ORGANISATION FOR ECONOMIC
CO-OPERATION AND DEVELOPMENT

STATISTICS DIRECTORATE

Paris, 26 August 1993

LINKS BETWEEN INTERNATIONAL TRADE AND PRODUCTION OF SERVICES

Problems and Work in Progress in the OECD Area
(Revised Version)

Contribution to the Eighth Meeting
of the Voorburg Group on Service Statistics
(Session 8)

by

Erwin Veil*

* The views expressed in this paper are those of the author and do not necessarily reflect those of the OECD or its Member Governments.

LINKS BETWEEN INTERNATIONAL TRADE AND PRODUCTION OF SERVICES

Problems and Work in Progress in the OECD Area

Summary and Conclusions

1. Conceptually, there are close links between international trade and production of services: exports of services form a part of output, and imports are components of intermediate consumption.

2. But in the statistical reality, most data on international trade in services appear to be collected separately from production statistics in the context of balance-of-payments statistics. Only a few cases are known where data on external transactions are derived from service production statistics; comprehensive information on available data would be desirable.

3. To the extent that data on international trade in services are collected on two bases (i.e. in the framework of balance-of-payments statistics and of production statistics), a systematic comparison of the series, with the aim of rendering them compatible, would be useful.

4. In the near future new classifications of international trade in services geared to the UN Central Product Classification will be finalised. In the process of implementing these classifications the collection of data in the framework of production statistics should be promoted, as the use of such data for balance-of-payments purposes would ensure a better consistency between production and balance of payments accounts.

The General Framework

5. The links between international trade and the production of services cane deducted, at the level of the total economy, from the Production Account inthe System of National Accounts (SNA). The starting point is the definition of Gross Domestic Product(1):

Production Account

Resources	Uses
1. Output: a. Market output b. Output for own final use c. Other non-market output	1. Intermediate consumption
2. Taxes less subsidies on products	2. GROSS DOMESTIC PRODUCT

The aggregates relevant for the external aspects are: (i) market output and (ii) intermediate consumption.

6. Market output is defined as the sum of:

(a) the total value of goods and services sold (at economically significant prices)

(b) the total value of goods and services bartered

(c) the total value of goods and services used for payments in kind, including compensation in kind

(d) the total value of goods or services supplied by one establishment to another belonging to the same market enterprise to be used as intermediate input

(e) the total value of changes in inventories of finished goods and work-in-progress intended for one or other of the above uses

Items (a) to (d) refer to values of all goods and services sold or otherwise disposed of, whether produced in the current period or previous periods.

7. Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production , excluding fixed assets whose consumption is recorded as consumption of fixed capital.

8. The total output of services can be divided into (i) domestic sales and other uses provided to residents and (ii) sales to non-residents and other uses provided to non residents, which together form total exports of services.

9. Intermediate consumption of services can be divided into those received from(i) resident producers or (ii) non-resident producers: they represent a part of total imports of services;the other part of total service imports are those representing final consumption.

Alternative sources of trade-in-services data

10. Data on exports and imports of services can basically be compiled in two ways:

a. data on output and intermediate consumption of services can be collected as a whole and broken down into transactions with residents and non-residents (domestic and external transactions).

b. data on exports and imports of services can be collected independently of data on output, e.g. by surveys confined to external transactions.

11. In the first case, data on domestic and external transactions are homogeneous and comparable, as they are collected from identical statistical units, on the basis of the same classifications, definitions and coverage. In contrast, a collection of data on services exports and imports that is independent of data collection on output and intermediate consumption risks to entail inconsistencies, as the statistical units may diverge, classifications and definitions may be different and the methods of data collection (such as the units covered) may not be the same.

Data collection methods in the OECD area

12. In the OECD area, data on exports and imports are collected on the basis of both bases outlined in the preceding chapter (para. 10). There does not exist a systematic and exhaustive overview of the methods employed in individual countries, so that the explanations provided in this Chapter require checking and completion.

