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**TRADE AND AGRICULTURE DIRECTORATE  
FISHERIES COMMITTEE**

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**The Fisheries Support Estimate (FSE) Manual**

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**NOTE BY THE SECRETARIAT**

This document serves as an information resource for countries and economies participating in the fisheries support estimate (FSE) data collection exercise. It provides guidance on how to define, collect, and classify data on policies that provide support to the fisheries sector. It was discussed in its latest version by COFI at its 117th Session and revised afterward. It will be subject to further refinements over time. To ensure you have the latest version, or if you have any questions or suggestions to improve the clarity of this manual, please contact Roger Martini at [roger.martini@oecd.org](mailto:roger.martini@oecd.org).

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## CHAPTER 1

### INTRODUCTION

#### 1.1. Objectives

1. The main objectives of this manual are:

- To provide a framework for discussion for the development of a set of estimates of fisheries support, with particular reference to decision points.<sup>1</sup>
- To provide a comprehensive description of the method employed by the OECD to calculate indicators of support to fisheries.
- To explain the economic theory and principles behind this method.
- To illustrate the practical application of this methodology, including how best to deal with data limitations such as missing or inferred data, and to assist those wishing to replicate the method.
- To explain how the indicators can be used for policy evaluation and modelling.

2. This manual is intended to serve as a complement to the *Review of Fisheries* and the data available on OECD.Stat by providing a more complete explanation of the data and their construction.

#### 1.2. Target readership

3. This manual is intended to assist those wanting to gain a better appreciation of the methods and processes used to produce the database, and in particular for:

- Policy makers and analysts who would like to use the data for policy evaluation, to classify a new policy measure, or to evaluate the impact of a policy change.
- Researchers who would like to use the economic information contained within the database or to calculate the indicators in other countries.
- Modellers who would like to use the information contained in the database as an input into their own work, so that they understand the character of the information, and can appropriately take this into account in designing their model structures and values.

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<sup>1</sup> The FSE database currently contains mainly support to fisheries, but may potentially include support to aquaculture as well. The term “Fisheries” in this manual may be understood to mean “Fisheries and aquaculture” where applicable. Decision points are outstanding issues to be decided by the Committee for Fisheries (COFI).

## CHAPTER 2

### PURPOSE AND SCOPE OF THE OECD FISHERIES SUPPORT ESTIMATE

4. This chapter begins with a brief summary of why the OECD fisheries support estimate database (FSE) has been developed. The second section defines the main indicators derived from the FSE database, and the final section outlines the underlying principles on which the database is established.

#### 2.1. Why measure support to fisheries?

- The OECD FSE database is designed to monitor and quantify developments in fisheries policy, to establish a common basis for policy dialogue among countries, and to provide economic data to assess the effectiveness and efficiency of policies.
- “Support” is understood as transfers from domestic governments to domestic fishers, arising from governments’ policies and may be budgetary or non-budgetary in nature.
- The information in the database reflects the provision of support, or the level of effort made by governments, as implied by their fisheries policies. It does not directly measure policy impacts on harvest, incomes, consumption, trade or environment.

5. The objectives and priorities of fisheries policies in OECD countries cover a wide range of issues, including managing fish stocks, preserving traditional communities and ways of life and securing production of food. Policy instruments have been equally varied, reflecting changes in domestic political priorities and economic settings and developments in the international economic arena. Despite this diversity, policy measures applied in a country within a certain period of time can be brought together and expressed in one or several simple numbers – called support indicators – which are comparable across time and between countries. The utility of doing this is three-fold.

6. First, measuring and classifying support can be used to *monitor and quantify developments in fisheries policy*. This supplements and enhances the collection and presentation of information on developments in fisheries as reported in the *OECD Review of Fisheries*.

7. Closely related to this, the data establish a *common basis for policy dialogue* by using a consistent and comparable method to evaluate the nature and incidence of policies. The international comparability of the data and wide country coverage makes it a useful tool for policy makers as well as research institutions and other interested organisations.

8. Finally, the database is used in further research on policy impacts. The data can potentially serve as an *input into modelling* to assess the effectiveness and efficiency of policies in delivering the outcomes for which they were designed and to understand their effects on production, trade, income, the environment, etc. While the data cannot by themselves quantify these impacts, the economic information upon which they are based is an important building block for further analysis.

9. Fisheries policies may provide direct payments to fishers, or they may support the sector in general through management, harbours and other infrastructure. Support is not only comprised of budgetary payments, but also includes non-budgetary policies, such as tax measures. The common element to all these policies is that they generate a transfer.

10. The concept of “transfer” presumes both a source of the transfer and the existence of a recipient. In the present method, fishers are the recipient of policy transfers and taxpayers are the source, i.e. the group bearing the cost of fisheries support. The term “fisheries” designates fishers as an economic group. Fishers are viewed from two perspectives – as individual entrepreneurs, and collectively (i.e. as a sector). These distinctions underlie the key dimensions in which fisheries support is measured and the basic structure of the indicators.

11. The terms “support” and “policy transfers” are basically the same, but may be used in different contexts. The term “support” is predominantly used to mean a policy measure, whereas “transfer” emphasises the amount provided by the policy measure.

## 2.2. Determining the scope of inclusion of policies and how to measure and classify them

- A policy measure is included if it generates transfers to fishers, either individually or collectively, regardless of the nature, objectives or impacts of the policy measure,
- Transfers are measured in gross terms and are classified according to implementation criteria and not objectives or responsible administrative unit.

12. A number of principles, or general rules, guide the measurement of fisheries support. Principles 1 and 2 determine the scope of policy measures to be considered in estimating fisheries support and provide criteria for identifying fisheries policies in a complex mix of government actions. Principles 3 to 5 help to define the method for measuring support and are important for interpreting the indicators.

