ORGANISATION FOR ECONOMIC
CO-OPERATION AND DEVELOPMENT

Committee for Fisheries

FI/305
Addendum 2

RESTRICTED

Paris, drafted: 31st Aug. 1989

dist: 6th September 1989

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VARIOUS METHODS FOR MEASURING AND ANALYSING ECONOMIC ASSISTANCE

(Note by the Secretariat)

1. At the 63rd Session of the Committee for Fisheries Member countries having already carried out quantitative and/or qualitative analyses on relevant issues regarding the study on economic assistance were invited to present their work and their conclusions at the Committee's 64th Session. The attached paper "A Quantitative Example", has been submitted by the Canadian authorities.

2. This document is circulated to the Committee for Fisheries for INFORMATION AND DISCUSSION at its 64th Session, scheduled for 27-29 September, 1989.

FI/305
(Addendum 2)

PRODUCER SUBSIDY EQUIVALENT AND THE FISHING INDUSTRY: A QUANTITATIVE EXAMPLE

I. INTRODUCTION

1. The purpose of this paper is to illustrate the feasibility of "quantifying" government assistance provided to the fishing industry. Quantification involves methodologies to estimate the value of industry assistance implicit in government grant. The value of assistance is the grant expenditure. The calculation of assistance flowing from tariffs and tax legislation is more complex, but accepted procedures are available to quantify these forms of assistance as well.

2. The need for quantification arises from questions concerned with the comparison and aggragation of different assistance programmes. For example, on what basis does one compare capital assistance programmes with government procurement? And by what procedure can such programmes be aggragated? Quantification methods can be the needed "common denominator".

3. This paper illustrates the use of the producer subsidy equivalent (PSE) method. The primary objective of the paper is to demonstrate the feasibility of calculating the PSE for the fishing industry. A secondary objective is to show the need for a negotiated consensus on specific PSE issues.

4. The following PSE calculations are examples. They do not represent "the" PSE calculation for the Canadian fishing industry. These examples show that it is possible to derive PSEs for the fishing sector. However, there remain issues which need to be addressed before more representative calculations can be undertaken.

Trade Distortion and the PSE

5. The PSE is a measure of assistance given to industry, however, it does not measure the extent to which industry benefits from such assistance. This difference is subtle but important. International competition, technological change and the difficulty of developing truly effective programmes, act to separate assistance (government funds spent) from benefit (industrial advantages resulting from such programme funds).

6. Trade distortion is in turn only loosely assocoated with benefit. Not all programmes which actually provide real benefits to industry, provide trade-distorting benefits. The PSE should therefore be seen as a measure of potential assistance, and not benefit received or trade distortion.

The Level of PSE Calculation

7. The PSE can be calculated at different levels of aggregation within the fishing industry. For example, an average PSE can be estimated for the entire product range of the fishing industry. Another possibility is to derive

values which apply for major species groups. A third option is to calculate PSE values according to stages or types of processing (e.g. fresh, smoked, canned, etc.).

8. It is simpler to do calculations at the aggregate industry level. An example follows. The more disaggregated estimates, while possible, are not presented here.

II. THE PSE: A QUANTITATIVE EXAMPLE

9. The following provides an example of PSE calculation for the Canadian fishing industry. The objective is to demonstrate feasibility. The discussion will deal with tariff and non-tariff calculations separately.

Tariffs

10. Tariffs provide at least two potential advantages to domestic producers. Firstly, the tariff increases the price of imported fish products. Domestic producers can respond by increasing the price charged in the domestic market. Secondly, an increase in price will also elicit additional domestic supply, thus reducing imports.

11. This section calculates the value to the producer of being able to increase price on domestic sales. The value of increasing output is not measured (for species where fishing quotas are filled, the supply response has no value).

12. For the present exercise, only tariffs greater than 10 per cent are examined. All products are contained in Chapter 16 (prepared or preserved fish products) of the Harmonized System of tariff codes. Commodities examined are given in Table 1.

