PROTOTYPE COMPILATION MANUAL FOR A MONTHLY INDEX OF SERVICE PRODUCTION

STESEG Task Force on Services

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Section A: INTRODUCTION

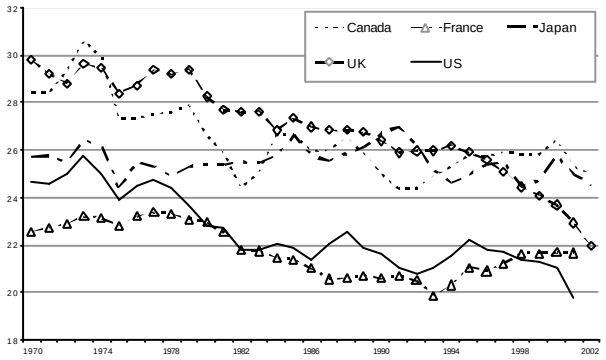
A.1 Needs and aims for indicators of short-term services production

Monthly indicators for the industrial sector, e.g. index of industrial production (IIP), have traditionally been considered as a principal tool to evaluate the production performance of an economy in the short-term, i.e. normally monthly. Analysts and policy makers, however, have been arguing for some time that IIPs alone are not adequate to evaluate the performance of an entire economy but will need to be complemented by similar information for the services sector. This is primarily because, over the few past decades, the shares of services sector in total GDP of most OECD Member countries have been increasing, and differences in the evolution between industrial and services sectors have become larger.

Graphs A-1 and A-2 and Table A-1 below show the shares for the industrial and service sectors in total value added in 1995 constant prices for five OECD Member countries, i.e. Canada, France, Japan, the United Kingdom (UK), and the United States (US), for the period 1970 to 2002. The shares of industry, i.e. Categories C, D and E of the International Standard Industrial Classification of All Economic Activities, Revision 3.1 (ISIC Rev. 3.1), have fallen in all five countries during the reference period except for Japan whose share has remained more or less constant for the period.

The contributions of the service sector (i.e. Categories G to P of ISIC Rev. 3.1), on the other hand, increased about nine percentage points on average during the reference period, in particular, the share of the Japanese service sector increased by about eleven percentage points. Thus, increases in the shares of the service sectors in five OECD countries since early 1970s can be explained by decreases in shares for both the agriculture, hunting, forestry and fishing sector, and industrial sectors.

Graph A-1: Share of Industry (ISIC Rev.3.1 C to E) to Value Added (1995 constant prices)



Graph A-2: Share of Services (ISIC Rev.3.1 G to P) to Value Added (1995 constant prices)

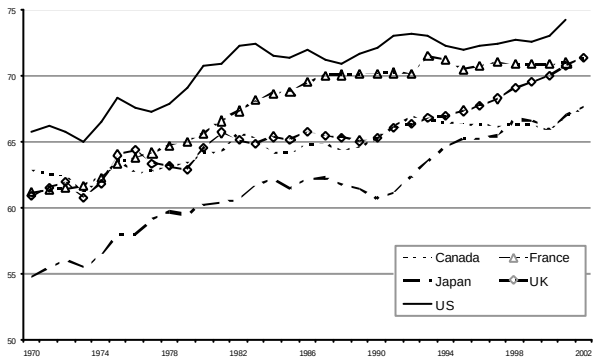


Table A-1 Contributions of industrial and services sectors to total value added during 1970-2002

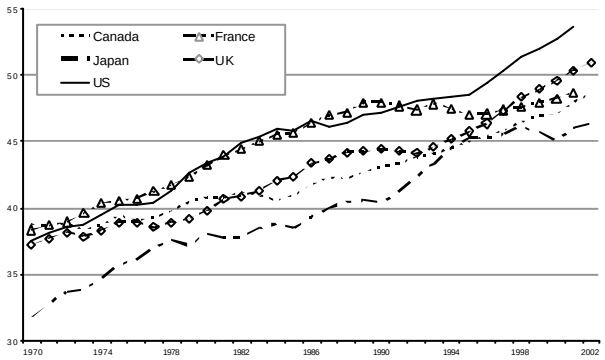
(%, 1995 constant prices)

	Canada		France		Japan		UK		US	
Years	IND	SER	IND	SER	IND	SER	IND	SER	IND	SER
70-74	29.4	62.2	22.9	61.6	25.9	55.7	29.4	61.4	25.0	65.9
75-79	27.5	63.1	23.2	64.3	25.1	58.9	29.0	63.6	24.2	68.0
80-84	25.7	64.7	22.1	67.3	25.5	61.1	27.6	65.1	22.2	71.6
85-89	26.2	64.6	20.9	69.8	26.0	61.9	26.9	65.4	21.9	71.4
90-94	24.8	66.3	20.4	70.7	25.9	62.5	26.1	66.3	21.2	72.7
95-99	25.8	66.3	21.3	70.8	25.0	65.9	25.0	68.4	21.7	72.4
00-02	25.6	66.8	21.7	70.9	25.1	66.9	22.8	70.7	20.4	73.6

Note: IND stands for industry and SER for services sector.

Graphs A-3 and A-4 below present estimated changes in the shares of the market and non-market services sector to total value added in 1995 constant prices during the same reference period. For the purpose of this comparison, ISIC Rev. 3.1 Industries L to P are classified as non-market (although in reality this is really made up of industries L, M, N and Q due to data availability), as for most countries the majority of activity within these industries is non-market. Conversely, Categories G to K of ISIC Rev. 31 are included in market services as for most countries the majority of activity within these industries is market based. As the tables show, for all counties, the shares of market services have increased by ten percentage points on average between 1970 and 2002; while those of non-market services have shown a decreasing trend. Thus, the increase in the services sector is mainly due to increases in market services.

Graph A-3: Share of Services (ISIC Rev.3.1 G to K) to Value Added (1995 constant prices)



Graph A-4: Share of Services (ISIC Rev.3.1 L to P) to Value Added (1995 constant prices)

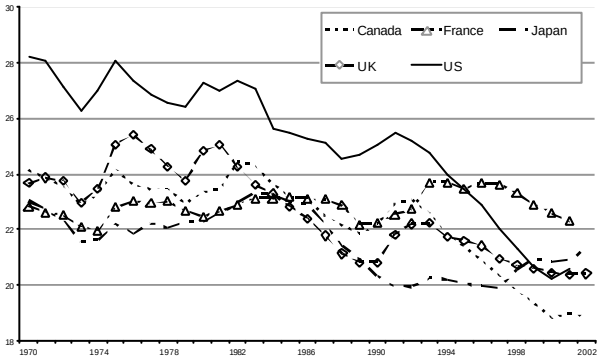


Table A-2 below shows growth rates of value-added in 1995 constant prices for the industrial and services sectors and total economy for the five OECD Member countries for the same period referred to above. Value added growth rates in the industrial sector show significant differences from total value-added and

for the services sector for all OECD Member countries used in the analysis over the whole period. For most countries, growth rates in the industrial sector are lower but more volatile than those for total value-added and for the services sector. Also, growth rates for industry in some instances move in the opposite direction from those of total value-added which are synchronised with those of services. Moreover, this difference became larger after 2000. For example, the industrial sector showed negative average growth rates, i.e. -1.1%, for the period between 2000 and 2002, in the US, while their services sector and total value-added grew positively at 3.8% and 2.7%, respectively. A similar pattern was shown for the UK over the same period.

Table A-2 Year-to-year growth rates of industry and services sectors and total economy during 1970-2002

(%, 1995 constant prices)

	Canada			France			Japan			UK			US		
Years	IND	SER	TOT	IND	SER	TOT	IND	SER	TOT	IND	SER	TOT	IND	SER	TOT
70-74	6.8	5.0	5.4	5.7	5.5	5.0	5.7	6.0	5.3	2.1	2.7	2.3	3.5	3.4	3.1
75-79	2.2	3.9	3.5	3.0	3.8	3.0	3.8	5.5	4.4	1.9	2.3	1.9	1.8	3.6	2.9
80-84	1.3	2.3	2.1	0.8	3.5	2.3	3.4	3.9	3.0	-0.8	1.7	1.0	0.7	2.7	2.0
85-89	3.1	3.8	3.7	2.3	3.5	3.0	5.1	4.5	4.7	3.8	3.7	3.8	3.3	3.4	3.4
90-94	1.0	1.9	1.4	0.8	1.4	1.1	1.2	3.4	2.3	0.9	1.8	1.3	1.5	2.0	1.8
95-99	4.0	3.5	3.6	3.3	2.0	2.0	1.6	2.1	1.5	1.3	3.8	3.0	4.1	4.5	4.4
00-02	2.5	4.1	3.5	2.9	2.9	2.8	0.8	1.5	1.0	-0.8	3.2	2.3	-1.1	3.8	2.7

Note: IND stands for industry and SER for services sector and TOT stands for total economy.

All the examples shown above suggest that an economic evaluation based solely on an IIP can be misleading as (short-term) evolutions of the services and industrial sectors do not necessarily drift closely with each other over the past three decades. Thus, the aim of compiling a short-term indicator for services production is two-fold: to provide economic analysts with information on the short-term movement of an economy that would complement an IIP; and to provide national accountants with useful information on the performance of the services sector to be used to compile quarterly national accounts.

A.2 International efforts to measure short-term service production activities

Many OECD Member countries have recently made efforts to obtain a more accurate view of short-term economic phenomena in their service sectors. Some have developed more statistics for services and enhanced the quality of existing series. The United Kingdom (UK), for instance, has introduced an experimental monthly index of services (IoS) by expanding its Index of Distribution, which covers Category G of ISIC Rev. 31. The Republic of Korea (Korea) is in the process of revising its monthly Services Activity Index (SAI) which was introduced in late 1980s. Canada has also worked to improve the quality of monthly GDP by enhancing the quality of services data. At the same time, Eurostat now

requires European Union member states to collect a wide range of turnover data for the services sector on a regular basis.

