

USING TRADE MEASURES IN THE FIGHT AGAINST IUU FISHING: OPPORTUNITIES AND CHALLENGES

Bertrand Le Gallic, Fisheries Division, OECD, bertrand.legallic@oecd.org¹

ABSTRACT

Illegal, Unreported and Unregulated (IUU) fishing activities are a threat for both the marine environment and society. By undermining effective management systems, IUU fishing activities not only generate harmful effects on economic and social welfare, but also reduce the incentives to comply with rules. The issue of IUU fishing has recently attracted increasing attention. At the June 3, 2003, G8 meeting in Evian, Heads of State adopted a G8 Action Plan (Marine Environment and Tanker Safety) that calls for the urgent development and implementation of international plans of action to eliminate IUU fishing. More globally, the WSSD meeting in Johannesburg in September 2002 also addressed IUU fishing and through the 1990s, laws, regulations and measures have been adopted by the UN and the FAO. In this context, the OECD Committee for Fisheries decided to launch in 2002 a project on the economic and social aspects of IUU fishing. Based on the preliminary findings of this project, Based on the preliminary findings of this project, the paper explores the potential role trade measures can play in the global fight against IUU fishing.

Keywords: Fisheries management; IUU fishing; trade measures; WTO

INTRODUCTION

The problem of fishing activity that is regarded as illicit is scarcely new. Upton and Vangelis (2003) report that pirate fishing in Athenian waters by fleets based in the Asia Minor Greek cities in 260 BC, for instance, helped trigger a series of mini-conflicts between Athens and its former clients. But it is only the very recent codification of international law governing sovereign rights in respect of oceans and seas that has enabled a phrase such as *illegal, unreported and unregulated (IUU) fishing* to command a widely understood and agreed meaning¹. The 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (FAO, 2001a; FAO, 2002) defined IUU fishing as follows. Illegal fishing is conducted by vessels of countries that are parties to a regional fisheries management organization (RFMO) but operate in violation of its rules, or operate in a country's waters without permission. Unreported fishing is catch not reported or misreported to national relevant authorities or RFMO. Unregulated fishing is conducted by vessels without nationality or flying the flag of States not parties of relevant fisheries organizations and who therefore consider themselves not bound by their rules. In essence, fishing that can be described as illegal, unreported and unregulated is now commonly understood to refer to fishing activities that are inconsistent with or in contravention of the management or conservation measures in force for a particular fishery (Agnew and Barnes, 2004).

Despite increasing efforts, the magnitude of IUU fishing activities is still difficult to assess. This stems from the fact that IUU fishing by nature does not yield official statistics. There is however evidence that IUU fishing is a global, widespread activity; fishing companies and fishers from many countries, including from Member countries of the OECD, are involved in almost all areas of the seas. In general, the FAO suggests that in some important fisheries, IUU fishing accounts for up to 30% of total catches, and has indicated in one instance that IUU catches could be as high as three times the permitted catch level (Doulman, 2000). Additional research carried out by the main RFMOs and relevant NGOs suggest that many fishing vessels take large quantities of mainly tuna and Patagonian toothfish although other high priced species are also involved (OECD, 2003b; Upton and Vangelis, 2003). Some examples are:

- The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), estimates, for example, that IUU fishing within its vast boundaries accounted for some 39% of the total catch in 2000/01. But

within parts of that area the IUU catch was much higher with stocks, in some cases, having been reduced by as much as 90% in three years largely as a result of IUU activity (Willock, 2002).

- The International Commission for the Conservation of Atlantic Tuna (ICCAT) was advised by Japan that some 25,000 tonnes or around 18% of all fishing activity for tuna over the 2001/2002 season could be attributed to IUU activity.ⁱⁱⁱ
- In a similar vein, the North East Atlantic Fisheries Commission (NEAFC) reported that up to 20% of the redfish traded internationally in 2001 had entered the market through the activities of IUU fishing vessels^{iv}. In the Northwest Atlantic Fisheries Organisation (NAFO) area, it was estimated that 10 000 tonnes of groundfish were illegally caught in 2001, including plaice, cod and redfish. In addition, Greenland halibut quotas were also estimated to have been exceeded by 3 100 tonnes, and some parties were referred to fail submitting observer reports in 2000 and 2001 (OECD, 2003b).

