- Procurement by sub-central governments is larger than procurement by central governments by an estimated margin of two to three times depending on the ratios measured. However, these aggregate estimates for the OECD as a whole mask certain differences among countries.

The European Commission (EC) has carried out a number of studies in order to quantify the size of European Union (EU) procurement markets and has estimated the potentially contestable share of government procurement at 8.7% of GDP. The OECD work gives a lower estimate of the EU potentially contestable market, at 8.03%. The difference is mainly explained by the use of different data and assumptions regarding defence-related expenditure. For its member states, the EC has had access to detailed defence-related data which distinguished between core and non-core defence expenditure. In the EC study, core defence expenditure was considered as non-tradable, while the OECD study considered all defence-related expenditure as non-tradable. This suggests that the OECD procurement estimates slightly underestimate the size of potentially contestable procurement markets.

In early 2000, the EC also published a number of preliminary indicators of public procurement that measure market trends for the period 1993-98 and the impact of public procurement policies. It estimated EU public procurement in a range of 13.9% to 14.6%. The definition of public procurement includes purchases by public utilities (publicly or privately owned), in sectors such as water, energy, transport and telecommunications. These estimates are considerably above earlier EC public procurement estimates for 1994 (11.2% and 11.8%) and illustrate the careful attention that needs to be paid to the definitions used for measuring procurement markets. These results also show

the relative importance of procurement by public utilities and the potentially huge opportunities that they represent for international trade.

Measuring procurement ratios broken down by government levels is helpful for appreciating the extension of the coverage of the WTO Government Procurement Agreement (GPA) to sub-central government entities. Based on the OECD estimates, which indicate that sub-central governments account for about 65% of total government procurement, it is extrapolated that the coverage of the WTO GPA, as extended to sub-central entities, is about three times what it was under the GATT Code, the predecessor of the WTO GPA.

Until recently, the 1968 version of the System of National Accounts (SNA) was universally applied for compiling data on national economic activities in both OECD and non-OECD countries, despite considerable differences in the availability of detailed national data. The 1968 SNA thus offered the potential for the consistent measurement of government procurement markets for a large number of countries. The 1968 SNA is now outdated, and, since 1999, most OECD countries have switched to the 1993 version of the SNA as a basis for compiling their national accounts. Once the switchover has been fully implemented by a large number of countries, it will be possible to quantify the size of procurement markets in a consistent manner for more recent periods. In the meantime, it is doubtful that additional insight can be obtained through further use of the data based on the 1968 SNA.

The so-called “bottom-up” approach refers to the process of gathering national data on procurement expenditure directly from the national entities responsible for procurement decisions. The reliability of results obtained in this way stem, to a large extent, from the homogeneity and consistency of compilation and reporting processes throughout the countries subject to the notification requirements. Establishing such processes requires considerable resources, at least in the initial stage. The information and data obtained on the basis of surveys of notification requirements usefully complement SNA-based data and are also useful for analysing the coverage of some agreements and for making country comparisons.

Chapter 1

INTRODUCTION

Governments at central and sub-central levels and state-owned enterprises are significant purchasers of goods and services, and these markets represent huge opportunities for international trade. While the largest opportunities, in value terms, arise in the industrialised countries, emerging economies offer markets with considerable potential as well. Few studies are available on the quantification of government procurement markets, and their results are not necessarily comparable as they use different definitions of procurement. Furthermore, they usually focus on a very limited number of countries, the period covered is fairly outdated and detailed estimates of procurement by sub-central governments are either not carried out or are not taken into account.

The consistent measurement of the size of government procurement markets for a large number of countries is a far from trivial task, and careful attention must be paid to ensure that national data are gathered on the basis of harmonised procedures in all countries covered. The absence of consistent estimates of the share of government procurement markets that is potentially opened to international trade (*i.e.* contestable) for a large number of countries, broken down by government levels, represents an information gap that needed to be addressed.

Government procurement traditionally tends to favour local suppliers; by limiting import competition, it has effects similar to other protectionist measures, introduces distortions that limit choice, increases prices and discourages economic efficiency. In recognition of the costs imposed on national economies, efforts to bring government procurement under multilateral trade disciplines began after World War II. However, governments faced virtually no restraints when favouring national suppliers over foreign competitors until 1981, when the Tokyo Round Agreement on Government Procurement entered into force for a limited number of GATT contracting parties. Further progress in expanding the scope and coverage of the Tokyo Round Agreement was achieved when the Government Procurement Agreement (GPA) entered into force in 1996 under the auspices of the World Trade Organization (WTO).

In parallel, several regional trade agreements, such as the European Union (EU) and the North America Free Trade Agreement (NAFTA), have brought government procurement under specific disciplines for their member countries. By committing governments to observe some basic principles, such as transparency and non-discrimination, the negotiated disciplines of these regional and multilateral agreements have sought to do away with some of the preferential and discriminatory practices in government procurement. Improved conditions for import competition play a crucial role in maintaining downward pressure on costs of goods and services purchases, giving taxpayers value for money, improving the quality of government services and permitting better allocation of resources.

The primary objective of this publication is to present a synthesis of the analytical studies on the quantification of government procurement and markets. To provide some background on the relationships between international trade and government procurement, two brief introductory sections are presented as reference to the main theme of this publication. The first presents a brief historical review of how the General Agreement on Tariffs and Trade (GATT) and WTO multilateral disciplines in respect of government procurement have evolved. The consensus-building and analytical role played by the OECD in this process is stressed. There follows a brief survey of the academic research on the impact of discriminatory procurement practices. Next, the methodological approaches and results of publicly available studies are compared and the recent work carried out by the OECD Trade Committee is highlighted. Various indicators of the size of government procurement markets are presented for both OECD and non-OECD countries, including ratios detailed by government levels and by types of expenditure (consumption versus investment) and indicators of the potentially contestable shares of procurement markets that exclude either the compensation of government employees or defence-related expenditures, or both. Finally, some conclusions are presented.

This publication comes in response to the OECD Trade Committee's mandate to deepen understanding of the importance of the government procurement sector in international trade. It seeks to support the efforts of governments as they prepare for WTO discussions on government procurement. It also aims at building a better understanding and appreciation in the general public of the benefits arising from improved multilateral disciplines in government procurement matters. This project has involved collaborative efforts by many representatives of national statistical offices in OECD countries and the assistance of the Statistics Directorate of the OECD and the Statistics Division of the United Nations.

Chapter 2

EVOLVING MULTILATERAL TRADE DISCIPLINES

During the negotiating process for the establishment of the International Trade Organisation (ITO) in 1946-47, proposals to subject government contracts to the fundamental trade principles of “most favoured nation” (MFN) and “national treatment” clashed with prevailing practices that favoured national suppliers. The ITO never came into being. Instead, the GATT entered into force in 1948 and specifically exempted government procurement from the application of the national treatment principle, under Article III, but incorporated an obligation of “fair and equitable treatment” for procurement by state trading enterprises, under Article XVII.2. Blank and Marceau (1997, p. 31) qualify this procurement obligation on state trading enterprises as “very modest best-endeavour language”.¹

Until the Tokyo Round Agreement on Government Procurement (GATT Code) entered into force on 1 January 1981, governments faced virtually no restraints when favouring national suppliers over foreign competitors. The GATT Code extended the MFN and national treatment principles to procurement of goods above a certain threshold by central government entities of the countries that specifically agreed to apply the Code. It also laid down some operational provisions, including transparency requirements at each stage of the procurement process, multilateral dispute settlement procedures and special and differential treatment for developing countries. National treatment means that the products of other parties to the Code should not be subject to treatment less favourable than the treatment afforded products of domestic origin. The MFN provision prohibits discrimination against products of other parties to the Code.

The GATT Code was very much influenced by the analytical work and consensus-building efforts of the OECD, which started in 1963 and cumulated in 1976 with the OECD Draft Instrument on Government Purchasing Policies, Procedures and Practices. Following a request made to the OECD by the GATT in November 1976, the Draft Instrument was transmitted to the GATT. It was sent with the disclaimer that “this draft is the result of work carried out at the

level of experts, on an explanatory basis, and ... it does not imply any commitment by governments on the proposed solution in general or on any of its particular aspects".²

The WTO Agreement on Government Procurement, which entered into force in 1996, expands the area open to foreign competition. The GATT Code set forth rules for open and transparent bidding with regard to the purchase of goods by central government entities; the GPA extended the disciplines to services and construction work and covers procuring entities at sub-central governments, as well as certain public and regulated private companies. A large part of the general rules and obligations concerns tendering procedures that guarantee the transparency of the procedures and insure non-discrimination between domestic and foreign firms.³ The GPA also contains the schedules of national entities in each participating member country whose procurement is subject to the Agreement. The GPA is a "plurilateral agreement" in the WTO and, unlike the main WTO agreements, which bind all member countries, the GPA only applies to members that have specifically adopted it. In early 2001, some 27 WTO member countries participated in the GPA and several countries had observer status in the WTO Committee on Government Procurement.⁴

In the context of the 1996 WTO Ministerial Conference in Singapore, a Working Group on Transparency in Government Procurement Practices was set up. The group's work was to study transparency in government procurement practices, taking into account national policies, and to develop elements for inclusion in a multilateral agreement. In the WTO, government procurement is also discussed in the context of negotiations on the General Agreement on Trade in Services (GATS). Although the initial GATS Agreement contains an explicit exemption for the procurement by governmental agencies of services purchased for its own use, it provides for multilateral negotiations on government procurement in services under the GATS within two years of the date of entry into force of the WTO Agreement. These negotiations are being pursued in the context of the overall GATS negotiations currently under way, under the so-called "Built-in Agenda", which also provides for a review of the GPA.⁵

Chapter 3

ECONOMIC LITERATURE ON THE EFFECTS OF PROCUREMENT PRACTICES

This overview of academic research on the impact of government procurement on international specialisation and trade is presented as background to the main theme of this document, which focuses on the quantification of government procurement markets. It first summarises the main forms of discriminatory or preferential procurement practices.

Discriminatory or preferential procurement practices can take several distinct forms. One is “outright exclusion”, in which foreign bidders are excluded from the tendering process (for example, defence contracts are often, but not always, reserved for domestic suppliers). Under “preferential price margin”, purchasing entities accept the bids of domestic suppliers over foreign suppliers as long as the difference in price does not exceed a specific margin of preference. A third type of discrimination is the use of a “domestic content requirement”, *i.e.* the government purchases from foreign sources only if the latter commit to purchase some components from domestic firms. These three forms of discriminatory practices are the most explicit and the most amenable to conceptualisation in modelling exercises.

