THE COD STUDY

At its 2nd Session (19-20 September 1991), the ad hoc Expert Group of the Committee for Fisheries had a profound exchange of views on how to calculate economic assistance in the fisheries sector. It was found useful to operate with more than one kind of calculation to capture the different types of assistance afforded and to separate them, for the time being, into two markets, i.e. the market for commodities and the market for services. In addition, the Expert Group found it useful to have an analysis of who benefits from assistance. In this regard it was noted that the final beneficiary of assistance was often not the same as the initial receiver due to the complex interactions in the fishing industry.

The following summarises the discussions of the Expert Group, recalling the suggestions put forward for the calculation of economic assistance. Also, the present paper identifies the barriers in place for commodities and fishing services. It furthermore contains suggestions on how calculations and refinements may take place and gives examples of quantification. The paper finally points to the difficulties which some of the calculations present; however these constraints, which in particular come about due to lack of data, should not prevent relevant work to be continued with a view to providing further transparency on how the fisheries markets work and are interlinked.

At this stage of the exercise on economic assistance the Secretariat found it useful to enlarge the research area to cover more products than cod. Hence, the following will provide examples of quantification not related to the cod or groundfish market.

The market for commodities

The barriers to trade in raw fish and in processed fish products should be considered under this heading. Basically two types of border measures have to be identified and could be subject to quantification of the assistance implicitly offered to producers, tariff barriers (including tariff quotas), and non-tariff barriers.

At this stage it might be relevant to separate the harvesting sector, and hence the raw material stage of fish, from the processing sector. This should be the case as the beneficiaries of implicit assistance offered by border protection need not, in all cases, be the primary producers. For example, on markets with no restrictions on imports of raw material but on processed products, the beneficiaries could, depending on the domestic price formation, be processors and not fishermen.

Tariff barriers

At the 2nd Session of the ad hoc Expert Group it was suggested that when there is only a tariff barrier in place, assistance could be measured by the use of the nominal tariff to the border price.

Identification of tariff barriers

Tariffs

In the previous studies by the Committee for Fisheries entitled *"Fisheries Issues : Trade and Access to Resources"* (1989) and *"Problems of Trade in Fishery Products"* (1985), tariffs on fish products were listed for all OECD Member countries. In Annex I to the present study, an updated version of the key market areas is provided.

With the exception of the EEC, there are no tariffs on raw fish on the main OECD markets; on the EEC market (see Annex III) nominal MFN tariffs have been reduced or nullified -- although mostly temporarily -- through the application of tariff quotas, tariff suspensions and preferential agreements.

A main tariff issue for processed products is tariff escalation, i.e. tariffs on processed products are higher than on raw materials. On the three main markets for fish within the OECD area (the United States, the EEC and Japan), tariff escalation is present in various degrees. The effective rate of protection might be an additional calculation supplementing the information on the nominal tariff rate.

Tariff quotas

The United States has a tariff quota for canned tuna (not in oil) fixed annually as 20 per cent of domestic production of canned tuna during the preceding year (excludes production in American Samoa). In 1990 the quota was set at 39 545 tons which could enter the United States at 6 per cent duty, while imports above this level were assessed a duty of 12.5 per cent. Tuna (in oil) is not under a tariff quota but is assessed a duty of 35 per cent. Further data on the United States tuna tariff quota are found in Annex II.

The EEC applies several tariff quotas, some of which are bound in GATT, others are opened on an autonomous basis, and finally quotas under preferential agreements with certain countries; particulars on the EEC are found in Annex III for the years 1988-1990.

Examples of quantification of tariff barriers

The following are two examples which can be generalised in those cases where only a tariff or a tariff quota is in place.

In the United States, raw fillets including fish sticks or any other size and shape, coated with batter or breadcrumbs, irrespective of species of fish and origin are assessed a 10 per cent duty rate (MFN). This tariff protects domestic processors of breaded or battered products and enables them to increase their factory gate price. The tariff of 10 per cent has applied throughout the 1980s, and still applies.

The market for breaded products is such that the United States, with a 10 per cent tariff, does not import any similar products. In fact the tariff structure (blocks enter free, frozen fillets at a rate of 1.875 cents per pound is negligible considering that the price of blocks is in the area of $1.5 to $2.5 per kilo thus corresponding to an ad valorem tariff in the order of 2 per cent) is such that the raw material for most breaded or battered products enters free. The protection is considered to be of importance to the processors only. Thus the processors and not the fishermen receive the implicit economic assistance.

It should be recalled that in the United States, the processing industry to some degree is foreign-owned, i.e. reprocessing plants of especially Canadian and Icelandic companies. It is thought that the tariff structure is partly responsible for the foreign direct investments in reprocessing plants.

United States production of fish sticks and fish portions (all considered to be covered by the 10 per cent tariff rate due to lack of more detailed statistics) has developed since 1981 (see Table 1).

Table 1. US production of fish sticks and portions (tons product weight). Quantification of assistance

(Quant. : tons, Val. : '000 $)

	Fish sticks			Fish portions			Total	
	Quant.	Val.	10%	Quant.	Val.	10%	Total Val.	10%
1981	40368	96754	9675	149005	388722	38872	485476	48548
1982	41369	105516	10552	137978	385894	38589	491410	49141
1983	39441	115556	11556	152119	410858	41086	526414	52641
1984	41942	109677	10968	151185	413789	41379	523466	52347
1985	43666	111265	11127	149892	367734	36773	478999	47900
1986	39605	94290	9429	155004	393956	39396	488246	48825
1987	44885	142946	14295	146890	445631	44563	588577	58858
1988	36365	113868	11387	136674	438873	43887	552741	55274
1989	40432	116440	11644	126941	400289	40029	516729	51673
1990	29587	74866	7487	133216	414428	41443	489294	48929

Thus the total production value in 1990 amounted to $489.3 million, 10 per cent of which corresponding to $48.93 million was, according to this method of quantification, implicit economic assistance due to the tariff. It reached a peak in 1987 of $58.8 million and has since sharply fallen; this development has come about as consumers have been moving away from breaded products towards more leaner fish products.