The information available suggests that IUU fishing is a worldwide problem, affecting both domestic waters and the high seas, and all types of fishing vessels, regardless of their size or gear. Among IUU fishing activities, a particularly worsening situation consists in those IUU operations conducted by a citizen of a given State who registers and flags its vessel in a foreign State with the explicit objective to circumvent domestic and international regulations. While there is no universally agreed definition to describe such a situation, those States that are willing to have a vessel on their national registers without fully undertaking their obligations to exert Flag State jurisdiction and control (e.g. under UNCLOS Article 94^v) are often referred to as Flag of Convenience (FOC) States. The International Transport Workers' Federation (ITF)^{vi} for instance defines Flag of Convenience as follow: "*Where the beneficial ownership and control of a vessel is found to lie elsewhere than in the country of the flag the vessel is flying, the vessel is considered as sailing under a flag of convenience. In cases, however, where the identification of the beneficial owner is not clear, any vessel where there is no genuine link between the flag state and the person(s), or corporate entity, with effective control over the operation of the vessel shall be considered as sailing under an FOC*" (§ 235). FOC States are usually those which have established open registers, accepting vessels from other countries without having a genuine link between the flag state and the vessel or company owning the vessel. While this does not imply all vessels registered in FOC States are necessarily engaged in IUU fishing activities, nor that IUU fishing activities are only carried out by vessels registered in these States, so-called "IUU/FOC vessels" (i.e. those vessels registered in FOC States in order to engage in IUU fishing activities) require a particular attention. FOC States are generally not parties to RFMOs or other similar agreements and their flag vessels are therefore generally not bound by the regulations enforced by these organizations on the high seas. Furthermore, while they would normally then be bound *generically* by the provisions of the Compliance or Straddling Stocks agreements, they have usually not acceded to these agreements either. Therefore, IUU/FOC vessels are often considered beyond the reach of international law when operating on the high seas (Agnew and Barnes, 2004).

IUU fishing is not only harmful to fish stocks, it also undermines the effectiveness of measures adopted nationally and internationally to secure fish stocks for the future. IUU activities also have adverse effects on the marine ecosystem, notably the populations of seabirds, marine mammals, sea turtles and bio-diversity as a whole. IUU fishing distorts competition and jeopardizes the economic survival of those who fish in accordance with the law and in compliance with relevant conservation and management measures. There are important social costs associated with IUU fishing as it affects the livelihoods of fishing communities, particularly in developing countries, and because many of the crew on IUU/FOC fishing vessels are from poor and underdeveloped parts of the world, often working under inadequate social and safety conditions. Recognizing the worrying development of IUU fishing operations, the international community recently multiplies the initiatives to combat this plague, culminating in several key events. These include, *inter alia*, the 2002 World Summit on Sustainable Development (WSSD) Declaration calling for the control of IUU by 2004; the adoption in 2003 of a G8 Action Plan urging for the elimination of IUU fishing and the implementation of related FAO International Plans of Action; the international workshop hosted in April 2004 by the OECD Fisheries Committee in an effort to get empirical evidences on the nature and extent of IUU activities, with participants from Governments, IGOs, NGOs, RFMOs and academia.

While there is no doubt that actions still need to be implemented to curb the development of such a damaging activity, a remaining challenge consist in identifying what are the most effective tools available. In this context, the paper explores the potential role of trade measures. As general background, the paper first describes the incentives to engage in IUU fishing activities and factors creating these incentives (1). IUU fishing is an economic activity.

Incentives to engage in IUU fishing activities remain economic by nature. Drawing on the general economics of crime and punishment, the basis of which are the works of Becker (1968) and Stieglar (1971), the analysis shows that the underlying factors can however be of institutional, economic or social nature. The paper then lists the different sets of measures that can be envisaged to curb IUU fishing activities (2). In order to modify IUU operators' incentives structure, actions can be taken to (i) reduce revenues from IUU fishing, (ii) increase operating costs for IUU activities and (iii) increase capital costs of IUU vessels. Finally, the paper analyses the potential place of trade measures in the regulator's tool box (3). The term "trade measures" is understood here in its broader sense. It covers, *inter alia*, embargoes, price premiums, documentation and labelling schemes, etc. The analysis draws its empirical evidence from recent experiences of RFMOs (e.g. ICCAT, IATTC, CCALMR, etc...), governments and private organisations, and seeks to clarify the opportunities and challenge of using trade measures in the fight against IUU fishing.

INCENTIVES TO ENGAGE IN IUU FISHING

This section draws heavily on the general economics of crime and punishment, the basis of which are the work of Becker (1968) and Stieglar (1971). A key outcome of this theory is that a risk-neutral individual will commit an offence if and only if his private expected benefit exceeds the expected sanction for doing so (i.e. on the basis of marginal returns to individual decision makers responding to a set of regulations and enforcement levels; Charles et al. 1999).