The most insidious and pervasive discriminatory practices relate to opaque tendering and bidding procedures that are lacking in terms of transparency and non-discrimination provisions and offer fertile ground for favouring domestic suppliers. Because of their implicit nature, the latter are the most difficult to conceptualise in modelling exercises. As a result, the economic costs and inefficiencies arising from non-transparent and discriminatory tendering and bidding procedures tend to be systematically underestimated.

Academic research on the impact of government procurement on international specialisation and trade flows started in the 1970s. In well-known work, Baldwin (1970, 1984) and Baldwin and Richardson (1971) argued that discriminatory procurement policy affects neither domestic supply nor trade flows – the shift in government demand towards domestic products leads to an

equal but opposite shift in the private demand for imports. This somewhat counterintuitive result stood for some time as the main pillar of theoretical investigation. Nevertheless, Baldwin (1984) emphasised that his earlier results on the inconsequential impact of discriminatory practices may be weakened under imperfect market conditions.

Several authors, including Lowinger (1976) and Deardorff and Stern (1979), have carried out empirical analyses of the trade impact of discriminatory procurement by comparing the actual import profile of government purchases with that of the private sector for the 1970s. They supported the view that huge welfare gains would be derived from non-preferential procurement policies. Lowinger estimated that imports by the US government would have increased by a factor of six or seven over their actual level in the mid-1960s. Deardorff and Stern argued that the welfare gains from liberalising government procurement under the Tokyo Round would be greater than the gains from tariff liberalisation for industrial countries. These results did not validate Baldwin's assumption that discriminatory procurement is inconsequential.

Francois *et al.* (1996) assessed the impact of the Tokyo Round Agreement on Government Procurement on procurement practices in the United States, based on data broken down by sectors and purchasing entities. They found that the US government typically accounts for less than 5% of total domestic demand and argued that the potential impact of preferential practices on overall market access was relatively limited. However, for certain key sectors, such as construction, maintenance and repair services, they argued that government preferences could, and most likely did, affect market access.

Delta and Evenett (1997) examined the distribution effect of discriminatory procurement. They argued that preferential price policies in procurement bring in marginal welfare, as the benefits from shifting profits to domestic firms are ultimately offset by increasing procurement costs. Mattoo (1997) reviewed the main contributions in the economic literature on the impact of discriminatory procurement and argued that "attempts to estimate the cost of procurement preferences without taking into account their effects on bidding behaviour may produce biased estimates". This serves as a useful reminder of the inherent difficulties of conceptualising some of the key aspects of procurement, such as the complexity of bidders' behaviour under conditions of imperfect competition and informational asymmetries between concerned parties.

This brief survey of academic research on the impact of government procurement on international specialisation and trade highlights the inherently difficult task of conceptualising multiple and intertwined factors in a theoretical modelling exercise, and particularly of conceptualising implicit forms of

discriminatory practices. Greater understanding of several related aspects, such as transparency and non-discriminatory provisions, bidders' behaviour, informational asymmetries, distribution effects and the dynamic effects of procurement preferences, could usefully provide additional policy underpinning and insight.

Chapter 4

THE SIZE OF GOVERNMENT PROCUREMENT MARKETS

Table 1 shows the coverage and results of several studies on the measurement of government procurement markets. It includes the recent work initiated by the OECD Trade Committee and other studies available in the economic literature. The list may not be exhaustive, but it is illustrative of the relative scarcity of studies on the topic. The methodological approaches used and results obtained from these studies are reviewed below.

Data sources

One key consideration in quantifying government procurement markets relates to the selection of the data sources, on which reliable country comparisons ultimately depend. The logical choice falls on the System of National Accounts, which is universally applied in the compilation of statistics on national economic activities, although there remain considerable differences in the availability of detailed national data among countries. Given countries' lengthy experience with the SNA, the risk of inconsistent application or misinterpretation of some of its statistical definitions is considered low. All studies reported in Table 1 have used, or partly used, one of the three SNA-based data sources, with the exception of Hoekman (1997), which is based on WTO notifications, and the EC (2000) study, which is based on periodic surveys of notification requirements in the EU *Official Journal*. The latter data sources are classified under the so-called "bottom-up" approach and are discussed below.

The three SNA-based data sources are: *Government Finance Statistics* of the International Monetary Fund (IMF); the *National Accounts Statistics: Main Aggregates and Detailed Tables*, of the United Nations (UN); and the *National Accounts: Detailed Tables*, of the OECD. Statistics published by the OECD and the UN are fully compatible. In the IMF Government Finance Statistics, the recording of transactions is slightly different and gives somewhat different results for similar accounting categories of expenditure.⁶

Table 1. Various estimates of the size of government procurement markets

Various studies				General government			Sub-central levels
Authors	Sources	Countries	Period	Total expenditure % of GDP	Exclude non-tradable		
					Compensation of employees	Compensation of employees & defence	
SNA-based							
EC (1988)	SNA-OECD	EU-12	1987			11.7%	Yes
EC (1997)	SNA-OECD	EU-15	1994			11.2-11.8%	Yes
Francois <i>et al.</i>	SNA-OECD	USA	92-93	18.3%			Yes
Trionfetti	SNA-UN	9 OECD	83-90		7-9%		
Trionfetti	IMF data	8 OECD	84-90		10-18%		
OECD	SNA-OECD	28 OECD	90-97	19.96% w.a.	9.17% w.a.	7.57% w.a.	Table A1
OECD	SNA-OECD	13 OECD	90-97		9.02% w.a.	7.79% w.a.	Table A3
OECD	SNA-UN	106 non-OECD	90-94	14.48% w.a.	6.89% w.a.	5.10% w.a.	Table A2
Bottom-up							
Hoekman	WTO	20	83-92	0.42%			
EC (2000)	<i>Official Journal</i>	EU-15	93-98			13.9-14.6%	

w.a. = weighted average.

Note: In the EC studies, the ratios measure public procurement.

Source: EC (1997, 2000); Francois *et al.* (1996); Trionfetti (2000); and Hoekman (1997).

The System of National Accounts

The SNA contains statistical definitions on a wide range of economic activities, including government activities. Annex II provides a glossary of the main terms used in the present study. The SNA enables the calculation of the size of government procurement markets on the basis of data series on government accounts. The most important series for the measurement of current government procurement are final consumption expenditure (FCE) and intermediate consumption (IC). IC of governments refers to current government acquisitions while FCE contains all net costs of service production by governments, *i.e.* including compensation of employees (CE), consumption of fixed capital (depreciation) and indirect taxes. Income from sales is also subtracted from FCE. Annex III provides more technical information about how the FCE and IC data series are reconciled.

To obtain a complete picture of total government acquisitions, it is necessary to add investment expenditure realised by governments to current acquisitions. Government investment is defined as gross fixed capital formation (GFCF). Total government acquisitions (here referred to as total expenditure less compensation) can thus be measured by adding GFCF to either IC or FCE (less CE) data series, or both, depending on the availability of national data.

Whereas the availability of detailed IC series by government levels is weak and uneven for OECD countries and virtually non-existent for non-OECD countries, detailed FCE series are abundant for the overwhelming majority of OECD countries.⁷ Data on FCE series and GFCF are available for most OECD countries by sub-levels of government, *i.e.* for central government; state governments (if they exist); local governments (for most countries, data for state and local governments are combined); and social security funds. For purpose of clarity, the term “general government” encompasses all government levels, and “sub-central governments” refers to government levels other than central government, *i.e.* state and local governments and social security funds. For non-OECD countries, the UN publication primarily compiles and presents the main aggregates of the national accounts at the general government level. For non-OECD countries, detailed FCE series for sub-central governments are virtually non-existent and GFCF data are unevenly available.

The SNA also contains a statistical definition of public enterprises, which are defined as those organisations that are entirely, or mainly, owned and/or controlled by public authorities. Unfortunately, national data on public enterprises are not widely available for OECD countries and virtually non-existent for non-OECD countries. More importantly, the presence of huge differences in the reported national data raises doubts about their reliability. It appears that owing to diverse compilation practices among countries, national data on public enterprises are sometimes improperly classified under public non-financial corporations; this overstates procurement of public non-financial corporations and understates that of public enterprises. This illustrates the key importance of consistency among countries in their compilation procedures for national data. If all countries do not adopt harmonised compilation procedures, the basis for country comparison will be distorted.

The OECD-UN SNA data used in the studies reported in Table 1 are based on the 1968 version of the SNA (Series F, No. 2, Rev. 3). This version is now outdated and, since 1999, most OECD countries have switched to the 1993 version of the SNA as a basis for compiling their national accounts. The SNA 1993 was jointly prepared by the OECD, the EC, the IMF, the UN and the World Bank. For the first time in 2000, the OECD published the national accounts data on the basis of SNA 1993, in *National Accounts of OECD*

Countries, Volume II: Detailed Tables, 1988-1998. The switchover represents a large undertaking for national statistical agencies. At this juncture, some countries are producing very short time series on the new basis, and the data compiled are less detailed than those previously available. Once these problems are resolved, it will be possible to use the 1993 SNA to measure the size of government procurement markets in a consistent manner for a large number of countries and for more recent periods. Since the later version differs somewhat from the previous one, the methods applied for the estimation of government procurement will have to be modified accordingly.

SNA-based estimates of government procurement markets

Recent OECD work

With the objective of quantifying the potentially internationally contestable shares of government procurement markets in OECD and non-OECD countries, various procurement ratios were measured. Tables 2 and 3 provide a synthesis of the average ratios calculated for the two groups (the OECD countries as a whole and the non-OECD countries as a whole), and Annex Tables A1 and A2 (see Annex I) provide detailed ratios calculated for individual OECD and non-OECD countries, respectively. Initially, the OECD project was to cover procurement both by governments and by public enterprises. Unfortunately, the project was scaled back to measuring government procurement markets alone, as the availability and reliability of national data on public enterprises did not permit reliable country comparison.⁸

The measurement of the ten ratios of the size of government procurement markets, as shown in Annex Table A1, required data for 30 standardised SNA statistical items for each country (as detailed in the table in Annex IV). To deal with the problem of missing data in specific OECD countries, the missing data were estimated; the methods and assumptions used for these estimations are explained in Annex IV.

