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Subsidizing the Icelandic Fisheries

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Abstract

Subsidies in Icelandic fisheries are estimated based on definitions recently suggested by the FAO. We find that subsidies in the Icelandic fishing sector amount to 11% to 38% of ex-vessel value of catch. The cost to government is considerably higher than value for fishing firms. The bulk of subsidies in Icelandic fisheries result from the fact that fishing firms receive exclusive rights to fish for free.

Keywords

Icelandic fisheries, subsidies in fisheries, subsidies in Icelandic fisheries.

Introduction

Modern economies are complex structures that depend heavily on publicly provided infrastructure and publicly provided rules governing exchange between private bodies. People in different countries solve, or try to solve, problems that those complexities create in different ways. Hence, the conditions that govern the possible actions and possible outcomes for an industry in one country differ from conditions and possible actions in another country. Those differences can be a source of discussion and disputes when producers from different countries meet at the international marketplace. International institutions and international agreements have been conceived in order to level the playing-field in some cases. Subsidies and below-cost deliverance of important services are examples of internal organization that has been and is the source of disputes and countervailing actions. The situation is further complicated by the fact that what is seen as a subsidy or below-cost deliverance in one country is seen as governmental obligation in another country. There is thus both a capacity and a need for international standards defining subsidies. The World Trade Organization offers a narrow definition where a subsidy is defined as a financial contribution from government to industry. WTO also defines income- or price-support arrangements as subsidies[see Westlund (2004) , box 1, p. 8]. The OECD has used a much broader definition to assess the level of subsidies in the agricultural sector in many of its member countries for a number of years. Recently the FAO published a "Guide for identifying, assessing and reporting on subsidies in the fisheries sector", hereafter referred to as "The Guide". The Guide defines subsidies as: "… government actions or inactions outside of normal practices that modify – by increasing or decreasing – the potential profits by the fisheries industry in

the short-, medium- or long-term", [see Westlund (2004) , p. 7]. Hence, the FAO definition is broader still than the OECD definition as more wider set of governmental interactions are assumed to affect the level of subsidies accruing to the fisheries-sector. The FAO will not follow the example set by the OECD and use its own expertise to assess the size of subsidies in its member countries. The FAO will, on the other hand, encourage member countries to use the "Guide" to assess the size of subsidies in their own country and to publish the results. Until now only one such study has been made public, that assessing the size of subsidies in Trinidad and Tobago, see FAO (2002). That study was conducted in cooperation between FAO staff and local experts and the objective was to test the applicability of a preliminary version of the guide rather than to find a number characterizing the size of subsidies in the fisheries sector of Trinidad and Tobago. Whether other governments will follow suit remains to be seen, but the probability is not high as governments that are early out in providing an estimate of how much they subsidize their fisheries will probably attract more criticism than applause. This paper presents an effort by interested Icelandic individuals to use the FAO guide to assess the size of subsidies in Icelandic fisheries. We hope to encourage individuals or organizations from other nations to do similar studies for their countries. Adhering to the rules of the FAO guide provides a higher grade of comparability than otherwise could be reached. We start by discussing principles for defining subsidies in fisheries before we report on estimation of subsidies in Icelandic fisheries based on set of definitions offered by the FAO.

Subsidies in Fisheries, principles

The Guide gives an overview of attempts to define subsidies in the fisheries case. The following is based on that discussion. See also Schrank (2001, 2003), Schrank and Keithly (1999) and Flaaten (2000). As already mentioned the WTO gives a narrow definition of subsidies, constraining the concept to apply to monetary transfers or price support mechanisms. Fisheries are inherently characterized by market failure. Governments may seek to "correct" the market in order to enhance efficient use of productive resources. Such corrections can involve use of taxes or subsidies. Hence, the OECD proposed that "the concept of assistance to the fishing industry in a country should be defined as government intervention or lack of government intervention which distorts the allocation of resources in that country relative to an efficient allocation" [Westlund (2004), Box 2, page 11]. Using this yardstick to measure subsidies invites new problems as the efficient allocation of resources is not known except by approximation and relative to a specific model. Schrank and Keithly (1999) suggest the effect of a governmental intervention that affects profit of a fishing firm be termed "a subsidy." The Guide bases its definition of subsidy on this concept after having defined benchmarks against which to measure changes in profits. We base our estimate on the definitions offered by the Guide. Hence, what we term as subsidy for the purpose of this paper may or may not be synonymous with what is termed as subsidy in everyday language.