Despite these and other efforts, indicators representing the services sector generally receive less attention or credit by economic analysts. Policy makers seem to consider them as supplementary sources of information. Possible explanations for this situation are:

- the types and range of indicators available for the services sector are still very limited and vary significantly from country to country;

- corresponding indicators from various countries are less comparable than those for the industrial sector as international guidelines do not exist;

- it takes years to enhance the statistical environment to collect necessary information for the services sector as:

    - it covers a wide range of economic activities;
    - it consists of a large proportion of small and medium size establishments;
    - it is difficult to identify and maintain an accurate population frame of services units due to the relative ease of units to enter and leave the sector;
    - services activities may belong to an establishment whose predominant activity is non-service, e.g. manufacturing.

- the lack of visibility (publicity) given to the existing services indicators;

- the belief that indicators such as the IIP and the proposed index of service production (ISP) do not "really" measure the monthly value added of these sectors.

The OECD STESEG task force on services (formerly Short-term Indicators for Services Task Force or STISTF) was created in 2002 to work on the issues outlined above. Although it touched on a wide range of issues concerning supply and demand indicators for short-term services activities in OECD Member Countries, the STESEG task force on services (TFS) was particularly interested in issues related to the compilation of a production index to measure short-term economic activities in the services sector. In this Manual the indicator is referred to as an "Index of Service Production" (ISP). Alternative names would be an "output index" or a "production volume index".

The TFS has worked to identify the most preferable and practical methodologies for the compilation of a monthly ISP. It identified the most suitable variables to measure various services activities formulated recommendations to harmonise the definitions and titles of key variables for a monthly ISP. The outcomes from this work are embodied in this Manual.

In addition to the STESEG task force, other groups of statisticians are also currently working on related issues for the service sector. The most relevant of these are the Joint OECD-Eurostat Task Force on Services Prices and the Voorburg Group. The TFS has worked closely with these two groups and has presented its work at their meetings and visa versa. In particular, the TFS has become a regular member of the Voorburg Group since its first attendance in 2003.

As will be seen below, the work of the Eurostat-OECD Task Force on Services Prices is quoted extensively in this Manual, as many monetary variables are recommended as a means of collecting basic information on services production. The TFS is also indebted to work of the Voorburg Group with respect to key issues of methodology, classification and technical aspects.

A.3 Purpose and use of the Manual

This Manual was prepared by the TFS primarily to provide official statisticians with practical guidelines to compile a monthly ISP, rather than to merely discuss various methodological aspects for measuring services activities. As a by-product it is hoped that this Manual will also be a useful aid for the design of monthly surveys to measure the production of services industries. It therefore necessarily borrows from or directly quotes relevant text from a number of relevant sources, such as the *SNA 1993;* various Eurostat manuals, e.g. *The Methodology of Short-term Business Statistics* and *The Handbook on Price and Volume Measures in National Accounts*; the IMF *Handbook on Quarterly National Accounts*; and the *OECD Glossary of Statistical Terms*. The current Manual could be viewed as an extension of the 1950 United Nations manual, *Index Numbers of Industrial Production.* At the same time, as has already been mentioned, the Manual utilises the outputs of other related groups such as the Joint OECD-Eurostat Task Force on Services Prices and the Voorburg Group. As a result, the Manual has been prepared in a cost-efficient way by minimising any possible duplication of similar work.

Although this Manual is intended primarily for the compilation of a monthly ISP, it should also be relevant for the compilation of a quarterly ISP. As will be evidenced below in the discussion on the sources and methods for compiling an ISP (in r in the Section D), the Manual recommends use of a wide range of of quarterly or annual sources to compile a monthly ISP. This is partly due to the lack of basic monthly data, but more importantly, the intention is to reduce the need to collect monthly information for less- or non-cyclical components or for small industry sectors. At the same time, the current Manual deals with issues concerning the extrapolation of information with lower frequencies to estimate their movements at higher frequencies.

This Manual is organised into six parts. The first two Sections discuss general issues and infrastructure regarding the services sector and its production activities. The third and fourth Sections deal with terminology, methods, and input data and their deflators to be used in the compilation of a monthly ISP.

Detailed technical issues regarding the compilation of a monthly ISP are presented in Section E. Finally, a few remarks for implementation and dissemination of the index are given in Section F. This Section also briefly discusses demand indicators for services sector and provides information on the availability of input variables and PPIs for services sector in OECD Member Countries.

Section B: INFRASTRUCTURE [Canada, OECD]

[NOTE: Text in this Section of the prototype is organized to facilitate comment by presenting alternative options on what units, classification, etc, could be recommended in the final version of the Manual. The final version will therefore not present information in the manner below, i.e. it will present specific and more succinct recommendations on units and classifications.]

B.1 Statistical units

B.1.1 Definitions of statistical units

The International Standard Industrial Classification, Revision 3.1 (ISIC Rev. 3.1) defines the Statistical unit as "The entities for which information is sought and for which statistics are ultimately compiled." The European Commission (EC) Methodology of Short-term business statistics, on the other hand, describes a unit as "a specific entity which is defined in such a way that it can not be confused with any other unit. Units are the elements of a population. It must be possible to count these elements without omissions or duplication. Statistical units may be identifiable legal or physical entities or statistical constructs."

Analysis: The ISIC Rev. 3.1 provides a general definition on statistical units but the EC focuses on more practical aspects. Thus, both definitions are complementary.

Statistical units

Both ISIC Rev. 3.1 and Eurostat provide a list of the types of statistical units which satisfy the definitions of statistical units provided above.

ISIC Rev. 3.1: statistical units comprise:

- enterprise;
- enterprise group;
- kind-of-activity unit (KAU);
- local unit;
- establishment;
- homogeneous unit of production.

Analysis: Eurostat: mentions two additional units, i.e. the local KAU and the Local unit of homogeneous production, but excludes mention of the establishment. As outlined below in the discussion on the establishment [see Section B.1.2], the local KAU corresponds to the operational definition of the establishment. Thus, it is recommended to use types of statistical units listed in ISIC Rev. 3.1.

B.1.2 Definitions for various types of statistical units

[NOTE: Most definitions presented in this Section will be removed except for a few harmonised/agreed definitions/terminology after the discussion at various meetings including the June 2004 STESEG meeting.]

The OECD Glossary of Statistical Terms presents Eurostat, ISIC Rev. 3.1 and/or SNA definitions for the enterprise; enterprise group; kind-of-activity unit (KAU); local unit; and the establishment.

Enterprise

Eurostat: An enterprise is the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations.

Source: Council Regulation (EEC) No 696/93 of 15 March 1993 on the statistical units for the observation and analysis of the production system in the Community, OJ No L 76, p.1, section III/A of the annex.

ISIC Rev. 3.1: An enterprise is an institutional unit or the smallest combination of institutional units that encloses and directly or indirectly controls all necessary functions to carry out its production activities. An enterprise may be a corporation, a quasi-corporation, a non-profit institution, or an unincorporated enterprise.

Source: ISIC Rev. 3.1, para. 79.

SNA: An enterprise is an institutional unit in its capacity as a producer of goods and services; an enterprise may be a corporation, a quasi-corporation, a non-profit institution, or an unincorporated enterprise.

Source: SNA 5.17 [5.1].

Analysis: The Eurostat definition could be used and complemented by the ISIC Rev 3.1 definition. The SNA definition provides no additional information.

Kind-of-activity unit

Eurostat: The kind of activity unit (KAU) groups all the parts of an enterprise contributing to the performance of an activity at class level (4-digit) of NACE Rev. 1 and corresponds to one or more operational subdivisions of the enterprise. The enterprise's information system must be capable of

indicating or calculating for each KAU at least the production value, intermediate consumption, manpower costs, the operating surplus and employment and gross fixed capital formation.

Source: Council Regulation (EEC), No. 696/93, Section III D of 15.03.1993 on the statistical units for the observation and analysis of the production system in the Community.

SNA: A KAU is an enterprise, or a part of an enterprise, which engages in only one kind of (non-ancillary) productive activity or in which the principal productive activity accounts for most of the value added.

Source: SNA 5.19.

ISIC Rev. 3.1: A KAU is an enterprise, or a part of an enterprise, which engages in one kind of economic activity without being restricted to the geographic area in which that activity is carried out.

Source: ISIC Rev. 3.1, para. 91.

Analysis: Definitions from the three sources complement each other, i.e. each definition provides precision or clarification on aspects not included in the others. The Eurostat definition lists various quantitative information which must be available for each KAU. The SNA definition introduces the notion of 'principal productive activity'. The ISIC describes KAU as not being restricted by the geographic area in which the activity is being carried out.

Local unit

Eurostat: The local unit is an enterprise or part thereof (e.g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place. At or from this place economic activity is carried out for which - save for certain exceptions - one or more persons work (even if only part-time) for one and the same enterprise.

Source: Council Regulation (EEC), No. 696/93, Section III F of 15.03.1993 on the statistical units for the observation and analysis of the production system in the Community.

SNA: A local unit is an enterprise, or part of an enterprise, which engages in productive activity at or from one location.

Source: SNA 5.20

ISIC Rev. 3.1: The concept of the local unit covers all economic activities carried out by an enterprise at or from one location.

Source: ISIC Rev. 3.1, para 99

Analysis: The three definitions are very similar.

Establishment

ISIC Rev. 31: An establishment is an enterprise, or part of an enterprise, which engages in one, or predominantly one, kind of economic activity at or from one location or within one geographic area, for which data are available, or can meaningfully be compiled, that allow the calculation of the operating surplus.

Source: ISIC Rev. 3.1, para. 106.

SNA: An establishment is an enterprise or part of an enterprise, which is situated in a single location, and in which only a single (non-ancillary) productive activity is carried out or in which the principal productive activity accounts for most of the value added.

Source: SNA 5.21, 6.80.

