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The Icelandic Debate on the Case for a Fishing Fee: A Non-Technical Introduction

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The Icelandic debate on the case for a fishing fee:

A non-technical introduction²

Abstract

Research by J.D. Sachs and A.M. Warner, indicates that resource-rich countries are less successful in terms of economic growth than are resource-poor countries. The question of what measures Icelanders need to take to prevent their fishery wealth from limiting economic growth is posed. The main body of the essay discusses arguments for a fishing fee. The principal arguments for a fishing fee are listed. One type of argument concerns *flexibility*, with a view to possibly introducing other forms of management or altering the distribution of profit in the future. Another type of argument concerns *equity and fairness*, contending that having a fishing fee makes it easier to ensure that the entire nation enjoys the benefit of the resource. A third type of argument is connected to *risk-management*, maintaining that, if properly arranged, a fishing fee would make it possible to offer vessel operators an indirect insurance policy which otherwise would not be available to them. The fourth type of argument concerns *counter-cyclical policy and the problem of co-habitation of the fishery industry and other export industries*, and refers to the possibility of wage earners and/or taxpayers being forced (or tempted) to apply general policy instruments to secure a portion of the fishery rent. The general measures available to obtain a piece of the fishery rent share a common failing: their use unavoidably increases costs for other sectors of industry and thus limits possibilities for growth in those sectors and links their performance to fisheries performance. Then there are arguments for *neutrality*, based on the idea that so-called resource rent taxes should not affect the use of the factors of production. And finally there are *economic growth* arguments, which can be linked to theories of rent-seeking and Dutch disease.

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² This article is partly based on an address delivered at a joint meeting of the standing committees on Fisheries and Commerce and Industry of the Icelandic parliament, *Althingi*, in Hveragerði, Iceland, in March 1996. The author expresses his thanks to Thorvaldur Gylfason, Thráinn Eggertsson, Rögnvaldur Hannesson, Guðmundur Magnússon, Markús Möller and the editors of *Fjármálatíðindi* for helpful criticisms on various points in need of improvement. The author himself, however, bears full responsibility for the contents and presentation. The article is translated from Icelandic by Keneva Kunz.

I. Introduction

In 1975 the Icelandic Marine Research Institute (MRI) published a report on the situation of fishing stocks and other marine animals on the Icelandic banks.³ Its contents were such that in everyday discussion the report immediately became known as the “Black Report”. Only a month later the Icelandic Research Council also published a report, nicknamed the “Blue Report” both because of the colour of its cover and the mood of its content. That report discussed developments and future prospects for fisheries in Iceland.⁴ These two reports, and the discussion which followed their publication, made the general public in Icelandic conscious of the fact that uncontrolled fishing of the stocks in Icelandic waters was not a viable option for the future. The conclusions of the reports could be interpreted to mean that, unless changes were made in fisheries management, the progress of fisheries in Iceland would be brought to an end within a relatively short time, and the sector even be deprived of a viable operating basis for years to come. Yet, even though the necessity of improved fisheries management was obvious and generally recognised, and all the principal management system options were known, it proved to be no simple task to establish an effective system to manage pursuit and catches.⁵ To start with, a fishery-effort restriction system of so-called “scraping-up” days (with no cod fishing) or non-fishing days was adopted. The system of effort restrictions had little or no effect towards limiting total catch and the catch capacity of the fishing fleet continued to expand. It was not until in December of 1983, when the complete collapse of the cod stock appeared imminent, that the Icelandic parliament, *Althingi*, finally adopted legislation on a quota system. One could thus say that a management system which was effective in limiting pursuit of the most valuable fishing stocks was not introduced until the situation had become desperate.

³ Hafrannsóknastofnun, *Ástand fiskistofna og annarra dýrategunda á Íslandsmiðum og nauðsynlegar friðunar-aðgerðir innan íslenskrar fiskveiðilandhelgi* (The situation of the fishing stocks and other species in Icelandic waters and necessary protective actions for the Icelandic Exclusive Fishing Zone), Reykjavík, 1975.

⁴ Rannsóknarráð ríkisins, *Þróun sjávarútvegsins* (Developments in fisheries), Reykjavík, 1975.

⁵ Halldór Jónsson, “Ákvarðanatáka í sjávarútvegi og stjórnun fiskveiða” (Decision-making in fisheries and fisheries management), *Samfélagstíðindi*, 10 (1 1990), 99-141.

In creating a fisheries management system the public (and the politicians representing them) aimed primarily at responding to a very real and impending threat. Small wonder that the politicians had but little concern for the effects that distributing potential fishing profit among the country's citizens would have on the national economy, income distribution and industrial development, should the management measures in fact accomplish their intended purpose. The *Althingi* did, although somewhat reluctantly, proclaim that the fishing stocks of the country's waters were the common property of the Icelandic nation. Otherwise the question of finding a suitable solution to the possible problem of income distribution and the clearly foreseeable tensions between fisheries and other sectors was left for the future.

