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'Two decades after the war' - the management of international commons

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“TWO DECADES AFTER THE WAR”: THE MANAGEMENT OF INTERNATIONAL COMMONS

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Abstract:

Memory is important, also for Economics. 1995 was a special year for Iberian fisheries. The cause was a fish war between Spain and Canada, which reflected in a big tension in Portugal. Two decades after the so-called “turbot war”, the main objectives of this research is to resume the war and, from it, to reflect on its causes, how the problems were solved and to outlook for the guidelines of future research on the management of High Seas fisheries.

Introduction

Memory is important, also for Economics. The ephemeris can be used not only as moments of who relives the past in a single-rewind-perspective but of those who use these occasions to reflect on the past and to project the future from it.

1995 was a special year for fisheries in Portugal. Never before and never again, was the sector so under the eye of the media. First pages every day journals, opening in the TV daily informative programs..., and that, for more than three months. A unique scenario... The cause was a fish war in the NAFO area, between Spain and Canada, about a species, the turbot, that put also the Portuguese in a big tension.

Two decades after the war, our proposal goes through resume the so-called turbot war and, from it, to reflect on its causes, how the problems were solved and to outlook for the guidelines of future research.

Our paper therefore has the following structure. In the first and second points, the original problems of High Sea fisheries management and how they reflected in practice in the

turbot war, are presented. In section 3 we reflect on how the problem was solved. Theoretically we shortly review the basic results of the literature on this issue, in particular those arising from the usual combination of the basic model of fisheries management with Game Theory. In empirical terms we draw attention to the diplomatic efforts between the EU and Canada to overcome disagreements that led to war and to promote a cooperative agreement that would avoid the problem of overfishing on the High Sea. The rationale and substance of the 1995 UN Agreement on Transboundary Resources and Highly Migratory Species, its strengths and weaknesses, is presented and discussed. Finally, in Section 4, the paper reflects on the theoretical and practical issues that still pose important questions to this problematic and ask for some perspectives on future developments.

1. The Basic Problem

Property rights are in the core of fisheries management and the problem becomes more complex when fisheries are transboundary by nature. Extended Fisheries Jurisdiction gave the coastal states property-rights and the potential of a sustainable management of fisheries. However, the general evolution towards more exclusive rights didn't mean the exclusion of free access in international fisheries. The Law of the Sea (1982) doesn't exclude the principle of the "freedom of the seas" that remains in force in the High Sea.

One of the most penetrating subjects that emerged as a consequence of this new framework is the management of international fisheries commons. Given that the fish are endowed with mobility, it was inevitable that the coastal states, after the establishment of the Economic Exclusive Zones (EEZs), verified that they were sharing some of those resources with neighbouring countries. Many coastal countries also verified that some of the acquired stocks passed the border of EEZ to the High Sea, where they were subject to the exploitation of distant waters fishing fleets from other countries. Some of those stocks moved at great distances, passing successively in EEZs of several countries and in areas of High Sea. There is no rigorous typology; we can designate the first ones as transboundary resources, the seconds as straddling stocks and the last ones as highly migratory species.

The legal background of the problem can be stated as the following: The Law of the Sea attributes to the coastal states almost exclusive property rights on the fisheries to the 200 miles - the fundamental article (art. 56) reflects these sovereign rights to explore and to conserve the resources in EEZs. A clear definition!

By the contrary, one of the subjects that was inconclusive in the Law of 1982, concerned "transzonal" species; it rested for a clear debate the subject of who should be entitled management on these resources. During the Montego Bay Conference, the distant water fishing nations argued that, given the mobility of those stocks, management should not be under jurisdiction of coastal states but under the competence of the Regional Fisheries Organisations. This position had the vigorous opposition of many coastal countries.