In the context of IUU fishing activities, it is worth reminding that some key assumptions underline this theoretical background, among which three may be of particular interest: First, the economics of crime and punishment makes the assumption that any *individual's* compliance decision is not supposed to be influenced by the behaviour of other individuals (i.e. to the extent that several individuals simultaneously choose whether or not to commit the offence, it is assumed that their decisions are independent of each other; Jost, 2001). However, coordination may play an important role in the decision on whether or not to engage in illegal operation (Jost, 2001), and when this is the case the recent engagement of organised IUU fleet of vessels with common ownership may require particular attention. Second, the theoretical approach makes the assumption that individuals are "*Risk-neutral*". While such an assumption may be considered as sound in general, it may not be always verified. With respect to IUU/FOC fishing activities, it should be noted that the nature of the utility function is likely to play a particularly strong role in understanding (and modifying) IUU behaviour. This may be the case when dealing with crew originating from low income countries. Last, the economics of crime and punishment makes the assumption that fishers' decisions about whether to fish illegally are based solely on *profit-maximising* criteria, with any penalties incurred being perceived as simply a "cost of doing business". However, non pecuniary factors, based on moral and social considerations, can also play a major role in fisher decisions (Sutinen and Kuperan, 1999). This may require further exploration, in particular when IUU fishing activities are carried out either by individuals living within strong fishing communities or by established enterprises that might have an interest in paying attention to corporate governance issues. A variable denoting a "moral/reputation" dimension can be included in the model, which can then be formalised in the following way (OECD, *forthcoming*; Sumaila et al., 2004):

$$I(IUU) = f[E(\pi)];$$

$$E(\pi) = g(Q, P, VC, CC, A, R, \theta, S, F, M)$$

$$\text{with } \partial I(IUU)/\partial E(\pi) > 0; \partial E(\pi)/\partial Q > 0; \partial E(\pi)/\partial P > 0; \partial E(\pi)/\partial VC < 0; \partial E(\pi)/\partial CC < 0; \\ \partial E(\pi)/\partial A < 0; \partial E(\pi)/\partial R < 0; \partial E(\pi)/\partial \theta < 0; \partial E(\pi)/\partial S < 0; \partial E(\pi)/\partial F < 0; \partial E(\pi)/\partial M < 0.$$

where $I(IUU)$ represents the incentives to engage in IUU fishing operations; $E(\pi)$ the expected profit from IUU fishing by a given fisher; Q is the catch; P the price of the fish; VC the variable costs of fishing (including crew costs); CC the capital cost; A the level of avoidance activity undertaken by the fisher; R the set of regulations in place; θ is the probability of detection; S the sanction/penalty a violator faces when caught; F the costs of fraud (including corruption cost) and M the moral cost.

Using this model, two major drivers of IUU fishing activities can be identified. First, the prevalence of overcapacity in the worldwide fishing fleet, which incites operators to find the most profitable (although not permitted in their country of origin) way of using their capacities and reduce fishing vessels and crew cost.

Second, the incomprehensiveness and weakness of the current international framework for the sea, which allows both for the prevalence of Flag of Convenience (FOC) vessels and for some fishing practices to be beyond the reach of national and international regulations. In sum, by circumventing national and international conservation measures, the advantage of IUU/FOC vessels is that it can produce more than when complying with rules and face reduced operating and risk cost.

Several additional drivers may also play a role to engage in IUU fishing activities, by allowing it to be as profitable as it is, either by creating higher revenues or lower costs. Some are of institutional nature, such as the insufficient level of MCS operations (leading to a low probability to be apprehended, even within national EEZ) and the insufficient level of sanction (fine and non-monetary sanction), that both reduce the cost of risk faced by IUU operators. Some are of economic nature, such as the prevalence of tax distortion system (e.g. tax haven, which may provide IUU operators with low tax and reduce the cost of risk), inappropriate management regimes, prevalence of some forms of subsidies (e.g. subsidies that reduce the cost of IUU fishing capacity), and some investment or fiscal rules (which may reduce the cost of IUU fishing capacity). Some are of social nature, such as the prevalence of poor economic and social conditions and outlooks in some countries, which may reduce the cost of fraud, crew costs, the cost of risk and the costs associated with maintaining appropriate safety and working standards, and the lack of knowledge on the seriousness of the problem, which may reduce the moral/reputation cost IUU operators might face.

While all these factors may not necessarily play a role at the same time, they all create an incentive to engage in IUU fishing activities. Without changes in the current regulatory and economic situation, IUU fishing is thus likely to continue. Moreover, the emergence of “organised IUU fishing operations” can facilitate and accelerate the development of IUU fishing by reducing monetary and transaction costs faced when engaging in IUU fishing (mainly the cost of risk and avoidance, fraud, registration operations). Rapid actions should be implemented to curb such a threatening development.

POSSIBLE ACTIONS TO CURB IUU FISHING

In order to modify IUU operators’ incentives structure, actions can be taken to (i) reduce revenues from IUU fishing, (ii) increase operating costs for IUU activities and (iii) increase capital costs of IUU vessels. Due to the scope of the paper, this section only lists potential actions and indicates which are of a trade nature. Details can be found in OECD (*forthcoming*).

Possible avenues to reduce IUU revenues

- Reduce incompleteness of current international frameworks and reducing the possibilities for FOC registration
- Provide NPA states with appropriate incentives for joining RFMOs and financial “compensation” for de-registering FOC vessels.
- Improve compliance with current national and international obligations through better MCS capabilities, including broader cross country cooperation.
- Banning imports → Trade measure.
- Listing of IUU vessels/companies and countries of origin → Trade measure.
- Introduce catch and trade document schemes → Trade measure.
- Labelling → Trade measure.
- Education and promotional campaigns

Increase operating costs for IUU activities

- Eliminate tax havens
- Restrict accessibility to good and services for IUU operators (fuel, landing, insurance, communications and navigation services etc) → Trade measure.
- Ratification and implementation of conventions relating to crews on fishing vessels.
- Improve economic and social situation in countries/regions supplying cheap crews.