- **Principle 1: The generation of transfers to fishers is a key criterion for the inclusion of policy in the measurement of support.** A policy measure is considered for measurement if fishers, individually or collectively, are the only, or the principal, intended recipients of economic transfers generated by it. This is sufficient criterion for inclusion of a policy measure in the estimation of fisheries support.
- **Principle 2: General policy measures available throughout the entire economy are not included in the estimation of fisheries support, even if such measures create policy transfers to or from the fisheries.** Thus, a situation of zero support to fisheries would occur when there are only general economy-wide policies in place, with no policies specifically altering the economic conditions for fisheries.
- **Principle 3: Transfers generated by fisheries policies are measured in gross terms.** Policy transfers can be defined in gross or net terms, i.e. as revenue (gross receipts) or income (revenue less costs) generated by a policy measure. The phrase *gross transfers* means that no adjustment is made for costs incurred by fishers in order to receive the support, e.g. costs to meet compliance conditions attached to certain payments, or tax clawbacks.
- **Principle 4: Policy measures supporting individual fishers are classified according to implementation criteria,** such as the basis upon which support is provided (for example, the use of inputs or fixed capital) or whether production is required to receive support or not. These policy characteristics are economically important determinants of fishers’ behaviour, and distinguishing policies according to implementation criteria enables further analysis of policy impacts on, for example, harvest, fleet capacity, income or the environment.
- **Principle 5: There is no consideration of the nature, objectives or economic impacts of a policy measure** beyond an “accounting” for transfers. The stated objectives, or perceived economic impacts of a policy measure, are not used as alternative or additional criteria to determine the inclusion or exclusion of a policy measure in the estimation of fisheries support.

13. Generally speaking, the FSE includes policy measures that give rise to transfers. The transfers may be explicit (a cheque) or implicit (as in a tax concession). In these transfers, a recipient and a beneficiary can be clearly identified. Other potential transfers that are influenced by government policy but for which the value is difficult to measure are not included in the FSE. For example:

- **Rents from fisheries management.** Rents generated from fisheries management policies (such as the value of quotas) can be very valuable and when they are tradable can generate revenue for fishers. But not all fisheries management systems yield rents that are easily measurable and so these transfers fail the consistency and comparability test in principle 2. However, collection of taxes or charges related to resource rents can be included as a cost-recovery item.
- **Other transfers generated by regulations.** In light of the standard division of government measures into fiscal and regulatory, a question arises about the treatment of regulations in the FSE. The FSE does not capture indirect transfers generated by regulations, such as protection from competition from foreign fleets. However, some transfers associated with regulations may be included, such as government compensation for costs incurred in complying with regulations.
- **Externalities and public goods generated by fisheries.** Fisheries activities can contribute to the preservation of cultural landscapes, damage marine ecosystems or contribute to greenhouse gas emissions. Fisheries thus can provide public goods and generate positive or negative externalities. The value of these externalities are not explicitly captured as a transfer to or from fishers, nor considered as part of fishers' revenue.
- **Social charges and benefits.** In some countries, fishers receive special treatment under pension systems or other social programmes. Unless these transfers are specifically identifiable and budgeted, their value is not currently included in the FSE. This has to do with practicality of measurement rather than a specific exclusion of this policy category, as many such policies meet the criteria for inclusion as set out in principles 1 and 2. They could be included in the future if a consistent and comparable method to do so were developed.
- **Market-Price Support.** Support that alters the price of fish either through direct control of prices, application of tariffs or market interventions is not currently included due to the high resource cost of doing so. Average tariffs for fish products are generally below 10% in OECD countries and market intervention purchases are used in only a few countries. This type of support is not currently emphasised in the FSE, though countries may report it if they chose.



## CHAPTER 3.

### CLASSIFYING POLICIES

17. Before calculating the indicators for any particular country, it is important to understand fully the classification system used to identify different types of policies, as distinctions between policy types forms the basis of many indicators.

18. The following sections describe the classification system according to its main components: transfers to individuals, transfers to the sector generally, and cost recovery. There is also a section that details the various categories and labels attached to policy measures within the FSE, including definitions and worked examples.

#### 3.1. Classifying and labelling policies that support fishers individually (ITF)

- Non-budgetary payments have a separate classification in the FSE.
- Policy measures included in the FSE are classified according to implementation criteria. These identify the economic features of policy measures that are relevant for analysis of potential impacts of policies, such as on harvest, fleet capacity, income, or the environment.
- Policy measures in each category are further distinguished according to additional implementation details, such as whether constraints are placed on gear use or vessel type, or whether the payment rate is variable or fixed.
- Policy measures may be classified by category, by label or by both, according to intended use.

19. The impact of policy measures on variables such as harvest, fleet capacity, income, employment and the environment depend, among other factors, on the way policy measures are implemented. Therefore, to be helpful for policy analysis, policy measures in the FSE are classified according to implementation criteria. For a given policy measure, the *implementation criteria* are defined as *the conditions under which the associated transfers are provided to fishers, or the conditions of eligibility for the payment*. However, these conditions are often multiple, so labels provide extra information on policy information that complements the classification system.

20. An initial division of the classification is made between non-budgetary measures such as market price support or fuel tax concessions and budgetary support. This is to accommodate the decision to exclude the value of fuel tax concessions from any aggregate indicator. Separating these payments in the classification is the only practical way to accomplish this, even though it does not exactly follow the implementation criteria approach that is otherwise used.

21. The first major implementation criterion is whether a transfer is directed at fishers individually, where a transfer can be traced to a specific individual, or collectively. Individual transfers are received by fishers in their capacity as fishers, or they become eligible for benefits under a programme by virtue of actions they take (Box 3.1). Payments to fishers as fishers could be payments based on income such as disaster payments. Payments based on actions taken could come from the purchase of inputs such as fuel or gear, purchase or sale of capital such as vessels or equipment, or entering or leaving the fishery.

22. The main economic factors at play are whether the payment impacts the incentive to purchase or use variable inputs (which are relatively elastic in supply), fixed inputs (which are relatively inelastic), or are non-specific to inputs (generally revenue-enhancing). Also important are whether policies provide incentives to reduce fishing activity, so payments based on reduction of capacity have separate category. For this last, policies are classified as based on reduction of productive capacity if the conditions of the

transfer are such that the recipient must reduce their capacity to fish in some way--not due to the objective or impacts of the policy. Some of these policies could conceivably have the impact of increasing capacity if they are not well-designed.

**Box 3.1. Names and definitions of the categories and sub-categories in the FSE**

0. Non-Budgetary transfers to individual fishers

0.A. Market price support: transfers to fishers arising from policy measures that create a gap between domestic market prices and border prices of a specific fishery commodity (**not currently included**).

0.B. Fuel tax concessions

I. Budgetary transfers to individual fishers

I.A. Transfers supporting fishing and vessel costs: transfers to fishers based on the use of fishing inputs or factors of production.