Table 2. Government procurement ratios in OECD and non-OECD countries
Percentage of GDP

General government	Weighted average		Simple average		Non-OECD	
	OECD (%)	Non-OECD (%)	OECD (%)	Non-OECD (%)	No. of countries	GDP covered (%)
Consumption expenditure	17.09	14.12	19.04	16.96	106	89.5
Less compensation	6.31	4.82	7.13	5.35	30	41.1
Less defence	14.17	9.54	17.03	12.05	22	22.6
Less compensation & defence	4.73	2.09	6.03	3.50	13	14.6
Total expenditure	19.96	14.48	22.22	19.46	29	26.6
Less compensation	9.17	6.89	10.32	8.80	20	21.2
Less compensation & defence	7.57	5.10	9.25	6.92	10	10.8

Source: United Nations (1997) and OECD (1998).

Table 3. The value and ratios of government procurement markets
USD billions and % of GDP (weighted average)

Government procurement	OECD		Non-OECD		World Value
	% GDP	Value	% GDP	Value	
GDP 1998 (USD billions) and (% of GDP w.a.)		23 716.3		5 641.4	29 357.7
Consumption expenditure					
General government	17.09%	4 053.1	14.12%	796.6	4 849.7
Less compensation	6.31%	1 496.5	4.82%	271.9	1 768.4
Less defence	14.17%	3 360.6	9.54%	538.2	3 898.8
Less compensation & defence	4.73%	1 121.8	2.09%	117.9	1 239.7
Total expenditure (TE)					
General government	19.96%	4 733.8	14.48%	816.9	5 550.6
Central government	7.13%	1 691.0			
Local government	12.12%	2 874.4			
Social security funds	1.22%	289.3			
TE less compensation					
General government	9.17%	2 174.8	6.89%	388.7	2 563.5
Central government	3.39%	804.0			
Local government	5.44%	1 290.2			
Social security funds	0.51%	121.0			
TE less compensation & defence					
General government	7.57%	1 795.3	5.10%	287.7	2 083.0
Central government	1.75%	415.0			

Source: United Nations (1997) and OECD (1998).

Annex Table A1 shows a total of ten estimates of government procurement markets, including six ratios that are designed to capture the tradable shares of government expenditure. The first four ratios measure the sum of government consumption and investment expenditure, *i.e.* total expenditure (TE), detailed by levels: general government; central government; local governments (state and local together); and social security funds. All ratios are expressed as a share of GDP of the country concerned. The next four ratios measure the respective total expenditure, excluding compensation of employees, for each level of government. Finally, the last two ratios propose a measure of the potentially contestable procurement markets, excluding both defence-related expenditure and compensation of employees. These two categories of expenditure are assumed to be non-tradable. The last two ratios are measured at the general and central government levels, respectively, to reflect the exclusive responsibility of central governments in defence matters.

Each ratio shown in Annex Table A1 is the average of the annual ratios calculated for the period 1990-97, depending on the availability of annual data by country. The advantage of averaging is that it takes into account annual fluctuations over the period and therefore avoids the problem of picking a single year that may not be representative. One important disadvantage is that the ratio for the general government for any one country shown in Annex Table A1 does not add up to the sum of the reported ratios for the three levels of governments (central, local and social security fund).⁹

The bottom section of Annex Table A1 shows the average percentage for the OECD as a whole for each of the ten ratios based on both a simple and a GDP-weighted average. The weighted average ratios take into account the relative size of each country and thus are better indicators of the average size of government procurement markets for the OECD as a whole. The weighted average ratios are all smaller than the ratios measured on the basis of a simple average.

Annex Table A2 (see Annex I) shows seven ratios covering government procurement at the general government level for 106 non-OECD countries. Disaggregated data for sub-central government levels were available for only four countries, *i.e.* Colombia, Ecuador, Peru and Venezuela, and were not considered a sufficiently representative basis for extrapolating results on all non-OECD countries. Each ratio is the average of the annual ratios calculated for the period 1990-94, depending on the availability of annual data by country (the most recent period available in the UN publication). The average ratios calculated both on a simple average and a GDP-weighted basis for the group of non-OECD countries as a whole are shown in Tables 2 and 3.

The measurement of the seven ratios of the size of the general government procurement markets in non-OECD countries required data for nine standardised SNA statistical items for each country. These are the same nine standardised items used for OECD countries (see the table in Annex IV). Gaps in the availability of data for non-member countries have somewhat weakened the reliability and robustness of the estimates of certain ratios of procurement markets. Few estimates of the missing data for non-member countries were made.¹⁰ More particularly, although the consumption segment of general government expenditure is available for 106 countries, the investment segment (gross fixed capital formation) is available for 29 countries only. Table 2 shows four ratios of the size of procurement markets for the consumption segment of general government expenditure and three ratios of total expenditure which take into account both consumption and investment expenditure.

The last two columns of Table 2 show the number of non-OECD countries taken into account in the calculation of each ratio and, for each ratio, the percentage of GDP of those countries relative to the total GDP of all non-OECD countries. This last percentage amounts to 89.5% for the ratio of consumption expenditure and falls to 10.8% for the ratio of total expenditure, excluding defence-related expenditure and compensation of employees. These percentages are indicative of the robustness of the estimated ratios of the size of government procurement markets for non-OECD countries. As can be seen, the robustness diminishes as additional elements are built into the ratios.

Table 3 shows all the estimates of the size of government procurement markets calculated on a weighted average basis for the two groups of countries. The ratios are expressed as a percentage of the total GDP for the respective group of countries and also in billions of USD based on 1998 GDP data. The main results are:

- The ratios of total expenditure, at the general government level, are estimated at 19.96%, or USD 4 733 billion, for OECD countries and 14.48%, or USD 816 billion, for non-OECD countries. This world total procurement estimate is roughly equivalent to 82.3% of world merchandise and commercial services exports in 1998.
- About 35% of total OECD expenditure is accounted for by central governments, and the remaining 65% is accounted for by local government and social security funds taken together. When total OECD potentially contestable expenditure is measured, the relative share of central government is 23.1% and that of sub-central governments is 76.9%. These aggregate percentages for the OECD as a whole mask

some important country differences in the relative shares of total expenditure between central and sub-central governments (see below).

- The ratios of potentially contestable total expenditure, at the general government level (excluding defence-related expenditure and compensation of employees) are estimated at 7.57%, or USD 1 795 billion, for OECD countries and at 5.10%, or USD 287 billion, for non-OECD countries.
- The world value of potentially contestable government procurement is estimated at USD 2 083 billion in 1998. This is equivalent to 7.1% of world GDP or 30.1% of world merchandise and commercial services exports in 1998. OECD countries account for 86.1% of the world's potentially contestable procurement market, slightly above their relative share of the world GDP (80.2%).

Owing to the use of a somewhat restrictive assumption, *i.e.* that all defence-related expenditure is to be treated as non-tradable, the above estimates of potentially contestable procurement ratios underestimate actual competitive conditions in procurement, since several OECD countries have opened their non-core defence procurement under regional trade arrangements or unilaterally. This underestimate is confirmed by similar quantitative work by the EC, which treated non-core defence expenditure as tradable (see the following section).

Comparison of the ratios obtained for OECD and non-OECD countries reveals some differences in terms of the size and composition of expenditure between the two groups. All ratios measured for OECD countries as a whole are systematically higher than the equivalent ratios measured for the group of non-OECD countries. Concerning the composition of expenditure, defence-related consumption expenditure is on a relatively larger scale in non-member countries than in OECD countries (4.58% versus 2.92%).¹¹ Similarly, the share of investment expenditure is higher in non-OECD countries than in OECD countries, after defence-related expenditure and the compensation of employees are deducted (3.01% versus 2.84%).¹² These comparative shares in the composition of government expenditure should be interpreted with caution given the small sample of non-OECD countries taken into account in these estimates.

The above OECD estimates have a number of distinctive characteristics in terms of the consistent measurement of the shares of government procurement markets for a large number of countries. The country coverage is considerably wider and more detailed than in any other studies on the quantification of

government procurement markets, as reported in Table 1. In all, 14 different ratios of government procurement markets are measured for OECD countries, with detailed ratios by countries broken down by government levels and tradable shares. For non-OECD countries, 106 countries are covered at the general government level, and seven detailed ratios are broken down between consumption, on the one hand, and investment expenditure and tradable ratios, on the other. The periods covered, 1990-97 for OECD countries and 1990-94 for non-OECD countries, also represent the most recent periods for which consistent SNA-based data (1968 version) are available. Unlike other studies, the ratios are measured for the two groups of countries as a whole on a GDP-weighted basis, thereby taking into account the countries' relative size.

EC estimates of government procurement markets

In 1988 and 1997, the EC published two comprehensive reports on public procurement in the context of the Single European Market programme. The first report, entitled *The Cost of Non-Europe in Public Procurement* (EC, 1988), assessed potential savings in public expenditure to be gained within the EU-12 from removing all barriers to trade in public purchasing, including procurement carried out by publicly or privately owned enterprises in the water, energy, transport and telecommunications sectors. It also assessed the size of public procurement markets for the 12 member states in 1987, based on SNA data and other sources. The second report, *The Single Market Review, Subseries III: Dismantling of Barriers, Volume 2: Public Procurement* (EC, 1997), estimated the size of public procurement for the 15 member states in 1994 on the basis of SNA data, complemented with demand-side survey results (bottom-up analysis).

In these EC studies, one ratio of public procurement is consistently measured as a basis for comparison among EU member states. The public procurement in question is composed of two parts. The first refers to government procurement at the general government level, including both consumption and investment expenditure, but excluding compensation of employees and "warlike" materials (Article 223 of the Treaty of Rome which is not covered in EC directives on procurement). The measurement of warlike materials by the EC is derived from SNA-based statistics and estimates of the share of warlike materials in the 1994 EC study. The second part refers to procurement by public utilities, excluding compensation of employees, and is measured on the basis of a combination of SNA data and demand-side survey results.¹³

Table 4 shows the estimated size of public procurement for individual EU member states calculated for 1987 and 1994, as reported in the 1997 EC publication. To allow for a comparison between the 1987 and 1994 results, the market size statistics presented in the first report were adjusted to reflect the differences in coverage of public entities. EU public procurement is estimated at 11.7% in 1987 and at between 11.2% and 11.8% in 1994. Despite these adjustments, there are significant differences in the estimated ratios for 1987 and 1994. The ratios are lower in 1994 than in 1987 for all EU-12 member states except Germany (owing to reunification). Among the explanatory factors for the decrease in the size of the public procurement, the report notes the general reduction in public expenditure as a result of the decision to reduce budget deficits, the privatisation of public services and the contracting out of non-core services. Also noted in the report is the problem of relying on data for a single year owing to annual variations in expenditure, particularly in the smaller countries, where large infrastructure projects can have a significant impact on government expenditure (EC, 1997, pp. 110-112).