- Apply extra territorial domestic sanctions to citizens engaged in IUU operations.
- Make flag states legally liable for lack of appropriate insurance.
- Augment MCS capacities
- Increase penalties and sanctions (prison, confiscation of vessels and catch)
- Harmonise flag state fine levels
- Identify beneficial ownership of vessels
- Encourage private initiatives (including wanted rewards schemes)
- Improve knowledge of the social, economic and environmental consequences of IUU through education programs
- Use cooperate governance initiatives and guidance programs
- Apply the OECD Convention to combat bribery of foreign public officials.

Increase capital costs of IUU vessels

- Setting and enforcing minimum vessel standards (port state control)
- Reduce fishing capacity potentially available for IUU operations (scrapping and appropriate management regimes)
- Restricting outward investment rules on IUU vessel capital → Trade measure.
- Restrict banking laws use of IUU vessel capital as collateral → Trade measure.
- Make flag states legally liable for damage resulting from the lack of appropriate maintenance
- Improve macroeconomic conditions in countries supplying low cost crew

POSSIBLE TRADE MEASURES AGAINST IUU FISHING: LEARNING FROM EXPERIENCE

In order to discuss the opportunities and challenges of using trade measures in the fight against IUU fishing activities, this section draws on recent initiatives relating to import restrictions (3.1), catch documentation schemes and labelling (3.2) and the provision of goods and services (3.3). For each type of measures, the section clarifies how the IUU profit function is affected, provides examples and discusses key issues.

Import restrictions: embargoes and tariffs

Measures can be taken to affect the revenue side of the IUU fishing profit function by reducing the possibility to “convert” IUU catches into cash. They can take the form of embargo or any other import restriction for fisheries products (e.g. tariffs).

Examples of RFMOs based embargoes

Embargoes as a mean to reduce IUU fishing activities were probably first envisaged at the International Convention for the Conservation of Atlantic Tuna (ICCAT), which adopted in 1994 and 1995 two Action Plan resolutions^{vii} recommending “[...] *that Contracting Parties take non-discriminatory trade restrictive measures, consistent with their international obligations [...]*”^{viii}. In 1996, Members of ICCAT recommended Contracting Parties to introduce “*appropriate*” commercial measures to prohibit imports of bluefin tuna from Belize and Honduras (recommendation 96-11), as well as from Panama (recommendation 96-12). In 2000, Members of ICCAT recommended Contracting Parties to introduce commercial measures prohibiting imports of swordfish from Belize, Honduras and Equatorial Guinea. Similar measures were asked in 2001^{ix} for bigeye tuna originating from Belize, Honduras, Cambodia, Equatorial Guinea and Saint Vincent and the Grenadines.

In application of these recommendations, Members of ICCAT implemented domestic regulations. For instance, the EU introduced in 1998 an import prohibition of Atlantic Bluefin tuna originating from Belize, Honduras and Panama and prohibited in 2001 the import of bigeye tuna originating from Belize, Cambodia, Equatorial Guinea, Saint Vincent and the Grenadines and Honduras^x. As recently as in April 2004^{xi}, the EU prohibited imports from Bolivia, Cambodia, Equatorial Guinea, Georgia and Sierra Leone in respect of Atlantic bigeye tuna (*Thunnus obesus*); Equatorial Guinea and Sierra Leone in respect of Atlantic blue-fin tuna and Sierra Leone in respect of Atlantic swordfish. In 2001 Japan also prohibited the import of Atlantic bluefin tuna from Belize and Equatorial Guinea.

Effectiveness and challenges of RFMOs based embargoes

Embargoes can be effective and seem to act as an incentive for some banned countries to comply with rules, i.e. mainly to exert an effective control on their vessels. For instance the import ban from Saint Vincent and the Grenadines was lifted in 2001 due to this country's increasing co-operation with ICCAT. Interestingly, embargoes may also incite some Non-Contracting Parties to join relevant RFMOs, as illustrated by Panama and Honduras that respectively joined ICCAT in 1998 and 2001.

While embargoes clearly have a role to play against IUU fishing activities, their utilisation also faces some technical and regulatory challenges. First, embargoes suppose the establishment of a "black list" of countries supporting IUU fishing activities. Such a "black listing" procedure requires strong monitoring capacities that need to be comprehensive, as long as vessels can easily re-register in other open registries. Yet, if the use of embargoes is extended to and followed by all RFMOs, the choice of Flag of Convenience is likely to be rapidly reduced.