The following discussion commences with an account of the relationship between natural resources and economic prosperity. It asks whether those nations favoured with an abundance of natural resources enjoy greater prosperity than do nations with but few resources. After this, the discussion turns to fisheries management methods, which have progressed from decisions on total allowable catch (TAC) for each species to distributing transferable quotas between vessels. Arguments in support of a fishing fee⁶ are then advanced, and finally the principal conclusions are outlined.

II. Are nations who possess extensive natural resources better off than nations with few such resources?

At first glance it might appear a foregone conclusion that possessing natural resources improves the owner's prosperity. A man rich in possessions is a wealthy man, by definition. Similarly, we would expect a nation possessing valuable resources to be wealthy. But things are not quite as simple as that. Consideration must be given to the fact that, when we speak of wealth, we are speaking of a stock parameter. In discussing income and prosperity, on the other hand, we refer to flow parameters. Investigations of the connection between prosperity and resource ownership can thus be divided into two

⁶ This fee has been known by various names. Economist Bjarni Bragi Jónsson, who was among the first to introduce the idea in Iceland, referred to it as a resource tax. After the present quota system, with ITQs, was introduced, the names used tend to reflect the fact that the right to send vessels to fish and land their catches is limited. As a result both the terms "catch fee" (*aflagjald*) and "fishing quota fee" (*veiðileyfagjald*) have been used. In this article I have followed a suggestion made by Thorvaldur Gylfason to

areas, and the following questions posed: In the first place, are those nations whose countries possess extensive natural resources more prosperous than nations inhabiting resource-poor countries during a specific period in time? And secondly, what is economic growth like in resource-rich countries as compared to economic growth in other countries?

The answer to the first question is simple: The general prosperity of the population is high in some resource-rich countries, but low in others. Examples of countries where rich resources and a high level of general welfare go hand in hand are Norway and Kuwait. On the other hand, Russia is a good example of a land with rich resources and low per capita income. So there is no simple connection between welfare and natural assets if we look at the short term.

What about the second question, concerning the long term development of the economy? Nations which are rich in natural resources could be expected to more readily develop extensive and highly effective means of production. Nations whose countries are rich in resources should also have a relatively easy time building up their national education, technology and science. Is it then logical to conclude that economic growth in resource-rich countries should be more rapid than in other countries? Two Harvard economists, Jeffrey D. Sachs and Andrew M. Warner, sought to answer this question in a recent investigation. They examined information on economic growth during the period from 1970 to 1989 for most of the world's nations, linking this to the proportion of primary products in total exports from these countries in 1971. Their conclusion would appear to be irrefutable: the greater the share of primary products (products of natural resources) in a country's total exports in 1971, the slower was the economic growth of that country during the following two decades.⁷ While the result of the two colleagues' research may appear hardly credible at first, various likely explanations can be found for it, as will subsequently be outlined here.

use the term "fishing fee" (*veiðigjald*) which is both shorter and makes for better combinations with other terms than does "fishing quota fee".

⁷ See: Sachs, J.D. and A.M. Warner, *Natural Resource Abundance and Economic Growth*, National Bureau of Economic Research, Inc., 1995, Working Paper Series 5398. See also: Gylfason, T.; T. T. Herbertsson. and G. Zoega. (1999). "A Mixed Blessin: Natural Resources and Economic Growth." *Macroeconomic Dynamics* 3(2): 204-225.

III. Fisheries management

It was during the second decade of this century that marine biologists began to link fluctuations in fishing capacity and pursuit, on the one hand, to the productivity of fishing stocks, on the other. An article by the Norwegian Johan Hjort in 1914 is often quoted.⁸ Nordic economists were also among the first to make the connection between fishing pursuit and productivity of the stocks. In 1911 Jens Warming published an article which has been referred to repeatedly.⁹ In it he suggests that pursuit by fishermen of over-fished banks be reduced by charging fees. At the time, however, no moves were made to follow his advice, as the advent of the first World War, followed by the depression of the inter-war years provided politicians and economists with other priorities. It was not until the 1950s that economists once more attempted to deal systematically with the problem of fisheries management. They began by investigating whether utilisation of the fishing stocks would change if the right to exploitation were limited to one entity, a sole owner, instead of many.¹⁰ Their conclusion was that there is a considerable difference between the manner in which an owner with exclusive right to exploit a fishing stock actually does so – and the manner in which the stock is exploited if the right to fish from the stock is unrestricted; the present value of income generated by the fishery will be greater if one party has exclusive right to exploit the stock.¹¹

During the 1950s fishing techniques changed and improved substantially. Fishing vessels became larger and more powerful. New types of fishing gear appeared and older types were improved upon. This increased both the reasons and the demands for public action in determining how fisheries were to be controlled and organised.

Fisheries management is directed at limiting catch, pursuit or fishing capacity. Authorities restrict the right to fish or right to land catch to certain parties. Such rights

⁸ Kesteven, G.L., “A Fisheries Science Approach to Problems of World Fisheries or: Three Phases of an Industrial Revolution”, *Fisheries Research*, 25 (1996), 5-17, refers to an article by Johan Hjort of 1914. The first mention of overfishing on the Icelandic banks occurred in a parliamentary speech in 1926, according to Jón Jónsson, *Hafrannsóknir við Ísland II. Eftir 1937* (Marine Research in Iceland II. After 1937), Reykjavík, Bókaútgáfa Menningarsjóðs, 1990, p. 34.