13. Most data available on exports and imports of services are compiled in the framework of the balance of payments. Institutional arrangement relating to balance of payments statistics differ between countries. In most OECD Countries (2) the responsibility for balance of payments statistics lies with the central bank, in the others the central statistical office is in charge of these statistics. In the first group of countries all data on external service transactions are collected independently from data on output. In the second group -- where data are collected by central statistical offices -- this appears also to be the case. An example are the surveys of the Bureau of

Economic Analysis of the US Department of Commerce (3) designed to collect data on external service transactions, particularly the "Benchmark Survey of Selected Services Transactions with Unaffiliated Foreign Persons" (BE-20) which covers a great number of "other private services": advertising, computer and data processing services; database and other information services; telecommunications; agricultural services; research and development, commercial testing, and laboratory services; management, consulting, and public relations services; management of health care facilities; accounting, auditing, and bookkeeping services; legal services; primary insurance; educational and training services; mailing, reproduction, and commercial art; employment agencies and temporary help supply services; industrial engineering services; industrial maintenance and repair, installation, and training services; performing arts, sports, and other live performances, representations, and events; and construction, engineering, architectural, and mining services. This survey is confined to external transactions.

14. France shows exports and imports of services in its production accounts for market services (4); the account for total market services is reproduced in Annex I. These data are derived from the French balance of payments and adapted to the classification of the production accounts; this requires a series of assumptions and adjustments for the sectoral attribution of foreign transactions whose sectoral characteristics have not been identified in the data collection process (e.g. cost of transport and insurance included in the c.i.f. value of merchandise imports).

15. Collection of data on services exports in the framework of industry surveys is practiced by certain OECD Countries. Examples for this procedure that have been published relate to Canada and the United Kingdom.

16. Statistics Canada has organised surveys of its computer service industry; the results of the latest of them relating to 1988 were published in 1991 (5). This survey covers both goods and services. A breakdown of total revenue into domestic sales and exports is provided for seven sub-categories: software products development, professional services, processing services, hardware sales, lease and rental, repair and maintenance, and other (such as payments from subsidiaries), as is shown in Annex II.

17. The United Kingdom has undertaken statutory computing services inquiries (6). Total billings to clients for work done have been broken into domestic and foreign clients (see Annex III). Total data on computing services are divided into: A. Bureau services: database services, value added network services and other; B. Software: semi-custom software, software products, software supports/maintenance; C. Hardware including maintenance; D. Other professional services: independent consulting, education and training, and other.

18. In the Netherlands, data on international trade in services are collected by the Dutch Central Bank in the framework of the balance of payments, but also by the central statistical office (CBS) (7). CBS initiated a project "International trade in services" (ITIS) in order to assess data compiled outside the balance of payments context. In the framework of its production statistics it added questions about exports of services to the questionnaires addressed to large companies in the manufacturing industries, in construction, transportation and certain business service sectors.

Initiatives to improve the linkages

19. Initiatives to improve the linkages between data on international trade and production of services have been taken at the international and the national level.

20. At the international level, the initiatives of the IMF, on the one hand, and the OECD and EUROSTAT, on the other, are interrelated. In the revision of its Balance of Payments Manual (8), the IMF has attached great importance to linking the revised classification of services to the new UN Standard Product Classification (CPC), to the extent practicable. The same procedure has been chosen by OECD and EUROSTAT in elaborating their joint trade-in-services classification (9), which will be an extended subsystem of the IMF classification (it will be finalised after the adoption of the Fifth Manual). In this joint classification, transportation, communications, construction work, insurance and financial services, computer and related services, other business services and other personal services are defined in CPC terms; no direct link is possible for travel and government services. As service production statistics are also expected to be geared to the CPC, comparability between the two areas should improve once the new trade-in-services classifications will be implemented.

21. The CBS of the Netherlands has undertaken a systematic comparison between its trade-in-services data and data collected by the Dutch Central Bank. A study analysing this comparison, which was commissioned by EUROSTAT, is in the process of elaboration.

NOTES ET REFERENCES

(1) United Nations (1993), Revised System of National Accounts, Table I (Full sequence of accounts for the total economy)

(2) Japan, Germany, France, Italy, Austria, Belgium-Luxembourg, Finland, Greece, Iceland, Netherlands, Portugal, Sweden, Switzerland and Turkey.

(3) U.S. Department of Commerce, Bureau of Economic Analysis (1990), The Balance of Payments of the United States: Concepts, Data Sources and Estimating Procedures, pages 36-60.