The commitment established in the art. 64, ended for being the focus of subsequent controversy. Art. 64 count two paragraphs seemingly contradictory. In the paragraph 1 it is said that, where Regional Organisation exist, coastal states should cooperate with the countries of distant fishing. For these countries it means, obviously, that, inside those Organisations, they can influence the regulation of the resources. But the paragraph 2 says that the art. 64 should be applied "in addition to the other provisions of the part V of the Convention". Coastal states interpret this paragraph as implicating that the art. 56 should be applied integrally, in and out, their EEZs; that is, also to the migratory species. Something as a "preferential" right for coastal states should be considered as inevitable. An area of potential conflict grew up. The high negotiation costs implicated in the problem resolution were enough to maintain this vague stance situation but, in the 90s, the problem arose strongly, especially in the context of straddling stock fisheries. The consideration of the small importance of the highly migratory resources globally accomplished in the early 80s (about 90% of the resources were in the EEZs) and the reasonable conjectures of certain coastal countries, who believed that the long distance fishing fleets could only explore the resources of High Seas adjacent areas if it was guaranteed the access to EEZs, all showed to be wrong. Straddling stocks management was in the root-causes of serious "fish-wars" in the 90s.

In the essence, it was (is) a problem of property rights. The conviction of the coastal states, that they would be entitled "de facto" property rights on the transboundary resources, was not correct. These virtual rights ended for showing emptiness. Actually, these resources remain as "international common property" and the usual "tragedy of the commons" is well reflected in the overexploitation of these resources. The vague, imprecise form as they are defined in the Convention of 82 is in the origin of the problem;

so they can be called the "unfinished business" of the Law of the Sea (Kaitala e Munro (1993)).

2. The Problem in Practice: The “Turbot War”

The so-called “turbot war” represents an impressive example of the matters and preoccupations approached in this paper. The referred dispute was centered on a demersal species, the Greenland halibut or turbot, abundant in the Great Bank of Newfoundland. The stock moves into the Canadian EEZ and into the international waters outside of the 200 miles zone, in an area popularly known as the Nose of the Bank. It is therefore a straddling stock that has been explored by Canada and two nations of distant fishing fleets, Spain and Portugal, with “historical rights” of centuries.

The portions of the stock in the area of open High Seas have been managed by NAFO. In the first years, NAFO was reasonably well successful in the management of the resources, being the conservation policy dominated by Canada. Using the terminology of Game Theory, this could be seen as a type of game moderately cooperative, in that the two main players were Canada and EEC.

However, in the middle 80s, when Portugal and Spain went as members into the EEC, that cooperative arrangement began to demonstrate signs of growing stress. Following the collapse of the Grand Banks cod fishery, Canada’s fishing industry was struggling for subsistence. In less than a decade cod stocks had declined so much that a moratorium on cod fisheries were introduced in the early 90s. From record catch levels, Canadian cod fisheries saw around 50.000 jobs being lost. Many communities, mostly dependent on those fisheries, went on being devastated by a serious social crisis. Attempting to revive their stocks, Canada declared a *moratorium* on cod fishing and imposed other conservation technical measures that included the limitation in the number of trawlers that could go out fishing for other species, and the regulation of the mesh size, to defend the immature fish from being overfished. These measures affected also the so-called turbot, a species relatively plentiful in Canadian waters that had growing table-fish reputation and economic value.

In this context, non-cooperation incentives raised. On one side, the Community begins to put in cause the dominant management of Canada and the successive fall of capture shares

that were attributed. To refuse the attributed share, it was just enough to present a formal objection. So, the Community turned to ignore the attributed shares. Canada complained that the Community exceeded the shares and had a destructive action on the resources (namely with the capture of immature) that affected the stocks in Canada's own EEZ.

Canada's public Administration added the fact of social and political problems in the Newfoundland. A policy of subsidies and reduction of the overcapacity in the fisheries sector had not avoided overfishing and the unemployment in areas highly dependent on this activity.