⁹ Warming, J., “Om Grundrente av Fiskegrunde” (Concerning a ground rent for fishing grounds), *Nationaløkonomisk Tidsskrift*, 49 (1911), 499-505.

¹⁰ A brief summary of this story can be found in Scott, A.D., “Conceptual Origins of Rights Based Fishing”, which was published in *Rights Based Fishing*, edited by P.A. Neher, R. Árnasyni and N. Mollet, Dordrecht/Boston/London, Kluwer Academic Publishers, 1989.

may pertain for a limited period of time, for an unspecified period or in perpetuity; they may be transferable or restricted to a specific vessel, skipper or vessel operator; or conditional upon the catch being landed at a certain fishing port.¹²

Under the simplest management system, the total allowable catch (TAC) of a given fishing stock is determined and all fishing from the stock in question stopped once this point has been reached. The advantage of such a system, if the decision on maximum catch is well-founded, is that it is possible to maintain the yield capacity of the stock and thus ensure fishing and a supply of fresh fish for the indefinite future. Anyone with the desire and means to acquire a vessel would have the right to participate in the fishing. As a result, new parties would begin fishing as long as there was any hope of gaining from it financially. Or, in other words, investment would be made in fishing capacity as long as the expected present value of income accruing from participation in fishing were greater than the expected present value of costs. The guiding principle of fishery management is that increase in fishing capacity does not affect the total allowable catch allocated.¹³ Hence, given a fishery management regime with a TAC, increased catch by one vessel operator would inevitably be made at the cost of another's catch. In assessing the income from and cost of increasing pursuit capacity, however, the individual vessel operator would not take the fact that his increased catch would reduce the catch of others into consideration. The investment principle previously stated, which gives good results in traditional business operations, would result in the pursuit capacity of the fishing fleet becoming much greater than the yield capacity of the fishing stocks. A system which is based on a decision of total annual catch thus encourages waste in the form of unused fishing capacity and underused capital. Incredible stories have been told of the waste resulting from the application of this management method. One small example concerns shellfish banks on the eastern seaboard of the US, which were open for fishing for three hours each week. It would

¹¹ See Copes, Parzival, "Factor Rents, Sole Ownership and the Optimum Level of Fisheries Exploitation", *Manchester School of Social and Economic Studies*, 40 (1972), 145-163.

¹² See the article by the author "Principles for Distribution of Rent from a 'Commons'" in *Marine Policy*, 16 (3 1992), 210-231.

¹³ No provision is made here for rent-seeking, but according to theories on such behaviour, interest groups spend both time and money to influence decisions such as total allowable catch.

have been sufficient to have six vessels in this area, instead of the 133 which lay in harbour for 165 of every 168 hours.¹⁴

Once marine biologists, fishermen and politicians had realised that limiting total catch was insufficient, experiments were made with management systems providing for limited entry or access. The idea behind this is that only those parties who can produce a licence to do so may pursue fishing. In this way the group having access to fishing is limited to certain individuals. Persons outside this group have no right to fish the stock in question. This practice became known as “limited entry”. The idea was that those parties who were entitled to fish haddock or cod, for instance, should be able to agree on a rational utilisation of their asset in much the same way that owners of land along the banks of a salmon river solve similar problems by establishing a fishing association, which then sets rules prescribing how fishing in the river should be organised. There is a long tradition where limited access has given good results in cases such as those referred to. The idea of using limiting access to fishing as a management device in high sea fishing was welcomed by the economists of the time when it was proposed.¹⁵ Systems of this type were tried in Alaska and Australia, in North America, in New Zealand, and in other places as well. Ralph Townsend (op. cit.) has summarised the results of these experiments. He points out that the rights which are created through limiting fishing differ basically from those rights which pertain to the owners of salmon-fishing rivers or section of forest in a joint association. Harvesting rights on the open sea are considerably more limited. For example, it is much more difficult to verify that the rules governing fishing are followed far out at sea than it is on land. And it is still most profitable for a vessel operator to fish as much as possible when the fish is available < in so doing he assures himself the greatest share of the total allowable catch. Nor is limiting access likely to encourage the building-up of fishing stocks, since a vessel operator who catches less than his pursuit capacity allows him one year has no guarantee that he will reap the rewards of this action later. On the contrary, other vessel operators are almost certain to have increased their catches already. Because of this the public authority must regularly intervene in the fishery, both to limit competitive

¹⁴ See “Íslenska kvótakerfið að hluta fyrirmynd skelveiði-stjórnunar” (The Icelandic quota system to some extent a model for shellfish management), *Morgunblaðið*, 8 June 1991.