Table 4. EU public procurement, 1987 and 1994
Percentage of GDP and ECU billions

European Union	Public procurement (includes government and public services)		Government procurement (government only)
	1987 (%)	1994 (%)	1994
Belgium/(Luxembourg 1994)	12.7	5.8-7.2	
Denmark	11.6	11.0-11.1	
France	11.5	10.2-10.7	
Germany	9.9	13.0-13.5	
Greece	15.7	6.5-8.2	
Ireland	11.5	8.7-9.8	
Italy	10.4	8.6-9.6	
Netherlands	11.6	8.5-9.0	
Portugal	14.5	11.4-12.0	
Spain	10.4	9.4-9.9	
United Kingdom	16.5	14.4-14.5	
EU-12	11.7	11.1-11.6	
Austria	11.7	11.6-12.0	
Finland	11.6	10.8-12.3	
Sweden	11.7	14.6-14.7	
EU-15 (ECU billions)	476.1	704.1-737.6	547.4
EU-15	11.7%	11.2-11.8%	8.7% est.

Source : EC (1997), Tables 4.1, 10.1 and 10.3.

Based on a value of total EU government procurement of ECU 547.4 billion in 1994, the ratio of government procurement to GDP is estimated at 8.7% (last column of Table 4). This estimated ratio of the size of the EU general government procurement market, excluding compensation of employees and warlike expenditure, is above the 8.03% EU weighted average ratio measured by the OECD study, which excludes compensation of employees and all defence-related expenditure (see the last row of Annex Table A1). These two ratios are nevertheless broadly consistent since the adjustment made in the OECD study for all defence expenditure is larger than the adjustment made in the EC studies for warlike materials. This comparison also highlights the restrictive assumption used in the OECD study, which assumes all defence expenditure to be non-tradable. While the Commission had access to data broken down by core and non-core defence expenditure for its member states, such detailed data are available in neither the OECD-SNA publication nor the UN-SNA publication.

Other estimates of government procurement markets

Francois *et al.* (1996) assessed the impact of the Tokyo Round Agreement on Government Procurement on procurement practices in the United States. From SNA-based data for 1992-93, the average total general government expenditure is estimated at about USD 1.1 trillion, which is equivalent to an average of 18.3% of US GDP for the period covered, of which 40% is accounted for by the Federal government. Trionfetti (2000) estimated the size of government procurement markets on the basis of both UN-SNA and IMF data.¹⁴ The most recent year covered is 1990 and ratios of procurement markets are measured for a small number of OECD countries.

Government procurement by sub-central governments

Although data broken down by government levels is generally compiled by OECD countries and available in the OECD-SNA publication, only the studies by the OECD (Annex Table A1) and the EC (1997, Table 10.2) consistently measure the respective shares of government procurement for individual countries. In the 1997 EC study, the shares of total public procurement in 1994 for the EU-15 as a whole are estimated at 28.8% for the central government, 47.1% for sub-central governments and 24.1% for public utilities. Francois *et al.* (1996) evaluate the share of total expenditure of the US federal government at 40% of total expenditure – by deduction, the 18.3% share of total expenditure is divided into 7.3% and 11.0% for the central and sub-central governments, respectively.

Annex Table A1 shows government procurement ratios broken down by government levels for each OECD country and illustrates differences in their patterns of expenditure. For 19 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 sub-central governments. For the OECD as a whole, central government expenditure accounts for about 35% of total general government expenditure against 65% for sub-central 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 Annex Table A1 show two ratios of potentially contestable total expenditure, excluding compensation of employees and defence-related expenditure, for the general government level and central governments. In these cases, central government expenditure accounts for slightly less than a quarter (23.1%) of total potentially contestable general government expenditure versus 76.9% for the sub-central governments as a whole. These ratios of total potentially contestable expenditure reveal that the weight of sub-central governments in total potentially contestable expenditure is higher than in ratios of total expenditure (in which the compensation of employees and defence-related expenditure are included), where they represented 65%. These aggregate estimates for OECD countries as a whole mask, however, some distinctive country variations.

Measuring procurement ratios broken down by government levels is helpful for appreciating the WTO GPA's expanded coverage of sub-central government entities. With an estimated 35% share of total government procurement accounted for by central government and 65% by sub-central governments, it is extrapolated that the coverage of the WTO GPA is about three times that of the GATT Code.¹⁵

From the EC study (1997), the 24.1% of total public procurement accounted for by the public utilities may also be used as a proxy for estimating the expanded coverage of the WTO GPA with respect to certain public and regulated private companies. On the basis of the above rough extrapolations, the value of procurement that falls under the purview of the GPA would be four times larger than under the GATT Code, *i.e.* one quarter for central government, two quarters for sub-central government and one quarter for public utilities. To evaluate more precisely the coverage of the GPA after 1996, more detailed data would be required, including data broken down by entities, by contracts below

and above specific thresholds for each type of entity for the period after 1996. Once OECD Member and non-OECD countries have compiled sufficiently detailed national data on the basis of the SNA 1993, it will be possible to estimate the coverage of the GPA on a more reliable basis.

The “bottom-up” approach

The so-called “bottom-up” approach refers to the process of gathering national data on procurement expenditure directly from national entities responsible for procurement decisions. The reliability of bottom-up approaches stems, to a large extent, from the homogeneity and consistency of compilation and reporting processes throughout the countries subject to the notification requirements. Under-reporting from one large country or several countries can seriously distort the quality of the overall database and, as a result, make any assessment based on it misleading. Nevertheless, the information and data obtained on the basis of bottom-up approaches can be very useful for analysing the coverage of some agreements and for making country comparisons. Two distinct notification requirements of procurement practices are discussed below.

WTO GPA notification requirement

Under Article XIX.5, the countries participating in the GPA Agreement are required to collect and to submit on an annual basis various statistics on their procurements covered by the GPA, including the estimated value of contracts awarded, both above and below specified threshold values broken down by entities. Because the GPA entered into force only in 1996 and because there is a normal time lag before annual data can be accurately compiled, no comprehensive assessment of notified GPA data has yet been published. Such an assessment would be useful for appreciating the expanded coverage of the GPA over the Tokyo Round Agreement on Government Procurement (GATT Code), *i.e.* to sub-central entities and certain public and regulated private companies.

Based on the notification requirements of the GATT Code, Hoekman (1997) has analysed the notified data reported by 20 countries for the period 1983-92. Mindful that the GATT Code only covered the procurement of goods by central governments, he estimated total purchases to amount to USD 62 billion in 1992 and to represent a ratio of 0.42% of GDP for the countries concerned. This ratio, based on the bottom-up approach, is suspiciously low compared to the SNA-based procurement ratios shown in Table 1. Hoekman also calculated that the share of contracts above thresholds

subject to the GATT Code increased from an average of 38.8% to 49.5% of total contracts between the period 1983-85 and 1990-92. This is partially attributable to the 13% reduction in the threshold value (which fell from SDR 150 000 to SDR 130 000) that occurred in 1988 for contracts excluded from the application of the Code.

Notice requirements under EC directives

Public procurement within the EU is governed by the EC Government Procurement Framework, which is based on six substantive directives.¹⁶ Among other things, the Directives require EU procurement entities to publish in the EC *Official Journal* tender notices and a contract award notice (CAN) for each contract awarded. In the 1997 EC study, several types of information about public procurement were gathered through surveys of the *Tenders Electronic Daily* (TED) and of notices published in the *Official Journal*. Useful information was obtained through periodic surveys of published notices, which otherwise would not be obtained from SNA-based data.¹⁷

More recently, the Commission developed a number of preliminary indicators to measure markets trends and the impact of public procurement policy based on information gathered from notifications in the *Official Journal* (EC, 2000). These indicators provide annual estimates of total public procurement, the value of calls for tenders, the number of such calls advertised in the *Official Journal* and the number of entities publishing in the *Official Journal*. These annual values are available on the Internet for the period 1993-98.¹⁸ The estimated ratio of EU total public procurement to GDP declined slightly over this period, from 14.6% to 13.9%. These ratios are considerably above the earlier estimates of EU total public procurement of between 11.2% and 11.8% (Table 4). This is mainly due to a series of small changes in the expenditure counted for public enterprises. One of these changes concerns fuel purchased by power generators, which was not taken into account in the 1997 EC study but was included in the EC study of 2000.

The latest EC indicators of public procurement illustrate the careful attention that needs to be paid to the definitions used for measuring public procurement. These results show the relative importance of procurement by public utilities and the potentially huge opportunities that they represent for international trade. They also illustrate the usefulness of bottom-up approaches based on periodic surveys of published information and data in the *Official Journal*, data that are not available from SNA-based studies.

Chapter 5

CONCLUSIONS

Governments are significant purchasers of goods and services, and these markets represent huge opportunities for international trade. Informed knowledge about the size of these market, and in particular about their internationally potentially contestable shares, is important to the business community, governments and trade negotiators. There are a few studies on the quantification of government procurement markets, but their limited country coverage and uneven treatment of procurement at sub-central government levels leave interested parties with an incomplete and fragmentary analytical picture. The absence of detailed and consistent measurements of potentially contestable shares of government procurement markets for a large number of countries represented an information gap that needed to be addressed. This publication presents a synthesis of analytical studies on the quantification of government procurement markets and highlights recent work on over 130 countries by the OECD Trade Committee.

This study, based on the SNA 1968, has a number of distinctive characteristics in terms of the consistent measurement of the shares of government procurement markets. The country coverage is considerably wider and more detailed than in any other studies. In total, 14 different ratios of government procurement markets are estimated for OECD countries, with detailed ratios by countries broken down by government levels and potentially contestable shares. For non-OECD countries, estimates are provided for 106 countries at the general government level, and seven detailed ratios are broken down between consumption and investment expenditure and potentially contestable ratios. The country-specific estimated procurement ratios are detailed in Annex Table A1 for 28 OECD countries and in Annex Table A2 for 106 non-OECD countries.

The potentially contestable shares of total government procurement were measured by adding the consumption and investment components of government acquisitions and subtracting the compensation of employees and all defence-related expenditure, which are assumed to be non-tradable. On the basis

of 1968 SNA data, the potentially contestable shares of government procurement are estimated at 7.57% for OECD countries and 5.10% for non-member countries. The world value of the potentially contestable government procurement market is estimated at USD 2 083 billion in 1998, which is equivalent to 7.1% of world GDP or 30.9% of world merchandise and commercial services exports in 1998. OECD countries account for 86.1% of the world's potentially contestable procurement market, or slightly above their weight in world GDP (80.2%). The estimate for the world's total government procurement market is USD 5 550 billion, which is roughly equivalent to 82.3% of world merchandise and commercial services exports in 1998.