Both sides recognized the serious depletion of the stocks (especially cod) in the beginning of the nineties. An Agreement, signed in 1992, worked as temporary truce. In the year of Rio-Earth-Summit, Canada and EU negotiated a co-operation agreement to end overfishing (ratified by EU but not by Canada) under which the EU agreed to follow future NAFO quotas. According to the Canadian Department of Fisheries and Oceans (DFO), Canada's share of the turbot caught, meanwhile, had been falling steadily to just 12% of total catch in 1993, despite having been attributed 91% of the NAFO total allowable catch (TAC). That evidenced a more conservationist oriented management policy: According to DFO, historical quota and catch for the area 2J3Kl indicated a total allowable catch of 55.000 tons in 1985, 65.000 in 1989 and 32.500 in 1990, 1991 and 1992; the foreign NAFO quota went from 6.500 in the mid-eighties to only 3000 tonnes in the yearly 90s. Note that EU used the Canadian falling catch share to justify unilaterally granting itself 69% share of the allowable catch that was permissible under NAFO rules, for 1995. Note also that foreign catches in the disputed area exceeded foreign quotas in the five years of the six years prior to 1993. For example, in 1992, the catch/quota excess rounded as much as 22600 tons, something as 853% of quota. The European catches, primarily of Spain and Portugal, comprised the majority of this foreign catch.

After a series of demonstrations of intentions, in March 1994, Canada, through the minister Brian Tobin, decided to do the revision of the *Law of capture of ships* and declared that the European fishermen were forewarned of the Canada intentions of protecting their flounder stocks, even for there of the 200 miles. By 1994, Canada and NAFO had tracked about 50 violations of boats crossing the 200 nautical mile EEZ limit to fish illegally in Canadian waters and recorded well the use of illegal gear and overfishing in the High Seas. For many European observers, this was of a staging that sought the negotiations of UN, in the moment when the European Union had lifted objections, in the instances of NAFO, to the shares of turbot TAC.

And, finally, the war broke. After the repeal of the Law of the capture, Minister Tobin and DFO wanted to demonstrate Canadian resolve on this issue by making an example. In March 1995, Canada captures a Spanish vessel. The Spanish fleet was in the areas 3O and 3N out of Canada's EEZ. Under the excuse that the Spanish vessel was fishing a straddling stock in excess to the shares allocated to European Union and following illegal practices of capture of immature, Canada didn't doubt in violating the International Law. On the 9th March an offshore patrol aircraft detected the Spanish trawler *ESTAI* in international waters outside Canada's EEZ. Several armed DFO fisheries patrol vessels, with Canadian Coast Guard and Navy support, intercepted and pursued Estai which cut its nets and fled after an initial boarding attempt. That resulted in a several hours chase after that Estai was finally boarded in the international waters of Grand Banks. Estai was escorted to St Johns port arriving with great fanfare. Canada's federal court processed the case as the Spain and EU protested vehemently and took the case to the International Court of Justice.

3. Solving the Problem

The incident illustrates the uncertainty well created with the Law of the Sea with regard to the rights and obligations of the States face to these stocks. Obviously, Canada maintained his defense based on the principle of Miles and Burke (1989) that, although having-not jurisdiction beyond the 200 miles area, there were superior rights for conservation reasons. The European Union insisted on the international law-breaking. Only with the signature of the agreement of the United Nations, 1995, on Transboundary Stocks and Highly Migratory Species and a bilateral agreement Canada/U.E. the situation would be *solved* finally. The expression *solved* is highlighted. That means: Of course, *that specific situation was solved*, but was the problem solved? After two decades, what have we done to solve the original problem? In practical terms, and in the Theory? Have we discuss the fundamentals and introduce changes in legal framework? How did we deal with the problems of overfishing and overcapacity? Have we made several significant advances in the theoretical Socio-Economics literature?

3.1. The Answer(s) of the Economic Analysis

Starting from the last, in the literature, the most common analytical approach to this problem has been the one that takes the basic model of Fisheries Economics and combines it with Game Theory. In the core, the theory was developed for transboundary resources. The importance of straddling stocks is more recent. There is, however, a common trunk, which we refer to as Shared Resources Management. That puts the cooperation between interested countries as the key-factor for the solution of this kind of problems.