¹⁵ See the discussion in Townsend, Ralph E., “Entry Restrictions in the Fishery: A Survey of the Evidence”, *Land Economics*, 66 (4 1990) 359-378.

fishing and to formulate policy concerning the utilisation of the fishing stocks now and in the future, to determine maximum catch, concern itself with what types of fishing gear are used, determine how by-catch should be dealt with, etc. On the other hand, if the public authority successfully manages to formulate policy and apply the aforementioned restrictions, the fishery can return a considerable profit. The parties excluded from fishing naturally want a share of this profit, which creates pressure to increase the number of harvest right-holders, according to Townsend's report. Limiting entry has thus not proved to be as effective a policy instrument as might have been expected on the basis of mere theoretical analysis.

Transferable quotas

The system we currently have in Iceland, of individual, transferable quotas (ITQs), is intended to alleviate some of the flaws which had arisen in the system of limited access. There is no question that the quota system reduces competitive fishing. It thus has various advantages over simply limiting access. But some of the disadvantages remain. The involvement of experts, who are not stake-holders in fishing firms, is required to formulate policy concerning the utilisation of the fishing stocks and to determine total allowable catch (TAC). But the final decision on the size of the TAC in any given instance is the responsibility of a politically appointed Minister. The political Minister will face difficult choices when the experts advise sharp cuts in TAC. As a result, the TACs announced tend to be in excess of the expert advice.

It is also necessary to enforce this policy through surveillance and penalties for those infringing against the rules adopted. In addition, new problems arise which demand a solution. The most serious problem of this sort is discarding of catch. It is clearly to the advantage of the vessel operator, who has a catch quantity quota, to land the most valuable fish possible. A vessel operator can thus increase the value of his quota by discarding the fish of least value and only landing the most valuable of them for weighing-in and processing. There would appear to be no way of addressing this problem except by operating an extensive and costly system of surveillance.¹⁶

¹⁶ For detailed critique of the ITQ system see: Copes, P. "Adverse Impacts of Individual Quota Systems on Conservation and Fish Harvest Productivity." Paper presented at the VIII^{ème} Conference Internationale sur L'Economie des Peches, Marrakesh 1996.

The quota system is thus dependent upon the *public authority* (representing the general public) being prepared to use force against those actual or aspiring vessel operators who do not comply with the limits to their freedom of action set by the quota system. Furthermore, under the quota system the public authority must supervise that the prescribed restrictions are complied with. The efficacy of the surveillance system depends upon how extensive are the financial resources devoted to it. Financial resources are in limited supply. In the struggle to determine how public expenditure should be distributed, the potential gain of public intervention in a specific area is likely to be weighed against the cost of realising such gain. Financial allocations to fishery surveillance can never be so great as to fully exclude some circumvention of the rules.¹⁷

IV. Arguments in favour of a fishing fee

From the foregoing discussion it is clear that the quota system currently in effect in Iceland has its imperfections just like any other human endeavour. It could be contended, however, that a quota system with a fishing fee is a better, more equitable and more flexible arrangement than a quota system without such a fee. Arguments to support this contention will be advanced in the ensuing discussion.

The arguments in support of a fishing fee can be classified into a number of different types. One type of argument concerns *flexibility*, with a view to introducing other forms of management in the future. Another type of argument concerns *equity and fairness*, contending that having a fishing fee makes it easier to ensure that the entire nation enjoy the benefit of the resource. A third type of argument is connected to *spreading risk*, maintaining that having a fishing fee makes it possible to offer vessel operators an indirect insurance policy which otherwise would not be available to them. The fourth type of argument concerns *equalisation of fluctuations* and *the problem of co-habitation*, and refers to the possibility of wage earners and/or taxpayers being forced (or tempted) to apply general policy instruments to acquire a portion of the fishery rent. The general measures available to obtain a piece of the fishery rent share a common failing: their use unavoidably increases costs for other sectors of industry and thus

¹⁷ See the article by the author, "Why fishing fleets tend to be 'too big'" in *Marine Resource Economics*, 11 (1996) 173 -179.

limits possibilities for growth in those sectors and makes their performance conditional upon the performance of the fisheries. Then there are arguments for *neutrality*, based on the idea that so-called resource rent taxes should not affect use of the factors of production. And, finally, there are economic growth arguments, which are linked to theories of rent-seeking and Dutch disease. The following section discusses each type of argument separately.

A fishing fee and flexibility

The arguments for a fishing fee connected with flexibility claim that a quota system with a fishing fee is more flexible than one without such a fee. To explain this argument, it is useful to recall how price formation for quotas takes place. Quotas, or harvesting rights, are valuable assets which can be bought and sold. The value of the quota or harvesting right is inherent in its promise of future income. The price of the quota is then determined by how great is the annual income it yields. In addition, it makes a difference how long the rights are expected to apply. It is thus likely that prices of quotas would rise considerably if the *Althingi* were to decide to extend the present quota system in perpetuity and drive the nail home with a constitutional provision. Similarly, it would no doubt reduce the value of quotas if *Althingi* were to agree to phase out the system in one manner or another over the next 2 to 10 years' time. Furthermore, the price for quotas would also drop if it were decided that vessel operators should pay a (substantial) fee for each cod-equivalent kilo of fish they land.