A second challenge is of a regulatory nature, and mainly concerns the consistency between embargoes and other international requirements, including WTO obligations. This issue is indeed addressed by the Doha Declaration, which provides for negotiations on the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs, i.e. RFMOs in the case of fisheries^{xii}). The WTO Committee on Trade and Environment in particular held several sessions to discuss this sensitive issue in 2001 and 2003. A possible source of conflict between the trade measures contained in MEAs and GATT rules is reported to be the fact that some trade measures taken by individual countries in application of RFMOs' recommendations may violate the principle of non-discrimination. These agreements envisage trade in a product with some countries but not with others — violating the most-favoured-nation clause, or they may violate national treatment by allowing discrimination between domestic and imported products. As a result, problems may occur in the WTO when the relevant MEA says signatory parties should take actions against countries which have not signed^{xiii}. Yet, such an interpretation is still subject to discussion, and it is often suggested that trade measures imposed in support of conservation efforts by MEAs may be tolerated by the WTO as long as the fisheries management body is open to membership without discrimination (OECD, 2000, p.93) and conservation goals are well-defined.

Such a position is backed by the provisions contained in GATT Article XX on "General exceptions", that allow WTO members to adopt policy measures that would normally be inconsistent with GATT for protection and conservation purposes (paragraphs (b) and (g) of Article XX). It is though important to note that the *chapeau* of Article XX specifies that such measures should not be applied "*in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade*". It is thus essential that RFMOs recommendations resulted from a transparent and non-discriminatory process and be based on objective, well-defined and multilaterally agreed criteria. Although embargoes-type measures taken in application of RFMOs recommendations have not yet been challenged under WTO, it should be noted in this perspective that ICCAT recommendations are for example designed in a manner that may be considered consistent with WTO rules (e.g. calling for "*non-discriminatory trade restrictive measures, consistent with [Contracting Parties] international obligations*").

Moreover, it is important to remember that WTO and MEAs are two equal bodies of international law^{xiv}, and that banned countries not Parties to specific RFMOs (such as ICCAT) may nevertheless be Parties of overarching MEAs such as UNCLOS and UN Fish Stock Agreement (UNFSA) that contain provisions relating to the use of trade measures^{xv}.

The particular case of CITES

A special case of MEA is the Convention on International trade in Endangered Species (CITES). CITES provides for the prohibition of trade in particular endangered species of animal or plant. For fish, nine species have been up to now listed in Appendix I (species that are threatened with extinction and for which, generally, commercial trade is prohibited) and 68 species in Appendix II (species that may become threatened unless subject to trade restrictions - trade requires an export permit from the exporting country, OECD, 2000). The listing of a species in CITES appendix as a mean to combat IUU fishing is a very sensitive and complex issue, as reflected by the (unsuccessful) attempt to include Patagonian toothfish under CITES Appendix II in 2002. On the one hand, the inclusion of a

species under a CITES appendix is likely to be effective, as it will become more difficult (and costly) to sale IUU catches, in particular because 166 countries are Parties to CITES. Such a large membership is also likely to reduce potential WTO disputes, as only 9 WTO members are not currently Parties to CITES. On the other hand, the listing of a species in CITES appendix may be technically difficult in the context of IUU fishing, primarily because only a (often undefined) share of IUU catches are derived from endangered stocks. In addition, such a measure may also be challenging for the fishing industry itself, as it would represent a strong impediment for those operators complying with rules.

The possible use of tariffs

In order to prevent IUU catches entering into final markets, another market-related tool is in principle available to fisheries managers, namely tariffs. Applying higher tariffs to fish products originating from countries supporting IUU fishing would indeed increase the final price of IUU catches to a level considered as unattractive for consumers. While such a measure may be easy to implement, it may also raise some questions and challenges with respect to WTO rules. In particular, such a tariff modification may appear in contradiction with WTO commitments, especially if the most-favoured-nation clause has to be respected. However, there may be some room for using such a tool, especially when preferential tariffs are granted to specific countries, for example under the Generalised System of Preferences. In the EU for instance, where some countries listed by ICCAT as supporting IUU fishing are granted a 0% tariff (Mc Kenna, 2001), the current legislation allows for temporary withdrawal of tariffs preferences in cases of “*manifest cases of infringement of the objectives of international conventions such as NAFO, NEAFC, ICCAT and NASCO concerning the conservation and the management of fishery resources*”^{xvi}.

Catch Documentation Scheme and labelling

Several documentation requirements as a condition of landing, transshipment or export of fish products can be implemented, either at a specific level under RFMOs’ frameworks or at a national level. Such requirements are also expected to affect the revenue side of IUU fishing profit function. They can reduce both the quantity and the (relative) price of IUU products. Some RFMOs treaties and national legislations also contain provisions that may lead to additional trade measures, such as the adoption of certification and labelling schemes. While the latter may not be directed at fighting IUU fishing activities, they may nevertheless constitute a key source of information for some actions.