Table 1

CANADIAN TARIFF RATES ON SELECTED FISH PRODUCTS

Harmonised System Code	Description	Canadian Tariff Rate	
		MFN %	U.S. %
16041390	Sardines, not canned	11.0	9.9
16041411	Tunas and skipjack in oil	14.0	12.6
16041490	Tunas, skipjack and bonito not in oil	11.0	9.9
16041500	Mackerel	12.7	10.1
16041690	Anchovies, not canned	11.0	Free
16041910	Fish sticks and similar products	11.0	9.9
16041990	Other fish whole or in pieces	11.0	8.8
16042010	Prepared meals	17.5	15.7
16042090	Other prepared and preserved fish	11.0	9.9

13. For the commodities listed in Table 1, domestic sales are calculated by subtracting exports from production. Dividing domestic sales by one plus the tariff rate (e.g. 1.11 for 16041390) provides an estimate of domestic sales which excludes the price increase offered from the tariff. Actual domestic sales minus domestic sales excluding the tariff, represents a dollar-value measure of the tariff.

14. In cases where the U.S. tariff rate is less than 10 per cent, domestic sales are weighted by non-U.S. imports. Where both U.S. and MFN tariffs are above 10 per cent, a single tariff is calculated using import weights.

15. As an example, consider the Canadian tariff on prepared meals. The following calculations are for 1988. Canadian production of $20.6 million and exports of $6.2 million imply domestically produced sales of $14.4 million. The trade weighted tariff is 15.9 per cent. Therefore domestically produced sales, excluding the price increasing tariff effect, are $12.4 million, which produces a $2 million value to the tariff.

16. For 1988, the combined value of assistance provided by all of the above tariffs is $9.1 million.

Non-tariff Programmes

17. This section provides examples of non-tariff PSE quantification. The first example pertains to a tax benefit. An accelerated capital cost provision under the Income Tax Act allows fishermen to depreciate vessel or vessel conversion costs on a straight line basis (16 2/3 per cent of the capital cost can be applied in the year of acquisition and up to 33 1/3 per cent in subsequent years). The vessel must be constructed or converted in Canada, registered in Canada and not used for any purpose by anyone prior to acquisition. Vessels that do not qualify are otherwise depreciated at 15 per cent per year on a declining balance.

18. Gross fixed capital formation of boats and vessels in the fishing industry for 1988 was $42.3 million. An estimate of the maximum potential benefit from the above tax provision is as follows:

	($millions)
Present value (discounted at 10 per cent) of future claims under the accelerated capital cost allowance (4 year write-off)	36.8
Present value (at 10 per cent) of claims under normal capital cost allowance	27.6
Difference	9.2
Tax benefit (assuming an effective tax rate of 25 per cent)	2.3

19. The $2.3 million benefit derived for the accelerated capital cost allowance is an upper estimate. The actual measure of potential assistance would be lower, as vessels constructed outside of Canada are not eligible (which limits the programmes effectiveness, given the relative lower price of imported vessels). As well, the proceeds from the disposition of any previous vessel and investment tax credits must be deducted in determining capital cost.

20. Assistance is also provided to the fishing sector through rebates and refunds of excise and sales taxes on fuels. Commercial fishermen along with all business obtain a gasoline excise tax refund of 1.5 cent per litre. The value of the refund for fishermen is estimated to be $200 000.

21. As well, primary producers (farmers, fishermen, loggers, miners, hunters and trappers) are rebated federal sales and excise taxes on motor vehicle fuels for off-highway production purposes. Fishermen receive 5 cents a litre on gasoline and 4 cents a litre on diesel fuel. Direct rebates to fishermen are $1.2 million. Total rebates for which the source (i.e., fishermen, farmers, etc.) is unknown totals $181 million. Fishermen comprise 1.4 per cent of those eligible for rebate, which provides an estimated rebate of $2.6 million.