In Japan, tariffs on roes of cod (or similar species including hake, whiting and Alaska pollack) are assessed according to the degree of processing. Thus, the fresh, chilled or frozen raw material hard roes of cod face a tariff of 6 per cent; when in brine, which is the first step in the production process, the tariff is 7.5 per cent; and finally when the hard roes are in airtight containers the products are assessed a 16 per cent tariff.

In 1989 Japan imported 20 609 tons worth Y 22 794 million of fresh, chilled or frozen roes of Alaska pollack, cod, etc. 2 431 tons worth Y 2 017 million of roe in brine/salted and 7 570 tons worth Y 6 735 million of prepared roe in airtight containers. Domestic processors output of prepared roe amounted in 1989 to 44 500 tons product weight. Assuming that all origins receive the same tariff treatment the following calculations can be made.

Table 2. Japanese imports
(Mv in million Yen, Mp in Yen/kg, Mt and Dt in tons)

	Imports			Domestic	
	Mt Quant.	Mv Val.	Mp (cif)	Dt	Tariff %
Raw/fresh, frozen	20609	22794	1106		6.0
Brine/salted	2421	2017	829		7.5
Prepared/airtight	7570	6735	889	44500	16.0

While statistics on the value of domestic production are not available, it is assumed that the border price of imported prepared/airtight products, as given by the average import value, corresponds to the domestic producer price. Furthermore, if tariffs are weighted according to imported quantities the weighted tariff is 8.6 per cent by which the domestic production on average is protected. Applied to the border price of Y 889 per kilo for finished products this gives an implicit assistance of Y 76 per kilo, and for total domestic production the assistance amounts to Y 3 395 million for 1989 corresponding to $25 million (while total domestic production value amounted to Y 39 560 million or $291 million).

The United States tuna tariff quota could be calculated in the following way. Imports into the United States of canned tuna amounted to 157 990 tons and $375.9 million in 1989 and 129 125 tons and $293.8 million in 1990. The average import value was $2 379 per ton in 1989 and $2 276 per ton in 1990. Most of these imports (1990) come from Thailand (72 per cent) the Philippines (9.5 per cent), Indonesia (7.6 per cent) and Taiwan (6 per cent).

Most of these imports would have been lightmeat tuna in chunks (tuna is sold solid, in chunks and in flakes and the most important domestic United States production is chunks of lightmeat taking up 98 per cent of total lightmeat production) this being the biggest market in the United States. Domestic production of lightmeat chunks was 243 617 tons in 1989 (out of a total domestic canned tuna production of 311 374 tons), and 198 822 tons (263 430 tons total) in 1990. The average value of domestic production was $2 860 per ton in 1989 and $2 825 per ton in 1990.

As the import statistics are given on a c.i.f. basis including customs duty, these should be deducted from the average import value. Over and under quota imports are given in Annex II, and weighted according to over/under quota imports, the average tariff rate would have been 10.87 per cent in 1989 and 10.3 per cent in 1990. Hence adding the transport costs etc. would mean that the recorded value is to be reduced by 20 per cent to account for estimated costs and tariff. The reference price would then be $1 903 per ton in 1989 and $1 821 per ton in 1990.

The 1989 price wedges then amount to $957 per ton (2860-1903) and $1 004 per ton (2825-1821) in 1990. When applied to domestic production of lightmeat chunks only, an implicit assistance to processors amounted to $238.4 million in 1989 and $204.4 million in 1990.

At this stage it has not been possible to provide examples from the European Economic Community. Lack of consolidated production statistics for the processing industry renders such a calculation difficult.

Issues for further discussion

It is suggested that the ad hoc Expert Group discusses the above examples of calculation with a view to identifying a method, which subsequently can be suggested to the Committee for Fisheries as generally acceptable and applied by Member countries.

A few issues related to the calculation of the assistance offered by tariff protection remain.

If a species is not harvested domestically but a tariff remains in place, protection on a domestically produced substitute should be calculated. For example, in the EEC no production of Alaska pollack takes place, but Alaska pollack faces a tariff which protects EEC cod producers. Another example could be that of hake.

However, the implicit assistance offered by tariffs applied to several species which are substitutes for domestic products are not additive; differences in tariffs applied to foreign substitutes could be worked out by applying an average, weighted according to the import quantity. Suppose that Alaska pollack and hake face tariffs of 10 per cent and 15 per cent and that imports amount to 10 000 tons and 5 000 tons respectively, then the domestic production of cod would be protected by an average of 11.66 per cent, and not 25 per cent.

Another issue is the identification of the beneficiary of the implicit economic assistance. If frozen blocks of Alaska pollack fillets are protected by a tariff, as is the case in the EEC, the protection may offer implicit economic assistance to the harvester of the cod going to the same processing, but not to those cod fishermen harvesting for another market outlet, e.g. the fresh fish market. For the time being it is suggested that such considerations, while relevant for a better appreciation of the whole issue of economic assistance, be treated at a later stage of the process. In this regard it will be recalled that Annex IV to document FI/306 "Economic Assistance Measures" contained a questionnaire regarding information on utilisation of species landed which would be required for such calculations; only few a countries were able to provide such information.

Non-tariff barriers.

When implicit assistance offered by non-tariff barriers is to be measured, the Expert Group found it necessary to use a price wedge approach adjusted for transport costs and a "deterioration" factor. The choice of a reference price as well as a domestic producer price has proved to be a problem in earlier studies (e.g. see the last Cod Study).

For a more pragmatic approach to the problem of choosing an appropriate reference price, it is suggested that the price observed at the border, and recorded from import statistics as the average import value be used. These values are most often cited as C.I.F., i.e. the value contains handling costs, insurance and freight. To be comparable with the domestic producer price (landing price or processors price) the border price should be reduced with handling cost, insurance and freight.