The reason that a quota system with a fishing fee is more flexible than a quota system without such fee is inherent in the impact that a fishing fee, were such to be levied, would have on the formation of quota prices. Let us assume that, unlikely as it might seem, *Althingi* had decided to enshrine the present quota system in the country's constitution. Let us further assume that, several years later, a new technology were to be developed which would completely revolutionise our ideas of fisheries management and that implementing this technology would be incompatible with the quota system. In such case, Icelanders would not be able to adopt the improved fisheries management measures without paying substantial compensation to quota owners. The result would probably be that the improved management system would not be adopted. If the *Althingi* had, on the other hand, legislated a fishing fee the market price of quotas

would be relatively low, as was suggested above. Should a new management system be developed, or circumstances arise which called for a major reorganisation of the system, as suggested here, the public authority would be able to appropriate harvesting rights at relatively low cost. A quota system with fishing fee thus gives the authorities more latitude to adapt the system to new knowledge than does a system without a fishing fee.

As was pointed out earlier, both politicians and the general public have been slower to formulate ideas as to how the fishery profit should be handled than to formulate policy on management of the fishery itself. Establishing a quota system without a fishing fee on a permanent basis would be an irrevocable step.¹⁸ Therefore, the introduction of a fishing fee could be regarded as a means of buying time for the politicians and the general public to analyse and discuss the advantages and disadvantages of the various systems of collecting the fishery rent which are available. Or to put it another way: it is hardly possible to conceive of a better way to give coming generations the opportunity of taking part in deciding on the distribution of the fishery profit than by levying a fishing fee.

The line of argument followed here implies that legislation reaffirming the present quota system, together with a reasonable fishing fee, would be a move which would be relative simple to countermand. Legislation fixing in place the present quota system without a fishing fee would, on the other hand, be a move that would be much more difficult to abrogate and, in consideration of how relatively primitive is the state of our knowledge of fisheries management, it would appear inadvisable to take irrevocable steps in this area.¹⁹

The social contract arguments for equity and justice

Mention has already been made of the conclusions by Ralph Townsend, that profit arising from fisheries management leads to pressure for a wider allocation of harvesting rights and could conceivably detract from the efficacy of the management system in

¹⁸ The Icelandic Supreme Court states in the premises for its ruling in the so-called Vatneyri case that the Icelandic state can at any time levy a fishing fee without compensating the holders of fishing rights. On one hand, this ruling of the Supreme Court might be taken to indicate that the formulation in the main text is too strong. But the ruling begs the question: For how long can the state wait until it uses its right to levy a fishing fee? Five years? Ten years? Thirty years?

important areas. One of the reasons for this problem is the public's sense of justice. A draft parliamentary resolution, placed before the *Althingi* in 1995 by Ágúst Einarsson and several other MPs, expresses this point of view very clearly:

... one of the principal arguments for a fishing permit fee (is) the question of justice. By this is meant the insult it presents to the public when fishing rights are bought and sold, and those persons to whom they were originally allocated thus able to profit substantially by selling or renting them. They have not paid for them, neither upon their allocation nor in the form of an annual rental fee.

There is no lack of injustice in the world. There would be no end to the task if we attempted to completely overhaul our legal codes every time it became evident that a piece of legislation discriminates between citizens in one manner or another. As was previously mentioned, it is expensive to maintain a fisheries management system. The public authority must monitor that the rules of the game are complied with. The authority must compel the compliance of individuals attempting to resist the rules adopted. In this sense, a fisheries management system is no different than other legalised rule systems: traffic legislation, competition law, environmental law, laws on account-keeping, joint-stock companies, or what have you. All of this legislation is supported by a variety of arguments for efficiency. Citizens would benefit considerably less from traffic infrastructure if there were no rules to prohibit vehicles from running red lights at controlled intersections. But just passing laws to prohibit crossing when the light is red is not enough. The public authority must be prepared to ensure there is no crossing on a red light. The public authority must also have at its disposal a relatively effective system to handle cases where individuals are caught breaking the rules. All of which is expensive. However, there is scant cause to doubt that the costs for policing and the judicial system due to enforcement of traffic legislation is less than the cumulative advantage that citizens derive from this legislation.

Which brings us to the central question. A quota system cannot be operated without considerable surveillance and extensive coercive measures. A rough estimation indicates that the costs of this system in Iceland, at the current level of monitoring and operations, could be up to twice the entire budget for the University of Iceland. No

¹⁹ I mentioned these arguments in two articles in the Icelandic journal *Vísbending* in the spring of 1993, see: "Grundvöllur stefnumörkunar í sjávarútvegsmálum" (Basic policy formulation in fisheries questions), *Vísbending*, No. 21, 1993, and "Stefnumörkun í

doubt people at the Ministry of Fisheries are of the opinion that these costs need to be increased to make surveillance sufficiently effective.²⁰ It has been pointed out that Norwegian expenditures for fisheries management and surveillance are almost four times that of Iceland, even though the extent of the fishery in total catch value is similar in both countries. This has been interpreted as an indication that spending in this respect by the Icelandic government is less than what would be desirable.²¹ If a fishing fee is not collected it is likely that the cost to persons who have not been allocated harvesting rights for maintaining the system could considerably exceed any benefit they receive from the system. Which gives rise to the question of why the majority of voters should support an expensive system from which they derive no advantage? Would they not be much better off to simply forget about any surveillance at all, retire the Icelandic Coast Guard vessels, sell the surveillance aircraft, lay-off all the fishery inspectors, close the Directorate of Fisheries, cease having ministerial personnel go over catch figures, and be rid of the need to maintain large negotiating committees in Oslo and Moscow?

