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OCEAN WATER TRANSPORT IN STATISTICS SELECTED ISSUES[1]

by

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[1] The points of view expressed in this paper are those of the author and do not necessarily reflect the views of Statistics Norway

1. INTRODUCTION

1.1 Ocean water transport is an international activity in more than one sense. The production of ocean transport services will during one period of time typically take place within different countries' territories and even outside any national borders (international waters). The service is often produced by a resident of one country and rendered to a non-resident, thus representing an International Trade in Services transaction according to internationally accepted definitions. Adding to this, the rather intricate or complex modes of organizing ownership, financing and running operations of vessels, statistical recording of international maritime transport activities indeed appear a rather complicated task.

1.2 The practical problems can be illustrated by reference to the world discrepancy for these types of services ("the case of the missing fleet"); and the problems are fully recognised in the International recommendations on National Accounts (NA) and Balance of Payments (BoP) statistics.

1.3 For Norway, a consistent and accurate recording of ocean transport services is of importance due to its sizable shipping industry. In 1992, gross freight receipts from abroad constituted about 14 percent of total exports and more than 50 percent of exports of all services. This relative importance can be traced in the statistical system, where efforts have been made to ensure a consistent measurement of the various economic flows related to shipping.

1.4 This paper briefly sketches some essential aspects of the international recommendations relevant to the statistical recording of shipping services, as given by both the United Nation's System of National Accounts (SNA) and the International Monetary Fund's Balance of Payments Manual (BPM), referred to as the Systems. The last part of the paper gives an introduction to some Norwegian experiences in the attempt at implementing the recommendations.

2. STATISTICAL PRINCIPLES

2.1 Units and residency

2.1.1 To achieve a consistent statistical treatment of international shipping activities, one should start with the recognition of the fundamental concept of economic or **institutional units**, which according to the SNA are units "capable of owning assets and able to engage themselves in the full range of economic transactions". A shipping company is an example of an institutional unit.

2.1.2 One attribution of an institutional unit is its **residency** of country, determined by the unit's centre of economic interest. The unit is in general regarded to have its centre of economic interest in the country in which it for a significant period of time carries out its economic activities, be it production, consumption or other. As a rule of thumb, one year or more is taken as a reasonable length of time when deciding upon the question of residency. International trade represents economic transactions in goods and services between resident units of a particular country and non-resident institutional units, that is units resident of other countries.

2.1.3 Apparently, the geographical allocation of ocean transport services is a statistical problem from the fact that the production of the transport service can be said to take place wherever is the position of the vessel. Quite often that will, in one and same accounting period, be within different countries or even outside any national borders, in international waters.

2.1.4 In this respect it is important to acknowledge that ships themselves are not economic or institutional units in the SNA and BPM sense, rather (ships are) economic **assets** in their capacity as factors of production and thus subject to ownership by economic units. This does not contradict with a data collection system in which the ship is chosen as the unit for which data are reported. For some analytical purposes it might even be preferable to identify each single ship as an independent production unit.

2.2 Geographical allocation

2.2.1 An adequat statistical system must be able to describe in a consistent way transactions related both to the transportation activity and to the change of ownership of vessels. Put it in another way, one clearly needs criteria to establish how to allocate between countries both the production activity and the income generated and the factors employed in this activity. Furthermore, these two questions should be answered separately as both principally and in practice it is possible for a company to produce a transport service either by employing its own equipment or leased equipment.

2.2.2 According to the Systems, the transportation activity, and thus the income generated, should be attributed to the country in which the **operator**, i.e the principal organiser, of the vessel is resident.

2.2.3 As for the geographical allocation of the ship per se, according to the recommendations one should look for the country of residence of the institutional unit to whom the **ownership** of the vessel can be attributed.

2.2.4 In the last decades a growing part of the world fleet has been flying flags of

convenience. In many cases this implies difficulties in identifying both the owner and the operator of a vessel. The Systems recommend that as far as possible the flag of register should not be used as a criterion in the geographical allocation. That appears to income generated as well as to assets.

2.2.5 As we shall see, the implementation of these recommendations is not always as straight forward as one could wish for. The following presentation of some Norwegian experience exemplifies this.

3. SOME NORWEGIAN EXPERIENCES

3.1 A case in point

3.1.1 Statistics on shipping activities constitute a thrilling challenge due to rather intricate modes of organising ownership, financing and running operations in the shipping industry. Lack of data has in turn resulted in world discrepancies for these types of services ("missing fleet").