The cooperation in the management implies the consideration of various issues such as the distribution of shares among partners, the determination of the optimal management strategy (which involves the estimation of resource usage over time) or the implementation and supervision of the agreements. The first aspect involves a difficult negotiation between partners but it is probably the simplest; whereas the determination of the optimal management strategy has severe difficulties because management objectives may be substantially different: one of the co-managers may be more conservationist and be willing to practice lower catch rates to allow a more sustainable use. On the other hand, strategies mutually accepted by the co-owners do not offer more than temporary benefits if an oversight mechanism that discourages fraud and blackmail between partners does not exist.

Thus, the first issue to discuss, in analytical terms, is the fundamentals for **Cooperation**: Is cooperation worthwhile? In fact, it is not expected that the co-owners engage in a process of cooperation (with the associated costs), if they are not convinced that the consequences of non-cooperation will be severe.

The starting point is the model of Gordon-Schaefer where we deal with two key issues: the nature of open access of the resource (and the consequent effect of full dissipation of rents) and the exercise of intertemporal resource management (implying a trade-off between present sacrifices and future earnings). The Game Theory can be understood as an analytical tool applicable to situations in which a decision maker is influenced not only by their decision and actions, as by the others'. The value in this case is obvious. There are several alternative analysis: the classical approaches of Colin Clark (1980) and Levhari and Mirman (1980) and the developments of the so-called Helsinki Group (see Kaitala (1986), Kaitala & Pohjola (1988), Hamalainen & Kaitala 1990)). The general conclusion is that non-cooperation leads to inferior performances. The authors predict

that non-cooperation translates into results very similar to the case of a sole country fisheries with open access and unregulated, that is, to the dissipation of rents.

Recognized the advantage of cooperation for some fisheries, we must pursue an analysis of cooperative management. In cooperative games it is assumed that each "player" seeks to maximize his benefits and it is assumed that the two players can communicate with each other and are able to establish firm agreements. In case there is willingness to cooperate, the first question that arises is whether the co-users are willing to establish a formalized agreement subject to oversight by a regulatory authority - a coercive (binding) agreement; or simply more informal, flexible agreements, non-coercive (non-binding) agreements, without the establishment of an administrative / functional structure and rules of strict control over the substance of the commitments. The analysis of cooperative fisheries is simpler in cases of formal and coercive agreements.

There are, also, several alternatives for economic analysis. A seminal analysis is Munro (1979). The co-users must consider two issues: the division of net benefits and the possible existence of different management objectives. If countries have the same management objectives, in theoretical terms, the problem is relatively simple: the appropriate strategy is the management as if it was a single user. If management objectives are not uniform, as usually happens, the problem grows in complexity. The key results of the analysis can be summarized:

- Different discount rates imply different arrangements in preferred strategies. *Ceteris paribus*, the co-manager that uses a relatively low discount rate favors a conservationist policy and is willing to invest in the resource. So, the compromise favors, in the immediate future, the most myopic co-manager since, by using a higher discount rate, this player intensively evaluates the closest benefits. But in the long term, more conservationist preferences will be more considered.
- The existence of different weights that each player puts in the conservation of resources is inevitable. To Munro (1990), an optimum-optimum will be found if the preferences of the one who assigns a higher value to the fishery are dominant. He should establish the management program and, obviously, should compensate the other members, in any way. It is the "Principle of Compensation" (Munro, 1987).
- The economic analysis indicates that the commitments on fisheries policies through cooperative games with transfers (side payments) are more efficient. The economic consequences of the introduction of transfers is that the partners are encouraged to focus on the allocation of economic benefits, rather than the division of quotas.

When the stock in question is a straddling, the analysis of management is similar to that applied to the shared resources. We assume that the coastal State is confronted with one or more distant water fishing nations in High Sea waters adjacent to his EEZ. Arises, however, an important difference in terms of Game Theory: that refers to the characteristic of symmetry. While in the relationship between, for example, two countries of contiguous EEZs there is a relationship of perfect symmetry, in that each State has clearly defined rights in its EEZ and none can use the resources of the EEZ of another without permission; in the case of the straddling stocks this relationship is asymmetrical. Nothing impedes the fleet of the coastal country in acceding to the waters of High Sea where the free access is maintained, but the fleets of distant water fishing nations only enter the coastal countries EEZs if they are allowed.