The conclusion is that if vessel operators hope to enjoy the support of the authorities in formulating and enforcing a fisheries management system the general public must enjoy the benefits of this endeavour.

There is actually an alternative way of considering the idea of a fishing fee as a form of social contract between the resource exploiters and resource owners. As many speakers and writers have pointed out, a resource tax has, in fact, for much of this century been indirectly collected from fishing operators. This has been done by maintaining a high exchange rate for the Icelandic *króna*. As a result, vessel operators received fewer *krónur* for each cod they caught than would otherwise have been the case. The general public, on the other hand, as a result of the exchange rate, had access to cheaper imports than would have otherwise been the case, even though the national treasury took its share by levying high duties on imports. The general public thus benefited from the fishing banks in the form of lower prices for imports and

sjávarútvegsmálum”, (Policy formulation in fisheries) *Vísbanding*, No. 25, 1993

²⁰ An unsuccessful attempt by the Icelandic Coast Guard to escort a Russian trawler accused of incursion into Icelandic jurisdiction to port early in 1996 resulted in substantially increasing pressure for an additional and improved vessel for the Coast Guard.

²¹ See Grönn skattekommission: *Grønne skatter, en politikk for bedre miljø og høy sysselsetning* (Green taxes, a policy for a better environment and high employment), Finans- og tolldepartementet, 1996, NOU 1996:9, and Rögnvaldur Hannesson and Stein Ivar

presumably in the form of lower taxes paid to, or more services from, the public authorities than they would otherwise have enjoyed. It could be argued that the allocation of permanent quotas without a fishing fee makes this method of collection less effective (although not totally useless, as will be discussed later) and more difficult, in addition to which international agreements have limited the extent to which import duties can now be used for such collection.

What would become of the public interest if the quota system without a fishing fee were to be made a permanent fixture of Iceland's interior furnishings? The public, which previously received a sizeable share of the resource profit would now receive nothing < it would have been deprived of its income from the fishing banks. The levying of a fishing fee is thus not an additional tax collection, but instead merely a more dependable and efficient way of delivering the resource rent to the general public than the methods employed up to now.

A fishing fee as a device for risk management

A vessel operator who, under the present system, purchases quota is taking a considerable risk. Product prices may drop, making fishing unprofitable for longer or shorter periods, operating expenses may increase, with similar results, or catches may fail, so that the quota purchased is not fully utilised. An operator cannot directly insure himself against such circumstances, because no insurance company would sell him such an insurance policy.²² Instead he has to take all sorts of indirect measures to protect himself. He may, for example, diversify his activities more than otherwise in order to reduce his risk, or pursue demersal fish processing in several locations around the country at the same time, or operate several different types of vessels, pursuing different types of fishing. This sort of "insurance" is expensive because it hinders specialisation. Icelandic economist Markús Möller has recently pointed out that a

Steinshamn, *Grønne skatter og fiskerinæringen* (Green taxes and the fishing industry), Stiftelsen for samfunns- og næringslivsforskning, 1996, SNF-rapport, 2, 1996.

²² Insurance companies will not offer policies which would suffice to insure a vessel against adverse selection and/or moral hazard. An insurance company would justifiably fear that a vessel operator who had purchased insurance against catch failure would hardly pursue fishing as diligently as he would without such insurance. The premium demanded by the insurance company would naturally enough reflect this fact. The productivity of the same type of vessel, however, depends upon the vessel operator and skipper. An insurance company would naturally fear that only vessel operators with "low productivity" vessels would be interested in insurance of the type referred to here. The premium demanded by the insurance company would reflect this fact, as well as other factors of importance.

fishing fee could be used to reduce these insurance activities.²³ He suggests offering the option of linking bids for fishing fees to product price indices, fuel price and the catch quantity allocated. In so doing part of the risk assumed by individual vessel operators would be transferred to the national treasury, resulting in a definite macroeconomic advantage, since vessel operators could specialise to a greater extent than is presently the case.

A fishing fee as an instrument of counter-cyclical economic policy < how fisheries co-exist with manufacturing export industries

The argument for easing this co-existence problem is often mentioned by spokesmen of industrial sectors other than fisheries.²⁴ Traditionally, the real exchange rate for the Icelandic *króna* has been allowed to fluctuate in tune with the circumstances of the fishing industry. Thus a high (or more correctly, an “even higher”) real exchange rate has been used to take a slice off the top of fishery-sector profits in good years. On the other hand, the real exchange rate was allowed to drop during lean years in fisheries. This arrangement has meant that the general public took a share of good catches and high prices for fish products abroad, i.e. import prices were lower in real terms when the situation was favourable for fisheries. On the other hand, the public relinquished some of its purchasing power for imported goods when fishing was poor or when prices for fish products abroad were low. These fluctuations have, however, caused considerable difficulties for other export industries because they have been implemented through domestic wage levels and price developments in Iceland in general. Wages and domestic price levels obviously have a significant effect on the competitive position of export industries. According to current thinking, the advent of ITQs means that this control mechanism no longer need be applied, because price and catch fluctuations are manifest in quota prices and do not, or need not, influence the domestic wage and price structure. This is in itself true enough. It should be easier to maintain a stable exchange rate after the introduction of the quota system. But that does not mean that such will be the case. The public could make use of the trade unions or

²³ Markús Möller, “Fyrirkomulag veiðileyfagjalds” (How a fishing quota fee could be organised), *Vísbinding*, No. 9, 1996.