I.A.1. Variable costs: transfers reducing the cost of a specific variable input or a mix of variable inputs (not including fuel tax concessions).

I.A.2. Fixed costs: transfers reducing investment costs to purchase or modernise fishing vessels, gear, or any other capital asset.

I.A.2.1. Transfers supporting vessel construction or purchase

I.A.2.2. Transfers for modernisation

I.A.2.3. Other transfers

I.B. Transfers based on fisher's income: transfers to fishers based on their income or revenue.

I.B.1. Income support: transfers based on income or revenue, including direct payments to vessel owners or crew.

I.B.2. Special insurance system for fishers: includes measures reducing employers' social security contributions and measures providing health insurance and pension schemes with preferential conditions or rates.

I.C. Transfers based on the reduction of productive capacity: transfers based on the removal of vessels and licences from a fishery, including buyouts of quotas and early retirement plans.

I.D. Miscellaneous transfers to fishers: transfers to fishers that cannot be allocated to the above categories due, for example, to a lack of information.

II.A. Payment for access to other countries' waters: government-to-government payments for the right of access, for a country's fishing fleet, to operate in another country' EEZ.

23. The criteria for classifying each of the policy measures are designed to be mutually exclusive. If a single programme provides different transfers to fishers through two (or more) mechanisms but the budgetary data are not disaggregated, a suitable allocation key is used to allocate it to the appropriate categories.

24. In addition to classification into a category, each policy measure is assigned several "labels" that provide additional details on policy implementation (Table 3.1). The labels contain information on the constraints or conditions placed by policies to further specify the basis of the transfer. Labels are not mutually exclusive: a transfer may place both restrictions on a fisher's gear and require co-financing, for example. Labels apply mainly to transfers to individual producers; general transfers do not usually entail any restrictions or conditions in their impact on fishers.

25. Distinction between the terms "FSE category" and "FSE label" is a matter of presentation convention. The FSE classification can be seen as a matrix of various policy-implementation criteria where FSE categories are presented along the vertical axis and FSE labels along the horizontal axis. Labels only represent additional dimensions in which the FSE can be broken down and, like the FSE categories, are defined in terms of implementation criteria rather than policy objectives. Labels could be used as an alternative presentation of policy implementation; they also could theoretically be presented as FSE sub-categories or sub-sub-categories. In designing the structure of the FSE database, the choice between treating a particular implementation criterion

as a sub-category or a label is one of relative importance and pragmatism, rather than a conceptual difference between these two options.

**Table 3.1 Names and definitions of FSE labels**

<b>Duration of the programme:</b>	Two values indicating the start and (if terminated) end year of the programme. Provides an indication of continuity of programmes which can impact fisher's expectations and short-run or long-run impacts.
<b>Production-linked:</b>	True if the payment increases with the level of harvest ( <i>e.g.</i> a programme that makes a payment per tonne of fish landed) or with the level of input use ( <i>e.g.</i> quantity of fuel used for fuel tax exemptions, paid to purchase bait). This is a crucial piece of information to determine if a support measure can potentially impact effort or harvest.
<b>Income or effort threshold:</b>	Value indicates if a minimum, maximum or range of income or effort is required to be eligible for the transfer. Provides additional detail on scope and impact of support measures.
<b>Fishing behaviour constraints required:</b>	True if the receipt of the transfer requires specific fishing practices or actions to be taken or avoided by the recipient. These specific requirements concern all constraints on production practices from the harvest to the first sale (such as requirements on specific use of gear and other input, selectivity, fish practices, engine power, landing conditions) but do not include pure administrative or enforcement constraints (such as completing logbooks, presence of observers on board). Indicates whether fishers must bear some cost to receive benefits or whether the programme can affect harvest, effort or impact of fishing.
<b>Restricted to specific species or gear or area:</b>	Can take different values: "Species" if, for example, only fishers targeting a specific species or group of species are eligible; "Gear" when the use of a specific gear is required to be eligible for the transfer. "Area" when the transfer is available only in a geographically limited area; "None" otherwise. As for behaviour constraints, this indicates the (opportunity) cost of receiving the transfer and can inform regarding the potential impact of the transfer.
<b>Vessel length limits:</b>	When the transfer is dedicated to a specific vessel length class, the minimum or maximum vessel length, or both, is indicated. This label provides supplemental information on the incidence and distribution of a transfer.
<b>Kind of recipient:</b>	Identifies the recipients of the transfer: fishers, owners of fishing vessels, or both. The "Fishers" category includes captain or crew on a vessel. "Vessel owners" indicates that the fishing vessel owner is the recipient of the transfer. "Both" indicates owner-operators, while "None" means no restrictions. Informs regarding distribution of benefits of a transfer.
<b>Private co-financing or counterpart required:</b>	The cost-sharing ratio is indicated if the sharing of costs between the government and the recipient is an explicit condition of the transfer. For example, a grant paying 50% of the cost of an investment must be co-financed by the recipient who is obliged to pay the other 50%. This provides an indication of the cost of receiving the transfer and also regarding induced investment that potentially magnify the impact of the transfer.

### 3.2. Classifying policies that support fishers collectively (GSSE)

- Policy measures included in the General Services Support Estimate (GSSE) are classified into one of eight main categories and related sub-categories according to the nature of the services provided to fisheries generally (and not to individual fishers).

26. The transfers in the GSSE are government expenditures to provide services to fisheries generally, and include policies for which fishers are the main beneficiaries. GSSE transfers are not destined to individual fishers, and do not directly affect their revenue, although they likely have an indirect impact on investment, revenue and activity. The main GSSE categories cover provision of infrastructure, management, and capacity building for fishers and the fisheries sector (Box 3.2).

27. The classification is intended to provide information on the level of policy effort made by countries on these different aspects and the differentiation is meant to follow typical policy priorities and be fairly complete. Unlike the ITF, the main distinctions are thematic rather than founded on economic theory, though it is desirable that this classification could be useful to economic analysis as well. Some differences highlighted in the classification, such as investments in physical (II.B and D), human (II.E) and social capital (II.C, F and G) are relevant in this regard.

28. Fishers benefit from the policies in the GSSE but these policies do not exclusively support fishers. Port infrastructure and activities such as dredging, weather services and dock structures benefit many different types of users. Research and development and marketing and promotion also benefit consumers of fish products. These policies are included because they provide an important and policy-relevant benefit to fishers (principle 2).