Note, also, that in the case of the straddling stocks, the number of participants may vary. While the hypothesis of two players seemed plausible until now, to this type of stocks, the most common management will be the one in which a coastal country is confronted with several fleets from distant countries. Plus: their number can vary over time. When one considers the multilateral management of straddling stocks and the possibility of new "entrants", the problem becomes significantly more complex. Despite these differences, the common trunk of the non-cooperative management of shared resources can keep up with minor changes. Results do not depart significantly. Essentially, it is concluded that if the non-cooperation prevail in resource management, it will result in overexploitation. The consideration of the possibility of establishing alliances between partners of the same organization and of the eventual accession of a "new entrant" in the Organization, introduces an added complexity in the analysis. There are various alternatives of cooperative management, depending on the viability of alliances between members and their own ability to transfer property to any new interested player [See Kaitala and Munro (1996)]. In practice, this is the key issue of the design and operation of institutions. And of the multiple implications, at the political and economic level, that can be introduced by the operationalization of the rules of the game. The definition of the RFMOs (Regional Fisheries Management Organizations), their constitution and possible subsequent accessions, rules of action, powers, legal procedures of control and enforcement, etc., are central issues in this debate.

The results of the application of Game Theory to the problem are indeed interesting:

- The possibility of a state to transfer the ownership to the new adherent ultimately increases his negotiating position, thereby extracting a greater share of the net economic return. The mere threat of transferring the member chart to a new entrant, immediately increases the expected payoff from the cooperative agreement.
- Perhaps most "uncomfortable" is the conclusion that, in the model, the new entrant can influence the negotiations and receive a part of their income from fishing, even if the transfer does not occur. In a way, the transferability of "a membership chart" for a new partner, puts the negotiation between partners as if there were four players, not just three. It is, of course, a direct result of the application of the model. The theoretical foundations of these games are still unproved. But it is certain that this result shows the difficulty of achieving a stable agreement if the Regional Fisheries Organizations when there are no clear and strict rules against the "new entrants".

3.2. The Resolution in Practice

The “New Air” of Fishing Relations between Canada and EU

After the “turbot war” the bilateral relationships between UE and Canada have been directing for a more narrow collaboration in terms of conservation measures and control in the NAFO area. The introduction of a “precaution principle” in the definition of TACs is an example of this new attitude. The most favorable atmosphere, resulting from an Agreement between UE and Canada, April 1995, was also a factor of trust creation. Canada opened their ports once again to the fleets of U.E. in June of 1996 and revoked the regulation of control of the ships of Spain and Portugal.

The parties involved pursued several approaches of resolving the conflict (DeSombre and Barkin (2002)). As we said, Spain appealed to the International Court of Justice. But, at the same time, EU and Canada worked to negotiate a new division of turbot’s TAC as well as more restrictive rules for monitoring and inspecting catches at the NAFO level. The International Court decided in 1998 that had not jurisdiction to hear the case. In spite of the ongoing negotiations between EU and Canada, this strong Spanish position served as a pressure that ruled against Canada. Even if the result was not the expected in the

International Court. And, also, counting with the partial “disillusion” with other members of EU that defended the Canadian perspective against Spain and Portugal, as it was the case of the United Kingdom.

In the meantime, Canada and EU reached an agreement, a new compromise of share division of quotas. For 1995, EU was allocated an extra 5000 tons and, in the subsequent years, the key-division went on 41% of the total quota for EU and 37% for Canada. The TAC remained the same for 1996 and 1997 and increased slightly until the new *millenium*. The parties also agreed in more restrictive regulation on mesh size and introduced important new rules and procedures of monitoring and control. New measures of increased independent observer and satellite tracking of fishing vessels in the NAFO area were introduced. A new system was created that required that all vessels of NAFO members be equipped with satellite tracking devices. The existence of a team of NAFO independent inspectors with more powers in terms of inspection of members’ vessels was an important signal of this new attitude facing the enforcement of rules. A new scheme to improve compliance with the strategy of conservation developed by NAFO that made possible the inspection on vessels of non-members, struggling against the *flags of convenience* and making diplomatic pressure on the governments of the countries caught in illegal activities (to put the adequate legal processes and apply the fees), worked in the same direction.