ESA: According to the Regulation on statistical units, the local kind-of-activity unit (local KAU) corresponds to the operational definition of the establishment. According to the European System of Accounts (ESA) the local KAU is called the establishment in the System of National Accounts (SNA) and ISIC Rev. 3.1.

Source: ESA [2.106] footnote 15 and Council Regulation (EEC), No. 696/93, Section III G (2), of 15.03.1993 on the statistical units for the observation and analysis of the production system in the Community.

Analysis: Although the ISIC and SNA definitions are similar, the ISIC definition explicitly emphasises the availability of necessary data to evaluate the production activities of the establishment, which for example allow the calculation of operating surplus. The ESA notes that an establishment corresponds to a local KAU operationally.

Homogeneous unit of production

SNA: A unit of homogeneous production is a producer unit in which only a single (non-ancillary) productive activity is carried out; this unit is not normally observable and is more an abstract or conceptual unit underlying the symmetric (product- by-product) input-output tables.

Source: SNA 15.14.

B.1.3 Preferred statistical units

Unlike the situation in the manufacturing sector, services activities are often carried out by a large number of small and medium sized firms. It is therefore rather difficult to collect information on service production activities on a regular basis and to keep the statistical population constant for an extended period. Similarly, a firm can engage in multiple activities in various sectors. At the same time, services activity may be the secondary activity of a firm whose predominant activity belongs to either another service activity or non-service activity such as manufacturing. To be consistent with the more common definition of the IIP, the output measured by an ISP should comprise all the activities of the establishments in scope, and not just their services activities. Thus, the establishment is the appropriate unit to consider as the primary source for collecting information. An alternative option could be to use the enterprise, depending upon the statistical environment of a country.

B.2 Classification

B.2.1 International classifications

The four main relevant international industrial classifications currently in use in the OECD area are :

- The ISIC Rev. 3.1 (International Standard Industrial Classification of All Economic Activities, Revision 3.1): This is the reference industry/activity classification of the United Nations. National classifications such as those for Japan and Korea are related to ISIC Rev. 3.1;

- The NACE 1.1 (Statistical Classification of Economic Activities in the European Community): This is derived from ISIC Rev. 3.1. This classification is used in most European-OECD countries;

- The NAICS 1997 (North American Industry Classification System): This is an ISIC Rev. 3.1 related classification and is used in Canada, Mexico and the United States.

- The ANZSIC 1993 (Australian and New Zealand Standard Industrial Classification): This is also an ISIC Rev. 3.1 related classification and is used in Australia and New Zealand.

The industry/activity classifications used by all OECD Member countries are either derived from or related to ISIC Rev. 3.1. However, with the exception of NACE and Korean SIC (i.e. KSIC-91) the correspondence with ISIC especially in the domain of services varies considerably between countries. Furthermore, an analogous picture emerges for other countries. Some use ISIC unchanged, whilst others derive their national classifications from ISIC and others are related more or less closely to ISIC. Thus, for the purpose of this Manual it is preferable to take ISIC Rev 3.1 as the reference classification. Alternatively, other regional or national classifications could be used with relevant adjustments similar to the table below.

Table B 2.1 Industries to be included in an Index of Service Production (approximate concordance)

Industry descriptions based on ISIC Rev. 3.1		ISIC Rev 3.1		NAICS 1997	NACE 1.1
		Section codes included	Differences		
Wholesale and Retail Trade (G)		G	None	41, 44, 45	G
Accommodation and Food Services (H)		H	None	72	H
Transportation and Warehousing (I)		A part of I (60-63 and 641)	- 642	48, 49	61-63 and 64.1
Finance, Insurance and Management of Companies (J)		J	None	52, 55	J
Real estate, renting and business activities (K)	Real Estate and Rental and Leasing	A part of K (70 and 71)	None	53	70 and 71
	Information and Cultural Industries	A part of K (72)	+ 642 from I, + 9213 and 922 from O	513, 514	64.2, 72, 92.1, 92.2, 92.4, 92.5
	Professional, Scientific, Technical, Administrative and Support Services	A part of K (73 and 74)	None	54, 561	73 and 74
Public Administration (L and Q)		L and Q	None	91	L and Q
Educational Services (M)		M	None	61	M
Health Care and Social Assistance (N)		N	None	62	N
Other community, social and personal service activities (O) and private household with employed persons (P)	Waste Management and Remediation Services	A part of O (90)	None	562	90
	Arts, Entertainment and Recreation	A part of O (92)	- 9213, 923, 924	71	92.3, 92.6, and 92.7
	Other Services (except Public Administration)	A part of O (91 and 93) and P	+ P	81	91, 93, and P

B.2.2 Concordance between ISIC Rev. 3.1 and ISIC Rev. 4

Although definitions and recommendations provided in this Manual are based on ISIC Rev. 3.1, ideally they should be valid for the revised version of ISIC (i.e. ISIC Rev. 4), currently in the process of preparation and which is expected to be finalised by the end of 2007. To this end, it is important to examine how the two versions of ISIC will correspond to each other, especially for service activities. Annex 1 of this Manual provides a general comparison between Codes G to Q of ISIC Rev. 3.1 and Codes G to V of ISIC Rev. 4, as these activities correspond to the traditional boundary of services activities [see

Section B.3 for a discussion on the coverage of services sector]. A prototype draft of ISIC Rev. 4 (as of April 2004) is used as a basis for the comparisons, which are generally made at the 2- or 3-digit levels. This draft version of ISIC Rev. 4, soon to be distributed for worldwide consultation, may of course change to some extent until it is finalised and endorsed by the UN Statistics Commission (UNSC) by 2007.

B.3 Service sector coverage

Services sector

The industries included in the Services sector vary with the industrial classification used. Eurostat and the OECD present the SNA definition for services as follows:

NACE Rev. 1: The terms service industry(ies), service sector(s) or simply service(s) are generally used to refer to economic activities covered by Sections G to K and M to O of NACE Rev. 1, and the units that carry out those activities.

ISIC Rev. 3: In terms of International Standard Industrial Classification (ISIC) Rev. 3 services are defined loosely in terms of the following Tabulation Categories:

- wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods (G);
- hotels and restaurants (H);
- transport, storage and communications (I);
- financial intermediation (J);
- real estate, renting and business activities (K);
- public administration and defence, compulsory social security (L);
- education (M);
- health and social work (N);
- other community, social and personal activities (O);
- private households with employed persons (P);
- extra-territorial organisations and bodies (Q).

Analysis: Note that Eurostat does not provide a definition for the Services sector on the basis of ISIC Rev. 3.1. However, given the similarities between NACE and ISIC, the Services sector should be identical. Hence, it is preferable to define services sector which includes ISIC Codes from G to P. It should be noted that the three main industry classifications (ISIC, NACE, and NAICS) do not always clearly identify each industry class as either a goods-producing or a service-producing industry.

Section C: TERMINOLOGIES FOR INDEX OF SERVICES PRODUCTION [Canada, OECD]

[NOTE: Text in this Section is drawn mainly from a paper prepared by Statistics Canada for a meeting of the STESEG task force on services held in February 2004. STESEG delegates to the 2004 meeting will be advised if an updated version becomes available before the June 2004 STESEG.

The following 10 pages are therefore organized to facilitate comment on the final terminologies/definitions to be used in the Manual. The final version of the Manual will not present terminologies in the manner below, i.e. it contains one recommended definition and reference source.]

At the moment, there isn't a common set of terminologies or definitions that describe the various types of services activities across the OECD area. This stems mainly from the heterogeneous nature of the services sector itself and varying national practices resulting from the diverse statistical, regulatory or social environment across countries and in some cases within a country. For example, the public sector is the main provider of inland transportation (e.g. train services) in France, whilst the UK privatized train services companies in the late 1980s. Similarly, a major courier company is operated by the Korean central government, while similar activities are carried out by the private sector in the US. As a result, services activities to be classified as market and non-market activities can differ between France, Korea, the UK and the US. As will be further elaborated in the following Sections, in some cases, such differences are non-negligible and can significantly influence the quality of statistical information derived from the services sector.

With the closer integration of the global economy, the need to agree on a set of harmonized international terminology and related definitions for service sector terms has is an important issue to enhance the comparability of a monthly or quarterly Index of Services Production (ISP) compiled on the basis of recommendations outlined in this Manual. This Manual therefore proposes harmonised definitions for key terms and concepts used in the context of the ISP. In order to avoid adding yet another layer of "international" concepts, etc., the definitions presented in this Section have been derived to the maxmimum extent possible from existing international guidelines and recommendations. To some extent there even some inconsistency between concepts and definitions at the international level and in such situations this Manual provides the most common formulation from various international publications and sources. The definitions presented below were largely derived from:

- The System of National Accounts 1993 (1993 SNA);
- The European System of Accounts 1995 (ESA 1995);
- The European Commission's Eurostat.

Although it is preferable to present a single harmonised definition for all the variables and concepts discussed in this Section in some instances this has not proven possible or practical in terms of implementation. In this situation a range of terms are presented.

This Section deals primarily with the boundary of the services sector and concepts related to market and non-market services. It also discusses definitions of the ISP and its input variables such as turnover, sales, physical quantities, etc. The concepts provided in this Section are used in the discussion provided in Sections B and D of this Manual.

C.1 Terminologies related to ISP

A set of key terminologies related to the ISP are presented in this Section. Although many of these terms have a widely accepted understanding, there are variations which are highlighted and compared. This Section also presents a preferred definition for each terminology that can be used by official statisticians as guidance. The main reference sources for the terminologies and their variants are Eurostat's CODED[1] glossary and the OECD Glossary of Statistical Terms[2].

C.1.1 Services activities

Services

Both Eurostat and the OECD present the SNA 1993 definition:

Eurostat: The System of National Accounts (SNA) defines services as being not separate entities over which ownership rights can be established. They cannot be traded separately from their production. Services are heterogeneous outputs produced to order and typically consist of changes in the conditions of the consuming units realised by the activities of producers at the demand of the consumers. By the time their production is completed they must have been provided to the consumers.