The EC has carried out a number of studies on the quantification of procurement markets and estimated potentially contestable procurement for the EU at 8.7% of its GDP. In the OECD work, the EU potentially contestable market was estimated at 8.03%. The difference is mainly due to the use of different assumptions and data regarding defence-related expenditure. The EC had access to detailed defence-related data for its member states which distinguishes between core and non-core defence expenditure. The EC study considered only core defence expenditure as non-tradable, whereas the OECD study considered all defence-related expenditure as non-tradable. These results suggest that the OECD procurement estimates slightly underestimate the size of procurement markets that are potentially open to international competition.

Central governments are estimated to account for 35% of total government procurement within the OECD zone as a whole, with the remaining 65% accounted for by local government and social security funds taken together. The share of central government in total potentially contestable general government procurement is slightly less than a quarter (23.1%); the remaining 76.9% is accounted for by sub-central governments taken as a whole. These aggregate percentages for the OECD as a whole mask some important differences among countries in the relative shares of central and sub-central governments in total procurement.

The so-called "bottom-up" approach refers to the process of gathering national data on procurement expenditure directly from national entities responsible for procurement decisions. Countries that participate in the WTO GPA are required to submit, on an annual basis, various statistics on their procurement covered under the GPA. Under EU procurement directives, procurement entities are subject to various notification requirements in the EU *Official Journal*. The reliability of results obtained from bottom-up approaches stems, to a large extent, from the homogeneity and consistency of the compilation and reporting processes throughout the countries subject to the notification requirements. Establishing such processes requires considerable

resources, at least in the initial stage. The information and data obtained on the basis of surveys of notification requirements usefully complement SNA-based data and are also useful for analysing the coverage of some agreements and for making country comparisons.

Measuring procurement ratios broken down by government levels is helpful for appreciating the expanded coverage of the WTO GPA Agreement to sub-central government entities since 1996. The OECD study indicates that the shares of total government procurement accounted for by central government and sub-central governments are 35% and 65%, respectively. Thus, the expanded coverage of the WTO GPA, which includes sub-central entities, is about three times larger than that of the GATT Code. By extrapolating the estimated shares of total public procurement accounted for by public utilities (EC work), the coverage of the GPA is increased by a quarter to reach four times that of the GATT Code.

The 1968 version of the SNA is now outdated and, since 1999, most OECD countries have switched to the 1993 version as a basis for compiling their national accounts. At this juncture, some OECD countries are producing very short time series on the new basis and the data compiled are less detailed than those previously available. No data have yet been published for non-OECD countries on the basis of the SNA 1993. Once the problems related to the transition have been solved, it will be possible to use the SNA 1993 to measure, in a consistent manner, the size of government procurement markets for a large number of countries and for more recent periods. The availability of national data for public utilities should improve and make it possible to measure the share of both government and public utilities in public procurement.

ANNEXES

ANNEX I. TABLES

Annex Table A1. Government procurement in OECD countries, by government levels
Percentage of GDP

OECD	Total expenditure (consumption and investment)									
	Total expenditure				TE less compensation				TE less compensation & defence	
	General	Central	Local	Social	General	Central	Local	Social	General	Central
Canada	25.83	4.60	22.32	0.04	11.47	1.69	8.80	0.02	10.40	0.62
United States	19.49	6.94	12.57		8.80	3.71	5.11		6.18	1.09
Australia	20.02	5.72	14.78		8.85	2.07	5.81		7.64	0.86
Japan	16.77	3.53	12.99	0.22	9.35	1.85	7.59	0.08	8.98	1.29
Korea	16.24	6.84	8.97	0.20	9.13	3.94	5.10	0.09	7.20	1.94
New Zealand	18.13	13.52	4.79		7.28	3.66	3.80		6.67	3.05
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
Denmark	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
Iceland	25.80	14.02	8.17	2.67	12.92	4.81	5.07	2.11	11.76	3.62

Table A1 (cont'd.)

OECD	Total expenditure (consumption and investment)									
	Total expenditure				TE less compensation				TE less compensation & defence	
	General	Central	Local	Social	General	Central	Local	Social	General	Central
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		11.44	5.61	6.06		9.65	3.82
Poland	22.57	14.40	7.41		10.69	6.55	4.31		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	1.95
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		7.47	5.58	1.13		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
OECD simple av.	22.22	9.84	11.02	1.70	10.32	4.20	5.17	1.09	9.25	3.11
OECD weighted av.	19.96	7.13	12.12	1.22	9.17	3.39	5.44	0.51	7.57	1.75
EU weighted av.	21.48	8.87	10.79	1.79	9.24	3.76	4.67	0.72	8.03	2.53

Source: These ratios were calculated on the basis of data submitted by OECD Member countries. Estimates were made for missing national data. The methods and assumptions used for estimating the missing data are explained in Annex IV.

Annex Table A2. Government procurement ratios in non-OECD countries, by regions
Percentage of GDP and USD billions

Region	Consumption expenditure (%)				Total expenditure (TE) (%)			GDP 1998 (USD billions)
	FCE	Excl. comp.	Excl. def.	Excl. comp. & def.	TE	Excl. comp.	Excl. comp. & def.	
Africa								
Benin	12.59							2.32
Botswana	27.10							4.98
Burundi	17.36							0.98
Cameroon	10.22							8.70
Ivory Coast	16.76	4.32			20.39	7.96		11.10
Egypt	9.45							82.71
Ghana	11.88							7.17
Kenya	16.27	3.16	14.43	2.75	19.17	6.06	5.66	10.37
Lesotho	17.06							0.37
Madagascar	8.25							3.75
Malawi	15.31							1.69
Mali	14.91							2.65
Mauritius	11.73	3.23	11.37	3.07				4.20
Morocco	16.59							36.12
Mozambique	20.18							3.82
Namibia	29.33	9.89			35.78	16.34		3.00
Niger	17.24							2.01
Nigeria	3.89	1.23						36.14
Reunion	27.35							7.25
Rwanda	21.28							2.04
Senegal	13.26							4.86
Seychelles	28.75		24.98					0.56
Sierra Leone	7.56							0.65
South Africa	19.74				21.77			116.73
Swaziland	20.80							1.18
Uganda	9.10							6.06
Tanzania	8.29		6.74					8.09
Tunisia	16.29	3.55			21.60	8.86		20.02
Zambia	19.33							3.35

Annex Table A2 (cont'd.)

Region	Consumption expenditure (%)				Total expenditure (TE) (%)			GDP 1998 (USD billions)
	FCE	Excl. comp.	Excl. def.	Excl. comp. & def.	TE	Excl. comp.	Excl. comp. & def.	
America								
Anguilla	13.83							0.09
Bahamas	14.06	3.42	13.47	3.27	14.62	3.98	3.83	4.12
Barbados	19.75							2.33
Belize	19.47		18.24					0.67
Bermuda	12.70		12.48					2.31
Bolivia	12.45	1.84						7.96
Brazil	16.46	7.21						776.94
Cayman Islands	14.67							0.93
Chile	9.54				11.51			74.32
Colombia	10.27	1.55	9.06	1.02	13.48	4.75	4.19	90.41
Costa Rica	16.75				18.36			10.42
Dominica	20.16							0.25
Dominican Rep.	4.23							16.04
Ecuador	9.33	4.21	8.05	3.63	13.23	8.11	7.53	19.30
El Salvador	9.74				11.14			11.86
French Guyana	34.54				48.75			1.50
Grenada	19.73							0.31
Guadeloupe	30.35				39.25			3.50
Guatemala	6.34				8.37			19.01
Guyana	13.04							0.74
Honduras	11.12							5.34
Jamaica	7.56							7.06
Martinique	28.75				36.19			4.38
Panama	16.37	3.72						9.82
Paraguay	19.33							10.93
Peru	7.94				9.87			64.06
Puerto Rico	14.12							50.51
Suriname	26.27							0.82
Trinidad-Tobago	16.44	2.59						6.14
Uruguay	13.70							20.95
Venezuela	8.60	2.31			10.28	4.00		95.02

Annex Table A2 (cont'd.)

Region	Consumption expenditure (%)				Total expenditure (TE) (%)			GDP 1998 (USD billions)
	General government	FCE	Excl. comp.	Excl. def.	Excl. comp. & def.	TE	Excl. comp.	
Asia								
Azerbaijan	19.86	4.24	11.73	2.11				4.10
Bahrain	26.07							5.35
Bangladesh	13.95		12.53					41.42
Bhutan	21.58							0.36
China	12.84							960.79
Cyprus	17.81		13.49					8.88
Fiji	17.44							2.33
Hong Kong, China	8.69	2.49			11.00	4.81		166.45
India	10.54	3.44	7.42	1.74	13.29	6.18	4.46	420.31
Indonesia	9.20							215.00
Iran	11.06	2.63	8.00	1.90				187.42
Iraq	30.82							4.60
Israel	25.95	10.01						91.32
Jordan	23.74							7.45
Kuwait	37.30							26.45
Kyrgyzstan	20.04	11.74			21.60	12.88		1.87
Malaysia	13.75		10.76					67.48
Maldives	21.97							0.40
Nepal	8.72							4.48
New Caledonia	33.02							3.56
Oman	27.34							14.96
Pakistan	12.87	6.61			16.29	10.03		64.13
Papua New Guinea	23.24							3.71
Philippines	9.85	2.94			14.29	7.38		82.24
Qatar	34.44							11.70
Saudi Arabia	33.86							125.84
Singapore	9.35							84.38
Sri Lanka	13.17	5.57	10.03	4.24	17.42	9.82	8.48	15.70
Syrian Arab Rep.	14.34							64.93
Thailand	9.67	3.08			17.31	10.72		117.04
United Arab Emirates	17.01							47.23
Uzbekistan	22.71							14.19
Vanuatu	28.24	16.86						0.25
Viet Nam	15.93							24.60
Yemen	27.42							5.33

Annex Table A2 (cont'd.)