²⁴ See also a collection of articles edited by Thorkell Helgason and Örn D. Jónsson entitled *Hagsæld í húfi: Greinar um stjórnm fiskveiða* (Economic Prosperity at Stake: Articles on fisheries management), Reykjavík, Háskólaútgáfan, 1990.

Althingi with its power of taxation to secure its share of the fishery rent if all else fails. The working public can relatively quickly apply its trade unions on its behalf to force wage increases which fluctuate in tune to the performance in fisheries. The voting public can also, although with a longer lead time, apply the taxation powers of the *Althingi* to, for example, have general payroll taxes fluctuate along with fisheries performance. Both are clearly inefficient methods of acquiring the fishery rent. But if the average voter or the average wage earner sees no other way to secure for himself a piece of the fishery profit than the above-mentioned, why should he not take such steps? The argument that these methods are less effective than other methods for securing this rent is of relatively little significance if the public cannot or is not allowed to use the more effective methods.

The conclusion is thus that if a fishing fee is not introduced it will be very tempting for the public (i.e. the trade unions and the politicians on behalf of the voting public) to attempt to get its hands on some part of resource rent, especially if vessel operators run into a spell of good luck. So it is likely that the co-habitation problems of fisheries and other industrial sectors will continue, even after the advent of the quota system, if the latter is not followed up by a fishing fee.

More on the co-existence problem: Rules on investment

The counter-cyclical arguments also concern what is sometimes referred to as the co-existence problem, since other industrial sectors may have a more difficult time than otherwise due to the extensive consideration paid to fisheries in economic policy. But there are a number of other areas which share this problem. The right of foreign parties to invest in Icelandic fisheries is prohibited by law. The argument is that it is in primary production that the fishery rent is created. For this reason foreign parties may not be allowed access. Now, however, people have realised that it is no simple matter to limit access of foreigners to ownership of Icelandic fish processing enterprises. We are thus faced with two options. On the one hand, we can prohibit certain parties from participation in Icelandic fish processing enterprises. Such a prohibition is at best meaningless, and at worst it could make financing such enterprises more costly than it would otherwise be. The other option we face is to allow foreigners to invest in Icelandic fish processing enterprises and conceivably reap a share of the fishery rent.

Let us assume that a fishing fee is introduced which is equivalent to the auction price of quota. In such a case there is little danger that foreigners will abscond with a sizeable portion of the fishery rent. Introducing a fishing fee could thus solve a difficult legislative problem and ensure that the fishery rent accrues to the Icelandic population, whom the law declares to be the owner of the fishery resource.

The argument for neutrality

Professor of Fisheries Economics Rögnvaldur Hannesson, together with several others, have pointed out that a fishing fee may be less distorting than most other potential sources of public revenue.²⁵ Taxes are commonly levied on the use of the factors of production. Such taxes thus distort price formation both on the labour and capital markets. The danger of distortion increases with the increasing level of taxation. The nature of a fishing fee is such that there is no danger that it would distort price formation in the economy. A variation in the size of the fishing fee will not affect the spawning behaviour or feeding habits of fish stocks. A vessel owner will continue in his trade as long as he can cover his variable costs and earn a going rate of interest on invested capital. Thus, a vessel owner operates independently of whether he receives all, some or none of the fishery rent. Collecting the fishing rent by means of a fishing fee will generate income accruing to the public purse that can be used to reduce other, less favourable forms of tax collection. A similar taxation-efficiency argument is valid for many other forms of valuable publicly-owned natural resources. The Norwegians, for instance, have already begun to change the structure of their taxation of electrical power, replacing specific taxes and various production levies with a tax on the resource rent created by electrical power production.²⁶ We can expect interest to be high in Norway in applying this taxation method to a greater extent to other resource-intensive production. In this respect, Icelanders are in a position similar to the Norwegians, having the opportunity to establish a taxation system more efficient than that available to other nations.

²⁵Rögnvaldur Hannesson, "Fiskveiðistefna og auðlinda-skattur" (Fishing policy and resource tax), in *Hagsæld í húfi* (Economic Prosperity at Stake: Articles on fisheries management), eds. Thorkell Helgason and Örn D. Jónsson, Reykjavík, Háskólaútgáfan and Sjávarútvegsstofnun Háskólans, 1990.