22. Examples of federal government expenditures which provide assistance to the fishing industry are detailed in Table 2. The total of these programmes was $28.7 million. The value of the expenditure is a direct measure of assistance, and does not need further adjustment.

Table 2

FEDERAL GOVERNMENT EXPENDITURES RELATED TO THE FISHING SECTOR 1987/88

	($millions)
Contributions to registered fish plants, corporations, single individual enterprises or groups of individuals involved in the harvesting, processing, marketing or transportation of fish in Prince Edward Island	0.67
Fishery Subsidiary Agreements	22.00
Atlantic Salmon Commercial Licenses Buy-Back Programme	1.06
Eastern Quebec Development Plan	0.97
Contributions to support organisations associated with research, development and management and promotion of fisheries and oceans related issues	2.49
Newfoundland Bait Service	1.50
Grant to the Quebec commercial Fishermen's Alliance	0.01
TOTAL	28.7

The Aggregate PSE

23. The above tariff and non-tariff calculations can now be used to derive an aggregate PSE estimate. The value of tariff and non-tariff programmes considered totals $42.9 million. In this example the PSE, for 1988, would be approximately 3.0 per cent of landed values, or 1.4 per cent of production.

III. ISSUES RELATED TO PSE CALCULATIONS

Technical Considerations

24. Many technical considerations arise when deriving PSEs. A fundamental PSE issue concerns the selection of government programmes to be quantified. One possibility is to include all government programmes. Such an approach is not pragmatic. Data limitmations and the small size of some programmes argue for less than full coverage. More importantly, there appears to be a consensus that social programmes should also be excluded, as they do not provide competitive advantages to the domestic industry.

25. Other issues which need to be addressed are related to how tariffs should be quantified, and whether assistance should be computed directly or implicitly (by calculating the difference between the price paid to producers and the import price).

26. As noted above, tariffs provide assistance to the domestic industry by increasing import prices, which in turn reduces imports and increases domestic production. Tariffs also allow domestic industry to receive higher prices on domestic sales. As in the above example, in an initial PSE estimate one may want to include only the effect of the higher price on the value of domestic industry sales.

27. The above considerations have important consequences. It is unlikely that countries separately engaged in PSE calculations will each include the same programmes and employ the same methodologies. This limits the usefulness of such estimates.

28. Negotiations on programmes to be included, and agreement on technical, methodological issues would overcome the consistency problem by standardising PSE estimates. Of course, there exists the option for any individual country to calculate PSEs for a given set of countries (using a consistent programme and methodological base). However, a negotiated consensus on outstanding issues, with calculations undertaken or overseen by the OECD Committee for Fisheries and Secretariat, would better reflect the interest of all countries concerned.

IV. CONCLUSION

29. The above PSE analysis was undertaken to demonstrate the feasibility of calculating aggregate PSE estimates for the fishing industry. Given that the objective was primarily illustrative, the findings are incomplete and in need of refinement.

30. In understanding the applicability of the PSE to the fishing industry, it is important to appreciate what the PSE measures. The PSE does not measure benefit received from government programmes, nor is it a reflection of trade distortion. Rather, the PSE quantifies the monetary value (or potential value of assistance) of various forms of government assistance. Such quantification is important for programme transparency.

31. An additional indication of the feasibility of a fishing sector PSE calculation is the OECD work on agriculture PSEs. Data limitations and methodological difficulties, while initially considered insurmountable, were overcome. The increased transparency of assistance programmes, and the fuller understanding of pressures bearing on the agriculture industry were important products of the agriculture PSE process. In fact, the true value of PSE calculation may well be the benefits that flow from the process, rather than the actual numbers.

32. The fishing industry is different from the agricultural sector. However there is no reason to conclude that this difference undermines fishery PSE estimation. The above PSE calculations were undertaken to demonstrate such feasibility.