The "deterioration" factor was found by the Expert Group to be perhaps important in fisheries products trade, especially when the trade concerned raw, fresh fish. Markets could sometimes be "naturally" not supplied with raw fish for the simple reason that the fish cannot reach the point of consumption in appropriate time and condition, or, although technically feasible, transport costs would be prohibitive. This would be the case of fresh Canadian cod being transported by air to the European market

as it would simply cost too much while prices for live lobster are sufficiently high that such transport costs can be covered.

The "deterioration" factor could create "natural" market delineation, but it can only be an issue for fresh fish. Hence, when the price wedge approach is used for fresh, raw fish, careful analysis should be undertaken on the structure of the market for which the quantification is done. The price differences which have been observed at the landing level and presented in the previous Cod Study can, to a large extent, be attributed to distance from markets, and hence this is a problem of deterioration. When such situations occur, different reference prices could be used.

The analysis of the market structure should also include an assessment of the relative size and importance of different market segments or utilisation of the same species. For example, as Canadian cod is marketed primarily for the United States'. block and fillet market, prices can not be as high as the prices obtained by European fishermen for cod marketed primarily for the fresh fish market. Such natural delineation of markets would warrant the use of one reference price for each segment. In the cod case cited it would mean using one reference price for fresh cod for the American market, and another for the European market.

Identification of non-tariff barriers

Quantitative restrictions

Japan, Finland, France and Norway apply import quotas while Sweden applies quantitative import restrictions.

Japan applies an import quota for cod (including cod-like fish such as hake) and yellowtail, mackerel, sardine, horse mackerel, saury, scallops, adductors of shellfish and "Niboshi". This import quota is based on the total import value in a basket of these products, i.e. there is no individual import quota for each product. The quotas in the following fiscal years (April-March) were: 1985/86 $80 million, 1986/87 $102 million, 1988/89 $203 million, 1989/90 $243.9 million and the first half of 1990/91 $124.4 million, thus increasing considerably over the past five years. The main reason for this development has been domestic processors lack of raw material from domestic landings.

Imports of herring, Alaska pollack, hard roes of pollack, cuttlefish and squid are also subject to quotas as follows:

Table 3. Quotas for herring, Alaska pollack, hard roes of pollack, cuttlefish and squid
(tons)

	1985/86	1986/87	1987/88	1988/89	1989/90
Atlantic herring	68000	70000	?	50000	52000
Pacific herring				50000	50000
Alaska pollack	670000	1240000	?	1024000	631000
Hard roes of pollack	14000	15000	?	20000	25000
Squid	46000	53000	?	53000	?

Certain quantitative restrictions may be applied by Spain and Portugal under their adhesion agreement with the Community; these are all to be phased out by 31.12.1992.

Finland applies a global import quota for salmon (except frozen fillets of salmon) totalling a value of Mk 1.3 million and another for other species (except frozen fillets) worth Mk 2.5 million. Up to and including 1984 no licences were issued.

France has a global quota in place for canned tuna and sardines, which is a derogation from the EEC policy of not having quantitative restrictions in Member States. This follows paragraph 4 of Regulation (EEC) 3796/81 (market organisation of fisheries products) which specifies that Member States of the Community, in the absence of a Community arrangement (which is the case for canned sardines and tuna), may apply quantitative restrictions on those products.

In Norway import quotas are applied for fresh and chilled mackerel, however in the last few years imports have been granted freely.

Sweden applies quantitative restrictions on imports of fresh herring and cod, and mackerel fillets.

More information on the above examples, and others not cited, could be forthcoming at the 3rd Session of the Expert Group.

Other NTBs

The EEC applies a price system for most landings and a parallel price system towards imports of fresh, whole fish. In addition, reference prices are in force for most derivatives (processed products) of raw fish, e.g. blocks, frozen fillets. Imports priced less than the reference price are, however, allowed to enter the EEC. Only if imports of significant quantities continuously enter at prices lower than the reference price, can action be taken.

Landing bans

With the exception of the EEC countries, most Member countries apply landing bans to foreign vessels. Combined with the transport costs and the deterioration factor, see above, such bans could effectively stop the free flow of fresh, chilled fish to certain markets; a wedge between domestic and foreign prices for raw fish could be introduced. However, by the same token landing bans could penalise processors as their access to raw material is curbed.

Examples of quantification of non-tariff barriers

Finland's salmon quota was in use in 1984 when domestic production amounted to 1 167 tons valued at Mk 32.4 million giving an average value of Mk 27.76 per kilo corresponding to $4.47 per kilo. While it is a salmon quota, it is believed to also protect the rainbow trout production in salt-water, which amounted to 9 500 tons in the same year. As there were no imports of salmon, a border price was not quotable and recourse to using Norwegian export statistics was taken. Here the average value of exported salmon in 1984 stood at NKr 47.39 per kilo (17 300 tons and NKr 820 million), corresponding to $5.49 per kilo. As such there would have been a negative assistance to the Finnish producers of $1.02 per kilo.

Japanese and French import quotas for processed products have not been calculated at this stage as an issue of choice of price exists (see later).

Issues for further discussion

Fisheries markets can be momentarily under-supplied from domestic sources and recourse to imports may be necessary to keep the processing industry going. Such situations can be short term (e.g. due to weather) or of long term nature when, for example, the fishery is closed as the TAC has been reached. Such external factors are likely to have an influence on the price formation, and the price wedges observed under such conditions may be questioned. The Secretariat considers, however, that due to the complexity in assessing the importance of such factors these should be disregarded in the quantifications.

When the assistance to be measured is for a processed product, the choice of domestic price, e.g. wholesale or retail, becomes an issue. A survey carried out earlier (see Annex IV to FI/306 "Economic Assistance Measures") showed that only a few countries collect statistics on the output of the processing industry in sufficient detail to be of use to a price wedge calculation at ex-factory gate point.

The Expert Group should try to come to grips with the choice of prices for the processed product wedge and indicate points for measuring where statistics may be more easily available. Only those products where a non-tariff barrier is in place would encounter this problem. This would include Japan (certain frozen products) and France (certain canned products) only.