Region	Consumption expenditure (%)				Total expenditure (TE) (%)			GDP 1998 (USD billions)
	FCE	Excl. comp.	Excl. def.	Excl. comp. & def.	TE	Excl. comp.	Excl. comp. & def.	
Europe								
Albania	10.20							3.03
Belarus	19.15	10.54	10.54	5.62	21.27	12.65	7.74%	14.28
Bulgaria	8.08							12.06
Estonia	16.62	8.06	15.96	7.75	21.05	12.50	12.18%	5.11
Latvia	14.70	7.79			17.09	10.18		6.19
Lithuania	15.68							10.69
Malta	17.56	4.24	15.20	3.67	21.87	8.55	7.99%	3.99
Romania	13.77		8.49					41.70
Russia	17.39		12.70					283.82
Slovenia	19.62							19.99
Ukraine	15.77	7.95	9.33	4.72	18.15	10.33	7.10%	42.70

Source: United Nations (1997).

Annex Table A3. Government procurement markets under the intermediate consumption approach
Percentage of GDP

OECD	Intermediate consumption					
	Excluding compensation of employees				Excluding compensation and defence	
	General	Central	Local	Social	General	Central
Austria	12.16	2.75	5.70	3.70	11.71	2.31
Belgium	4.40	2.56	1.57	0.27	3.87	2.03
Czech Republic	12.41				11.21	
Denmark	10.63				10.04	
France	9.05	3.24	4.22	1.60	7.63	1.81
Germany	7.33	1.52	5.40	0.40	6.62	0.81
Italy	7.72	2.54	4.89	0.35	7.11	1.94
Netherlands	9.09	3.69	5.03	0.37	8.11	2.71
New Zealand	8.95	6.56	2.39		8.34	5.94
Portugal	7.25	4.56	2.57	0.13	6.18	3.49
Spain	9.08	2.76	4.58	1.73	8.40	2.08
Switzerland	8.44	2.03	6.29	0.12	7.86	1.45
United Kingdom	12.89	9.21	3.58	0.10	9.77	6.09
Simple avg.	9.18	3.77	4.20	0.88	8.22	2.79
Weighted avg.	9.02	3.68	4.58	0.72	7.79	2.43

Source: OECD (1998).

ANNEX II GLOSSARY OF MAIN TERMS

Compensation of employees (CE) is composed of all payments by governments of wages and salaries to their employees, including social security and similar schemes. In general, compensation of employees takes the largest share of final consumption expenditure of government services.

Consumption of fixed capital (CFC) is the value, at current replacement cost, of the reproducible fixed assets – except roads, dams and other forms of construction other than structures of the producers of government services – used up during a period of accounting as a result of normal wear and tear, foreseen obsolescence and the normal rate of accidental damage. Unforeseen obsolescence, major catastrophes and the depletion of natural resources are not taken into account.

Final consumption expenditure of government services (FCE) is the value of goods and services produced by governments for their own use on current account, *i.e.* the value of their gross output less the sum of the value of their commodity and non-commodity sales and the value of their own-account capital formation which is not segregated as an industry.

General government includes central government, state/provincial and local levels, as well as social security funds.

Government acquisitions refers to the definition of **intermediate consumption of producers of government services** (IC). It is defined as acquisitions (purchases and transfers in kind) of new goods and services (mainly commodities) on the current account, less net sales of similar second-hand goods and scrap and wastes therefrom, including durable goods acquired primarily for military purposes.

Government procurement refers to goods and services bought by the government for consumption and investment but not for resale. It generally covers two main types of expenditure: consumption expenditure and

expenditure on capital formation, *i.e.* investment expenditure. These two types of expenditure are usually classified by government function.

Total expenditure (TE) is composed of final consumption expenditure (FCE) *less* consumption of fixed capital (CFC) *less* indirect taxes (IT) *plus* government sales (SALES) *plus* gross fixed capital formation (GFCF). It is expressed as: $[(FCE - CFC - IT + SALES) + GFCF]$.

Total expenditure less compensation is total expenditure (TE) *less* compensation of employees (CE). It is expressed as: $[(FCE - CFC - IT + SALES) + GFCF - CE]$.

Total expenditure less compensation and defence is total expenditure (TE), excluding defence-related expenditure and investment, *less* compensation of employees (CE), excluding defence-related compensation of employees. It is expressed as: $\{[(FCE - CFC - IT + SALES) - FCE_{def}] + (GFCF - GFCF_{def}) - (CE - CE_{def})\}$.

ANNEX III
RECONCILIATION OF FINAL CONSUMPTION EXPENDITURE
AND INTERMEDIATE CONSUMPTION DATA SERIES

The System of National Accounts contains statistical definitions for a wide range of economic activities, including government activities. With respect to government activities, the SNA defines intermediate consumption (IC) for government levels as government acquisitions of goods and services on the current account. IC is equal to final consumption expenditure (FCE) *less* compensation of employees (CE), *less* consumption of fixed capital (CFC), *i.e.* the allocation for depreciation, *less* indirect taxes (IT), *plus* government sales (SALES). These terms are defined in the SNA and national data referring to these terms may be obtained from the series in Table 6 of the OECD publication, *National Accounts: Volume II, Detailed Tables*.

Government current acquisitions

$$FCE - CE - CFC - IT + SALES = IC$$

To obtain more complete coverage of all goods and services bought by government, *i.e.* government procurement net of CE, it is necessary to add investment expenditure of government, with investment being defined as gross fixed capital formation (GFCF). Total government acquisitions (here referred to as total expenditure less compensation) can thus be measured through either the IC or FCE approach, or both, depending on the availability of national data.

Total government acquisitions = Total expenditure less compensation

$$FCE - CE - CFC - IT + SALES + GFCF = IC + GFCF$$

Total government procurement or total expenditure (TE) is obtained by bringing back into the equation the compensation of employees (CE).

Total expenditure

$$TE = FCE - CFC - IT + SALES + GFCF = IC + GFCF + CE$$

By assuming that defence-related procurement is reserved to national firms, government procurement net of CE and defence-related expenditures (total expenditure less compensation and defence) is obtained by removing the defence-related component of every term from total expenditure less compensation.

Total acquisitions less defence = Total expenditure less compensation and defence

$$(FCE - FCE_{def}) - (CFC - CFC_{def}) - (IT - IT_{def}) + (SALES - SALES_{def}) - (CE - CE_{def}) + (GFCF - GFCF_{def})$$

Under the SNA 1968, defence-related GFCF is fairly small. As a result, defence-related depreciation (CFC_{def}) is insignificant. It is therefore assumed equal to zero. Similarly, it is assumed that there are no defence-related SALES ($SALES_{def}$) and no defence-related indirect taxes (IT_{def}).

Total acquisitions less defence = Total expenditure less compensation and defence

$$(FCE - FCE_{def}) - CFC - IT + SALES - (CE - CE_{def}) + (GFCF - GFCF_{def})$$

Equality between the FCE and IC approaches is maintained by removing the defence-related elements from the IC equation of total expenditure less compensation.

Total acquisitions less defence = Total expenditure less compensation & defence

$$IC - (FCE_{def} - CE_{def}) + (GFCF - GFCF_{def})$$

ANNEX IV ASSUMPTIONS USED FOR ESTIMATING MISSING NATIONAL DATA

Quantifying the size of government procurement markets in OECD countries has involved gathering national data for 30 standardised SNA-based statistical items. In several instances, however, the required data were missing. To remedy this, a series of estimates of missing data was undertaken. The table at the end of this annex indicates which data were available and which were estimated at individual country level. The available data are indicated with “1” and the missing data are indicated with a specific letter symbol, as indicated below. The most important data in terms of value, such as the final consumption expenditure, the compensation of employees and gross fixed capital formation, were widely available and offered a solid basis for the study. Missing data were mainly concentrated in government sales, indirect taxes and defence-related expenditure. The assumptions used for estimating the missing national data are explained below. Given the reliance on estimated data to address the problem of missing national data, the reliability of the measured ratios of government procurement may be somewhat weakened, particularly for the countries in which the amount of missing data was large.

Defence-related expenditure

Missing data on defence-related expenditure for the general government category were estimated by calculating the shares represented by these types of expenditure in countries for which data were available for the three components involved, *i.e.* final consumption expenditure, compensation of employees and gross fixed capital formation. Since the levels of defence-related expenditure were considerably higher in France, Korea, the United Kingdom and the United States than in other countries, the weighted average of the shares reported in countries other than these four, was used. On that basis, the estimated GDP-weighted proportions for the general government level were: 9.3% for defence-related FCE; 7.4% for defence-related CE, and 1.5% for defence-related GFCF. Corroborated by the data supplied by countries, the figures for defence-related expenditure in the categories of general government and central government are

identical. Accordingly, when defence-related expenditure was estimated at the general government level, the same figure is shown in the central government category. The estimated data is indicated by the symbol “D” in the table below.

Compensation of employees

Missing data for compensation of employees (CE) at the four government levels were estimated for Canada and Australia by calculating the shares that these types of expenditure represent relative to FCE in the countries for which CE data were available. The GDP-weighted average of the reported CE data in other countries was considered a representative indicator. On that basis, the estimated ratios for CE as a percentage of FCE for the government level in question were: 63.7% for general government; 55.2% for central government; 74.7% for local government; and 45.6% for social security funds. The estimated data are indicated with the symbol “C” in the table below. Specific adjustments were made for Denmark and Japan given the availability of CE data only at the general government level. The corresponding CE data for the sub-central levels was estimated by duplicating the observed proportion of FCE for each sub-central level in relation to FCE at the general government level. These estimated data are indicated by the symbol “C%” in the table below.

Gross fixed capital formation

Specific adjustments were made for gross fixed capital formation (GFCF) in Hungary and New Zealand. In both cases, GFCF data were only available for the general government level. GFCF for the remaining government levels was estimated by duplicating the observed proportions of FCE for each level in relation to FCE at the general government level in the country in question. These are indicated with the symbol “G%” in the table below.

Consumption of fixed capital

Missing data on consumption of fixed capital (CFC) in the four government levels were estimated by calculating the shares represented by these types of expenditure relative to final consumption expenditure in countries for which such data were available. A GDP-weighted average of the reported information was considered a representative indicator. On that basis, the estimated ratios for CFC as a percentage of FCE for the government level in question are: 5.8% for general government; 3.2% at for central government; 8.8% for local government; and 2.3% for social security funds. The estimated

data are indicated with the symbol “CFC” in the table below. A specific adjustment was made for the Czech Republic, since it reported CFC for the general government only. CFC for the remaining levels was estimated by duplicating the observed shares of FCE for each level in relation to FCE at the general government level. It is indicated by the symbol “CFC%” in the table below.