OECD: Services are outputs produced to order and which cannot be traded separately from their production. Services are not separate entities over which ownership rights can be established. They cannot be traded separately from their production. Services are heterogeneous outputs produced to order and typically consist of changes in the conditions of the consuming units realized by the activities of producers at the demand of the consumers. By the time their production is completed they must have been provided to the consumers (…). The service sector covers both market and non-market services.

Source: SNA 1993: 6.8, 6.9.

[1] See http://forum.europa.eu.int/irc/dsis/coded/info/data/coded/en/Theme2.htm.
[2] See http://cs3-hq.oecd.org/scripts/stats/glossary/index.htm.

Analysis: The addition of a sentence at the beginning of the OECD definition helps clarify the definition. Also note the OECD's precision about coverage (market and non-market activities). Thus, OECD definition is more preferable.

C.1.2 Market and Non-market services

Market establishments

The difference noted above in the definitions of the Services sector appears to be tied to the treatment of some of the market establishments. Eurostat' CODED glossary mainly uses the ESA 1995 definitions whereas the OECD provides both the ESA 1995 and the SNA 1993 definitions. Slight variations between the two national accounting standards explain some of the differences between the definitions given for "market producers", "market output", and "market services". However, there is no difference for "market establishment", whose SNA 1993 definition is:

SNA 1993: Market establishments produce mostly goods and services for sale at prices, which are economically significant.

Source: SNA 1993: 2.46.

Market producers

The Eurostat glossary gives two definitions for market producers under ESA 1995, one under "market producers" (1), the other under "market/non-market producers" (2).

The OECD glossary, however, provides a single definition for each standard, ESA 1995 and SNA 1993.

ESA 1995 (1): Market producers are local kind-of-activity units (KAUs) or institutional units the major part of whose output is market output. It should be noted that if a local KAU or institutional unit is a market producer its main output is by definition market output, as the concept of market output is defined after having applied the distinction market, for own final use and other non-market to the local KAU and institutional unit that have produced that output.

ESA 1995 (2): Market producers are producers that sell their output at economically significant prices. Non-market producers are producers that provide most of their output to others free or at prices that are not economically significant. Moreover, the ESA95 provides additional rules for the distinction between market and non-market producers. In distinguishing market and other non-market producers by means of the 50% criterion, "sales" and "production costs" are defined as detailed in the corresponding CODED-definitions.

SNA 1993: Market producers are producers that sell most or all of their output at prices that are economically significant.

Source: ESA 1995: 3.24; SNA 1993: 4.58, 6.52.

Analysis: Clearly, the difference between the two standards is that ESA 1995 provides a more operational definition for market producers. This difference is clearly stated under the second definition provided by the Eurostat, which is therefore preferable.

Market output

SNA 1993: Market output is output that is sold at prices that are economically significant or otherwise disposed of on the market or intended for sale or disposal on the market.

ESA 1995: Market output consists of output that is disposed of on the market or intended to be disposed of on the market. Market output includes:

a) products sold at economically significant prices;
b) products bartered;
c) products used for payments in kind (including compensation of employees in kind and mixed income in kind);
d) products supplied by one local KAU to another within the same institutional unit to be used as intermediate inputs or for final uses;
e) products added to the inventories of finished goods and work-in-progress intended for one or other of the above uses (including natural growth of animal and vegetable products and uncompleted structures for which the buyer is unknown).

Source: ESA 1995: 3.17-3.18; SNA 1993: 6.45.

Analysis: More precision is also given in ESA 1995 compared to SNA 1993 with regard to the definition of "market output". Thus, ESA 1995 is preferable.

Economically significant prices

Another similar difference between ESA 1995 and SNA 1993 relates to the definition of "economically significant prices". This difference is noted in the Eurostat glossary, but not in the OECD glossary.

SNA 1993: Prices are said to be economically significant when they have a significant influence on the amounts the producers are willing to supply and on the amounts purchasers wish to buy.

ESA 1995: In the ESA, the economically significant price of a product is defined partly in relation to the institutional unit and local KAU that has produced the output (see paragraphs 3.27. - 3.40). For example, by convention, all the output of unincorporated enterprises owned by households sold to other institutional units is sold at economically significant prices, i.e. is to be regarded as market output. For the output of some other institutional units, output is only sold at economically significant prices when more than 50% of the production costs is covered by sales (see paragraphs 3.32. - 3.37.).

Source: ESA 1995: 3.19; SNA 1993: 6.45 [4.58].

Market services

The following definition for "market services" can be found in both glossaries:

Market services comprise 8 NACE-CLIO branches:

- recovery and repair services, wholesale and retail trade services;
- lodging and catering services;
- inland transport services;
- maritime and air transport services;
- auxiliary transport services;
- communication services;
- services of credit and insurance institutions;
- other market services.

Source: NACE-CLIO.

Non-market services

The following definition for "non-market services" is found in both glossaries:

Non-market services comprises 4 NACE-CLIO branches covering general public services, non-market services of education and research provided by general government and private non-profit institutions, non-market services of health provided by general government and private non-profit institutions, domestic services and other non-market services n.e.c. These in turn comprise 10 NACE-CLIO Groups:

- general public services of national defence, of compulsory social security;
- non-market services of refuse disposal, sanitation, cemeteries, provided by general government;
- non-market services of social welfare, hostels, tourist offices, employers' and professional associations, economic organisations provided by general government;

- non-market services of recreational and cultural activities provided by general government (entertainment's, sports grounds and clubs, libraries, public archives, museums, botanical and zoological gardens);
- non-market services of education provided by general government and private non-profit institutions;
- non-market services of research and development provided by general government and private non-profit institutions;
- non-market services of health provided by general government and private nonprofit institutions;
- non-market services of social welfare, hostels, tourist offices, trade unions, employers' associations, religious organisations and learned societies, political parties, consumers' and civic organisations etc. provided by private non-profit institutions;
- non-market services of recreational and cultural activities (entertainment's, sports grounds and clubs, libraries, public archives, museums) provided by private non-profit institutions
- domestic services.

Source: NACE-CLIO.

Analysis: Only Eurostat's glossary provides information regarding the fact that the NACE-CLIO classification is not in current use (under the NACE-CLIO entry). The definition of "non-market services" under NACE-CLIO seems to explain in part the NACE Rev. 3.1 definition of the Services sector as given above.

Index of Market Services Production and Index of Non-Market Services Production

The fact that industrial classifications currently used generally do not distinguish between market and non-market establishments explains the use of "tailored" classifications where this distinction is made. Although the relative importance of market and non-market establishments by industry class varies across countries, the production of market establishments is very likely to undergo economic cycles that differ from those of the non-market establishments.

Accordingly, it is recommended that the ISP should be presented together with two sub-indexes, one for Market Services Production and the other for Non-market Services Production. This breakdown cannot be mapped precisely with current industry classifications, but is recommended for the whole economy by both the ESA 1995 and SNA 1993 national account standards.

For international comparability, there are some slight differences between the two standards with regard to establishments to be considered as market or non-market. However, it is very likely that the differences between countries will be largely explained by differences in institutional factors than by differences in standards. In addition, for many countries the bulk of non-market activities occurs in ISIC Tabulation categories M, N, L and Q.

C.1.3 Definition of ISP

Index of Services Production

Following on from the definition of the Service sector provided in Section B above, the Index of Services Production (ISP) should be defined as a weighted average of the real output of these industries, where the weights are based on their shares in the value added of the Services sector.

One can adapt the description of the Index of Industrial Production given by Hong & Chavoix-Mannato[3] to obtain the following definition of the ISP:

> An ISP measures changes over time in the volume of output of the Services sector. More precisely, it is defined as the ratio of the volume of output produced by the services industries in a given time period to the volume produced by the same industries in a specified base period. The products included are all those that contribute to gross output of the services industries, and may include products that are not primary to the industries; products may either be goods or services.

It is also preferable that the ISP be presented together with its main industrial components, and also be broken down in terms of market and non-market activities. However, there are slight variations between standards with regard to the definition of market and non-market activities. These differences are now examined to determine the possible extent to which they could affect international comparability.

C.2 Types and definitions for input variables

C.2.1 Deflated gross output (turnover, sales, receipt)

Terminology Related to Output

There are many "layers" in the evaluation of output, such as sales, turnover, receipts, and gross output, which depend on the elements included. These layers are reviewed below.

Turnover

As noted in the OECD Glossary of Statistical Terms, there is currently no universal definition of the concept "turnover". See also OECD (2002)[4] for a discussion of this and related terms. Eurostat's CODED

[3] See Hong, E.-P., Chavoix-Mannato, M. (2000) *Index of Industrial Production: Summary of Practices in OECD Countries.* Paper presented at the Workshop on Key Economic Indicators, Bangkok, May 22-25, 2000. Available at: http://www.unescap.org/stat/meet/keyindic/oecd_index_industrial_production.pdf.

glossary provides a single definition, whereas the OECD provides a general definition together with five others specific to transport industries. Only the Eurostat definition, the OECD's general definition and one of the specialized definitions are provided below:

Eurostat: Turnover comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties.

Turnover includes all duties and taxes on the goods or services invoiced by the unit with the exception of the VAT invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover.

It also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice. Reduction in prices, rebates and discounts as well as the value of returned packing must be deducted.

Income classified as other operating income, financial income and extra-ordinary income in company accounts is excluded from turnover. Operating subsidies received from public authorities or the institutions of the European Union are also excluded.

For NACE Rev. 1 classes 66.01 and 66.03, the corresponding title of this characteristic is "Gross premiums written".