The Guide defines four categories of subsidies. Direct financial transfers constitute Category 1. Category 2 consists of below-cost provision of services and indirect financial transfers i.e. specific tax exemptions for the fisheries sector. Category 3 arises due to regulatory interventions that are specific to the industry, while Category 4 has its origin in lack of governmental intervention. Also, the Guide stresses that a

subsidy or an intervention that costs the government a given amount may affect profit of

fishing firms by a different amount. Furthermore, the Guide points out that short term

and long term effects of a given intervention may differ considerably. Frequently,

subsidies are aimed at lowering the cost of acquiring physical capital. The Guide

recommends that these be accounted as annualized savings or costs.

Size of subsidies in the Icelandic Fisheries sector

One of the present authors (Otto Biering Ottosson) collected data from various agencies,

governmental and non-governmental; private companies and individuals in order use the

guidelines staked out in the Guide for estimating the size of subsidies in the Icelandic

fishing sector for the year 2002. Data was collected during 2003 and the first half of

2004. A detailed report of this work is given in Ottosson (2004). "Rules of the road" are

accounted for in that report (page 36). These consist of simplifications and clarifications

necessary for the data collection. It is, for instance, assumed that if less than 20% of the

annual budget of an agency is investment then no specific arrangement is made to isolate

investment costs. If more than 20% of the annual budget is investment then investment

and operational costs are estimated separately. If an institution serves other sectors than

the fisheries sector then costs are divided proportionately between the fishing sector and

other sectors. If an institution offers general services that are used by any other sector

then costs are not accounted as fisheries subsidy.[2] Value to industry accruing due to the

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[2] This implies that the part of the cost of the Foreign office that is accrued due to service
for the fisheries sector is not counted in as subsidy as the Foreign office does not have
other duties vis-à-vis the fishery sector than it has vis-à-vis other sectors. It almost goes
without saying that officers of the Ministry of Finance would use less conservative
definition of subsidies than we do if formulating a cost-recovery proposal for fishery
related costs, say. Hence, our approach is more likely to yield a low estimate of size of
subsidies than it is to yield a high estimate.

operation of a given institution, the Marine Research Institute, say, is assumed to be the same as the cost to government less administrative costs but inclusive avoided cost of financing the amount equal to the subsidy.[3] If money transfers fluctuate strongly from year to year then a year-average is calculated. In general, the aim has been to fix the rules of the road so as to avoid inflating the estimate of fishery subsidies.

Category 1 subsidies: Direct financial transfers

Icelandic fisheries used to be characterized by an intricate set of governmental institutions that were used to transfer funds from one part of the fishing fleet to another or from one point in time to another point in time. Those institutions were funded by export levies or other forms of industry specific taxes and fees. The institutions were instituted in part to alleviate problems caused by a regime of administratively fixed exchange rate[4], and restricted transfer of capital to and from the country that together with loose monetary and fiscal policy caused inflation in Iceland to be many times higher than in other OECD countries. All these institutions were abolished in a series of sweeping reforms during the late 1980s and early 1990s. The reforms coincided with liberalization of movement of capital to and from the country.

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[3] It is assumed that the subsidy, direct or indirect, reduces the need for capital by the same amount. If the subsidy were not offered the firms of the industry would have to raise capital either as equity or by debt financing. Thus, we assume that the firms save a cost that is equal to weighted average rate of cost of capital (WACC) applicable to the fishing sector times the subsidy.

[4] The Icelandic currency, króna, was frequently devalued in order to balance the books of fishing firms. A devaluation would inflate the numbers of krónas processors received for the processed product. A set of pricing committees that fixed ex-vessel prices of catch was used to divert part of the devaluation gains from processors to vessel-operators whose costs were inflated due to inflated króna-price of important inputs as oil, see Schrank (2003).