3.1.2 The following quotation from a recent Norwegian newspaper article may serve as an illustration of the problems facing the data compiler:

3.1.3 "The Norwegian shipping company X in Bergen recently sold 10 ships to an Arabian company Y. The ships are to be registered in Liberia. The company X has entered a management contract with company Y. The ships will, however, be operated on a world-wide basis by the (Norwegian) company Z."

3.1.4 In this case, we have an example where three different countries appear, either as country of ownership, country of registration or country of operation and management.

3.2 The supply of shipping services

3.2.1 At least three methodical issues can be raised. **First**, there is the issue of which country is the **producer** of shipping services. As both the manager and the operator are Norwegian residents, the operator criteria stated by the Systems clearly identifies Norway as the supplier of the service in this case. This might not have been so clear if the operator and the manager were residents of two different countries. Furthermore it raises a question of how to separate transport services from other types of services (see below).

3.2.2 The Norwegian exports of maritime transport services are recorded both in the

annual Maritime Transport Statistics (MTS) compiled by Statistics Norway and in the Foreign Currency Exchange Statistics (FES) compiled by the Bank of Norway; the latter on a monthly basis. The FES-statistics are less detailed but on the other hand available at an earlier point of time and therefore basis for preliminary NA- and BoP-statistics.

3.2.3 The MTS covers in principle all Norwegian operated vessels in foreign-going trade and are based on reports from shipping companies for each ship of 250 gross tons or more in their operation. The data comprise both freight earnings and operating expences and are used for both National Accounts and Balance of Payments estimation purposes in addition to direct publication.

3.2.4 The main weakness of the MTS is the lack of coverage, illustrated by the statistical gap when compared to FES. For the last years the gap has been about 10 per cent on both the credit side and the debit side, indicating a fairly good accordance on net basis. The most important reason for the deviations on gross basis is one of coverage, i.e. all ships operated by the Norwegian shipping companies are not accounted for in the MTS.

3.2.5 Reports on Norwegian-registered ships can be controlled against the national ship registers. For foreign registered ships hired by Norwegian shipping companies, however, such control has been difficult. One has to rely on the respondent. The need of a register covering Norwegian owned or controlled, but foreign registered ships is obvious. In fact such a register, based on data from Lloyds, is under way.

3.3 Income distribution

3.3.1 Related to the issue of residency of the producing unit is the statistical treatment of employment and the compensation of employees in the shipping industry. In production analysis the wages and other costs of employment will be outlays of the operator and thus part of total expenditures on compensation of employees of the country in which the operator resides.

3.3.2 From an income analysis point of view the question is however, whether to distribute the wages to abroad or to the domestic household sector. This must be determined on basis of the residency of the sailors. In the Systems individuals are recognised as institutional units and should be subject to the same criteria for determining their residency as other units (centre of economic interest).

3.3.3 In the current Norwegian NA and BoP statistics, all sailors on Norwegian ships are treated as residents. The rationale is as follows: The domestic territory comprises Norwegian ships. Sailors both in their capacity as production factors and consumers thus carries out their economic activity on Norwegian territory. All wages are credited the

Norwegian household sector. An offsetting entry in the BoP item "Consumption by residents abroad" has been made, reflecting that the foreign sailors are assumed to "spend" their wages abroad.

3.3.4 Alternatively one could argue that a sailor keeping his household in one country but working on a Norwegian ship operating in international waters, will have a larger share of his economic activity, i.e. consumption expenditures, taking place in his home country. He has no economic interest in Norway whatsoever beyond having a contract with a Norwegian employer. The wages should then be recorded as an distributive transaction between Norway and the rest of the world.

3.3.5 The current practice will be reassessed in the near future as part of the ongoing main revision of the NA and BoP statistics.

3.4 Transportation services versus other

3.4.1 The **second** question to be raised relates to **classification**, i.e how to deliminate ocean transport services from other types of services. In recent years we have observed a growth in specialized enterprises, ship management companies, producing a set of services related to shipping on a contractual basis. This development has made statistical recording of maritime transport services somewhat more difficult and maybe arbitrary than before, blurring the borderline between maritime transport activities and supporting or business service activities. The dispersion of ship management functions and ownership can even make it difficult to identify the statistical unit producing the transport service itself.

3.4.2 As seen from the cited example above, sometimes both an operator and a manager is involved. Obviously, both units are producers of services, but to decide which of them is the producer of transportation services may not be so straightforward. It is not unusual that the different companies involved accounts for different aspects of the running operations. One company may be responsible for the income side and the engagement of the vessel, while another accounts for the cost side and the employment.