**Box 3.2. Names and definitions of the GSSE categories and sub-categories**

- II.A. Payment for access to other countries' waters: government-to-government payments for the right of access, for a country's fishing fleet, to operate in another country' EEZ.
- II.B. Provision of infrastructure: transfers supporting the construction, management and access to shared facilities.
  - II.B.1. Capital expenditures
  - II.B.2. Subsidized access to infrastructure
- II.C. Marketing and promotion: transfers financing assistance to marketing and promotion of fish products.
- II.D. Transfers supporting fishing communities: transfers supporting the improvement of livelihoods in fisher's communities.
- II.E. Education and training: transfers financing training and education in the fishery sector.
- II.F. Research and development: transfers financing research and development of activities improving production.
- II.G. Management of resources: transfers financing management activities improving the productivity or the sustainability of aquatic resources.
  - II.G.1. Management expenditures: transfers financing the expenditures associated with management programmes.
  - II.G.2. Stock enhancement programmes: transfers financing stock-enhancement programmes.
  - II.G.3. Surveillance and enforcement expenditures: transfers financing enforcement of management measures.
- II.H. Miscellaneous transfers to general services: transfers financing other general services that cannot be disaggregated and allocated to the above categories due, for example, to a lack of information.

29. The **Marketing and promotion** category should contain any collective schemes for processing and marketing. That is, budgetary expenditure that finances investments in downstream activities designed to improve the marketing environment for fisheries. It captures support to collective processing, marketing schemes and marketing facilities. It should also contain budgetary expenditure that finances assistance to the collective promotion of fisheries products (e.g. promotion campaigns, participation in international fairs), as well as activities promoting food-quality schemes. It does not include public expenditure related to export subsidies, market withdrawals or intervention purchases.

30. Budgetary expenditures that finance **Research and development (R&D)** activities related to fisheries are included irrespective of the institution (private or public, ministry, university, research centre or fisher group) or where they take place, the nature of research (scientific, institutional, etc.), or its purpose. In the case of public research institutions, the entire budget dedicated to fisheries research (including capital costs, wages and other overhead) is reported. In the case of grants to private research institutions, only the value of the grant is reported. Private research costs and expenditures are not reported. The focus is on R&D expenditures on applied research related to the fisheries sector. Social-sciences research related to fisheries is included. To the extent possible, R&D related to forestry, agriculture, etc., should be excluded and, if the information is not readily available, the method used to estimate the share allocated to fisheries should be clearly stated in the documentation. Data dissemination when associated primarily with research and development (knowledge generation), e.g. reports from research and databases developed as an adjunct to research, also belongs to this sub-category.

31. **Management of resources** is broken down into three sub-categories. The first of these, **Management expenditures** can pose difficulties in breaking out this component of activity from the larger

administration of fisheries in the responsible ministry or agency. The document *The Costs of Managing Fisheries* (OECD 2003) breaks down management expenditures into three categories:

*Management services are of a “process and procedures” nature and usually comprise three functions:*

1. *Adjusting management settings within an existing management system. An example of these types of adjustment is the annual process of TAC setting that occurs regularly in OECD countries.*
2. *Recommending amendments or additions to the existing management system. An example of this more fundamental form of change might be the decision to introduce new effort controls (for example, limits on number of vessels) or output controls (for example, vessel or fisher quotas).*
3. *Administering the existing management system. This can involve monitoring fishing licences, permits, vessel numbers and catch returns.*

32. This implies a narrow view of management expenditures that is limited to the administration of input and output controls, as well as access issues such as licencing.

33. For the first item, stock assessments seem to clearly fall into its domain, though such assessments are sometimes made using resources that are shared with “research and development” activities. Item 2 is part of the policy development arm of the government agency. Item 3, “Administering the system” may not have a clear bureaucratic outline, especially in smaller agencies where staff share multiple responsibilities.

34. The main practical question is how to draw the lines within the government bureaucracy and add up the expenses. Ancillary costs—from janitors to office supplies to building repairs—are considered overhead and should not be part of the calculated transfer. Assembling a “management expenditures” figure from individual job descriptions seems overly complex; working with existing budgetary units could be more practical. For example, Sweden reports figures for three units: “Management costs by the Swedish Board of Fisheries and the County Boards”, “Management costs by the Swedish Agency for Marine and Water management”, and “Management costs by the Swedish Board of Fisheries”.

35. The *Miscellaneous* category includes budgetary expenditure that finances other general services that cannot be disaggregated and allocated to one of the above categories, usually due to lack of information. All efforts should be made to obtain more information to allow for an accurate classification into one of the above categories.

### 3.3. Classifying cost-recovery items

36. Many of the policies reported in the FSE are subject to some form of cost sharing or cost recovery from fishers that benefit from them. In keeping with the gross transfer definition of the FSE, these charges, fees or other forms of payment from fishers to the government are not deducted directly from the corresponding policy but are identified separately. There are five different cost-recovery categories, covering mainly fishing access, infrastructure and management (Box 3.3). Two of these are general in nature (III.B and C) and two (III.A and D) are individual cost recovery items. As usual, the implementation criteria determine the classification. That is, the basis of the cost-recovery charge takes precedence in the classification over the use of the received funds.

#### Box 3.3. Names and definitions for cost-recovery charges

III. Cost-recovery charges: management costs that are recouped by governments through levies, in whole or in part.

III.A. For resource access right: charges levied to grant access to a resource, including license fees, cost of permits and other formalities.

III.B. To access infrastructure: charges levied to grant access to infrastructure such as harbour fees and other user charges for government-provided infrastructure.

III.C. For management, research and enforcement: charges levied to finance management, research and enforcement expenditures, or fines levied in case of infraction.

III.D Resource rent taxes and charges: Fees, taxes or payments collected from individual fishers according to the resource rents generated by fishing activities (profit taxes and similar).

III.E. Other: other charges levied for which there is insufficient information to allocate them to appropriate categories.

37. Fishers sometimes must pay fines or other regulatory penalties; these are not considered cost-recovery charges for the purposes of the FSE. Application fees for budgetary programmes may be included. There is no specific cost-recovery category for such fees; they could appear in III A, B or D depending on the nature of the programme. If application fees are reported in significant amounts a specific category could be added. The supporting data for such fees should clearly indicate with which programme they are connected, as carrying out a net cost accounting would be the obvious use of such data, and doing so at the programme level gives the most flexibility and utility.