As consequence of the reforms the only form of direct financial transfer that is now in effect is support administrated by the Ministry of Labor and the Unemployment fund to fishing plants that keep staff on payroll during periods when raw-fish is not available. Annual cost to government in 2002 prices is estimated to be ISK 166.1 million and value to industry is estimated as ISK 167.7 million.

Category 2 subsidies: Services and indirect financial transfers

Category 2 covers services provided by the public sector for free or below cost of provision. Furthermore, Category 2 covers indirect financial transfers as tax exemptions that are specific to the industry. By far the biggest contribution in this category comes from the tax discount for active fishers. Other big posts include the Icelandic Coast Guard, operation of and investment in fishing harbors, non-recovered cost of educating skippers, mates, marine engineers, etc. A small contribution to this category comes from below cost supply of investment loans through the Institute for Regional Development. Cost to government estimated as ISK 3,888.0 million and value to industry estimated as 4,382.3 million.

Category 3 subsidies: Regulations

Category 3 costs consist of cost of regulation and of regulating. Here we account for cost accruing due to the operation of the Directorate of Fisheries, the Ministry of Fisheries, as well as the Marine Research Institute. Value to industry is of course hard to estimate, but the existing fisheries management system would not be in place without the active involvement of the above mentioned institutions. The industry is overwhelmingly supportive of the individual quota system. We file the pecuniary value of fisheries management as Category 4 subsidy and relegate all discussion of that part of the value to

industry from fisheries management to that category. We assume that the industry would be willing to supply the services provided by those institutions themselves if such power could be invested in private bodies. It is furthermore clear that the institutions in question would not be operated if fishing were not an important economic activity in Iceland. Needless to say, landlocked countries do not spend large sums on marine research. We estimate cost to government to be ISK 1,121.7 millions and value to industry to be ISK 1,128.8 millions.

Category 4 subsidies: Lack of intervention

Category 4 relates to lax or non-implementation of existing regulation concerning the value of the exclusive right to access the fishing grounds. We did not find examples of non-implementation of existing regulation that constituted significant value to industry. On the other hand, fishing in Iceland is regulated by an Individual Transferable Quota (ITQ) system. Vessel owners are thus granted an exclusive right to utilize a national resource. In 2002 they did not pay specifically for this right.   That is due to change, but only gradually and in very small steps. During the "Fishing year" 2004-2005 vessel owners will be charged a small amount for each quota unit they are entitled to. At the same time fees of equal amount that had been charged earlier will be eliminated. The "quota fee" ("Auðlindagjald" in Icelandic) will thus not supply positive cashflow into the public coffers until 2005-2006. We are estimating the subsidies for the year 2002 and will thus not speculate further regarding the expected future income accruing from the quota fee.

To summarize: In 2002 vessel owners continued to enjoy an exclusive right to fish for free. They could (and can) rent, lend, lease, or sell these rights. There is an

active market for within-the-year lease of quota. The rent value of all quotas is estimated to be ISK 52,367 millions. That is 67.9% of ex-vessel price of the catch and thus somewhat in excess of the so-called Wilen's rule of thumb, which states that resource rent value in fisheries tends to amount to 50% of catch value. The rental value is also in excess of operating profits in the industry. Hence, this amount could not be paid as rent unless some costs (like labor costs) were cut. There also exists a somewhat less active market in permanent quotas. It is estimated [see Ottosson (2004)] that the total sales value of allotted quotas was ISK 333,101 millions. There seems to be some consensus among people in the industry that the permanent quotas (and possibly also the within-the-year lease quotas) are valued too high.[5] In a study Klemensson and Matthiasson (2004) look at publicly traded fishing firms and ask how the stock market values the quotas allotted to the firms. They find that the stock market implicitly valued long-term (or "permanent") quotas at 46% of the sales value of the same quotas. Assuming that all possibility for speculative trade is eliminated in the two explicit markets (the within-the-year lease market and the market for permanent quotas) it seems safe to assume that long term equilibrium values of quotas are somewhere between the present price and half the present price. Hence, we can assume handing out the quotas for free in 2002 constitutes a cost to government in the range of ISK 24,089 millions to ISK 52,367 millions.