Examples of RFMOs and national initiatives

At RFMOs’ level, the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) adopted in 1999 a Catch Documentation Scheme (CDS) designed at preventing IUU toothfish catches from entering markets in CCAMLR member countries. The Scheme is especially designed to track the landings and trade flows of toothfish caught in the CCAMLR Area by requiring landings of toothfish at participants’ ports, or transshipments to participants’ vessels, to be accompanied by a valid CCAMLR Catch Document (Lack and Sant; 2001). Such a scheme is primarily based on a “positive list approach”, as only those vessels complying with rules are allowed to sell certified toothfish. Similar Schemes have also been implemented for example by the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) for Southern Bluefin Tuna and by ICCAT for Bluefin Tuna.

At national level, some countries are using generic labelling schemes for all fish products. While not being specifically directed at IUU issues, such schemes may nevertheless be useful in the context of IUU fishing. This information requirement is intended to provide consumers with better information on the products they are purchasing and reduce opportunities for fraud. Generic labeling rules are expected to strengthen the traceability of fish products, hence facilitate the monitoring of fish products from the ship to the shop, and enhance the checks on their quality. In the EU, fresh, salted, frozen and smoked fishery product have to carry since January 2002 a mark or label that indicates its commercial designation, how it was produced (aquaculture or wild) and where it was caught (area of capture). In the US, a country-of-origin provision is included in the 2002 Farm Bill. As well as other products, fish and fishery products will have to be labelled with the country of origin and the indication on whether the fish was farmed or caught. In Japan, according to the 1999 revision of the Law Regarding the Adjustment of the Standardisation and Quality Display for Agriculture and Forestry Goods, all unprocessed seafood and several processed seafood are required to display information, such as their origin (OECD, 2003b). For all imports or

transportation of tuna's into Japan by boat, indications relating to the area of capture are also required (FAO, 2001b).

Effectiveness and challenges

As most of the previously mentioned measures are relatively recent, discussing their effectiveness is not an easy task. In the case of CCAMLR, the drop in IUU catches may be partly attributed to the implementation of the CDS. Quoting a study released in 2001^{xvii}, Lack and Sant (2001) reported for instance that imports of toothfish into Japan might halve in 2001 due to the CDS. As far as prices are concerned, there is also evidence from the CCAMLR situation that fish certified using a catch document scheme may command higher prices than uncertified fish, as the current premium on fish carrying CCAMLR Catch Documents is 20 – 30% (Agnew and Barnes, 2004). More generally, the relative success of other labelling programs that promote responsible fishing practices (e.g. the Ecofish or the Marine Stewardship Council certification schemes) indicates that consumers react positively to these types of initiatives (despite the additional cost it represents), provided that appropriate information and communication is available. In this regard, it should be noted that educational activities may sustain the success of such labelling schemes. While such activities may have a cost in the short term, they could allow for a long term boycott of IUU products without sizeable costs and efforts (OECD, 2003a).

The effectiveness of trade documentation and labelling schemes depends on several factors. One is the comprehensiveness of the system. In the case of the CCAMLR CDS for instance, most of the countries involved in the trade of Patagonian toothfish are also involved in the scheme (although around 15 minor trading countries are still not involved). Another is the degree of concentration of markets involved. In the case of bluefin tuna for example, the significant concentration of the final market (around 90% of the production is imported by Japan) may make the use of such schemes particularly easy to monitor and relatively effective. A third one is the strength of the scheme itself. The reach of such measures may for example be limited by the mixing of IUU catch along with regularly obtained catch. In this regard, there is some evidence for fraud in the documentation accompanying toothfish catch documents, as there is in the certificates of registry required by Japan for import of tuna (Agnew and Barnes, 2004).

Trade documentation and labelling schemes also need to be consistent with international obligations, including WTO rules. Both MEAs' Specific Trade Obligations (such as documentation requirements) and voluntary standards (e.g. labelling) are indeed addressed by the WTO Agreement on Technical Barriers to Trade (TBT Agreement). A special negotiating session of the Committee on Trade and Environment (CTE) was for instance convened in May 2003 to discuss these issues. While the TBT agreement recognises countries' right to adopt trade measures in order to protect fish stock [from IUU fishing activities], it also establishes a set of criteria to ensure that regulations or standards are "non-discriminatory" and "transparent", do not constitute "unnecessary obstacles to trade" and are based on "international standards". In this regard, it should be noted that the CCAMLR CDS provides for any non-contracting Party to participate in the scheme, avoiding discrimination between product on the basis of CCAMLR membership and thus avoiding potential conflict with WTO requirements (Lack and Sant, 2001). Moreover, it is worth pointing out that those trade documentation and labelling schemes directed against IUU fishing activities have not been yet challenged under WTO.

Restriction on goods and services

To reduce IUU fishing activities, trade measures can also be directed at increasing both the operating and the capital costs faced by IUU vessels. They mainly consist of restrictions in the provision of goods and services that modify both IUU and legitimate fishing costs structure. For example, preventing IUU vessels from landing their catch in a given port is primarily likely to increase both fuel cost and time of steaming.