Note that Indirect taxes can be separated into three groups.

i) The first comprises VAT and other deductible taxes directly linked to turnovers which are excluded from turnover. These taxes are collected in stages by the enterprise and fully borne by the final purchaser.

ii) The second group concerns all other taxes and duties linked to products which are either 1) linked to turnover and not deductible, or 2) taxes on products not linked to turnover. Included here are taxes and duties on imports and taxes on the production, export, sale, transfer, leasing or delivery of goods and services or as a result of their use for own consumption or own capital formation.

iii) The third group concerns taxes and duties linked to production. These are compulsory, unrequited payments, in cash or in kind which are levied by general government, or by the Institutions of the European Union, in respect of the production and importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production irrespective of the quantity or the value of goods and services produced or sold.

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[4] OECD (2002) *A Review of Concepts and National Experiences in the Compilation of Demand Indicators and Output Indicators.* Paper presented at the First Meeting of the OECD Short-Term Economic Statistics Expert Group, Paris, June 24-25, 2002. Available at: http://www.oecd.org/dataoecd/21/61/1934430.doc.

Source: Definitions of SBS Regulation variables (12 11 0).

OECD (1): There is currently no universal definition of the concept "turnover".

The nearest thing to a standard are the various definitions of turnover included in the Council Regulation on structural business statistics which essentially define turnover as "the totals invoiced by the observation unit during the reference period, and this corresponds to the market sales of goods or services supplied to third parties… Reductions in prices, rebates and discounts as well as the value of returned packaging must be deducted. Price reductions, rebates and bonuses conceded later to clients (e.g. at the end of the year) are not taken into account."

Notes:
The terms "turnover" and "sales" are often used interchangeably by a number of national and international agencies. Unfortunately, in many instances, the methodological information provided by agencies does not provide sufficient detail on the variable labeled "turnover" to enable the precise agency definition of that variable to be identified. Some countries apply the term "turnover" only in the context of receipts from sales of merchandise (i.e. receipts from the primary activity of the unit) whilst others also include other types of receipts such as those from services, repairs, commissions, etc. In some countries, turnover or sales exclude taxes but includes deferred payments for orders received.

Goods sold to produce turnover may be derived from either available stocks or production. This indicator shows the production process not from the supply side, as is the case for production and output, but from the demand side. As the Eurostat guidelines state, turnover data provide an indication of "the future flow of money towards the units for the activities observed and hence an indicator of future investments." It may therefore be used for forecasting and to assess the possibility of financing future investment.

Source: the Eurostat Manual of Business Statistics, Section 3.1, Short-term Statistics – Industry, page 2.

OECD (2): Turnover (of Inland Waterways Transport Enterprise)

Total amount invoiced by the inland waterways transport (IWT) enterprise during the period under review. This total corresponds to market sales of goods or services supplied to third parties.

Turnover includes all duties and taxes on the goods or services invoiced by the enterprise with the exception of VAT invoiced by the unit vis-a-vis its customers. It also includes all other charges to customers. Reductions in prices, rebates and discounts as well as the value of returned packing must be deducted, but not cash discounts.

Notes:

Turnover does not include sales of fixed assets. Operating subsidies received from public authorities are also excluded.

Source: Glossary for Transport Statistics, prepared by the Intersecretariat Working Group on Transport Statistics – Eurostat, European Conference of Ministers of Transport (ECMT), United Nations Economic Commission for Europe (UNECE).

Sales

A term related to "turnover" is sales. Eurostat's glossary entry entitled "Sales – Business statistics (Turnover)" points to the definition given above for turnover. This glossary also contains another entry giving the ESA 1995 definition of sales. The OECD's glossary contains only one entry whose definition differs from those of turnover above and from that given by ESA 1995.

Eurostat: Sales cover the sales excluding taxes on products but including all payments made by General Government or the Institutions of the European Union and granted to any kind of producer in this type of activity, i.e. all payments linked to the volume or value of output are included, but payments to cover an overall deficit are excluded.

Source: ESA 95 manual on government deficit and debt, 2002 Edition, Part I.

OECD: Sales measures gross operating revenues less rebates, discounts, and returns. Sales should be measured exclusive of consumption and sales taxes on consumers, as well as value added taxes.

Source: Manual on Statistics of International Trade in Services, Annex II.

Analysis: As was noted in the OECD definition of turnover, there is wide variation in the definition of turnover and sales. Additionally, in Canada and the United States the term turnover is not used. The words "sales" and "receipts" are used to refer to similar concepts. A way out of this dilemma, is to follow the SNA 1993 valuation boundaries for transactions (see SNA 1993, 3.84). Specifically, the following elements, listed in increasing order value, should each have their specific terminology so as to provide appropriate definitions. The following is suggested:

1. Subsidies (to the producer) should be excluded as they cannot be attributed to specific transactions.
2. Only the values of sales of own products should be included.[5] This would exclude goods on consignment for example,[6] as well as disposals of assets (machinery, equipment, and infrastructure).

[5] "Product" is used to refer either to goods or services. See the following footnote.
[6] As per the definition of Services given earlier, this might appear at first to be not applicable. However, since we should include all activities of the service establishments, which may include goods, in the definition of sales/turnover/receipts allowance should

3. Payments for work-in-progress should be included (see SNA 1993, 6.72-6.79).
4. Rebates, discounts and returns should be excluded.
5. Consumption and sales taxes on consumers, as well as value added taxes should be excluded. At this stage of the transaction "turnover**"** would be appropriate terminology, as it would correspond to the intuitive notion used in the retail sector.
6. Transport and storage charges if billed separately could be included in the next level, which could be called "sales**"**.
7. Including all taxes excluded in point 5 as well as the value of the sales of others' products excluded in point 2, to "sales" could be called "receipts**"**.

Output (Gross output)

Finally, to round off terminology related to output, a definition found in the OECD glossary that is taken from SNA 1993 is presented below. The same definition is found in the Eurostat glossary entry for output, which provides fewer contexts.

Notes: Such output may be:

- sold;
- entered into the producer's inventories prior to sale, barter, etc;
- supplied to other establishments belonging to the same enterprise for use as intermediate inputs;
- retained by their owners for own final consumption or own gross fixed capital formation;
- supplied free, or sold at prices that are not economically significant to other institutional units;
- provided to their employees as compensation in kind or used for other payments in kind;
- bartered in exchange for other goods, services or assets.

Source: SNA 1993: 6.38.

Analysis: As already noted previously, an ISP should include the value of the output of all products of the industries covered. Since these products may include goods, changes in inventories of these goods should be part of the output.

C.2.2 Physical quantities

[to be completed]

C.2.3 Employment

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be made for such cases. SNA 1993: *Output consists of those goods or services that are produced within an establishment that become available for use outside that establishment, plus any goods and services produced for own final use.*

[to be completed]

C.2.4 Other variables

[to be completed]

Section D: SOURCES AND METHODS FOR COMPILING AN ISP [UK, OECD]

Because of a very heterogeneous nature of the services sector, the compilation of a monthly aggregated production index for this sector is far less straightforward than that for the industrial sector. As a consequence, a wide range of practices are currently being adopted by the OECD Member countries to evaluate the economic performances of the services sector, depending on national needs and availability of basic information. For example, Japan compiles a monthly index for a tertiary industry and Canada does not publish a separate index for a services industry but a monthly GDP by economic activities which can be regrouped into a production index for services industry. Many European countries, on the other hand, collect monthly or quarterly information on production for various services sectors but do not aggregate them into a single index.

A major difficulty encountered in the services sector by data compilers is that there does not exist a single type of variable or source from which various services production activities can be measured. At the same time, only an output measure in current price may exist without its proper deflator. Also, statistical information for lower frequencies may be available but nothing for higher frequency. Collecting basic information for a monthly index requires extra reporting burden. Furthermore, due to the 'immaterial nature' of many services output, there are some services categories for which a choice of the best variable to measure its evolution may not be obvious (e.g. the financial sector) and as a consequence the choice can vary across countries. As a result, there is a great deal of discrepancy in the measure of short-term services production across the OECD countries.

While recognising the challenges of measuring short-term change in the service sector, and some national constraints, this Section presents data sources and methods which if adopted would optimise comparability of the Index of Services Production (ISP) within and outside the OECD. It describes the approach to classifying variables as "preferred" (representing best practice), "alternative", and "other". The Section also discusses a framework and criteria to assess the quality of the variables to be used. For example, a variable that is regarded as best practice conceptually may not be sufficiently timely, or it may not be sufficiently accurate. In which case, it would be preferable to use an alternative or other variable that scores more highly against the quality measures. The Section then presents, for each ISIC category, a set of preferred, alternative and other variables along with their deflators and sources, based on the harmonised terminologies and definitions identified in the previous sections, i.e. Sections B and C above.

[NOTE: There also needs to be a bit more in this introduction about monthly vs. quarterly issue.]

D.1 Description of Preferred, Alternative and Other methods for ISP

If just one "recommended variable" for each ISIC category, representing the best approach conceptually, were to be presented, it may recommend data that many countries would not have available and would not

have the funding to collect. On the other hand, if the recommended variables were those that are easiest to collect, there could be some compromise in quality. As the aim is to provide support and assistance in the collection and presentation of services sector data it is proposed to present a range of possible variables that could be used for each ISIC activity. For each ISIC category a table is produced that presents three options:

- preferred data source(s),
- alternative acceptable data source(s)
- other data sources that might be used, accepting that they will produce a less precise measure.

The Eurostat *Handbook on price and volume measures in national accounts* provides guidance on compiling annual data. The broad principles from this handbook will be used to assess the conceptual appropriateness and hence whether a data source or method should be categorised as "preferred", alternative" or "other". Although some of the recommendations are not practical for monthly or quarterly data much of the handbook's text on compiling output does have some relevance.

In addition to providing suggested sources and methods, this Section provides quality measures for assessing the appropriateness of suggested data sources as proxies for short-term change in gross value added (GVA).

The preferred approach presents the data sources and methods that are considered to be most appropriate conceptually as a short-term indicator. However, they are only suitable if the data sources also meet the general conditions for short-term indicators (as outlined below is Section D.2). If this preferred data source is not available, or does not meet the general conditions, the use of alternative data sources should be considered. The 'other data sources' column presents alternative data sources that produce a less precise measure but, in the absence of other data sources, could reasonably be used to compile a monthly ISP.

