Using Market Mechanisms to Manage Fisheries: Smoothing the Path

Summary in English

Market-like instruments are widely used in managing fisheries in OECD countries. These instruments are based on defining access rights to fisheries resources and encompass both those administrative regulations that influence fishers' incentives to race for fish and to overcapitalise, and a range of economic instruments based on market interplay. There is a general recognition amongst policy makers that the use of market-like instruments can improve the efficiency of fisheries resource allocation and use, and help to better align the economic incentives of fishers' with societal objectives. Recognising the potential benefits from market mechanisms, there is a general shift within OECD countries towards the increased use of market-like instruments.

However, the introduction of market-like instruments is often met with resistance from participants in the fisheries sector. One of the main reasons for such reluctance appears to be the relatively narrow interpretation taken of market-like instruments; they are often misconstrued as being synonymous with theoretical individual transferable quotas, the most-cited example of market-like instruments. However, as shown by the study, such a misconception belies the fact that there is a wide range of market-like management instruments actually employed in fisheries in OECD countries. These instruments vary considerably in the way in which they employ the attributes of rights-based approaches; individual transferable quotas are, therefore, just a part of a continuum of market-like instruments.

The purpose of this study is to demystify the concept of market-like instruments and to help policy makers make better use of market-like instruments in fisheries management. The study also responds to a call by OECD Ministers for the wider use of economic instruments in meeting sustainable development objectives. The study provides a survey of the use of market-like instruments in OECD countries and identifies the key characteristics of these instruments as they are implemented across countries. One of the key benefits to policy makers from this study is the identification of practical steps that can be taken to address the obstacles to the further use of market-like instruments. This will help to demystify some of the concerns surrounding the use of market-like instruments in the sector and assist policy makers in identifying strategies that may help smooth the path towards the wider use of market mechanisms.

Characteristics of market-like instruments

As shown by the study, different types of market-like instruments can be seen as combining the six characteristics of property rights – exclusivity, duration, quality of title, transferability, flexibility and divisibility. The characteristics are drawn from the literature on property rights and can be summarised as:

- *Exclusivity* concerns whether others are prevented from damaging or interfering with an owner's rights and refers to the extent that a person's property right overlap with the rights of others.
- *Duration* is the length of time the owner of a right may exercise his ownership. A longer duration allows the right holder to get the pay-off from investments. *Quality of title* refers to certainty, security and enforceability of the property right. The more predictable the entitlement attached to the right, the higher the quality of their title. When fish stocks are shared by several parties, the level of the quality of the title partly depends on the level and effectiveness of cooperation between parties.
- *Transferability* is the extent to which the entitlement to a right can be transferred by selling, leasing or trading. All degrees of transferability are possible and it is valued because it facilitates the transfer of rights from less efficient to more efficient operators.
- *Divisibility* refers to the ability to divide access rights into narrower forms of rights or quota into smaller amounts, primarily to enable the transfer of some quota to others.
- *Flexibility* refers to the ability of property rights holders to freely structure operations to achieve their goals. It allows rights owners to both use their rights in the most efficient way given technical constraints (including through selling or leasing it) and to modify their production operations in order to match their rights entitlements.
    - In the study, different types of market-like instruments are mapped into a schematic framework which highlights the relative strength of each of these characteristics. In order to establish this, an indicative scale ranging from zero (which indicates a low level of the characteristic) to five (a high level of the characteristic) is used. This approach helps to reveal the differences in specification among market-like instruments and captures, at a glance, the key strengths and weaknesses of a given instrument with respect to the expected outcomes.

Each of the property rights characteristics has a role to play in the functioning of market-like instruments. Exclusivity can reduce incentives to race for fish; duration affects the time horizon attached to investment decisions; quality of the title can increase certainty and reduce the risk associated with access to the fishery; transferability assists in ensuring the efficient allocation of rights to the most valued users; and divisibility and flexibility can improve the adaptability to economic and environmental changes.

These six characteristics are also interrelated and, in combination, they generate a particular bundle of rights which will facilitate particular management outcomes. For example, some characteristics (exclusivity, duration, quality of the title and transferability) are more likely to facilitate structural adjustment (investment and fleet capacity), while others may mostly facilitate the efficient use of existing fishing capacity. Matching the bundle of characteristics to the institutional, social and biological constraints in particular fisheries is the challenge confronting policy makers.