One of the issues which the Expert Group should look at more closely during its third session is how non-tariff barriers should be defined in the fishing sector. Over and above the "normal" non-tariff barriers, e.g. import quotas, other non-tariff barriers or measures having the same effect and special to the fisheries sector exist. As one example it could be argued that the fishing sector, due to limitations on the supply, is subject to a "non-tariff barrier" (supply constraint) called a TAC.

In the case of the agriculture quantification work, supply constraint policies have been considered as measures with similar effects to non-tariff barriers and their quantification has been made using price wedges. Guidelines on how to deal with general supply constraint policies, as those in place in fisheries, for the quantification is sought.

On the basis of the above, previous studies and bilateral consultations, the Secretariat has found that a quantification of those cases where a price wedge is to be used will be very difficult due to lack of data. If no other alternative than the price wedge approach can be identified by the Expert Group, other avenues should be explored. This will in particular be the case for processed products as the quantification requires knowledge of the processing industry's output of processed products corresponding to the detailed level of the tariff schedules. While this may not be a problem for canned tuna (which nevertheless is not a standardised product but very diversified on some markets), on the United States market it can turn out to be insurmountable when measuring, for example frozen, breaded fillets. The Secretariat would appreciate guidance from the Expert Group on how to treat this matter. It should be recalled that the cases for which the price wedge should be used are few although it would depend somewhat on the treatment of supply constraints.

The market for fishing services

The other market which the Expert Group identified as relevant for quantification was the market for fishing services. Barriers to the free-flow of fishing services were found to provide implicit assistance to those fishermen who were allowed to fish. In the present study, other types of fishing services, e.g. processing and marketing have been left aside. It is recognised, however, that those types of services, while subject to quite different regulating mechanisms, could be of particular importance. The view of the Expert Group on whether it wishes to pursue some analysis of these markets is sought.

For the harvesting service the Expert Group found that the relative fishing costs, and differences in these, could be used to estimate price wedges for fishing effort, and that the price wedges for fishing effort could explain the extent to which domestic fishermen were protected. Over and above assistance to inputs, which will affect the cost structure, assistance could come about by support to output and through administrative measures.

Assuming that the coastal State wishes to maximise the economic benefits of its resources to the nation as a whole the coastal State, while retaining the property right to the resource when in the sea, would hire the necessary service, domestic or foreign, in exchange for an exploitation licence and the right to sell the harvested fish wherever the holder of the licence finds it most lucrative. Such "trade" could materialise either via the coastal State searching for the cheapest exploiter, or, that the coastal State sells exploitation licences to the highest bidder.

For the fishing services the Cod Study presented to the 2nd session of the Expert Group opened the possibility of using relative extraction costs of the fleets. Under certain circumstances this could be an indicator of the lowest cost producer, i.e. the fleet with a comparative advantage. The correct measure is hypothetical as it should be taken on the same type of fleet fishing the same stock, in a free trade market, but with different crews.

Identification of restrictions on fishing services

Three studies presented to the Committee for Fisheries have provided transparency on restrictions in place for the free flow of harvesting services as well as derogations offered by some coastal States. The publication *Fisheries Issues : Trade and Access to Resources*, a study on Conditions of Access to Resources and a study on Bilateral Arrangements provided lists of restrictions on access to coastal zones and lists those bilateral arrangements and their conditions which gave access to certain fleets to certain fisheries. Finally, at its 67th Session the Committee was presented a Study entitled "Direct Investments in the Fishing Sector".

Those three studies have all pointed to the fact that there is almost no trade in harvesting services, and if there is, for example through bilateral fisheries agreements, this "trade" does not exist with a view to providing access to the lowest cost producer. Rather, access is provided for reasons such as traditional fishing grounds and the fleet State's willingness to pay access fees.

A recent study by the FAO (FAO Fisheries Circular No. 831, FIP/C831) entitled "Preliminary Information Requirements of Potential Foreign Investors in Industrial Fishing Ventures" provides a list of areas and issues which potential private investors in fisheries arrangements should examine. While in particular related to developed countries investments in developing countries, the issues raised give a good insight into the various complexities and conditions under which the extension of fishing services may take place.

It will be noted that the Committee for Fisheries has for a long time analysed harvesting services, but has not, to any great extent, looked at the market for processing, marketing services etc. which are also a part of the fishing services.

Examples of their calculation

For the present study it has been possible to provide cost data for some fisheries in Norway, Sweden and Japan. It should be recalled that data availability is poor and that the quality and detail of data are very different from one country to another. The Expert Group should take stock of the situation, and, if possible bring cost data along to the 3rd session of the Expert Group. The data on Norway, Sweden and Japan are presented in Annex IV.

In Norway surveys on cost structure and income are carried out yearly and in great detail for several segments of the fleet. These surveys have been carried out since 1968 for vessels above 40 feet length and for vessels below 40 feet length on a regular basis since the end of the 1970s. The very detailed statistics collected by Norway have formed an integral part of the support negotiations between the authorities and fishermen's organisations.

Cost and earning statistics in Norway are collected for type of fisheries (gear and main species harvested) on size of vessel, and on home area of vessel, the latter giving an indication of the zones of fishing. The examples given in Annex IV show averages for vessel engaged in demersal, pelagic fisheries and purse seiners.

In Japan detailed statistics are collected every year and published in the Japanese Agriculture and Fisheries Statistical Yearbook. These are collected for vessel size and for certain types of fishery e.g. tuna pool and line. The table in Annex IV covers 1989.

In Sweden the last survey of the profitability of the fishing fleet was carried out in 1985 covering the years 1983, 1984 and 1985. The statistics to which the Secretariat has had access are no more detailed than shown in Annex IV.

Issues for further discussion

Fishing costs are not only different due to regulations concerning who can fish; some fleets may indeed have a comparative advantage in the catching of fish, as some countries (or companies) may be lower cost producers than others. This may, as identified clearly in the paper by Cunningham and Whitmarsh, come about due to a number of reasons (e.g. wage levels, cost of capital, gear technology, crew experience), the most often cited reasons deal with:

- skilled labour;
- capital;
- better management of fleet operations;
- seasonality of fishery.