Sales

Missing data on sales in the four government levels were estimated by calculating the shares represented by these types of expenditure relative to FCE in countries for which such data were available. A GDP-weighted average of the reported information was considered a representative indicator. On that basis, the estimated ratios for sales as a percentage of FCE for the government level in question are: 13% for general government; 3.1% for central government; 21.4% for local government; and 7.3% for social security funds. The estimated data are indicated with the symbol “S” in the table below. Specific adjustments were made for Denmark, Japan and New Zealand, since they reported sales for general government only. Sales for the remaining levels were estimated by duplicating the observed proportions of FCE for each level in relation to FCE at the general government level in the country in question. They are indicated by the symbol “S%” in the table below.

Indirect taxes

Missing data on indirect taxes in the four government levels were estimated by calculating the shares represented by these types of expenditure relative to FCE in countries for which such data were available. A GDP-weighted average of the reported information was considered a representative indicator. On that basis, the estimated ratios for sales as a percentage of FCE for the government level in question are: 1.1% for general government; 1.0% for central government; 1.0% for local government; and 2.1% for social security funds. The estimated data are indicated with the symbol “IT” in the table below. Specific adjustments were made in several countries, since they reported indirect taxes at the general government level only. Indirect taxes for the remaining levels were estimated by duplicating the observed proportions of FCE for each level in relation to FCE at the general government level in the country in question. They are indicated by the symbol “IT%” in the table below.

Available and estimated data

National accounts	Line number	Canada	United States	Australia	Japan	Korea	New Zealand	Austria
Missing annual data				97		97	95-97	97
General government (central government + local government + social security fund)								
Final consumption expenditure (FCE)	1	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	2	1	1	1	1	1	CFC	1
Sales	3	S	1	S	1	1	1	1
Indirect taxes (IT)	4	IT	1	IT	1	1	1	1
FCE defence-related	5	D	1	1	1	1	1	1
Compensation of employees (CE)	6	C	1	C	1	1	1	1
CE defence-related	7	D	1	D	1	1	1	1
Gross fixed capital formation (GFCF)	8	1	1	1	1	1	1	1
GCF defence-related	9	D	1	1	D	1	1	D
Central government								
Final consumption expenditure (FCE)	10	1	1	1	1	1	FCE%	1
Consumption of fixed capital (CFC)	11	1	1	1	1	1	CFC	1
Sales	12	S	1	S	S%	1	S%	1
Indirect taxes (IT)	13	IT	1	IT	IT%	1	1	1
FCE defence-related	14	D	1	1	1	1	1	1
Compensation of employees (CE)	15	C	1	C	C%	1	1	1
CE defence-related	16	D	1	D	1	1	1	1
Gross fixed capital formation (GFCF)	17	1	1	1	1	1	G%	1
GCF defence-related	18	D	1	1	D	1	1	D

Available and estimated data (cont'd.)

National accounts	Line number	Canada	United States	Australia	Japan	Korea	New Zealand	Austria
Missing annual data				97		97	95-97	97
Local government (including state and provincial government)								
Final consumption expenditure (FCE)	19	1	1	1	1	1	FCE%	1
Consumption of fixed capital (CFC)	20	1	1	1	1	1	CFC	1
Sales	21	S	1	S	S%	1	S%	1
Indirect taxes (IT)	22	IT	1	IT	IT%	1	1	1
Compensation of employees (CE)	23	C	1	C	C%	1	1	1
Gross fixed capital formation (GFCF)	24	1	1	1	1	1	G%	1
Social security funds								
Final consumption expenditure (FCE)	25	1			1	1		1
Consumption of fixed capital (CFC)	26	CFC			1	1		1
Sales	27	S			S%	1		1
Indirect taxes (IT)	28	IT			IT%	1		1
Compensation of employees (CE)	29	C			C%	1		1
Gross fixed capital formation (GFCF)	30	1			1	1		1

Available and estimated data (cont'd.)

National Accounts	Line number	Belgium	Czech Republic	Denmark	Finland	France	Germany	Greece
Missing annual data			90-92	96-97		all ex 93,95	90,97	
General government (central government + local government + social security funds)								
Final consumption expenditure (FCE)	1	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	2	1	1	1	1	1	1	CFC
Sales	3	S	S	1	S	1	1	S
Indirect taxes (IT)	4	1	1	1	IT	1	1	IT
FCE defence-related	5	1	D	1	1	1	1	D
Compensation of employees (CE)	6	1	1	1	1	1	1	1
CE defence-related	7	1	1	D	D	1	1	D
Gross fixed capital formation (GFCF)	8	1	1	1	1	1	1	1
GCF defence-related	9	D	1	1	1	1	1	D
Central government								
Final consumption expenditure (FCE)	10	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	11	1	CFC%	1	1	1	1	CFC
Sales	12	S	S	S%	S	1	1	S
Indirect taxes (IT)	13	IT%	IT%	IT%	IT	1	1	IT
FCE defence-related	14	1	D	1	1	1	1	D
Compensation of employees (CE)	15	1	1	C%	1	1	1	1
CE defence-related	16	1	1	D	D	1	1	D
Gross fixed capital formation (GFCF)	17	1	1	1	1	1	1	1
GCF defence-related	18	D	1	1	1	1	1	D

Available and estimated data (cont'd.)

National Accounts	Line number	Belgium	Czech Republic	Denmark	Finland	France	Germany	Greece
Missing annual data			90-92	96-97		all ex 93,95	90,97	
Local government (including state and provincial government)								
Final consumption expenditure (FCE)	19	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	20	1	CFC%	1	1	1	1	CFC
Sales	21	S	S	S%	S	1	1	S
Indirect taxes (IT)	22	IT%	IT%	IT%	IT	1	1	IT
Compensation of employees (CE)	23	1	1	C%	1	1	1	1
Gross fixed capital formation (GFCF)	24	1	1	1	1	1	1	1
Social security funds								
Final consumption expenditure (FCE)	25	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	26	1	CFC%	1	1	1	1	CFC
Sales	27	S	S	S%	S	1	1	S
Indirect taxes (IT)	28	IT%	IT%	IT%	IT	1	1	IT
Compensation of employees (CE)	29	1	1	C%	1	1	1	1
Gross fixed capital formation (GFCF)	30	1	1	1	1	1	1	1

Available and estimated data (cont'd.)

National Accounts	Line number	Hungary	Iceland	Ireland	Italy	Netherlands	Norway	Poland
Missing annual data					96-97	97		90-94,97
General government (central government + local government + social security funds)								
Final consumption expenditure (FCE)	1	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	2	CFC	1	1	1	1	1	CFC
Sales	3	S	S	S	1	1	S	S
Indirect taxes (IT)	4	IT	IT	IT	1	1	IT	IT
FCE defence-related	5	D	D	1	1	1	1	D
Compensation of employees (CE)	6	1	1	1	1	1	1	1
CE defence-related	7	D	D	1	1	1	1	D
Gross fixed capital formation (GFCF)	8	1	1	1	1	1	1	1
GCF defence-related	9	D	D	1	1	1	1	D
Central government								
Final consumption expenditure (FCE)	10	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	11	CFC	1	1	1	1	1	CFC
Sales	12	S	S	S	1	1	S	S
Indirect taxes (IT)	13	IT	IT	IT	IT%	1	IT	IT
FCE defence-related	14	D	D	1	1	1	1	D
Compensation of employees (CE)	15	1	1	1	1	1	1	1
CE defence-related	16	D	D	1	1	1	1	D
Gross fixed capital formation (GFCF)	17	G%	1	1	1	1	1	1
GCF defence-related	18	D	D	1	1	1	1	D

Available and estimated data (cont'd.)

National Accounts	Line number	Hungary	Iceland	Ireland	Italy	Netherlands	Norway	Poland
Missing annual data					96-97	97		90-94,97
Local government (including state and provincial government)								
Final consumption expenditure (FCE)	19	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	20	CFC	1	1	1	1	1	CFC
Sales	21	S	S	S	1	1	S	S
Indirect taxes (IT)	22	IT	IT	IT	IT%	1	IT	IT
Compensation of employees (CE)	23	1	1	1	1	1	1	1
Gross fixed capital formation (GFCF)	24	G%	1	1	1	1	1	1
Social security funds								
Final consumption expenditure (FCE)	25	1	1	1	1	1		
Consumption of fixed capital (CFC)	26	CFC	1	1	1	1		
Sales	27	S	S	S	1	1		
Indirect taxes (IT)	28	IT	IT	IT	IT%	1		
Compensation of employees (CE)	29	1	1	1	1	1		1
Gross fixed capital formation (GFCF)	30	G%	1	1	1	1		1

Available and estimated data (cont'd.)

National Accounts	Line number	Portugal	Spain	Sweden	Switzer-land	Turkey	United Kingdom	Slovakia
Missing annual data		96-97	96-97	90-92	97		95-97	90-94
General government (central government + local government + social security funds)								
Final consumption expenditure (FCE)	1	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	2	CFC	1	1	1	CFC	1	1
Sales	3	1	1	S	1	S	S	1
Indirect taxes (IT)	4	1	IT	IT	1	IT	1	1
FCE defence-related	5	1	1	1	D	D	1	D
Compensation of employees (CE)	6	1	1	1	1	1	1	1
CE defence-related	7	D	D	1	D	D	D	D
Gross fixed capital formation (GFCF)	8	1	1	1	1	1	1	1
GCF defence-related	9	D	D	1	D	D	1	D
Central government								
Final consumption expenditure (FCE)	10	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	11	CFC	1	1	1	CFC	1	1
Sales	12	1	1	S	1	S	S	1
Indirect taxes (IT)	13	IT%	IT	IT	IT%	IT	1	1
FCE defence-related	14	1	1	1	D	D	1	D
Compensation of employees (CE)	15	1	1	1	1	1	1	1
CE defence-related	16	D	D	1	D	D	D	D
Gross fixed capital formation (GFCF)	17	1	1	1	1	1	1	1
GCF defence-related	18	D	D	1	D	D	1	D

Available and estimated data (cont'd.)