(4) INSEE (1991), Les Comptes des Services en 1991, page 73

(5) Statistics Canada (1991), Computer Service Industry.

(6) Central Statistical Office (1992), Computing Services (Fourth quarter 1991).

(7) A.M. Bloem (1992), Statistics on International Trade in Services: The Need for Coordination, page 3.

(8) International Monetary Fund (1993), Balance of Payments Manual: Revised Draft Fifth Edition, par. 186.

(9) OECD (1993), Draft Joint OECD-EUROSTAT Trade in Services Classification, STD/SERV(93)2

Annex I

FRANCE

Total Market Services

(FF billion)

	1988	1989	1990	1991
1. Total production	1 575,6	1 778,9	1 932,5	2 024,9
2. Various transfers	126,1	136,8	150,5	160,6
3. Total distributed production	1 701,7	1 915,7	2 083,0	2 185,5
4. Imports	45,8	48,5	50,6	57,5
5. Trade margins	-68,0	-72,5	-76,2	-76,5
6. Total resources	1 679,5	1 891,8	2 057,4	2 166,5
7. Intermediate consumption	907,6	1 042,7	1 147,9	1 198,6
8. Household consumption	632,2	693,7	748,7	796,8
9. Fixed capital formation and variations of stocks	60,3	68,1	74,4	76,5
10. Export	79,4	87,2	86,7	94,6
11. Total uses	1 679,5	1 891,8	2 057,4	2 166,5

Source: INSEE, Les comptes des services en 1991, Paris 1992, page 73

Annex II

CANADA

Selected Ratios for Computer Services Firms Classified by Major Service, 1988

	Total revenue	Expenses	Employee earnings	Exports	Average salary	Revenue per [illegible]	Ex[illegible]
		As a percentage of total revenue					
	thousands of $		%		thousands $		
Software Products Development	392,695	101.9	43.7	[illegible]	[illegible]	[illegible]	
Professional Services	1,167,003	86.4	46.2	[illegible]	[illegible]	[illegible]	
Processing Services	962,623	94.6	35.0	[illegible]	[illegible]	[illegible]	
Hardware Sales	594,946	94.4	25.4	[illegible]	[illegible]	[illegible]	
Lease and Rental	332,672	85.4	13.0	[illegible]	[illegible]	[illegible]	
Repair and Maintenance	79,697	104.1	42.9	[illegible]	[illegible]	[illegible]	
Other	47,402	111.5	47.7	[illegible]	[illegible]	[illegible]	
Total	3,577,058	92.3	36.3	[illegible]	[illegible]	[illegible]	

Source: Statistics Canada, Computer Service Industry 1988, Ottawa 1991, p.12.

Annex III

UNITED KINGDOM

Computing Services: Billings to Clients

(£ thousands)

	Total billings		Billings to foreign clients	
	1990	1991	1990	1991
Section A: Bureau services				
Database services	184,161	193,446	42,794	58,909
Value added network services	146,953	147,888	5,801	5,500
Other services	481,877	478,157	28,397	28,629
Total section A	812,991	819,491	76,992	93,038
Section B: Software				
Custom software	698,624	765,700	53,434	79,520
Semi-custom software		48,135		
Software products	553,413	563,819	80,111	113,446
Software support/maintenance	205,523	267,408	22,084	31,404
Total section B	1,457,560	1,645,062	155,629	224,370
Section C: Hardware				
Hardware	380,154	339,886	5,426	
Hardware maintenance	106,950	115,996	1,543	8,466
Total section C	487,104	455,882	6,969	8,466
Section D: Other professional services				
Independent consulting	445,226	460,547	34,895	40,872
Education and training	92,058	91,651	3,893	4,716
Other professional services including unclassified billings (for total only)	259,196	327,807	13,588	20,279
Total section D	796,480	880,005	52,376	65,867
Total billings	3,554,135	3,800,440	291,966	391,741
Software/programs including those sold independently of or in conjunction with hardware sales by hardware manufacturers	369,867	409,627		

Source: Central Statistical Office, Computing Services Fourth Quarter 1991, Business Monitor SDQ9, pages 1 and 2, HMSO 1992.