How much is it worth for the vessel owners to have the quotas handed out for free? Ultimately, when the system has been in place and working for considerable time

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[5] It should also be noted that in recent merger and acquisitions cases where fishery firms have been involved then the prices of the companies have been roughly half their liquidation value. As a rough simplification it can be assumed that value of assets other than fishing rights equals value of debt. Hence, the liquidation value consists approximately of the assumed value of the fishing rights.

that value should be approximately the same as cost to government. But handing quotas

out for free has enabled firms that are not efficiently operated to remain in business:

They have not been paying the full price for their inputs. That gives some leeway for

inefficiency, for instance in the form of running an operation that is ineffectively small or

that is based in an inconvenient geographical location. Inefficient incumbents are also

shielded from possible competition from new entrants. One way of estimating the

contribution of the quotas to the profit of the fishing firms is to use the so-called

Enterprise value of the fishing firms exclusive of quotas. Profit in excess of what is

needed to compensate the owners of debt or owners of equity can be defined as

"supernormal" profit. Ottosson (2004) estimates this to be in the range of ISK 2,462

millions to 2,901 millions. Ottosson (2004) also collected information about the booked

value of bought quotas and arrived at an average price for the total stock of bought

quotas. It should be noted that some firms did buy quotas while the quota system was in

its infancy, while considerable uncertainty was tied to the future of the system. Hence,

some of the booked quotas were bought at a very low price. Assuming that firms should

be willing to pay average cost of capital (WACC) for quotas and extending the booked

quota price to total quotas Ottosson (2004) estimates that free allocation of quotas is

worth 3,400 million to 4,070 million Icelandic krónas to the firms. Hence, we can

estimate that the free allocation of quotas was worth some ISK 2,400 to 4,000 million in

2002.[6]

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[6] The difference between the cost to government and the value for industry may seem
huge. It is reassuring that researchers that have estimated potential gain of using auctions
to allocate access to the airwaves spectrum in the US come to similar conclusion, see
Economist, August 14th, 2004 and
http://www.newamerica.net/index.cfm?pg=section&secID=3. It can be argued that the

Adding it all up

Adding up gives the following results:

Table 1: Value of total subsidy to the fishing sector (excluding aquaculture) in Iceland in the year 2002

Category	Cost to government, ISK millions (USD millions)	Value to industry ISK millions (USD millions)
Direct financial transfers (Category 1)	ISK 166 (USD 2.3)	168 (USD 2.4)
Services and indirect financial transactions (Category 2)	3,888 (USD 55.3)	4,382 (USD 62.4)
Regulations (Category 3)	1,122 (USD 16.0)	1,129 (USD 16.1)
Lack of intervention (Category 4)	24,089–52,367 (USD 342.9–745.4)	2,400–4,000 (USD 34.2–56.9)
Total, excluding lack of intervention	5,176 (USD 73.6)	5,679 (USD 80.9)
Total, including lack of intervention	29,265–57,543 (USD 416.5–819)	8,079–9,679 (USD 115.1–137.8)

In table 2 the results presented in table 1 are related to ex-vessel price of catch, export value of the fishing sector, value added in the fisheries sector as well as total value added in the economy.

Table 2: Subsidies in Icelandic fisheries as percentage of catch value, export value and value added

Subsidies as percentage of:	Categories 1–3		Categories 1–4	
	Cost to government	Value for fishing firms	Cost to government	Value for fishing firms
Ex-vessel value of catch	6.7	7.4	38 (-75)[*]	11–13
Export value of fish products	4.0	4.4	23 (-45)	6–8

Icelandic ITQ system is more market friendly than the system used to allocate spectrum rights in the US. But the Icelandic system has had its loopholes, which have been actively used, see Matthiasson (2003). Furthermore, the public discontent related to the assumed unfairness of the initial allocation of fishing rights has been a threat to the sustainability of the ITQ system. These irregularities explain the difference between potential rent (cost to government) and realized rent (value to industry).