In the papers presented to the Expert Group it has, on some occasions, been mentioned that the management system (and objectives) combined with legislation governing access, will, to a large extent, determine whether the coastal State opts for foreign or domestic fishing services. In addition, the Committee was, at its 67th Session presented with a report entitled "Direct Investments in the Fishing Sector" which lists impediments to foreign potential investors investing in the fishing industry. Combined with the reports previously mentioned (Bilateral Arrangements and Conditions for Access to Resources), the Expert Group now has a large information base on impediments to access. In addition to updating, this information could be complemented by a paper on Member countries' management objectives and a general survey of fishing costs. However, as mentioned above, the fishing costs are not always surveyed for the relevant segments of the fleets.

One issue which the Expert Group might wish to address at the quantification stage of fishing services, is whether it is important to be able to decompose the relative importance of the various factors which influence the wedge. For example, in the New Zealand case study , it is concluded that: "the model shows that given appropriate quantification of parameters it is possible to link many types of assistance by their common effect on profitability...".

Of a more specific nature has been the importance of pay systems and their flexibility. Fishing labour pay systems are generally based either on part-sharing of the grossing of the vessel, or based on pre-negotiated terms such as industrial wages in general. It is thought that the part-sharing system is more flexible and that the pay system could influence the cost structure. The views of the Expert Group on this matter would be appreciated.

ANNEX I

	Finland 1.1.1992 General	Canada	Sweden (1)	United States General	EEC	Japan
DEMERSAL FISH						
Cod						
Whole: fresh, chilled	1.0				12(12)	10.0
Frozen	1.0				12(12)	6.0
Frozen fillets	2.5			4.134 c/kg	15(13)	10.0
Blocks of fillets	2.5				12(14)	
Skinned/boned for further processing	1.0		(2)		12(14)	
Raw fillets, coated with butter or breadcrumbs, deep-frozen	2.0	11.0	3.5	10.0(11)	15.0	
Salted whole cod	3.0				13(15)	
Salted cod fillets	3.0				16.0	15.0
Dried, whole cod	3.0			0.2 c/kg	13(15)	
Dried cod fillets	3.0				16.0	15.0
Haddock						
Whole: fresh, chilled	1.0				15.0	5.0
Frozen	1.0				15.0	5.0
Frozen fillets	2.5		(3)	4.134 c/kg	15.0	
Blocks of fillets	2.5				15.0	
Skinned/boned for further processing	1.0		(2)		15.0	
Raw fillets, coated with butter or breadcrumbs, deep-frozen	2.0	11.0	3.5	10.0(11)	15.0	
Whiting						
Whole: fresh, chilled	1.0				15.0	
Frozen	1.0				15.0	
Frozen fillets	2.5		(3)	4.134 c/kg	15.0	
Blocks of fillets	2.5				15.0	
Skinned/boned for further processing	1.0		(2)		15.0	
Raw fillets, coated with butter or breadcrumbs, deep-frozen	2.0	11.0	3.5	10.0(11)	15.0	
Hake						
Whole: fresh, chilled	1.0				15(16)	
Frozen	1.0				15.0	
Frozen fillets	2.5			4.134 c/kg	15.0	
Blocks of fillets	2.5				15(21)	
Skinned/boned for further processing	1.0				15.0	
Raw fillets, coated with butter or breadcrumbs, deep-frozen	2.0	11.0	3.5	10(11)	15.0	
Saithe (Pollock)						
Whole: fresh, chilled	1.0				15.0	
Frozen	1.0				15.0	
Frozen fillets	2.5			4.134 c/kg	15.0	
Blocks of fillets	2.5				15.0	
Skinned/boned for further processing	1.0		(2)		15.0	
Raw fillets, coated with butter or breadcrumbs, deep-frozen	2.0	11.0	3.5	10.0(11)	15.0	

ANNEX I (cont'd)

	Finland 1.1.1992 General	Canada	Sweden (1)	United States General	EEC	Japan
Tuna						
Whole: fresh, chilled	5.0				22(17)	5.0
Frozen	5.0	(8)			22(20)	5.0
In airtight containers						
not in oil	7.5	11.0	3.5(4)	6.0(10)	24.0	9.6
in oil	7.5	14.0	3.5(4)	35.0	24.0	9.6
Salmon						
Whole: fresh, chilled	5.0				2.0	5.0
Frozen	5.0				2.0	5.0
In airtight containers						
not in oil	15.0	3.0	3.5(5)	3.0	5.5	9.6
in oil	15.0	3.0	3.5	12.5	5.5	9.6
Smoked (03.05)	10.0			5.0	13.0	15.0
Smoked (16.04)	15.0				5.5	15.0
PELAGIC FISH						
Herring						
Whole: fresh, chilled	5.0				15(18)	10.0
Frozen	5.0				15(18)	6.0
Frozen fillets	2.5				15(18)	10.0
In airtight containers	15.0	8.0	3.5(6)	(9)	20.0	9.6
Mackerel						
Whole: fresh, chilled	5.0			1.1 c/kg	20(19)	10.0
Frozen	5.0			1.1 c/kg	20(19)	10.0
Frozen fillets	2.5			6.0	15.0	10.0
In airtight containers	7.5	12.7	3.5	6.0	20(22)	9.6
SHELLFISH						
Crab						
Crabmeat						
Fresh, chilled, frozen		8.0		7.5	8(23)	6.0
Prepared and preserved in						
airtight containers	6.0	8.2		11.0	16.0	6.5
Lobster						
Live					8(25)	3.0
Frozen					8(25)	3.0
Prepared and preserved in						
airtight containers	15.0	6.0			20.0	6.0
Shrimp						
Cooked in water					12(24)	
Shell-on frozen					12(24)	3.0
Cooked, peeled frozen	15.0				20.0	3.0
In airtight containers	15.0		3.5-5(7)		20.0	6.0
FISH MEAL	10.0	5.0			2.0	
FISH OIL		7.3			6.0	10.0