In designing and implementing their management instruments, countries take either implicit or explicit decisions on how to bundle these various attributes together in order to meet their policy objectives. Given that there is an opportunity cost associated with reducing each of the property rights characteristics, countries are therefore trading off some level of economic efficiency in order to meet particular economic and social objectives.

Key findings

The study found that market-like instruments are not limited to any single instrument but represent a continuum of management instruments characterized by different levels of property rights characteristics (see table for a brief overview of the range of market-like instruments in use in OECD countries, and their key features). These characteristics are bundled together in different combinations to reach different management and societal objectives. The study also found that market-like instruments are widely used in OECD countries, although the coverage and implementation differs significantly across countries. This underscores the flexibility and potential breadth of application of market-like instruments and highlights the scope for market-like instruments to be further refined and applied in the OECD area.

The way in which different market-like instruments bundle characteristics together helps to determine the outcomes for the fisheries sector. In reviewing the experience of OECD countries, the study found that some instruments (such as individual quotas for effort and catches) are directed towards maximizing the economic efficiency of resource use, while others (such as community catch quotas and some types of vessel catch limits) will allow fishers to more readily adapt to short-term economic and natural fluctuations. Yet others (such as individual transferable quotas) are especially beneficial in facilitating long-term adjustment with respect to investment and capacity.

Natural, geographical and economic conditions will also play a role in the effectiveness of different market-like instruments. The study provided evidence that some instruments may be more appropriate for small-scale fisheries dedicated to local consumption and characterised by a large number of operators (for example, community quotas and individual transferable effort quotas). Other instruments (such as individual transferable quotas) may be more appropriate for large scale and industrial fisheries, while others may be better suited to managing fisheries for sedentary species (for example, territorial use rights).

In order to successfully develop and implement market-like instruments, fisheries managers need to address an array of technical, administrative and social challenges. Drawing on the experience of OECD member countries, the study presents ten tracks that policy makers can draw upon in meeting these challenges and which can ease the introduction and improve the design of market-like instruments. The tracks are described in some detail in the study and can be summarised as:

1: Making all stakeholders comfortable with the concept of market-like instruments

2: Preferring an incremental or gradual implementation of market-like instruments

3: Not necessarily adopting a "one-size-fits-all" strategy

4: Carefully designing the process to allocate rights

5: Pragmatically using market forces

6: Overcoming the "excessive consolidation" question

7: Using the "demonstration effect" (drawing on experience)

8: Involving stakeholders in the reform process

9: Integrating fisheries characteristics

10: Dealing pragmatically with trade-offs

By demonstrating that market-like instruments are in more common usage than is generally recognised, and that many countries have benefited from their use, these tracks will help to overcome the "fear of change" that has been identified as one of the major impediments to the implementation of market-like instruments. Each of these tracks focuses on a particular issue challenging policy makers, the key findings from the survey of OECD countries, and insights for policy makers to how the challenges might be addressed, based on the experience of OECD countries.

Implications for policy makers

Three key implications for policy makers emerge from the report. First, it is clear that fisheries managers have a greater array of market-like instruments at their disposal than might be appreciated. The experience of OECD countries points to the need to maintain a flexible approach to the design and implementation of market-like instruments to take into account social and biological conditions in particular fisheries, as well as the institutional constraints (both domestic and international) that may constrain the extent to which countries can take up market-like instruments. While there is no uniform approach to the use of market-like instruments, there is clearly greater scope for the use of the range of market-like instruments in achieving improved management outcomes.

Second, several attributes of market-like instruments seem to be particularly important in improving the robustness of fisheries management, the regulatory environment for fishers and the efficiency of resource use. These relate to the duration of the right and the ability to transfer some or all of the right to others in the sector. Focusing on strengthening these characteristics will help to improve the adaptability and resilience of the sector in both the short and long term, and to internalise the process of adjusting to changing external conditions.

Finally, the extent of stakeholder involvement in decision making processes will heavily influence the prospects for realising the benefits from an increased use of market-like instruments. This will improve the chance of the demonstration effect being achieved and heightens the comfort level that participants in the sector are likely to have with market-like instruments.

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