Canada agreed to repeal the regulation that allowed the enforcement outside its EEZ but, by the contrary, gained an important fight in terms of enforcement and compliance in the NAFO area. Spain, by turn, gained an increased percentage of the TAC. So, the Governments of two “contenders” could easily come to their peoples and voters claiming for victory.

The 1995 UN Agreement

The fundamental aspect in the resolution of the problem was the commitment finally attended in the United Nations about the management of High Seas fisheries. In fact, many observers in Portugal and Spain highlighted the fact that the “turbot war” was developed by Canada in a special moment, when those questions were the centre of the debate, and that was a form of bluff and to put some pressure on this discussion.

In 1992, in the Rio Summit, the United Nations accepted the accomplishment of a Conference on the Management of Transboundary Resources and Highly Migratory Species. The final Agreement came in August, 1995, after the war was over.

In the negotiations *two thought schools* emerged. For both it seemed obvious that the management regime of the stocks in the areas adjacent of High Seas should be the same that guided the portions of that stock in the EEZs. The first school supports the “consistency-principle”. This simply states that the applied regime to the portion of the stock in the area adjacent of High Sea should be consistent with the established regime for the portion of the stock inside the EEZ. Innocuous (or maybe not!!), the principle seemed to repeat the need of no divergence in the management regimes for the same stock. Be noticed, however, that the relationship, just as it was put, had not the two senses. By the article 56, the coastal country determines the management regime in his EEZ and, consequently, if it goes acceptance the consistence need, it owes the same regime to be in force for the remaining part of the stock. The preferences of the coastal State appear as dominant. Miles and Burke (1989), great defenders of this solution, maintained that the article 116 of the Convention established that the coastal State had a superior right, responsibility and interest in the management of the straddling stocks.

For the marine potencies that principle was just a reflex of the "Creeping Jurisdictionalism" that shaped the recent evolution in the Maritime International Laws. Distant water fishing nations stressed that some coastal countries, especially those with extensive continental platforms (like Canada or Norway), intended to maintain, or simply to waive, that principle of dominance to value his negotiation power. By the contrary, the distant waters fishing nations spoke about co-management and justified their important and non-substitutable role in the determination of a management regime for those stocks. However, if such a rule was established, for consequence of the basic principle - “same regime in and out of EEZs”, the marine potencies could influence the administration regime out of EEZs, and inside of them. For the coastal countries, this position, designated "School of Artº 64", limits the sovereignty in their EEZs.

In this context, a commitment emerged. The fundamental guidelines can be summarised:

- It maintains the free access over the 200 miles and guarantees to the Regional Organizations the regulation power in the areas adjacent to EEZs. The largest innovation is the capacity of those Organisations to extend their rules to the non-members.

- It was not solved the problem of the “new entrants”. The Agreement just defined that any state with a “real interest” can be member and it should be encouraged to integrate the Organization. However, it was not defined what means, in practice, “real interest”.
- To the Regional Fisheries Organizations, the right is checked of establishing capture shares and controlling the number of boats for a given stock or area. But the Agreement doesn't say anything concerning the procedures about the decision process, namely about how should be the decision, if for consensus, if for majority. Once again, it will depend on the practice.
- The enforcement is another problem. A single state, by itself, can not apply the international law, out of his territory. The commitment concedes that each country member will have the inspection right on the ships of any other country. However, the legal action against eventual infraction only can be taken by the country of origin of the ship found in fault. So, it seems that the potential effect of the enforcement is broadly bounded.