NOTES TO ANNEX I

(1) No duty if imported from EEC or EFTA countries, Faroe Islands or developing countries.
(2) Import levy 45.00 Skr/100 kg, except if imported from an EFTA country.
(3) Import levy 45.00 Skr/100 kg, except if imported from an EFTA countries, Faroe Islands or Greenland.
(4) Tuna of the genera *Thunnus, Euthunnus, Katsuwonus pelamis and Sarda* are free from duty.
(5) If boiled, free from duty.
(6) If it contains less than 45 kg.
(7) Duty applicable even to imports from Faroe Islands or developing countries.
(8) If to be processed in Canadian canneries.
(9) Herring in airtight container, 8 per cent if in oil, otherwise 4 per cent if more than 0.45 kg each.
(10) Within quota; 12.5 per cent if above quota.
(11) Neither cooked nor in oil; 15 per cent if pre-cooked.
(12) *Gadus morhua* only; 15 per centif *Gadus ogac* or *G. macrocephalus*.
(13) Tariff quota of 10 000 tons at 8 per cent for *Gadus morhua*.
(14) 15 per cent if not *Gadus morhua*.
(15) Tariff quota of 25 000 tons at 0 per cent.
(16) Tariff quota of 20 000 tons at 8 per cent for *Merluccius bilinearis*.
(17) Tariff quota of 17 200 tons at 0 per cent for *Euthynnus* destined for the canning industry.
(18) Tariff quota of 34 000 tons at 0 per cent and tariff fee from 15.1 to 15.6.
(19) Tariff fee from 15.2 to 15.6.
(20) 20 per cent for *Thunnus albacares*.
(21) Tariff quota of 5 000 tons at 10 per cent for *Merluccius spp*. in blocks from 1.7 to 31.12.
(22) 20 per cent if *Scomber australasicus*.
(23) 15 per cent if *Cancer pagurus*.
(24) For Pandalidae spp. only.
(25) For Homarus spp. only; 25 per cent if other species.

ANNEX II

United States canned tuna
Quantification of implicit assistance to US producers coming from tariff quota

	Imported canned[1]		Total imports[1]		Average value of imports	Reference price as 80% of imp.val
	Under quota (6%)	Over quota (12.5%)	Tons	'000 US$		
1981	34793	0	32025	109783	3428	2742
1982	42087	0	39640	112853	2847	2278
1983	41699	12842	55414	136906	2471	1976
1984	43370	31002	73519	166774	2268	1815
1985	44236	53019	96935	208578	2152	1721
1986	36793	69445	107223	227919	2126	1701
1987	41533	55973	95897	206051	2149	1719
1988	38650	87924	110792	297922	2689	2151
1989	34816	106317	157990	375011	2379	1903
1990	39545	77800	129125	293873	2276	1821

1. Does not correspond to the quantities in the next row. Quota and tariff is applied when withdrawn from warehouse, while import figures are real import.

ANNEX II (cont'd)

	Domestic production (tons)		Domestic production ('000 US$)		Average value of domestic. prod.		Val. dom. prod. - Ref. price		Implicit assistance (million US$)	
	Albacore	Lightmeat	Albacore	Lightmeat	Albacore	Lightmeat	Albacore	Lightmeat	Albacore	Lightmeat
1981	54892	229576	294292	885846	5361	3859		1116		256.25
1982	56766	187564	260581	624279	4590	3328		1051		197.09
1983	48174	219767	197011	661586	4090	3010		1034		227.22
1984	62044	216677	255962	616280	4125	2844		1029		223.06
1985	59892	187383	269887	550882	4506	2940		1218		228.32
1986	71389	217554	320795	560723	4494	2577		877		190.77
1987	63470	233255	313611	704048	4941	3018		1299		303.09
1988	59489	211918	317164	643045	5331	3034		883		187.16
1989	62289	249085	345291	712471	5543	2860		957		238.35
1990	59833	203597	326917	575097	5464	2825		1004		204.41

ANNEX III
1988

		Quotas bound under GATT		Preferential			Autonomous		
	CN	Quant.	GATT	Agree-	Quant.	Duty	Period	Quant.	Duty
	%	(tons)	Duty %	ment	(tons)	%		(tons)	%
1. Cod									
a. frozen fillets	15	10000	8						
b. fillets fresh or chilled	18			Sweden	1500	0			
c. for processing	12						29.03.88	45000	3.7
fresh, chilled or frozen	15						31.12.88		
d. frozen fillets	15						29.03.88	12500	0
							31.12.88		
2. Cod, haddock, coalfish	12			Sweden	3500	0			
whole, etc. fresh or chilled	15								
3. Coalfish for processing	15						29.03.88	15000	3.7
a. chilled or frozen							31.12.88		
b. frozen fillets	15						29.03.88	12500	0
							31.12.88		
4. Haddock for processing							29.03.88	4000	3.7
a. fresh, chilled or frozen	15						31.12.88		
b. frozen fillets	15						29.03.88	3000	0
							31.12.88		
5. Pike, fillets & flesh of pike	9						29.03.88	500	0
frozen by processing	8						31.12.88		
6. Alaska pollack for processing	15						29.03.88	20000	5
frozen fillets & fish meat							31.12.88		
7. Hake for processing							29.03.88		
a. frozen fillets & fish meat	15						31.12.88	25000	5
8. Silver hake									
a. fresh/frozen	15	2000	8						
b. blocks of frozen fillets	15	2000	10						
"standard"									
9. Redfish for processing	8						28.03.88	6000	2
fresh, chilled or frozen	15						30.06.88		
10. Flatfish for processing	15						28.03.88	15000	3.7
fresh, chilled or frozen							30.06.88		
11. Blue whiting for processing	15						29.03.88	4000	5
frozen fillets & fish meat							31.12.88		
12. Herring									
whole, headless or in pieces	15	34000	0						
fresh, chilled or frozen									
13. Eel									
live, fresh, chilled or frozen	3						01.01.88	5250	0
for processing or use within							30.06.88		
16.04							01.07.88	5250	0
							30.06.89		
14. Cod									
salted or in brine, not dried	13						29.03.88	52500	5
or smoked							31.12.88		
15. Cod unsalted	13						29.03.88	1000	10
							31.12.88		
fillets, dried whether or	16						28.03.88	250	10
not salted	20						31.12.88		
16. Cod									
a. dried, salted or in brine,	13	25000	0						
whole headless or in pieces									
b. dried, unsalted	13			Norway	3900	0	01.04.88		
							31.12.88		
c. dried, salted	13			Norway	13250	0	01.04.88		
							31.12.88		
d. salted, not dried or smoked,	13			Norway	10000	0	01.04.88		
							31.12.88		
e. fillets dried, salted or in brine	20			Norway	3000	0			
17. Coalfish	16						28.03.88	4000	5
fillets, salted, for processing							31.12.88		
18. Shrimps and prawns	12						28.03.88	2000	0
frozen or not, for processing							31.12.88		
19. Herring products	20			Sweden	250	0			
whole, in pieces but not minced									
20. Sardines, etc. & other	20			Sweden	200	0			
21. Sardines prepared or	25			Morocco	14000	0			
preserved				Morocco	6000	10			
				Tunisia	100	0			
				Portugal	5000	0			
22. Prepared or preserved fish									
Tunas and skipjack									
Euthynnus, not skipjack									
Tuna, skipjack etc. Euthynnus	24			Portugal	1000	0			
23. Various preparations	20			Norway	400	10			
24. Mackerel, prepared or	25			Portugal	1000	0			
preserved									
25. Caviar substitutes	30			Sweden	60	0			
26. Shrimps & prawns shelled	20			Sweden	120	7.5			
or frozen excl. Crangon									