Recent experiences

As far as variable costs are concerned, one recent example of restriction on services taken by a port state to combat IUU fishing is the closure of Canadian ports to Estonian and Faroe Island vessels in 2002. Denying access to Canadian ports was decided on the ground that vessels originating from these countries were not in compliance with or have undermined conservation and management measures^{xviii}. Other countries such as Iceland, Norway and USA are also refusing access to port services for vessels undermining conservation and management measures, whether

on the high seas (Lobach, 2001) or within EEZ. In the case of Canada, it is important to note that the *Coastal Fisheries Protection Act* (CEPA) specifies that the general rule is that “*Canadian ports are closed to foreign fishing vessels*” and “*access is a privilege that may be granted by the Canadian government*”. The CEPA also provides the criteria on which the decision of granting or refusing access is based.

Restrictions on outward investment represent another possible avenue to reduce the incentive to engage into IUU fishing activities. An interesting example of such a restriction to outward direct investment can be found in the Japanese reservation lodged under the OECD Code of Liberalisation of Capital Movements (OECD, 2003c)^{xix}. This reservation states that direct investment abroad by residents should only apply to investment in an enterprise engaged in fishing regulated by international treaties to which Japan is a party or fishing operations coming under the Japanese Fisheries Law. Similarly, in Spain, while foreign investment is not restricted, national investment in third countries is regulated, especially when government aids to reduce the domestic fishing effort can be obtained. In Portugal, chartering is subject to prior authorisation by the Government. The authorisation is issued for a period not exceeding two years. New Zealand also has a rule that imposes restriction on ownership of foreign flagged fishing vessels by its nationals. No New Zealand national may use a foreign flagged vessel to take or transport fish on the high seas unless they do so in accordance with an authorisation issued by a state of UN Fish Stock Agreement and Compliance Agreement. While different measures may have different effects, all such means can be translated into additional costs. Even when measures can technically be circumvented, this would nevertheless increase the cost of engaging in IUU fishing activities (including transaction cost), and hence reduce the incentive of doing so.

Other restrictions may be established either on fishing input goods (e.g. ice; navigation, detection or communication device) or on services such as maintenance or repair of vessels, satellite connections, etc... While such measures may be technically circumvented, they are also likely to generate additional costs (including some transaction and opportunity costs) that may act as a disincentive to engage in IUU/FOC vessels. In addition, it should be noted that for some goods and services (e.g. engine, sonar, insurance, communication, etc.), providers may be of a sufficiently small number that it may be possible to establish a real embargo.

Effectiveness and challenges

Some lessons can be learned from the Canadian ban, although such a measure is not necessarily possible to apply to all situations. Effects can indeed be considered as twofold. In the short run, it was observed that the smallest vessels had to stop their activities as a result of the ban, because alternative places of landing were considered too far compared to the limited carrying capacities. In a longer run, the Canadian decision served as a basis for discussion/negotiation between involved countries (including also officials from Denmark^{xx}). For instance, an agreement was reached between Estonia and Canada to re-open Canadian ports after several months of intensive negotiation.

While such a measure appears to be effective in some circumstances (e.g. when opportunities of landings are limited), it is also perceived as a relatively sensitive issue from the international law perspective. Yet, it should be remembered that the closure of ports is not only backed by national legislation (at least in the case of Canada), but also by overarching MEAs such as UNCLOS (e.g. in article 62). With respect to WTO rules, such measures should nevertheless be as far as possible non-discriminatory (here the general rule is a “closed ports” policy), transparent, based on well-defined criteria (here conditions for denying access are specified). Moreover, such measures would also benefit from being based on multilateral decisions (e.g. in this case on NAFO observations).

It is relatively difficult to assess the effects of trade measures preventing nationals from investing into IUU/FOC fishing activities. This stems first from the fact that those who were considering doing so would hardly acknowledge it. This is also due to lack of transparency (e.g. tax haven) and complex financial structures that make difficult to follow investment flows. As measures related to nationals do not fall under international law, the latter point probably represents the greatest challenge for such measures to be effective.

CONCLUDING REMARKS

Illegal, Unreported and Unregulated fishing is a worldwide problem undermining the effectiveness of measures adopted nationally and internationally to secure fish stocks for the future. Without changes in current regulatory, social and economic situations, IUU fishing is likely to continue. Moreover, emergence of “organised” IUU fishing

operations can facilitate and accelerate the development of IUU fishing by reducing monetary and transaction costs faced when engaging in IUU fishing (e.g. the cost of risk, avoidance, fraud, registration operation, etc...). Rapid actions should be implemented to curb such a threatening development.

Drawing on recent experiences, the paper shows that trade measures can effectively be used in this context, as they are likely to affect negatively each and every parameter of the IUU fishing profit function. Some measures reduce IUU revenues (e.g. embargoes, tariffs, documentation requirements and labelling). Others increase IUU costs (e.g. restrictions on goods and services). In particular, experiences suggest that trade measures can be used as a “negotiating tool” in the process of inciting FOC states to comply with international rules.