Value added in fishing sector	6.3	6.9	35 (− 70)	10–12
Gross Domestic Product	0.7	0.7	3.8 (− 7.4)	1.0-1.2

*)The figures in parentheses are unrealistically high and will be omitted in the discussion.

According to table 2 total subsidies in the fishing sector amount to 11% to 38% of the ex-vessel value of the catch and 10% to 35% of value added in the fishing sector. This is somewhat wide a gap, but most of the ambiguity can be traced back to uncertainty and inefficiencies when fishing rights are doled out for free. This implies that somewhere between 1 in 10 and 1 in 3 krónas that are earned in the fishing sector is in fact a transfer from taxpayers. Some of that transfer is from taxpayers that earn their living from the fishing sector. Hence, the net transfer from other sectors to the fishing sector is somewhat less than the figures above indicate. It should be kept in mind that the fishing industry engaged 7.5% of the working population in 2002. This indicates that the fishery population contributed less than 10% of the transfer to the sector. Net transfer to the sector could have been somewhere between 9% and 33% of the value added in the sector.

Comparison with other studies

Earlier attempts to estimate subsidies in the Icelandic fisheries sector are few. In a study funded and commissioned by the European Union, MacAllister Elliott and Partners Ltd estimate subsidies net of governmental cost-recovery as 6% of total catch value in 1996. Their definition of subsidies would compare to Categories 1 to 3 in our study. Hence, the 6% they report compares to our 6.7–7.4% estimate in the first row of table 2. Ásgerður Ragnarsdóttir, Pálina M. Hafsteinsdóttir and Ragnar Árnason in Hafsteinsdottir, Ragnarsdottir et al. (1999) estimate subsidies using a comparable definition for the year 1996. They conclude that subsidies amount to 13.7% of total catch value for that year.

That is roughly twice as high an estimate as ours. The difference might reflect dissimilarity of definition and/or increased emphasis on cost-recovery. We have taken precaution to be conservative when defining a given transfer or a given activity a subsidy to the fishing sector. Hence, it is not surprising to see that our estimate is closer to the lowest of other available estimates.

In their report MacAlister Elliott and Partners Ltd (2001) also estimate the volume of subsidies in a number of countries outside of the EU. They find that subsidies net of cost-recovery in Australia amount to 2% of catch value, to nil in New Zealand, to 12% in Norway, to 69% in Canada, to 34% in the US and to 32% in Korea. As said before, these estimates should be compared to Category 1-3 subsidies in our study and not to Category 1-4. How an estimate of category 4 would alter the picture is impossible to say, but it is probable that the contribution of Category 4 in other countries is not as dramatic as it is for Iceland. Hence, it seems safe to conclude that the Icelandic government neither subsidizes the fisheries much less than other nations nor does it subsidize fisheries much more than other countries. It would be very interesting to have an overview that was based on the FAO definitions including Category 4 subsidies for other important fishing nations of the world.

Conclusion

We conclude that use of the FAO guide for estimating subsidies is helpful and yields interesting results. We particularly underline the importance of differentiating between cost to government and value to industry in the case of Category 4 subsidies.

Subsidies in the broad sense of Category 1 to 4 in the Icelandic fishing sector amounts to 10% to 35% of value added in the industry. That is not significantly lower

than what is likely to be the case in many other important fishery-contries. Subsidies in

the narrower sense of Category 1 to 3 seem to be low in Iceland compared to many other

countries. The figures for Iceland are in the range of 6-8% both as percentage of value

added in the industry and of ex-vessel value of catch. There are counties where subsidies

in this narrow sense seem to be lower than in Iceland but most contries seem to have

much higher subsidies.

Finally, it would be of intellectual as well as practical value to have more contries

perform an accounting excercise similar to what we are reporting here. The FAO guide

serves as an excellent tool to conduct such an excercise.

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