The extension of EEZs for there of the 200 miles was not referred at least by two reasons: the experience of administration inside the EEZs was not brilliant and there were historical reasons that put irreconcilable interests face to face.

The Agreement foresees the constitution of a regime of management and control to assure the sustainable use of the population units in the High Sea and appeals for the international co-operation in the management. In practice the cooperation has been sensible, especially in the NAFO area, and the new rules seem to work.

4. The Problem(s) that Still Persist. Perspectives for the Future

In fact, the Agreement intended to promote a new cooperation formula among states interested in the administration of the resources. Surprisingly (or maybe not) in the European Union, USA and Canada the Agreement was well received, but in Portugal it was seen with reserves. The cooperative atmosphere was not enough to hide some important problems.

In the Portuguese Parliamentary Appreciation (“Portugal in the European Union in 1995 and 1996”) the Commission of European Affairs didn't hide the displeasure with the key of partition of turbot captures in the NAFO area, for being harmful of the European Union

and based in the concept of the “preferential right” of the coastal state. The truth was that the Convention of 1995 seemed to be clearly favorable to the pretensions of Canada. The so-called “Coastal Fisheries Protection Act” has given Canada the power of developing control actions on the flags of convenience in the NAFO area. The political powers of Canada always said that the area of High Sea is not controlled but “regulated” by the Canadians. But they didn't hide that the conservation measures taken for the areas of High Seas only will have the desirable effects if compatible with the existent ones in Canada. With diplomacy, they are reminding their “dominant position” in the definition of the management objectives. In the words of an important minister of the Portuguese Government at the time the war crashed, the “real aim of Canadian intervention” was to put Portuguese and Spanish vessels away from the fishery of the most desirable, the real jewel - The COD! - There was a hidden intention: “from behind of everything there is the historical right to the cod fishing and the Canada/Norway alliance to remove the Portuguese and Spanish fleets out of the waters where the precious fish inhabits”.

So, a new group of several issues needs now to be answered:

The “domestic authority” that Canada is complaining for the areas adjacent to EEZ, following Russia and other countries of Latin America, is (or is not) a pressure position? The Cooperative atmosphere that suited the 95 Agreement is a case of co-management or is just a necessary truce facing the depletion of the stocks? Is the cooperative management of the High Sea possible? Maintaining the competition and a simple process of division of shares? Are we approaching “common property - res communes”, in the sense of Bromley (1991), “property of all, managed by all?” Or, by the contrary, as soon as the stocks are recomposed (if such it is still possible) will the pressures for the enlargement of EEZ turn to be the first priority to Canada?

This last issue is especially relevant for Portugal and deserves an additional reflection. In fact, despite some interesting results, the 1995 Agreement continues being the reason for discussion, especially in the context of NAFO. Facing the weak results obtained in the recovery of cod stocks, the leaders of the fishers organizations of Newfoundland have been proposing the enlargement of the EEZ to the limit of the 350 miles making it to coincide with the limits of the Continental Platform.

The Continental Platform (and its own statute) lost importance in the new Law of the Sea. But didn't disappear. We should remember, that the pretensions to the 200 miles started

after and grew upon the Platform. So, it is possible (and probable) that the eventual failure of the system proposed by the 95 Agreement, will carry up the attempts of presenting the resolution of the problem of the straddling stocks with a simple answer: to enlarge EEZs. And the most evident *corollary*: that extension coincides with the Continental Platform. The United Nations recognize that the limit of the 200 miles doesn't make any biological sense. On the contrary, the Continental Platform has an unquestionable geomorphological existence. It's natural that the coastal countries consider it as an extension of their territory and appeal to the management of the resources, not just of the bed, but also of the above adjacent waters.

Hannesson (1996) puts the things in a clear way. The solution for the problem of High Sea fisheries would be a new extension of EEZ. This extension would be a logical step in the process that took the establishment of EEZs, recognizing that it was not enough to assure the necessary conservation of the stocks. To extend EEZ for the waters above the continental platform would be in agreement with the rules that govern the bed of the platform. These rights belong to the coastal State of whose terrestrial mass the platform is the natural extension.