Yet, the paper also raises some challenges that need to be taken up to make trade measures both legitimate and effective. Firstly, trade measures (e.g. embargoes) have to be carefully designed to be consistent with international obligations, including WTO rules. Among the key issues are the non-discriminatory nature of the measure (including whether affected fishing States can participate in RFMO, when relevant), the rationale for the measure (e.g. the extent to which it reflects a - science based - global consensus) and the manner in which decisions to establish trade measures are taken (e.g. well-defined criteria and goals and transparency of the process). In addition, trade measures should not constitute unjustifiable and unnecessary barriers to trade and should favor multilateral processes as far as possible. On this basis, it is often suggested that most RFMOs based trade measures currently in force should be able to survive WTO challenges (e.g. Chaves and Schneider, 2000; Tarasofsky, 2003).

Second, further investigation is needed to clarify the cost-effectiveness of different trade measures, and to determine which actions, or mix of actions, could be the more appropriate to curb IUU fishing activities. Sequencing and/or targeting possible actions is all the more important since trade measures can only address some forms of IUU fishing operations (e.g. those characterised by an international dimension). In close collaboration with relevant stakeholders and IGO, the OECD contributes actively to such an analysis.

Lastly, the extent to which IUU fishing will be reduced in the next future will reflect the capacity of the international community to preserve its common patrimony. While the problem of IUU fishing mainly focus on the degradation of migratory and high seas fish stocks, challenges raised can easily be transposed to other natural marine resources, including coral reefs, marine mammals and nodules. Answering the problem of IUU fishing may thus be of an overall importance.

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ENDNOTE

ⁱ Opinion and ideas pertaining to this document are those of the author and are not necessarily shared by the OECD and its Member countries.

ii For a comprehensive history of IUU fishing, see: http://www.oecd.org/document/24/0,2340,en_2649_33901_23460248_1_1_1_1,00.html

iii Japan submission at the 2002 Northwest Atlantic Fisheries Organisation Meeting, Santiago de Compostella, Spain.

iv Quoted in Agnew and Barnes (ibid). The NEAFC has also begun to list the names of IUU vessels (see for instance NEAFC (2002) AM 2002/15 and 34. References to IUU activity appear in the NEAFC annual reports, including most recently the 2002 report (NEAFC Annual Reports are available at the following site: <http://www.neafc.org/>)

v Article 94,1 of the UNCLOS refers to “Every State shall effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag”.

vi The International Transport Workers' Federation (ITF) is a federation of 621 transport trade unions in 137 countries, representing around 5 million workers (<http://www.itf.org.uk>).

vii These two resolutions, concerning respectively bluefin tuna (*Thunnus thynnus*; regulation 94-6) and swordfish (*Xiphias gladius*; regulation 95-13), entered in force in 1995 and 1996.

viii For a comprehensive survey of ICCAT active recommendations and resolutions, see <http://www.iccat.es>.

ix "The 1998 Resolution": *Resolution Concerning the Unregulated and Unreported Catches of Tuna by Large-Scale Longline Vessels in the Convention Area*.

x Regulation (EC) No. 1036/2001 of 22.05.2001, JO L 145 of 31.05.2001.

xi Regulation (EC) No. No 827/2004 of 26 April 2004, JO L 127/21 of 29.4.2004

xii Considering all RFMO as MEAs can be subject to further discussion and there is still a need for clarification. Yet, it should be noted that at once the UN Fish Stock Agreement, ICCAT and CCAMLR are addressed as MEA in the document WT/CTE/W/160/Rev.2 of the WTO (25 April 2003).

xiii E.g. see WTO: http://www.wto.org/english/tratop_e/envir_e/cte01_e.htm

xiv E.g. see the WTO CTE meeting on 27-28 June 2001.

xv The possibility of using trade restrictive measures in the fight against IUU fishing is also discussed in the paragraphs 66-76 of the FAO IPOA-IUU (FAO, 2001, pp. 17-19).

xvi Regulation (EC) No. 2820/98, JO L 357/10 of 31.12.1998, Article 22 (f).

xvii Falch, K and Chiba, H. (2001). *Bottomfish Market Report*. March

xviii According to Canadian sources, more than 1 000 tonnes of shrimps may for example have been caught by Estonian vessels in NAFO division 3L in 2001, compared to their 268 tonne quota and chartering arrangements (reported in OECD, 2003b).

xix The Code is actually a Decision of the OECD Council, which is legally binding on OECD member governments. See OECD Codes of Liberalisation of Capital Movements and Current Invisible Operations: Users' Guide, April 2003, p. 6.

xx See debate on this issue at the Canadian Parliament: http://www.parl.gc.ca/37/1/parlbus/chambus/house/debates/188_2002-05-21/han188_1010-e.htm