D.2. Evaluation of a variable: quality measures

This Section describes quality measures that should be used in assessing the suitability of data sources and methods. These quality measures must be weighed against conceptual appropriateness. For example, to decide whether monthly periodicity is more important or less important than measuring output directly for education, if the output measure is available only annually. [A better example can be given here, if it is worth giving one.] The quality measures presented here are broadly consistent with the quality frameworks of the IMF and Eurostat. Also, the quality measures presented focus specifically on the requirements for short-term indicators. It is not an attempt to present an alternative measure of quality.

The assessment of quality uses a subjective approach rather than a numerical assessment. The statistician or "industry expert" may wish to use a simple scoring system to assess a data source/method, assigning

marks 1 to 5 for each of the categories below. The shaded box below provides an example of a system of subjective assessment used by Statistics Canada.

Coverage. An indicator that is estimating short-term change in value-added should cover, in some representative fashion, the full range of businesses or other types of organisation or activity that are included within the industry or sector category in question. A proxy or indicator should ideally relate exactly to the relevant part of the ISIC. Nevertheless, at times indicators can be used where this match is not exact; for instance if an indicator is only available which covers more than the industry in question, the indicator might still be used, as a necessary compromise.

Timeliness. As the purpose is to estimate short-term change in GVA of the service sector, a short term proxy or indicator is required to be made available quickly - delivering early estimates, say, within a month or two of the period to which they relate. Punctuality is closely related to timeliness. Data sources should be made available in accordance with the agreed delivery dates.

Periodicity/frequency. To reflect monthly (or quarterly) GVA, an indicator should ideally consist of independent monthly (or quarterly) observations. A quarterly indicator interpolated to provide monthly data is less suitable but may be acceptable if the series is not volatile. (this is an important issue that needs a little more emphasis throughout the manual as suggested above in a few places. The reason is partly political, people will be more interested if we are only advocating the use of true monthly data in the most important and cyclical sectors).

Accuracy. The level of accuracy of the indicator itself should be acceptable. Accuracy can be assessed in terms of the degree to which the data correctly estimate or describe the quantities or characteristics they are designed to measure. Accuracy refers to the closeness between an estimated result and the (unknown) true value. It is preferable to calculate sampling errors but if this is not possible a more subjective assessment might be that the variability of the series of observations should not be considered to be so great as to obscure the path or rate of change of the indicator series.

Relevance. As the purpose is to measure short-term change in services GVA, an indicator should be designed to do that; rather than, for instance, being designed to measure the level of the indicator at a point in time. The indicator should measure changes in output (or GVA) rather than in some other variable or concept. It is impracticable to collect timely monthly data for intermediate consumption, so generally it will be necessary to assume that the GVA to output ratio is constant in the short-term. Series can be benchmarked to quarterly or annual GVA data to reduce the possibility of long-term bias.

Consistency. The same indicator should be used throughout the entire time series. If there are definitional changes, adjustments should be applied to ensure consistency and to enable comparison over time and domain.

Framework for the Subjective Assessment of the Quality of Monthly GDP: An example from Statistics Canada

This example provides a brief summary of Statistics Canada's assessment of the quality of monthly GDP.

This particular assessment was carried out in 2004 and was restricted to two dimensions of quality: (i) a subjective assessment of the quality of the indicators used to track the monthly growth rates of value added (GDP) for each industry; (ii) an analysis of the revisions to the growth rates of GDP for each industry.

This example summarises the subjective assessment of quality: an assessment of accuracy. Accuracy refers to the property of an estimate to match the true but unknown value of the characteristic of interest, whereas reliability refers to the stability of the estimate. Clearly, revision analysis is the appropriate tool to study, and quantify, the reliability of the monthly GDP estimates. Their accuracy however cannot be quantified objectively; only a subjective assessment based on our professional opinion can be undertaken. Statistics Canada produce a list of criteria by which each analyst can rate subjectively the accuracy of the indicators used for their industries. The list of categories is broadly similar to the quality measures that are described in Section D.2 of this Manual. With a common understanding of these criteria, the assessments become consistent across analysts, and can be summarized to assess the accuracy of industry aggregates.

Each analyst rates her/his indicators according to each of the criteria described in the list on an absolute scale of **1 (worst)** to **5 (best**). A score of 5 should be used to indicate that there is absolutely no other indicator, existing or achievable, that would outperform the one currently used with respect to a particular criterion. A score of 1 should be used to indicate that the current indicator is inappropriate **for a particular criterion** and that a replacement indicator could be found. (Note that the overall appropriateness of a set of indicators for a particular industry reflects a compromise between the various criteria. Hence, we do not anticipate having any indicator scoring 1 or 5 on all criteria.). For the accuracy assessment, where coefficients of variation (CV) are available, the following grading system is suggested:

CV	Grade
< 3%	5
3-4.9%	4
5-9.9%	3
10-14.9%	2
15% +	1

Statistics Canada compiles an overall weighting for each industry giving more weight to some quality measures than others. An overall rating for GVA is calculated by aggregating the marks for the individual industries using the latest weighting structure for these industries.

D.3 Criteria for conceptual appropriateness

Section D.2 above describes the parameters of quality that help to identify the strengths and weaknesses behind a set of proxy indicators. This Section sets out criteria for the conceptual appropriateness of proxy

indicators. These criteria are based on the criteria set out in the Eurostat *Handbook on price and volume measures in national accounts*. However, the Eurostat price and volume handbook was developed as a best practice guide for compiling annual indicators. Therefore, while many of the principles are relevant, monthly data are not expected to have the same degree of conceptual appropriateness. For example , when compiling a monthly or quarterly estimate of services it is not practical to collect information on intermediate consumption.

When estimating gross value added using turnover information (estimating the outputs), it will usually be necessary to assume that in the short-term the movement in output is a reasonable indicator of movement in gross value added (i.e. that the ratio of GVA to output is constant in the short-termWhere it is appropriate to assume a constant net to gross ratio in the short-term the index should, ideally, be benchmarked to quarterly or annual estimates of constant price GVA, for example as derived from Supply Use tables, where available.

The Eurostat price and volume handbook classifies output indicators into three categories: A, B and C; with C category indicators being considered as undesirable. These three categories relate solely to conceptual appropriateness, they do not address the aspects of quality presented under Section D.2 above. An output indicator should measure a change, which is related to some kind of change in gross value added or output. Eurostat now favours gross constant price output indicators, principally deflated turnover, as the best type of proxy for short-term change in constant price value-added. Appropriately deflated turnover would be classified as an “A method”. Turnover deflated by a less appropriate deflator (e.g. with wider industry coverage) would be classified as a “B method”. Generally the Eurostat handbook classifies volume measures as B methods. However, if there is a detailed breakdown by type of commodity, there is homogeneity, and there is very little change in quality, a volume indicator could be classified as an A method. 'Input' indicators are classified as C category indicators by the Eurostat, because they do not adequately detect changes in productivity; employment is an example.

Eurostat's price and volume handbook aspires to an "A method" for each industry category regardless of whether it is practical to achieve it. It presents a theoretical best for each industry. However, the current Manual presents preferred measures that are achievable. Consequently , some of the preferred data sources presented here would be considered to be a "B method" by the Eurostat manual. Section D.4.1 below presents the guidelines that have been used to compile the table of recommended variables in Section D.4.2.

D.4 Recommendations for variables and deflators by services activity

D.4.1 Proposed criteria for deciding conceptually appropriate indicators

This Section explains how the principles explained in Section D.3 above are used to categorise methods as:

- preferred,
- alternative,
- other.

Turnover deflated by an appropriate output price

Turnover deflated by an appropriate output price is considered by the Eurostat manual to be an "A method" and will usually be the first choice for a preferred data source. As it is important that quality and quantity changes are taken into account, the output (turnover) data should preferably be deflated by an appropriate and representative output price index that takes account of quality change. The price index used should be representative of the particular ISIC industrial classification being deflated. If a combination of price indices is used, then ideally these detailed price indices should be weighted together using expenditure weights (e.g. a component of a consumer price index adjusted to basic prices used in conjunction with a services industry producer price index).

Where the service is provided to business, appropriate service sector producer price indices (PPIs) should be used, measured at basic prices. Where services are applied to households, appropriate consumer price indices should be used, adjusted to basic prices. Where turnover is deflated by an appropriate deflator, this will be classified as a "preferred" method. It is likely that in most countries Service PPIs will be produced as quarterly indicators. It may be appropriate to use these by extrapolating the series and interpolating a monthly path, provided the prices are relatively stable.

Deflating output (turnover) by a less appropriate, but satisfactory, price index would be classified as an "alternative indicator". The price index might be less appropriate because it has coverage that does not relate directly to the output being deflated or because it is not adjusted for known changes in quality. For example, under certain circumstances production producer price indices may be used where service sector PPIs (business to business price indices) [Include an example here from the UK approach.] are not available (e.g. to deflate wholesaling). If the deflator were less satisfactory, e.g. the total CPI or total PPI [Insert an example such as the total CPI or total PPI.], the approach would be classified as "other".

Volume indicator

Deflated turnover is presented as the preferred indicator, where it is practical. Where it is difficult to use deflated turnover, a volume indicator is presented, either as an alternative “preferred indicator” or as the sole “preferred indicator”. Volume indicators can be useful where it is difficult to measure price changes due to a lack of available data or the complexity of the data source. For example, in the case of air transport it is difficult to measure price changes so a measure of the volume of air passenger kilometres may be more practical, although it is important to categorise into business travel, economy travel, etc.

Where deflated turnover is considered to be practical as a preferred indicator, an appropriate and representative volume indicator for well-defined products not subject to rapid quality change is presented as an "alternative indicator". It is important that these volume indicators are applied in sufficient detail that the products are relatively homogenous. If a volume indicator cannot be broken down into homogenous groups it should be classified as an "other" indicator.