## CHAPTER 4

### FUEL PRICE DIFFERENTIALS

38. Support to fuel use has been of particular interest owing to the connection to climate change and non-renewable resource use. Since the Group of Twenty (G-20) Pittsburgh agreement in 2009 to “phase out and rationalise over the medium term inefficient fossil fuel subsidies ...” support to fuel use has been in the work programme of the COFI, first with a study of fuel tax concessions [[TAD/FI\(2010\)8](#)] and later in work on energy use in fisheries [[TAD/FI\(2012\)2](#)]. The objectives of the COFI were described at the 104th session to produce:

- an approximation of the value of government transfers related to fossil fuel use for fishing fleets in OECD Member countries, as well as non-member economies where data was made available.
- an initial assessment of the impacts of such support and the implications for the fishing industry of phasing them out.

This work on measuring and assessing fuel support is now done as part of the larger FSE exercise.

39. Many policies may impact the price of fuel paid by fishers. Some of these may be targeted and sector-specific while others may be part of a broader energy policy that differentiates between different types of fuel users (treating resource-based sectors as a group, for example). Another case is where the price paid by retail consumers (automobile owners) is subject to an excise tax that governments explain is directed at road infrastructure and where fuel purchased for off-road use is not subject to the same tax.

40. In the FSE, the value of transfers arising from price differentials for fuel is only included in the database when there is a policy (such as a specific rate of tax exemption) where fishers are the sole or main beneficiary (Principle 1). In practice, this means that two conditions must be met for inclusion:

1. A **necessary** condition is that the relevant tax legislation must clearly identify fishers or the fisheries sector as a beneficiary of the tax policy (specificity).
2. If (1) is true, then a further **sufficient** condition is that the rate of tax exemption identified for fisheries in the legislation is different from that of most other industrial users (distinctness).

These conditions ensure that an included policy is both sector-specific and provides a differential benefit not received by a substantial amount of other users. This does not mean that other industrial users such as agriculture, forestry or mining must not receive tax exemptions, just that the rate of exemption be different for fishers than for these other sectors. Tax systems are often complicated and there may be a number of fuel excise tax rates faced by different users according to fuel grade, nature of use (propulsion, heating, or industrial process), or user (fishers, miners, farmers, high or low income household). The size of these other tax rates is not relevant in determining the inclusion of a policy in the FSE or the estimated transfer it generates, except insofar as they are different from the rate faced by fishers.



41. The main policy instrument related to fuel price that is targeted at fishers is differential excise tax rates for fuel, usually but not exclusively provided by fuel-tax concessions (FTCs). FTCs include a rebate, refund, expenditure or reduction for fishers from direct fuel taxes that are normally levied by the government on fuel users in the economy; price controls that suppress fuel prices below market prices; and programmes that provide direct transfers or payments (OECD, 2012).

42. Capturing the differential between the price of fuel paid by households and by fishers helps to understand the value of these transfers from a common reference point. The household price of fuel is used as the reference price in the *OECD Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels* (FFS Inventory) (OECD 2015), and a common reference allows consistency with that broader exercise. The method used to calculate the value of transfers generated by FTCs follows previous work on government transfers related to fuel use for fishing fleets in OECD and non-OECD countries in 2008 (OECD, 2012).

43. A complete and reliable quantification of tax concessions is a complex empirical task, requiring a considerable amount of resources and information. Estimates of the value of tax revenue foregone are not typically carried out by fisheries administrations, though it is possible that this is done by tax administrations. The value of these transfers should be estimated in the FSE at reasonable cost and accuracy.

44. For European countries that do not report data directly to the OECD, fuel consumption data from the EU Fleet Economic and Transversal data at the national level (STECF, 2015) and FTC rate from the JRC report on fuel subsidies (JRC, 2013) is used. This provides a consistent framework and method for EU member countries that is compatible with the OECD definition of FTCs.

45. For other countries that need help producing FTC estimates, the Secretariat can produce an estimate internally using the information on rates of support from IEA data (OECD.Stat), using the FFS Inventory (OECD 2015), information from *Fuel Tax Concessions in Fisheries* [TAD/FI(2010)8], and quantities estimated using the fuel intensity factors in *Energy Use in Fisheries* [TAD/FI(2012)2] combined with fleet and landing data.

#### 4.1 Calculating the unit rate of support

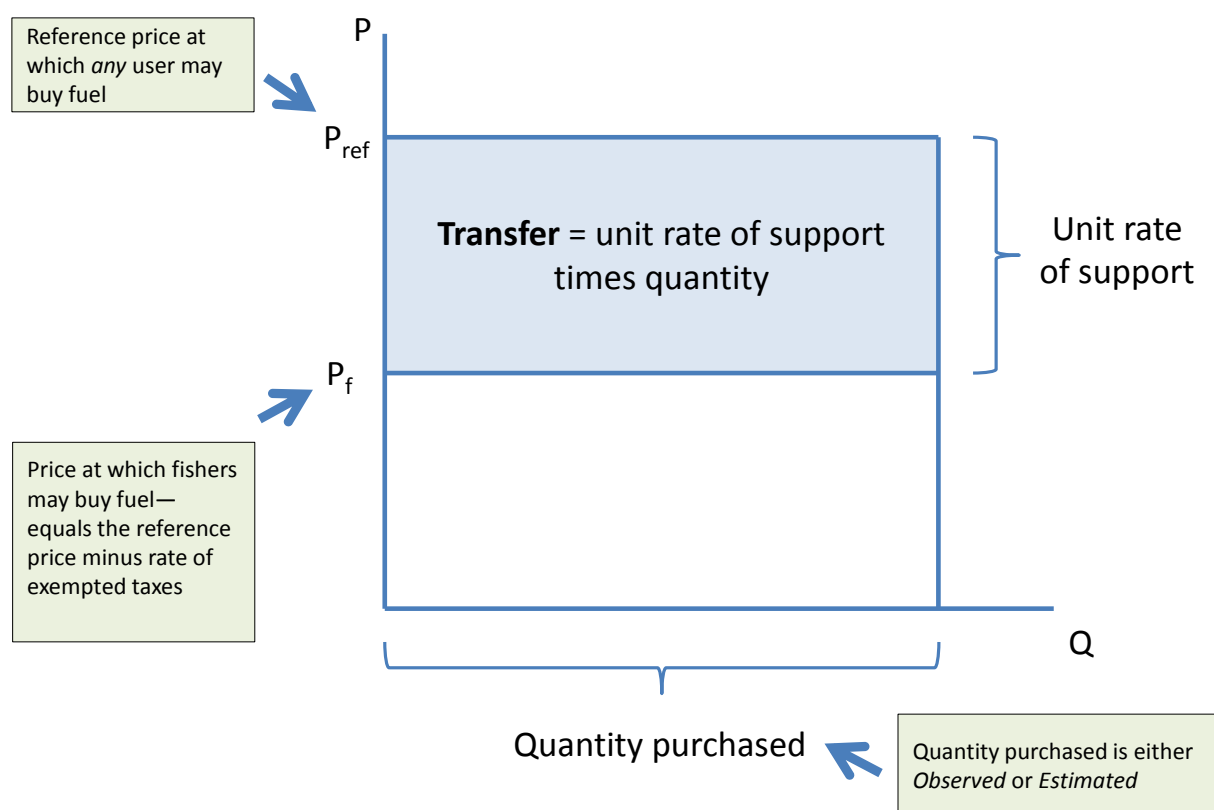
46. To calculate FTCs, the *unit rate of support* as the difference between the price paid by the average household user for automotive diesel fuel and the price paid by fishers. This unit rate of support is multiplied by the total amount purchased to arrive at the total value of the transfer (Figure 4.1). This unit rate of support is usually measured using information regarding the excise tax rate for the relevant fuel and the exemption provided fishers as found in tax legislation.<sup>2</sup>