National Accounts	Line number	Portugal	Spain	Sweden	Switzer-land	Turkey	United Kingdom	Slovakia
Missing annual data		96-97	96-97	90-92	97		95-97	90-94
Local government (including state and provincial government)								
Final consumption expenditure (FCE)	19	1	1	1	1	1	1	1
Consumption of fixed capital (CFC)	20	CFC	1	1	1	CFC	1	1
Sales	21	1	1	S	1	S	S	1
Indirect taxes (IT)	22	IT%	IT	IT	IT%	IT	1	1
Compensation of employees (CE)	23	1	1	1	1	1	1	1
Gross fixed capital formation (GFCF)	24	1	1	1	1	1	1	1
Social security funds								
Final consumption expenditure (FCE)	25	1	1	1	1		1	1
Consumption of fixed capital (CFC)	26	CFC	1	1	1		1	1
Sales	27	1	1	S	1		1	1
Indirect taxes (IT)	28	IT%	IT	IT	IT%		1	1
Compensation of employees (CE)	29	1	1	1	1		1	1
Gross fixed capital formation (GFCF)	30	1	1	1	1		1	1

REFERENCES

- Baldwin, Robert (1970), *Nontariff Distortions of International Trade*, The Brookings Institution, Washington, DC.
- Baldwin, Robert (1984), "Trade Policies in Developed Countries", in R. Jones and P. Kenen (eds.), *Handbook of International Economics* 1, pp. 571-619, North Holland, Amsterdam.
- Blank, Annette and Gabrielle Marceau (1997), "A History of Multilateral Negotiations on Procurement: From ITO to WTO", in Hoekman and Mavroidis (1997).
- Deardorff, A. V. and R.M. Stern (1979), "An Economic Analysis of the Effects of the Tokyo Round of Multilateral Trade Negotiations on the United States and Other Major Industrial Countries", *MTN Studies* 5, Committee on Finance, US Senate, US Government Printing Office, Washington, DC.
- Delta, George and Simon Evenett (1977), "Quantitative Estimates of the Effects of Preference Policies", in Hoekman and Mavroidis (1997).
- European Commission (1988), *The Cost of Non-Europe in Public-sector Procurement*, Commission of the European Communities, Luxembourg.
- European Commission (1994), *The Cost of Non-Europe in Defence Procurement*, Commission of the European Communities, Luxembourg.
- European Commission (1997), *The Single Market Review*, Subseries III: *Dismantling of Barriers*, Vol. 2: *Public Procurement*, Commission of the European Communities, Luxembourg.
- European Commission (2000), "Measuring the Impact of Public Procurement Policy: First Indicators", *Single Market News*, March.
- Francois, Joseph, Douglas Nelson and David N. Palmeter (1996), "Public Procurement: A Post-Uruguay Round Perspective", Centre for Economic Policy Research, Discussion Paper No. 1412, London.
- Hoekman, Bernard and Petros Mavroidis (eds.) (1997), *Law and Policy in Public Purchasing*, University of Michigan Press, Ann Arbor, Michigan.
- Hoekman, Bernard (1997), *Operation of the Agreement on Government Procurement, 1983-1992*, in Hoekman and Mavroidis (1997).
- International Monetary Fund (2001), *Government Finance Statistics Manual*, Washington, DC.
- Lowinger, Thomas C. (1976), "Discriminatory Practices in Government Procurement of Foreign Goods in the U.S. and Western Europe", *Southern Economic Journal* 42, pp. 451-460.

Mattoo, Aaditya (1996), "The Government Procurement Agreement: Implication of Economic Theory", *The World Economy* 19(6), pp. 695-720.

Mattoo, Aaditya (1997), "Economic Theory and the Procurement Agreement", in Hoekman and Mavroidis (1997).

OECD (1998), *National Accounts, Volume II: Detailed Tables, 1984-1996*, OECD, Paris.

OECD (2000), *National Accounts of OECD Countries, Volume II: Detailed Tables, 1988-1998*, OECD, Paris.

Trionfetti, Federico (2000), "Discriminatory Government Procurement and International Trade", *The World Economy* 23(1), pp. 57-76.

United Nations (1997), *National Accounts Statistics: Main Aggregates and Detailed Tables, 1994*, Parts I and II, New York.

World Trade Organization (2000), *Annual Report 1999*, Geneva

NOTES

1. For a detailed description of the origins and evolution of the GATT/WTO disciplines in government procurement, see Blank and Marceau (1997).
2. The OECD Draft Instrument was not adopted as a formal OECD instrument and contained a series of bracketed provisions as alternative formulations. It was forwarded to the GATT in December 1976.
3. The GPA also reinforces rules guaranteeing fair and non-discriminatory conditions of international competition. Participating governments are required to put in place domestic procedures by which aggrieved private bidders can challenge procurement decisions and obtain redress in the event that such decisions are inconsistent with the rules of the agreement. The GPA applies to contracts worth more than specified threshold values. For central government purchases of goods and services, the threshold is SDR 130 000 (around USD 178 100). For purchases of goods and services by sub-central government entities, the threshold varies by country but is generally around SDR 200 000. For utilities, thresholds for goods and services are generally around SDR 400 000 and for construction contracts, the threshold value is generally SDR 5 000 000. The country-specific thresholds are available on the WTO Web site: www.wto.org.
4. The WTO member countries that are parties to the GPA are: Canada, the 15 member states of the European Union and the European Commission, Hong Kong (China), Iceland, Israel, Japan, Korea, Liechtenstein, the Kingdom of Netherlands with respect to Aruba, Norway, Singapore, Switzerland and the United States. The countries with observer status are: Argentina, Australia, Bulgaria, Cameroon, Chile, Chinese Taipei, Colombia, Croatia, the Czech Republic, Estonia, Georgia, Jordan, the Kyrgyz Republic, Latvia, Lithuania, Malta, Moldova, Mongolia, Oman, Panama, Poland, the Slovak Republic, Slovenia and Turkey.
5. The WTO Web site, www.wto.org, provides materials in the three areas of work in the WTO on government procurement: *i)* Transparency: the Working Group on Transparency in Government Procurement; *ii)* Services: The Working Party on GATS Rules; and *iii)* the Plurilateral Agreement on Government Procurement.

6. There are many small differences between the SNA and *Government Finance Statistics*. For instance, the purchase of uniforms for the military are classified under purchases of goods and services in the *Government Finance Statistics* but under wages and salaries in kind in the SNA. There is also a major difference: the SNA subtracts from each purchase some of the fees and taxes collected by the government in connection with government contracts or the purchase of goods used to offer a public service. Neither method is univocally better than the other for the purpose of measuring the size of government procurement markets. For instance, taxes and fees paid by firms in relation to government contracts should not be considered when determining market size; here the SNA is better. However, the small fees paid in order to receive lunches for children in primary schools should not be subtracted from total purchases of food for that purpose; here the *Government Finance Statistics* system is better. The myriad of differences is such that it is not possible to establish which system is better for the purpose of measuring the size of public procurement.
7. Statistics for intermediate consumption (IC) are only available for 13 OECD countries. Estimates of the size of government procurement markets based on these data are presented in Table A3 in Annex I for reference purposes. For several of these countries, the estimates of potentially contestable government procurement are very close to estimates made on the basis of data on final consumption expenditure presented in Table A1 in Annex I.
8. It took more or less 18 months of collaborative efforts by the OECD and national statistical departments to achieve sufficient confidence in the database and to complete the project.
9. The review of the trends in the annual ratios shows that annual fluctuations are rather small and that the ratios follow a negative trend in 18 OECD countries and a positive trend in ten. The standard deviation was measured for each ratio calculated but is not reproduced in the text.
10. Measurements of the size of government procurement markets for non-member countries were made from data actually available and a limited number of estimates of missing data. Those estimates solely concern the defence-related segment of compensation of employees. They were made for 11 of the 13 countries for which it is stated in the table in Annex IV that these data are available. For each country, the share of defence-related compensation of employees corresponds to the observed proportion of defence-related final consumption expenditure in final consumption expenditure relative to total expenditure on compensation of employees [$CE_{def} = (FCE_{def} / FCE)(CE)$]. These minor adjustments served to increase significantly the number of countries for which it is possible to calculate the size of procurement markets, excluding defence-related expenditure and compensation of employees. FCE data for OECD countries were calculated

on a net basis of consumption of fixed capital, indirect taxes and sales. For non-OECD countries, data on consumption of fixed capital, indirect taxes and sales were available for only 14, seven and one countries, respectively. No adjustments were made for the missing data.

11. The share of defence-related consumption expenditure for non-member countries is obtained by subtracting the ratio of defence-related expenditure from the ratio of consumption expenditure ($14.12\% - 9.54\% = 4.58\%$). For Member countries, the defence-related share of consumption expenditure is equivalent to 2.92% of GDP ($17.09\% - 14.17\% = 2.92\%$).
12. The investment share of general government for non-member countries is obtained by subtracting from the ratio of total expenditure, excluding defence-related expenditures and compensation of employees (5.10%), the ratio of consumption expenditure less compensation of employees and defence-related expenditure (2.09%), *i.e.* $5.10\% - 2.09\% = 3.01\%$. In the same way, the investment share of general government for Member countries is $7.57\% - 4.73\% = 2.84\%$.
13. The EC estimates of public procurement shown in Table 4 and the OECD estimates of the EU-15 ratios, shown in the bottom part of Annex Table A1, are not strictly comparable. The EC estimates cover procurement by public utilities, which is not covered in the OECD estimates, and only exclude warlike materials, whereas the OECD estimates exclude all defence-related expenditure. Another distinction between the two studies relates to the data sources. The OECD estimates are based solely on SNA data whereas the EC studies are based on a combination of SNA-based data and data obtained on the basis of surveys.
14. In these estimates, government procurement refers to final consumption expenditure, plus gross fixed capital formation, less compensation of employees. No further details are available to evaluate whether the final consumption expenditure was adjusted for consumption of fixed capital, sales and indirect taxes.
15. This extrapolation is based on a rough rule of thumb. It should be kept in mind that the estimated ratios shown in Annex Table A1 present averages of annual data for the period 1990-97. It is possible that the relative weights of total expenditure between central governments and sub-central governments may be different for the period before and after 1996.
16. The six substantive directives are: the Public Supplies Directive (93/36/EEC); the Public Works Directive (93/37/EEC); the Public Services Directive (92/50/EEC); the Public Remedies Directive (89/665/EEC); the Utilities Directive (93/38/EEC); and the Remedies Utilities Directive

(92/13/EEC). In May 2000, the European Commission adopted a package of amendments to simplify and modernise the public procurement directives. The new legal framework proposes, among other things, to consolidate three existing directives into one more coherent text, to relax some of the award procedures that are considered too inflexible to achieve the objective of best value for money and to encourage public authorities to make greater use of electronic means. It also provides for the exclusion of formerly regulated sectors, *i.e.* telecommunications, electricity and water, from the scope of the directives, as these sectors are effectively being liberalised and opened to competition. The European Commission recommends that member states implement the new legal framework by 2002.

17. For example, Tables 12.6, 12.8 and 12.10 in EC (1997) show the tendering procedures most used in 1994 by entities. Table 11.4 compares contract award notices to total tenders published by member states.
18. EC (2000).
See www.europa.eu.int/comm/internal_markets/en/smn/smn20/s20mn18.htm