ANNEX III
1989

		Quotas bound under GATT		Preferential			Autonomous		
	CN %	Quant. (tons)	GATT Duty %	Agree-ment	Quant. (tons)	Duty %	Period	Quant. (tons)	Duty %
1. Cod									
a. frozen fillets	15	10000	8						
b. fillets fresh or chilled	18			Sweden	1500	0			
c. for processing	12						01.04.89	40000	3.7
fresh, chilled or frozen	15						31.12.89		
d. frozen fillets for processing	15						01.04.89	8000	10
							31.12.89		
2. Cod, haddock, coalfish	12			Sweden	3500	0			
whole, etc. fresh or chilled	15								
3. Coalfish for processing	15						01.04.89	15000	3.7
a. fresh, chilled or frozen							31.12.89		
4. Haddock for processing	15						01.04.89	9000	3.7
a. fresh, chilled or frozen							31.12.89		
5. Pike, fillets & flesh of pike	9						01.04.89	500	5
frozen by processing	8						31.12.89		
6. Alaska pollack for processing	15						01.04.89	21000	10
frozen fillets & fish meat							31.12.89		
7. Hake for processing	15						01.04.89	26000	10
a. frozen fillets & fish meat							31.12.89		
8. Frozen fillets of hake standard	15	5000	10				01.07.89		
							31.12.89		
9. Silver hake fresh, chilled, frozen	15	2000	8						
10. Herring									
a. fresh, chilled or frozen	15	34000	0				16.06.88-		
							14.02.89		
b. herring and meat of herring	15			Sweden	20000	0	15.09.88-		
							14.02.89		
11. Eel									
live, fresh, chilled or frozen	3						01.07.88-	5250	0
for processing or use within 16.04							30.06.89		
12. Cod									
a. salted or in brine, not dried	13						01.04.89-	49000	6
or smoked							31.12.89		
b. dried, unsalted, not smoked	13						01.04.89-	1000	10
							31.12.89		
c. fillets, dried whether or	16						01.04.89-	500	10
not salted	20						31.12.89		
13. Cod									
a. dried, salted or in brine,	13	25000	0						
whole headless or in pieces									
b. dried, unsalted	13			Norway	3900	0	01.04.89		
							31.12.89		
c. dried, salted	13			Norway	13250	0	01.04.89		
							31.12.89		
d. salted, not dried or smoked,	13			Norway	10000	0	01.04.89		
in brine							31.12.89		
e. fillets dried, salted or in brine	20			Norway	3000	0			
14. Coalfish	16						01.04.89	4000	10
fillets, salted, for processing							31.12.89		
15. Shrimps and prawns	12						01.04.89	2000	4
frozen or not, for processing							31.12.89		
16. Herring products	20			Sweden	250	0			
whole, in pieces but not minced									
17. Sardines, etc. & other	20			Sweden	200	0			
18. Sardines prepared or	25			Morocco	17500	0			
preserved				Tunisia	100	0	latest expiry		
							31.12.89		
19. Prepared or preserved fish	24			Portugal	1000	0			
Tunas and skipjack									
Euthynnus, not skipjack									
Tuna, skipjack etc. Euthynnus									
20. Various preparations	20			Norway	400	10			
21. Mackerel, prepared or preserved	25			Portugal	1000	0			
22. Caviar substitutes	30			Sweden	60	0			
23. Shrimps & prawns shelled	20			Sweden	120	7.5			
or frozen excl. Crangon									