The Canadian Minister of Fisheries, denied those pretensions. But, he always reminded that, in agreement with the Law of the Sea, the management of sedentary species in the Continental Platform for there of the 200 miles is already domain of the coastal state and that Canada will never stop exercising all their rights (!). We also retain the position of the Portuguese Fisheries Minister, in 1995 (after the turbot war case) for whom the intention of Canada was to increase his negotiation weight and to justify a possible increase of his EEZ for the 300 or 400 miles.

In Portugal, the recent Governments have been assuring that a fundamental objective of the Portuguese marine policy should be the exploitation of the Continental Platform. Without putting in cause the economic, political and scientific interest of this action, we think, however, that the *media* apparatus that has been accompanying this declaration of intentions is not, perhaps, very careful, especially because these interventions can be interpreted as an agreement position in relation to the possible extension of EEZs. Does Portugal have advantages to align in the process of "creeping jurisdiction" so wanted by Canada or by Norway? In the context of Portuguese fisheries, extension of EEZs would have undesirable effects. Portugal would lose fishing opportunities for long distance fleet, without granting additional benefits or resources, given the closeness of our Platform. So,

a clear evaluation of costs and benefits should be made before taking a more “visible” position.

As it is seen, there are a lot of practical discussion to be made in terms of fundamentals and new forms of regulation. This necessity impose also a new development in the area of economic analysis and stands for further research in, at least, three fundamental issues (Game Theory still developing a central role in every domain).

First, *the “New Entrant” problem*. Despite some interesting developments in this subject (many of them arising from the research of the so-called “Lisbon School”; see Pintassilgo, Brasão, Duarte and others), this issue still requires further investigation. The charter members of an RFMO are faced with a dilemma. They can attempt to prevent non-members from becoming explicit free riders, that is, turn poachers into game-keepers by encouraging them to apply as new members. If the offer is too generous the existing RFMO will be undermined. If the prospective new members feel that the proposed shares are not enough, they will return to explicit free riding. The solution of the problem involves the application of a coalition bargaining analysis in the form of a partition function. New developments are expected in this area. Also, the possibility of creating a market of “chart member” has to be investigated. The possibility that each member has the right of selling his chart member, creating a market for the rights to access the organization, is a matter of discussion and research because it involves a lot of problems in the division of the benefits from the cooperative use. And, also, the problems of coalitions between partners.

The second problem can be referred as *the “time consistency” issue*. As we said, the consideration of side payments in the models is a form of getting more stable commitments. The problem of time consistency refers to the question of knowing “what are the conditions that make the commitments more stable for the future?” Should the rules be more or less flexible? In a situation of uncertainty of stocks’ recovery, what kind of agreement can be more trustable and less dependent of members states’ own motivations? What are, for example, the effects of introducing the climate change issues? We return to the central question: coercive or non-coercive agreements? How can we design the organizations (their structure and rules) to make them more resistant to time passing and changes?

Finally *the “Interlopers” issue*. This is a different form of looking at the “new entrant” issue. Suppose that a possible new entrant in the fisheries decides not to enter the RFMO

and maintain a situation of free rider, exploiting the straddling stock (even with the better results that come from others' cooperative management in the RFMO). With the present rules of the game how can the "co-managers" enforce their rules to non-members? Without a real capacity of intervention and enforcement (from detection to conviction), the efforts of cooperation will turn into disillusion and more incentives to get into free riding behavior, even for previous members of RFMO. Most of the literature on fisheries management implicitly assumes law can be perfectly and cost-less enforced. Even when such costs and imperfections are recognised, they are not incorporated in the analysis to show how management and regulatory policies are affected by their presence. We could explore this issue with a formal model of fisheries law enforcement to show how fishing firms behave and fisheries policies are affected by costly, imperfect enforcement of fisheries law. This type of models should combine standard Economics of Fisheries analysis (Gordon/Schaefer model), Game Theory and the Theory of "Crime and Punishment" of Becker.

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