A fishing fee and economic growth

At the beginning of this article, mention was made of new research indicating that an abundance of natural resources hindered economic growth. Several theories have been advanced to explain this phenomenon. It is not uncommon to maintain that easy wealth reduces the initiative of individuals. The same idea could possibly apply to the connection between resource abundance and national initiative. Theories which are based on rent-seeking and the Dutch disease are, however, more convincing. We shall look at both in more detail, taking the theory of rent-seeking first.

The example used here is the granting to an airline operator of exclusive right to a specific air route. The value of the route is estimated at 10 million *krónur* and there are two airlines competing to have the route allocated. The companies realise that, if they go to a certain expense to promote the advantages of their own operating schedules, personnel, aircraft fleet and all-round superiority as compared with the other company, this will increase the likelihood that the route will be awarded to them. How much should they be ready to spend? It is quite feasible that the companies together spend more than 10 million on promotion. Naturally, the resource rent can be viewed in the same respect as the air route in the preceding example. The resource richness would, in such a case, lead to considerable activity among pressure groups. Instead of putting their efforts towards usefully building-up the industry, all their energy goes to fighting over whether pursuit quotas or catch quotas should be used, what quota allocation rules should look like, whether the doubling of longline catches should be continued and what management system should apply to small boats. Those involved form associations and hire representatives to spend hours and days waiting in the hallways and offices of ministries and institutions, newsrooms of radio and TV stations and daily newspapers to promote their interests. This is expensive but hardly profitable work from a macroeconomic point of view.

The Dutch disease theory is more complicated.²⁷ The name comes from a series of events which began with extraction of large quantities of natural gas from newly

²⁶ See Bye, Torstein, "Hvor interessante er norske kraft-ressurser for utenlandske oppkjøpere?" (How interesting are Norwegian power resources for foreign acquisition?), *Sosial-økonomen*, 1, 1997.

²⁷ See also an article on this subject in: Thorvaldur Gylfason, *Síðustu forvöð* (The last chance), Reykjavík, Háskólaútgáfan, 1995. A good résumé of economic developments in the Netherlands 1960-1980 is provided in Kremers, J.J.M., "The Dutch Disease in the Netherlands", which is published in the essay collection *Natural Resources and the Macroeconomy*, edited by J. Peter Neary and Sweder van Wijnbergen, xvi+352, Oxford, Blackwell, 1986.

discovered fields in the Netherlands during the 1960s. The influx of money into the economy resulted in a sizeable rise in wage levels in the Netherlands, as well as a rise in the real exchange rate for the Dutch guilder. Export industries were placed in a difficult position as they earned fewer guilders per exported unit and could thus not compete with sheltered industries by increasing wages. In consequence, a large number of workers switched to service industries. This transfer of production capacity between sectors is not without its cost. It is no simple task to convert premises once used by export industries into barber shops, architect offices or manicure salons. On the other hand, there is nothing surprising about such developments, and at first glance they can seem perfectly desirable if the income from the resource, the natural gas in this instance, is there on a permanent basis. But things are not exactly as they seem. In the first place, income from the resource may last for only a brief period. After which the industrial structure of the economy will need to readjust once more, and the architectural offices, barber shops and beauty salons be turned into television factories or refrigerator plants. And that will not be without cost in this instance either. It could be argued that it would have been preferable to slow the conversion in the first instance and thus save on reconversion costs later. But this is still not the whole story. The fact of the matter is that technological advance is more rapid in the manufacturing sector than in the service sector. Furthermore, there are a number of indications that technological advance is rapider the “larger” the sector is in one sense or another. The discovery of natural gas in the Netherlands resulted in enlarging the service industries at the cost of the manufacturing industries. A smaller manufacturing sector may have resulted in slower technological development than would otherwise have been the case. Slower technological development leads to lower economic growth.

Is there, then, any other solution than to get rid of this threat to economic growth which the Icelandic fishing banks would seem to be? Yes, one way is to levy a fishing fee and have the money go to the public coffers, reducing other taxes accordingly. Such a step would, in the first place, reduce rent-seeking (since there would be less financial gain at stake when fishing quotas were allocated). Secondly, such a measure should be able to reduce the undesirable effects of general taxation on the supply of labour. By this means it is possible, by addressing the problem rationally, to prevent waste and enjoy the benefits of the resource.

V Conclusions

At the beginning of this article, it was maintained that there was a negative correlation between the extent of resource-based production in an economy and its economic growth, based on the experience of countries during the past three decades. There are no doubt numerous causes behind this, as has been pointed out here. It should be emphasised, however, that this correlation is not a law of nature. It is, however, difficult to arrange things so that the income from a natural resource does not ruin possibilities for economic growth. This is the central point in the co-existence problem discussed in a preceding section. In Iceland, far too little has been done about this problem up until now. Interest groups in fisheries have been allowed to determine the shape of the fisheries management system. The result has been a system of fisheries management which is well suited to manage utilisation of the resource.²⁸ But that system is poorly suited to reduce the difficulties for other industrial sectors to co-exist with fisheries. A fishing fee would, on the other hand, solve many of those problems which need to be resolved.

²⁸ Although the criticism could no doubt be advanced that other management systems have not been sufficiently investigated.

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