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<sup>2</sup> An alternative approach is to use reference price at which retail users may buy fuel and compare this with the price actually paid by fishers. This requires observational data on prices that is seldom readily available.



Figure 4.1: Calculation of a transfer generated by a fuel tax concession



#### 4.2 Calculating quantity of fuel used by fishers

47. The definition of transfer used in the FSE is transfers from governments to its own citizens, so the quantity of fuel to be used in this calculation is the amount of fuel purchased by domestic fishers in domestic ports. Fuelling abroad by domestic vessels and fuel purchased by vessels from other countries should not be included (Figure 4.2). The fact that fishers may take on fuel abroad and pay less or no tax is not taken into account for the estimate of FTCs in the FSE and does not affect its calculation.

Figure 4.2: Quantity purchased by domestic fishers in national ports

		Fishers	
		Domestic	Foreign
Location of fuel purchase	Domestic	Included in GFT	Excluded
	Foreign	Excluded	Excluded

48. There are a few approaches to estimating this quantity of fuel, and they involve a number of steps. Working on the demand side, total fuel consumption by the domestic fleet may be directly observed or estimated on the basis of number and size of vessels, days at sea, quantity landed or other instruments. Then the share of the total that was purchased at domestic ports would have to be estimated. This could be done for example on the basis of expert opinion.

49. Working on the supply side, if the quantity of fuel deliveries to ports or domestic supplies of diesel for marine use is known, the share of this used by fishers can again be estimated using a variety of techniques. In either case, the quantity estimated is unlikely to be perfect, but taking an approach that is pragmatic, transparent and repeatable will still result in a useful indicator.

50. Past efforts to measure fuel-tax concessions in fisheries used two methods to calculate the unit rate of support and as many as five different methods to calculate the fuel quantity. Having multiple approaches is fine, but the data sources and method must be clearly identified and verifiable. For some countries, the unit rate of support was calculated as the total value of the FTC divided by fuel consumed, which begs the question of how the total value was initially calculated.

51. For most countries, diesel fuel represents the great majority of total fuel consumption, with only small amounts of petrol or heavy fuels used by fishers. In cases wherein diesel represents 90% or greater of total consumption, other fuels can be ignored in the FTC calculation. Otherwise, the calculation described above should be performed separately for each fuel type.

## CHAPTER 5

### ESTIMATING POLICY TRANSFERS: BUDGETARY TRANSFERS

52. This chapter completes the discussion of policy transfers, focusing on transfers that emerge from budgetary policies.

53. Budgetary transfers are the most “visible” policy transfers. They are observed and need not be estimated as is the case with fuel price differentials. The measurement of direct budgetary transfers is an accounting task, which consists of the appropriate use of information on budgetary spending. This section details the main procedures for accounting for budgetary transfers in support estimation.

#### 5.1. Complete coverage of institutions, administrative levels and financing instruments

54. The first step is to identify all budgetary expenditures underlying policies that support fisheries – whether provided to fishers individually or collectively. The principle of complete identification of all publicly financed transfers has three aspects.

- First, all financing through public institutions involved should be captured, paying attention to the fact that implementation and funding of some fisheries measures may be outside the remit of fisheries ministries. This often concerns general services for fisheries, such as education, research, or infrastructural development. Another example is environmental measures, which may be implemented by and financed through the ministries and agencies specifically responsible for environmental issues.
- Second, funding from all administrative levels should be covered. Fisheries policy measures are financed at multiple levels of government. For example, in a country with a federal government structure, support from national as well as state, provincial or prefecture levels should be covered, as well as measures that are financed more locally, for example from counties, communes or townships. By convention, all expenditures beneath the national level are termed *sub-national*. Also by convention, EU-level expenditures are considered as the national level, with EU Member State expenditures (including those made at regional levels) as at the sub-national level. Some EU policies are co-financed across several levels of government, with the EU budget financing part of the costs of a programme, augmented by expenditure from an EU Member State government’s budget, with the possibility of additional expenditure by a regional or local government entity within that Member State.
- Third, all public finance instruments should be covered. In some non-OECD countries, for example, fisheries support may also be financed from the so-called extra-budget funds – instruments that do not formally constitute part of the national budgets. Such funds may be created at the national or regional level and are usually used for implementation of specific programmes.

#### 5.2. Accounting of effectively disbursed funds

55. Data on effectively disbursed – as opposed to planned or budgeted funds – should be used. The principle is to capture transfers that actually affect fishers’ revenues. The difference between budgeted and effectively disbursed outlays can be large, for example when emergency assistance is provided over and above the initial budget appropriation. It is important to ensure that all spending items are accounted for consistently in terms of amounts effectively disbursed. However, if the estimations are done on an annual basis, such information may not be available in time for the latest year. In this case data on budgeted expenditures are used, which are then adjusted the following year to reflect actual spending.