Input indicators, e.g. employment

Input indicators such as employment are generally less suitable as the use of input indicator will not take account of productivity changes. Therefore, with the exception of non-market collective services, input indicators are classified as "other".

The use of input indicators such as employment is, however, recommended by the Eurostat price and volume handbook when measuring non-market collective services. Therefore for collective non-market services input indicators are classified as "preferred" or "alternative".

D.4.2 A few issues on deflators

[To be completed]

D.4.3 Recommended variables and deflators and their sources

In this Section, a couple of examples are presented for Codes 55 (Hotels and restaurants) and 60 (Land transports; transport via pipelines)

[NOTE: this Section will ultimately be expanded and completed by including recommended variables and deflators and their sources for all services activities.

Also Note that the following Section was taken from Excel and is small, the table has been expanded outside the margins to make it more readable only for the purpose of this prototype].

Code 55: Hotels and Restaurants

This division covers the provision of hotel and other short-stay accommodation and the provision of food, drink and club entertainment. The division is divided into two classes: ***5510 - Hotels; camping sites and other provision of short-stay accommodation*** and ***5520 - Restaurants, bars and canteens***. For measuring gross value added as deflated turnover it may be desirable to use a lower level of industrial activity. This will depend on how important the industry is to the country's economy and how accurate the output can be measured (eg turnover and prices). The choice for this depends on the relative changes in the output of the different types of establishment over time and respective movements in their prices. The table below shows how the groups might be further subdivided.

ISIC class	Description	Explanatory notes	Preferred
5510	***Hotels; camping sites and other provision of short-stay accommodation***	*This may be subdivided* *Examples are:*	
		Hotels, motels and inns Includes licensed and unlicensed restaurant facilities and conference facilities	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of hotels, motels and inns or administrative data from tax returns Weighted appropriate price indices Examples are : - PPI: Conference rooms - CPI: Hotels - CPI: Domestic holidays (non self-catering) - CPI: Restaurant meals - CPI: Beer 'on' sales - CPI: Wines and spirits 'on' sales Or **Volume indicators** Examples are : Number of bed nights: - Luxury hotels - City hotels - Rural hotels and inns - Motels
		Holiday resorts, chalets, flats and cottages; guest houses, farm houses and youth hostels camping sites	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of holiday resorts, and providers of other short-stay accommodation including camping sites or administrative data from tax returns Weighted appropriate price indices Examples are : - CPI: Domestic holidays (self-catering) - CPI: Domestic holidays (non self-catering) - CPI: Camping sites Or **Volume indicators** Examples are : Number of bed nights: - Holiday centres - Guest houses and farm houses - Youth hostels Number of pitch nights: - Caravans - Tents
5520	***Restaurants, bars and canteens***	*This may be subdivided* *Examples are:*	
		Restaurants, including licensed and unlicensed premises, self-service restaurants; burger bars and fast-food outlets and ice cream parlours	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of restaurants and other suppliers of meals or administrative data from tax returns which could be split by type of outlet Examples are: - Licensed restaurant - Unlicensed restaurant - Take-away food shops Weighted appropriate price indices Examples are : - CPI: Restaurant meals - CPI: Beer 'on' sales - CPI: Wines and spirits 'on' sales - CPI: Self-service meals - CPI: Burgers to eat-in - CPI: Take-aways and snacks
		Licensed clubs, including night clubs and social clubs	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of licensed clubs or administrative data from tax returns Weighted appropriate price indices Examples are : - CPI: Night-club admission - CPI: Beer 'on' sales - CPI: Wines and spirits 'on' sales
		Public houses and bars including independent, tenanted and managed public houses and bars but excluding sales through vending machines	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of public houses and bars or administrative data from tax returns Weighted appropriate price indices Examples are : - CPI: Beer 'on' sales - CPI: Wines and spirits 'on' sales - CPI: Restaurant meals - CPI: Pub meals - CPI: Cigarettes and tobacco
		Canteens and catering including the supply of prepared meals to airlines and other organisations	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of canteens and catering or administrative data from tax returns Weighted appropriate price indices eg: - CPI: Canteens and catering - PPI: Catering for functions
	Smuggling of alcohol and tobacco		**Deflated net output based on customs and excise estimates of smuggling**

CPI is Consumer price index.
PPI is Services producer price index.

Turnover data are defined as receipts from sales excluding VAT and other taxes on products plus any subsidies on products. **Preferred deflators** to use are mostly consumer price indices with some service producer price indices. ***Smuggling of alcohol and tobacco***, if significant, should be included in the Hotels and restaurants value added index. Such estimates can be made with the advice of a country's agency which deals with detecting these forms of smuggling. The output from smuggling is treated as a separate un-numbered class in the division.

Alternative	Other	ISIC class
		5510
Gross turnover deflated by partially representative price indices Turnover from survey of hotels, motels and inns or administrative data from tax returns | Deflated by partially representative CPIs and PPIs or a general price index Or **Volume indicators** Examples are : - Number of beds	**Volume indicators** Examples are : - Employment	
Gross turnover deflated by partially representative price indices Turnover from survey of holiday resorts, and providers of other short-stay accommodation including camping sites or administrative data from tax returns | Deflated by partially representative CPIs or a general price index Or **Volume indicators** Examples are : - Number of beds - Number of pitches	**Volume indicators** Examples are : - Employment	
		5520
Gross turnover deflated by partially representative price indices Turnover from survey of restaurants and other suppliers of meals or administrative data from tax returns | Deflated by partially representative CPIs or a general price index Or **Volume indicators** Examples are : - Number of meals sold: - Number of customers:	**Volume indicators** Examples are : - Employment	
Gross turnover deflated by partially representative price indices Turnover from survey of licensed clubs or administrative data from tax returns or excise duty revenue | Deflated by partially representative CPIs or a general price index Or **Volume indicators** Examples are : - Number of admissions: - Number of drinks sold:	**Volume indicators** Examples are : - Employment	
Gross turnover deflated by partially representative price indices Turnover from survey of public houses and bars or administrative data from tax returns or excise duty revenue | Deflated by partially representative CPIs or a general price index Or **Volume indicators** Examples are : - Number of drinks sold: - Number of meals sold:	**Volume indicators** Examples are : - Employment	
Gross turnover deflated by partially representative price indices Turnover from survey of canteens and catering or administrative data from tax returns | Deflated by partially representative PPIs and CPIs or a general price index Or **Volume indicators** Examples are : - Number of meals sold: - Number of customers:	**Volume indicators** Examples are : - Employment	
	Smuggling of alcohol and tobacco	

Division 60: Land transport; transport via pipelines

This division covers the transportation of goods and people across land, by rail, lorry, bus or taxi and the transport of gases, liquids etc via pipelines. It does not include self-drive car hire nor the distribution of natural and manufactured gas, water and steam from the distributor to the final users.

The division is divided into five classes: ***6010 - Transport via railways; 6021 - Other scheduled passenger land transport; 6022 - Other non-scheduled passenger land transport; 6023 - Freight transport by road and 6030 - Transport via pipelines*** . For measuring gross value added as deflated turnover it may be desirable to sub-divide rail transport between passengers and freight and sub-divide other non-scheduled passenger transport between taxis and other transport. This will depend on how important the industry is to the country's economy and how accurate the output can be measured (eg turnover and prices).

ISIC class	Description	Explanatory notes	Preferred
6010	***Transport via railways***	Excludes passenger and freight terminal activities, cargo handling storage and other auxiliary activities, urban and suburban transportation by underground, metro and similar systems, maintenance and minor repairs of rolling stock	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of rail transport providers or administrative data from tax returns which could be split by goods and people being transported Examples are: - Passengers - Freight Weighted appropriate price indices Examples are : - CPI: Fares - PPI: Freight charges Or **Volume indicators** Examples are: - Passenger-kilometres travelled: Season ticket holders; Full price ticket holders; Reduced price ticket holders - Tonnes-kilometres transported: Coal and coke; Metals; Construction; Oil and petroleum; International; Domestic inter-modal; Other commodities
6021	***Other scheduled passenger land transport***	Includes interurban coach services using scheduled routes, picking up and setting down passengers at normally fixed stops. Includes urban and suburban railway transportation by underground, metro and similar systems, funicular railways, aerial cableways, tramways and streetcars	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of other scheduled passenger land transport or administrative data from tax returns Weighted appropriate price indices Examples are : - CPI: Underground railways - CPI: Other metro fares - CPI: Bus and coach fares
6022	***Other non-scheduled passenger land transport***	Includes renting of private cars with driver and renting of non-scheduled buses, coaches, etc	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of other non-scheduled passenger land transport or administrative data from tax returns which could be broken down further Examples are: - Taxi operation - Other Weighted appropriate price indices Examples are : - CPI: Taxi and minicab fares - PPI: Non-local bus or coach journeys all hirings
6023	***Freight transport by road***	Comprises all forms of haulage, including logging haulage, renting of trucks with driver. Excludes freight terminals	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of freight transporters or administrative data from tax returns Weighted appropriate price indices Examples are : - PPI: Road haulage
6030	***Transport via pipelines***	Includes transport of gases, liquids, slurry and other commodities other than the distribution of natural or manufactured gas, water or steam. Includes pumping stations	**Volume indicators** Examples are : - Cubic metres-kilometres transported

CPI is Consumer price index.
PPI is Services producer price index.