ANNEX III
1990

	CN %	Quotas bound under GATT		Preferential			Autonomous		
		Quant. (tons)	GATT Duty %	Agree-ment	Quant. (tons)	Duty %	Period	Quant. (tons)	Duty %
1. Cod									
a. frozen fillets	15	10000	8						
b. fillets fresh or chilled	18			Sweden	1500				
c. for processing	12						01.04.90	40000	3.7
fresh, chilled or frozen	15						31.12.90		
2. Cod, haddock, coalfish	12			Sweden	3500				
whole, etc. fresh or chilled	15								
3. Coalfish for processing	15						01.04.90	1500	3.7
a. fresh, chilled or frozen							31.12.90		
4. Haddock for processing	15						01.04.90	10000	3.7
a. fresh, chilled or frozen							31.12.90		
5. Lesser Greenland halibut for	8						01.04.90	2000	4
processing							31.12.90		
6. Frozen fillets of hake standard	15	5000	10				01.07.90		
							31.12.90		
7. Silver hake fresh, chilled, frozen	15	2000	8						
8. Herring									
a. fresh, chilled or frozen	15	34000	0				16.06.90-		
							14.02.91		
b. herring and meat of herring	15			Sweden	20000	0	15.09.89-		
							14.02.90		
9a. Eel									
live, fresh, chilled or frozen	3							5250	0
for processing or use within 16.04									
9b. Eel									
live, fresh, chilled or frozen	3							5000	0
for processing or use within 16.04									
10. Cod									
a. salted or in brine, not dried	13							53000	7
or smoked									
b. dried, unsalted, not smoked	13							800	10
c. fillets, dried whether or not salted	16							1200	11
11. Cod									
a. dried, salted or in brine,	13	25000	0						
whole headless or in pieces									
b. dried, unsalted	13			Norway	3900	0	01.04.90		
							31.12.90		
c. dried, salted	13			Norway	13250	0	01.04.90		
							31.12.90		
d. salted, not dried or smoked,	13			Norway	10000	0	01.04.90		
in brine							31.12.90		
e. fillets dried, salted or in brine	20			Norway	3000	0			
12. Coalfish	16							3500	10
fillets, salted, for processing									
13. Shrimps and prawns	12							5000	7
frozen or not, for processing									
14. Herring products	20			Sweden	250	0			
whole, in pieces but not minced									
15. Sardines, etc. & other	20			Sweden	200	0			
16. Sardines prepared or	25			Morocco	17500	0			
preserved				Tunisia	100	0			
17. Prepared or preserved fish	24			Portugal	1000	0			
Tuna									
18. Various preparations	20			Norway	400	10			
19. Caviar substitutes	30			Sweden	60	0			
20. Shrimps & prawns shelled	20			Sweden	120	7.5			
or frozen excl. Crangon									

ANNEX IVA

NORWEGIAN FISHING COSTS AND PROFITS FOR 1989

	Cod fisheries Average for 1111 vessels	Herring fisheries Average for 199 vessels	of which purse seine Average for 86 vessels
Total catch (tons)	343.7	6422.2	10135.1
Operating characteristics:			
Average length of vessel (m)	22	38	54
Average GRT	130	414	768
Number of days operating	295.4	298.7	289.8
Number of days at sea	176.4	244.1	252.4
Number of working weeks	231.2	300.1	427.9
Number of workers	5.6	7.1	10.2
Total income (US$)	433808	967749	1664989
Fishery profits	408420	928138	1590814
Liquidity subsidy	4092	554	
Interest subsidy	3088	8944	16486
Other	18207	30113	57689
Total costs (US$)	346289	767170	1350144
Oil	47023	107890	183966
Bait	6296		
Ice, salt and boxes	5595	10334	11758
Hired labour	4908	5062	10200
Telephone, harbour fees	11355	22883	42071
Social expenses	1884	3549	6393
Special fee on first-hand value	13698	33185	56454
Sundry insurances	1957	2809	5379
Unspecified costs	14835	19233	35410
Gear insurance	263	4863	10845
Gear maintenance	32683	59209	102372
Vessel insurance	17162	37408	60842
Vessel maintenance	45950	119547	199455
Depreciation estimate	63662	160089	290157
Interest on debt	61728	142609	266042
Interest on own cap. est.	14934	35531	64378
Social security	2353	2969	4420
Wage paying ability per man/year	15764	28404	30728
Wage per man/year	30593	45529	51482
Share per man/year	26592	35801	37573

US$ = NKr 6.536.

ANNEX IVB

JAPANESE FISHING COSTS AND PROFITS

('000 Yen)

	Offshore trawl One boat operation Full time			Purse seine One boat operation Full time	
	30-50 GRT	50-100 GRT	100-200 GRT	50-100 GRT	100-200 GRT
Fishery profits	1892	-21277	3303	-5792	-98165
Fishery gross income	58039	118122	339358	618971	858344
Fishery expenditure	56147	139399	336055	624763	956509
Wages	22906	47238	125261	230947	306600
Fishing vessel	4685	13381	27857	19836	81881
Fishing gear	3537	10799	15641	17269	10520
Oil	4775	16960	32469	45528	114875
Bait					1213
Ice	1108	1704	3293	46703	45184
Fish boxes	1206	2964	6463	3779	25441
Misc. materials	530	1278	3493	1427	11118
Misc. costs		65	701	57	217
Rents and charges	387	1723	7397	9437	47462
Brokerage	2721	5508	14680	31201	44927
Cost of business	4412	10068	24068	35182	72504
Other	5253	12780	44130	59717	122489
Depreciation	4627	14931	34602	123680	72078
Operating characteristics:					
GRT of main vessel	38.83	66.44	129.26	76.9	126.77
PS horsepower	238	558	956	449	795
Age of vessel	10.8	9.3	8.1	5	6.3
Number of fish trips	103	111	150	149	89
Number of fishing days	294	281	344	363	328
Number of workers	6.4	10	16.8	54.1	64.7
Total working days	1417	2854	4580	14594	18106
on sea	1082	2401	3754	12638	16947
on land	335	453	826	1956	1159

ANNEX IVC

SWEDISH FISHING COSTS FOR SELECTED FISHERIES, 1985

	Shrimp	Combined fisheries		Other fisheries		
	West coast	West coast	South coast	West coast	South coast	East coast
Number of vessels	19	21	15	54	8	10
Number of men	3.2	4.7	3.8	2.9	3.1	2.4
Turnover	895	1590	976	799	716	274
Costs ('000 SKr)	441	924	508	430	423	110
Net earnings ('000 SKr)	454	666	468	369	293	164

	Herring fisheries		White fish other than herring		
	West coast	East coast	West coast	South coast	East coast
Number of vessels	23	5	21	19	23
Number of men	6.5	4.1	4.6	2.9	2.8
Turnover	2030	1062	1818	648	545
Costs ('000 SKr)	1174	656	974	333	281
Net earnings ('000 SKr)	856	406	844	315	264