### 5.3. Treatment of policy-administration costs

56. Administration costs include those associated with the design, implementation and evaluation of fisheries policies. It is important to distinguish different types of budgetary expenditures related to the administration of fisheries policies:

- Administrative expenditures by ministries, including staff salaries, material, building and other costs. These are *excluded* from the FSE because this is the cost of operations and not directly a support to fishers
- Salaries and wages of public employees working in research, inspection, management and other services. These are *included* in the FSE because they are directly delivering a service to fishers through their work.
- Payments to banks, insurance companies or fisher organisations to cover their costs associated with implementing support policies. These are *excluded* from the FSE as these are cost of operations in the same way as government administration

57. The principle is to exclude administrative expenditures of the ministries from the estimation of support as they represent expenditures on operations common to any public structure and are not policy transfers as such. However, when the policy measure is actually delivering a service that benefits fishers individually (e.g. training) or collectively (e.g. management or research), expenditures associated with the delivery of the service, mainly the salaries of administrators, inspection officers, researchers, etc., are included in the FSE.

58. In some countries, the government grants to other agencies (public, mixed or private bodies) responsibility for implementing some fisheries policy measures. Fisher organisations such as community-based management may be involved in policy implementation. Banks may deliver fisheries investment loans with preferential conditions (generally interest concessions). Consulting companies or NGOs can help fishers prepare applications for project-based measures.

59. When policies are delivered by semi-public or private companies, the government may compensate them for part or all of the costs associated with implementing the policy measure, in addition to channelling financial support to fishers through these organisations. As in the case of direct delivery by ministry officials, these implementation costs are excluded from the FSE. In the case of investment and insurance programmes, the government may pay for two components: support to fishers (e.g. interest concession on loans, or a subsidy to insurance *premia*), as well as the programme administration costs, which are transfers to the implementation agencies. Those two cost components are usually identified in the programme. The first one is included in the FSE, while the other is not.

In summary, expenditures made for the cost of operating government or the cost of implementing policies are excluded as these do not provide a direct benefit to fishers. Such overhead or administrative costs are only reported when they involve the provision of a service to fishers as in the case for inspection services where the full cost of provision should be reported in the FSE.

### 5.4. Attribution of budgetary allocations to calendar years

60. Support estimates are made on a calendar-year basis, hence budgetary expenditures also should be allocated to calendar years. This may not be straightforward, as some support programmes have cycles that correspond to fishing seasons, while the budgetary funding is based on fiscal years. These may not fully coincide, i.e. they may cover different time periods. The principle is to allocate transfers to the calendar year in which the supported activity took place. For example, suppose that a fishing season  $t$  starts in calendar year  $t$  but the transfer is made on the basis of the fiscal year and may fall mostly into calendar year  $t+1$ . In this case, payments made in calendar year  $t+1$  (regardless of fiscal year) should be allocated to calendar year  $t$  because the activity (fishing season, harvest, investment) for which the payment was made is attributed to that calendar year.

## **5.5. Classification of budgetary spending**

61. Once all budgetary spending items are identified, adjusted and allocated to appropriate years, they should be classified into the FSE according to its implementation criteria. One specific problem which may be encountered in classifying expenditures is that the budgetary data reported are too aggregated to be directly allocated to a particular category. For example, data may be presented by broad fisheries programmes or by implementing agencies – heterogeneous groupings that combine various types of expenditures. In such cases, it is important to make an attempt to obtain disaggregated data. If exact information is not available, then some reasonable approximation is required to allocate the spending items to individual policy measures, and hence to the appropriate support category. For example, some assumed percentage shares to distribute the aggregate spending can be used. This involves some error; however, it is likely to be smaller than if the amount was omitted entirely.

## CHAPTER 6

### INDICATORS OF SUPPORT TO FISHERS

- The indicators represent different ways to describe fisheries policy transfers and measure their levels in relation to various key economic variables. Together they provide a comprehensive picture of fisheries support.
- The indicators can be distinguished according to the recipient (initial or formal incidence) of the transfer, the unit of measurement in which they are expressed, and the type of aggregation.

62. Indicators are a way to take the raw data in the FSE and convert it to something that is understandable and informative regarding the status of fisheries policies in the country of interest or the OECD as a whole. Indicators help summarise and contextualise data, relating it to the size of the sector in terms of fleet and employment characteristics, size and value of harvest, and the relative size of the economy.

63. A good indicator is simple in calculation so that it is transparent. It should convey an unambiguous message—if an increase in the value of an indicator means something beneficial, then a decrease in its value should mean something harmful. For example, harvest level is a poor indicator of the health of the sector because high harvests could mean either healthy stocks or overfishing, while low harvests could mean depleted stocks or a sensible reduction to ensure rebuilding.

64. Indicators don't always need to be evaluative in the sense of determining whether something is good or bad. A typical example of an indicator is the share of total revenue that comes from policy transfers (%TIF, see Box 6.1). This indicates the level of policy effort relative to the economic scale of the sector, but does not inform on the impact of that effort. Nevertheless, such a measure of the scale of policy effort or intervention has been very useful and interesting to policy makers.

65. A set of indicators should provide context along a number of dimensions of the fishery—economic, physical and social. They should be understandable when presented for a single year and as a trend over time. Some indicators may make sense only when juxtaposed with others. For example, showing support per vessel could require the context of also showing support per fisher, or per kilowatt (kW) of power. Such grouped indicators will help characterise more completely the recipients of support.

66. This chapter illustrates some possible uses of the FSE data. It presents a possible set of indicators that would be open to modifications and to the development of indicators not currently described. The indicators used for specific studies may be developed uniquely for them. The *OECD Review of Fisheries* will use FSE indicators as part of its content, but probably not all of the indicators mentioned here.

67. The current version of these indicators excludes non-budgetary payments such as fuel tax concessions in all cases. All the equations that follow should be read to include budgetary payments only.

#### Box 6.1. Some Potential Indicators based on the FSE

##### I Indicators based on the level of support

**Fisheries Support Estimate (FSE):** The annual monetary value of all transfers arising from policies that support fisheries, net of the associated budgetary receipts, regardless of their objectives and impacts.