3.4.3 However intricate the organisation of the supply of the transport service might be, for statistical purposes it seems attractive to stick to one basic rule; only one institutional unit is singled out as the producer of transport service and the vessel in operation is either owned or leased by that unit. The other companies involved are the producers of other types of business services or services related to maritime transport.

3.4.4 A consistent and comprehensive statistical treatment of these services requires criteria for distinguishing the various types of services. These crieteria should be available

through the international classification systems. In Norway, recently developed product- and activity classifications; CPA and NACE rev.1, are being introduced as basis for the industry and product standards in the National Accounts.

3.5 International transactions in ships

3.5.1 The **third** issue relates to the geographical allocation of the vessels and to the question of **ownership** of assets.

3.5.2 Some years back the country of registration, country of ownership and country of operation of a ship most often were all the same. For this reason it was quite common to employ the flag- or register criteria, i.e. to attribute the vessel to the country of registration, which in most cases were acceptable as the registers required a national owner company.

3.5.3 However, with the expansion of the so-called "flags of convenience" or "international ships registers", the implication of the register-criteria were that exports and imports of ships, as recorded in the External trade statistics, just reflected a transfer from one register to another, without necessarily a corresponding transfer of ownership.

3.5.4 In Norway, the disadvantage of employing the register principle became quite apparent by the mid 1980's. When a considerable part of the Norwegian-owned fleet chose to register under foreign flags, this was recorded as exports of ships although no change of ownership took place.

3.5.5 As seen from table 1, Norwegian exports of second-hand vessels amounted to about Nkr. 3 billions in the early 1980's while in 1986 the value was more than 10 billions. For a substantial part of these ships no real change of ownership took place and thus no export entries should have been made, at least not in the BoP.

3.5.6 In 1987, the Norwegian International Ship Register (NIS) was established to prevent further registration abroad. Under certain conditions, NIS is accessible to ships with no Norwegian ownership interests at all. Now the problem was turned around; the possibility of an unanticipated growth in the imports figures due to changes in registration only. The imports figures of table 1 tell part of this story.

3.5.7 The need for a re-evaluation of the criteria used for exports and imports transactions in the External Trade Statistics became quite apparent, with the result that the register principle was abandoned and the ownership criterion introduced. An important instrument in the efforts of establishing ownership is the register data from Lloyds Maritime Service.

3.5.6 One should, however, admit that the concept of ownership itself can be rather complex and different concepts of ownership occur. An illustration is given in the Lloyds data where both nationality and country of residence is given for registered owner, manager and parent company. By taking into account the registered owner only, one might be off the track as far as the control of the vessel is concerned. Efforts will in the future be made to employ real ownership criteria. At the same time we must, however, look for practical solutions.

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TABLE 1. NORWEGIAN EXPORTS AND IMPORTS

EXPORTS, MILLION KRONER

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Goods,	92863	106899	114799	133249	156822	173255	135999	145182	152631	190054	215450	223420	219687
of this													
ships second-hand	2425	3406	4531	3986	4888	10039	10211	8690	3023	4068	6842	8473	6416
% of goods	2,6	3,2	4,0	3,0	3,1	5,8	7,5	6,0	2,0	2,1	3,2	3,8	2,9
Services,	41932	49390	50224	50672	57256	62309	58663	55041	61040	71809	77565	84108	83340
of this gross receipts													
from shipping	26980	30934	29403	29091	34138	36215	31297	27724	32248	42228	46008	50700	42029
% of services	64,3	62,6	58,5	57,4	59,6	58,1	53,4	50,4	52,8	58,8	59,3	60,3	50,4
TOTAL	134795	156288	165023	183921	214077	235564	194663	200224	213671	261863	293015	307528	303025

IMPORTS, MILLION KRONER

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Goods,	84543	90516	100458	102520	116542	133927	153073	151011	155350	166505	171779	170305	166387
of this													
ships second-hand	326	735	495	353	908	696	427	2744	12986	23989	12082	6290	1201
% of goods	0,4	0,8	0,5	0,3	0,8	0,5	0,3	1,8	8,4	14,4	7,0	3,7	0,7
Services,	32828	39951	44085	49511	56311	60675	59971	60417	62608	68086	71066	76793	85362
of this gross expenditure													
for shipping	16265	18894	19559	19454	23262	25937	23059	20939	21925	26848	27675	27949	25555
% of services	49,5	47,3	44,4	39,3	41,3	42,8	38,5	34,7	35,0	39,4	38,9	36,4	29,9
TOTAL	117371	130467	144543	152031	172852	194602	213044	211427	217958	234591	242845	247098	251748