Turnover data are defined as receipts from fares, freight and pipeline transport excluding VAT and other taxes on products plus any subsidies on products. Deflators for rail transport can be difficult to measure because of possible special price offers and the difficulty of adjusting for quality changes (e.g. speed, comfort, reliability, timeliness). An

Alternative		Other	ISIC class
Gross turnover deflated by partially representative price indices		**Volume indicators**	***6010***
Turnover from survey of other scheduled passenger land transport or administrative data from tax returns	Deflated by partially representative CPIs and PPIs or a general price index	Examples are : - Number of passengers carried - Tonnes transported Or - Employment	
Gross turnover deflated by partially representative price indices		**Volume indicators**	***6021***
Turnover from survey of other scheduled passenger land transport or administrative data from tax returns	Deflated by partially representative CPIs or a general price index	Examples are : - Employment	
Gross turnover deflated by partially representative price indices		**Volume indicators**	***6022***
Turnover from survey of taxi operators or administrative data from tax returns	Deflated by partially representative CPIs or a general price index	Examples are : - Employment	
Gross turnover deflated by partially representative price indices		**Volume indicators**	***6023***
Turnover from survey of freight transporters or administrative data from tax returns	Deflated by partially representative CPIs or a general price index	Examples are : - Employment	
		Volume indicators	***6030***
		Examples are : - Cubic metres transported	

Code 64 : Post and telecommunications

This code covers National post activities, courier activities and telecommunications. It does not include financial activities carried out in combination with postal activities, the dissemination of information through web sites or the production of radio and television programmes.

This code is divided into three classes: ***6411 - National post activities; 6412 - Courier activities other than national post activities*** and ***6420 - Telecommunications.*** For measuring gross value added as deflated turnover it may be desirable to sub-divide the classes. This will depend on how important the industry is to the country's economy and how accurate the output can be measured (eg turnover and prices).

ISIC class	Description	Explanatory notes	Preferred
6411	***National post activities***	Includes the pick up, transport and delivery of domestic and international mail and and parcels, mailbox rental, poste restante and sale of postage stamps Excludes postal giro and postal savings activities and other financial activities carried out in combination with postal activities	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of national post provider(s) or administrative data from tax returns, which could be split by type of activity Examples are: - Business letters and parcels - Consumer letters and parcels - Mailbox rental and poste restante - Sale of postage stamps Weighted appropriate price indices Examples are : - PPI: Letters and parcels - CPI: Letters and parcels - CPI: Other mail services Or **Volume indicators** Examples are: - Number of letters: Domestic; Overseas - Number of parcels: Domestic; Overseas - Number of pick up points: Mailboxes; Poste restante
6412	***Courier activities other than national post activities***	Includes the pick up, transport and delivery of letters and mail-type parcels and packages by firms other than national post; home delivery services	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of couriers or administrative data from tax returns, which could be split by type of activity Examples are: - Domestic - Trans continental - Inter continental - One-off contracts Weighted appropriate price indices Examples are : - PPI: Domestic letters and parcels - PPI: Trans continental letters and parcels - PPI: Inter continental letters and parcels Or **Volume indicators** Examples are: Domestic letters and parcels: Same day; Next day; Other Trans continental letters and parcels: Next day; Other Inter continental letters and parcels: Within two days; More than two days
6420	***Telecommunications***	Includes the transmission of sound, images, data or other information via cables, broadcasting, relay or satellite, the maintenance of the network, internet access provision and public pay-telephone services Excludes the dissemination of information through web sites and the production of radio and television programmes	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of telecommunications providers or administrative data from tax returns, which could be split by type of activity Examples are: - Fixed telephone services - Mobile telephone services - Transmission of radio and television programmes - Provision of internet access Weighted appropriate price indices Examples are : - PPI: Telephone services - CPI: Telephone services - PPI: Transmission of radio and television programmes

CPI is Consumer price index.
PPI is Services producer price index.

Turnover data are defined as receipts from sales excluding VAT and other taxes on products plus any subsidies on products.
Preferred deflators to use are mostly producer price indices with some consumer price indices.

Alternative		Other	ISIC class
Gross turnover deflated by partially representative price indices		**Volume indicators**	*6411*
Turnover from survey of national post provider(s) or administrative data from tax returns	Deflated by partially representative CPIs and PPIs or a general price index	Examples are : - Employment	
Or **Volume indicators**			
Examples are : - Number of items carried:			
Gross turnover deflated by partially representative price indices		**Volume indicators**	*6412*
Turnover from survey of couriers or administrative data from tax returns,	Deflated by partially representative CPIs or a general price index	Examples are : - Employment	
Or **Volume indicators**			
Examples are : - Number of items carried:			
Gross turnover deflated by partially representative price indices		**Volume indicators**	*6420*
Turnover from survey of telecommunications providers or administrative data from tax returns	Deflated by partially representative CPIs or a general price index	Examples are : - Employment	
Or **Volume indicators**			
Examples are : Number of calls made:	Fixed line national Fixed line international Mobile voice Mobile text		

Code 74: Other business activities

This code includes all business activities except computer- and research-related activities. Outsourcing is a major factor in changing the way these activities are accounted for. The majority of the activities are carried out for commercial clients.

This code is divided into four groups (13 classes): ***741 - Legal, accounting, bookkeeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; 742 - Architectural, engineering and other technical activities; 743 Advertising*** and ***749 Business activities not elsewhere classified.*** For measuring gross value added as deflated turnover it may be desirable to sub-divide these groups. This will depend on how important the industry is to the country's economy and how accurate the output can be measured (eg turnover and prices).

ISIC group	Description	Explanatory notes	Preferred	
741	***Legal, accounting, bookkeeping and auditing activities, tax consultancy, market research and public opinion polling, business and management consultancy***	Excludes law court activities, design of computer software for accounting systems, data processing and tabulation activities	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of companies supplying these types of services or administrative data taken from tax returns which could be split by type of service supplied Examples are: - Legal services - Financial services - Market research and public opinion polling - Business and management consultancy - Management holding companies	Weighted appropriate price indices Examples are : - PPI: Legal services - CPI: Legal services - PPI: Financial services - CPI: Financial services - PPI: Market research - PPI: Business consultancy - PPI: Management consultancy - PPI: Management holding companies
742	***Architectural, engineering and other technical activities***	Excludes test drilling and test hole boring in connection with the extraction of minerals, activities of computer consultants, research and development activities	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of companies supplying these types of services or administrative data taken from tax returns which could be split by type of service supplied Examples are: - Architectural services - Engineering services - Other technical consultancy - Technical testing and analysis	Weighted appropriate price indices Examples are : - PPI: Architectural service - CPI: Architectural services - PPI : Engineering services - PPI : Other technical consultancy - PPI: Technical testing
743	***Advertising***	Excludes the printing of advertising material and the production of commercial messages for radio, television and film	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of advertising agencies or administrative data taken from tax returns which could be split by type of activity Examples are: - Planning and creation of advertisements - Placement of advertisements - Provision of advertising space, eg billboards	Weighted appropriate price indices Examples are : - PPI: Advertising services - PPI : Advertising space
749	***Business activities not elsewhere classified***	Includes labour recruitment, security activities, industrial cleaning, photographic activities, and packaging activities Excludes activities of theatrical, film, or TV casting agencies; installation of alarm systems, investigation in connection with insurance; agricultural pest control, steam-cleaning and similar activities for building exteriors, packaging activities incidental to transport, auctions	**Gross turnover deflated by appropriate quality adjusted price indices** Turnover from survey of companies supplying these types of services or administrative data taken from tax returns which could be split by type of service supplied Examples are: - Labour recruitment and provision of personnel - Investigation and security services - Building- and industrial-cleaning - Photographic services - Packaging activities - Stenographic and mailing services - Speciality design services	Weighted appropriate price indices Examples are : - PPI: Recruitment agencies - PPI: Security services - PPI: Contract cleaning - PPI: Film processing - CPI: Film processing - PPI: Contract packaging - PPI: Stenographic services

CPI is Consumer price index.
PPI is Services producer price index.

Turnover data are defined as receipts from sales excluding VAT and other taxes on products plus any subsidies on products. **Preferred deflators** to use are mostly services producer price indices with some consumer price indices.

Alternative	Other	ISIC group
Gross turnover deflated by partially representative price indices Turnover from survey of companies supplying these types of services or administrative data taken from tax returns | Deflated by partially representative PPIs and CPIs or a general price index Or **Volume indicators** Examples are : - Number of contracts drawn up: - Number of tax returns filed: - Number of campaigns run:	**Volume indicators** Examples are : - Employment	*741*
Gross turnover deflated by partially representative price indices Turnover from survey of companies supplying these types of services or administrative data taken from tax returns | Deflated by partially representative PPIs and CPIs or a general price index Or **Volume indicators** Examples are : - Number of designs commissioned: - Number of surveys commissioned: - Number of tests carried out:	**Volume indicators** Examples are : - Employment	*742*
Gross turnover deflated by partially representative price indices Turnover from survey of advertising agencies or administrative data taken from tax returns | Deflated by partially representative PPIs or a general price index Or **Volume indicators** Examples are : - Number of campaigns carried out: - Square metres of billboards rented: - Seconds of television time bought:	**Volume indicators** Examples are : - Employment	*743*
Gross turnover deflated by partially representative price indices Turnover from survey of companies supplying these types of services or administrative data taken from tax returns | Deflated by partially representative PPIs and CPIs or a general price index Or **Volume indicators** Examples are : - Number of employees placed: - Number of man-hours of surveillance: - Number of man-hours of cleaning: - Number of films processed: - Number of litres packaged: - Number of words typed or translated: - Number of envelopes mailed:	**Volume indicators** Examples are : - Employment	*749*

Section E: METHODOLOGICAL ISSUES

[NOTE: This Section will be prepared by the OECD in the near future. The intention is to outline limited recommendations on key issues that are specific to services (using references to other documents).]

E.1 Weighting

E.2 Index compilation (consolidation)

E.3 Comparability with National Accounts

[To be discussed in the context of comparability between a long-run movement of ISP and quarterly/annual GDP, that is, a method to ensure similarity in the growth rates between ISP and GDP. The TFS has no plan at this stage to deal with the specific issue on the use of the monthly ISP for compiling quarterly GDP.]

E.4 Time series methods

E.5 Quality issues (productivity changes, etc.)

Section F: TRANSMISSION TO DISSEMINATION

[This Section will be prepared by the OECD in the near future]

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