**Transfers to individual fishers (TIF):** The annual monetary value of gross transfers from taxpayers to fishers arising from policies that support fisheries, regardless of their nature, objectives or impacts on production or income.

**General Services Support Estimate (GSSE):** The annual monetary value of gross transfers arising from policy measures that create enabling conditions for the fisheries sector through the development of private or public services, institutions and infrastructure regardless of their objectives and impact. It includes policies where fisheries are the main beneficiary, but does not include any payments to individual fishers. GSSE transfers only indirectly affect fishers' receipts or costs.

## II Indicators based on percentages

**Percentage TIF (%TIF):** TIF as a share of gross fishing receipts.

**Percentage FSE (%FSE):** FSE as a share of gross fishing receipts

**TIF as share of FSE:** TIF as a share of all support

**GSSE as share of FSE (%GSSE):** The GSSE expressed as a percentage of all gross transfers.

**Cost recovery as a share of GSSE (%CR):** Share of GSSE transfers recovered through contributions by fishers.

**Payments for Modernisation as a share of TIF:** The share of TIF that is dedicated to vessel modernisation.

**Management expenditures as a share of GSSE:** The share of general support that is dedicated to management.

**Total Support per Vessel (SPV):** FSE per vessel. Fleets vary by segment, but an overall per-vessel number provides some indication of policy intensity in the sector.

**Total Support per GT (SPT):** FSE per tonne of fleet capacity. An alternative measure of policy intensity in the sector.

68. The fisheries support estimate can be used to quantify both the level and the composition of support that arise from policies supporting fisheries. The level of producer support and its composition is the information most commonly utilised. This chapter shows how the indicators can be used to interpret developments in the level of producer support, and how the composition of producer support can be shown in terms of the categories (and sub-categories) into which policies are classified and the labels attached to these policies, including the degree of commodity specificity. The level and composition of support to the agricultural sector as a whole can be evaluated through the FSE.

### 6.1. Interpreting the level of support

69. Fundamental for understanding the indicators is the distinction between the notions of “provision of support” and the “impact of support” (i.e. impacts of policy transfers). The indicators are the various measures of gross policy transfers. As such, they reflect the *provision* of support, or the level of effort made by governments, as implied by their fisheries policies. The indicators do not account for the impact of the support. They do not account in particular for the losses of that effort within the economic system, as experienced by the recipients of support. A proportion of the transfers will not end up as extra net income for fishers because support changes incentives, prices and actions, thus generating deadweight loss of economic welfare. Moreover, the actual impact of a policy on its recipients will depend on, among other

things, the basis upon which the support is provided (e.g. whether it is provided per tonne, per vessel, or per crew member), the level of support, and the responsiveness of fishers (and fisheries) to changes in support. The indicators, therefore, are not intended to and do not measure *the impact* of policy effort on harvest, income, fleet capacity or effort. This explanation of the indicators as representing measures of policy effort is crucial for understanding them properly.

70. The support indicators provide different ways to analyse fisheries policy transfers and measure their levels in relation to various key economic variables. No single indicator can capture all aspects of fisheries support. Each serves a purpose, highlighting a dimension of the support framework. The indicators are interlinked and mutually reinforcing. When analysed together, they provide a comprehensive picture of the level and composition of support.

71. Two distinctions can be made between the indicators: The *intended recipient* of the transfer – fishers individually or fishers collectively; and the *unit of measurement*. Indicators can be expressed in *monetary* terms or in *percentages* or *ratios*. An advantage of monetary indicators is that they can be used to analyse the composition of support, e.g. to calculate the shares of support by policy category. However, the monetary indicators are influenced by the size and structure of the country's fisheries sector, as well as the country's rate of inflation. Consequently, there are difficulties in using them to compare support levels between countries or to evaluate changes over time. In contrast, percentage indicators and ratios, which relate policy transfers to some other monetary base, e.g. the value of fisheries production, allow such comparisons to be made.

#### **6.1.1. Level of support – national (aggregate) level**

72. The most important indicator to show the level of support provided to fishers at the national (aggregate) level is the %TIF. This shows, in aggregate, the importance of support relative to revenue. A %TIF of 20% means that the estimated total value of transfers to individual fishers represents 20% of total gross receipts<sup>3</sup>, or, alternatively, that 20% of gross receipts come from transfers due to policy measures supporting fishers. A %TIF of 0% indicates that the estimated aggregate value of Transfers to individual fishers is zero. A %TIF cannot be higher than 100%, at which level all receipts come from policy measures, with no returns from the market.

#### **Box 6.2. Use of %TIF in evaluating annual changes in support for the OECD area as a whole**

The TIF, the total monetary value for the estimated policy transfers to fishers, is expressed in the local currency of each country. It must be converted into a common currency to allow aggregation into the total for the OECD area as a whole. Consequently, the year-on-year variation in the total level of transfers denominated in a single currency will result from both changes in the level of transfers measured in each national currency and exchange rate movements.

The most appropriate measure to compare changes in the level of support in the OECD as whole is the %TIF, which expresses the value of policy transfers as a share of gross revenue. The latter represent the market value of landings to which are added the value of transfers.

The %TIF solves the problem of exchange rate choice because the same exchange rates are used to convert both the denominator and the numerator into a single currency. Consequently, the %TIF is the same regardless of the currency.

As a relative measure, the %TIF also provides a sense of the importance of policy-induced transfers in the sector and is also appropriate for comparisons among OECD countries.

The %TIF is a relative indicator and its value also depends on changes in the value of landings. In this respect, a reduction in support may not always lead to a smaller %TIF if the fall in the value of landings is greater than the reduction in support. A fall in value (and volume) of landings may have various causes, and may also theoretically reflect policy developments.

3. Recall that gross receipts is the value of production, plus transfers provided to fishers.



The changes in the %TIF tend to be sensitive to the initial level of the indicator, i.e. at high levels of %TIF a given reduction in the absolute level of support will lead to a smaller change in the %TIF, compared to when the initial level of the %TIF is low.

### **6.1.2. *Showing changes in support over time***

73. Two methods can be used to show changes in both the level and composition of support over time. The first method is to simply show an annual series of indicators over an extended time period. Viewing developments over the long term allows both general trends and year-to-year fluctuations to be observed.

74. The second method involves comparing three-year averages and the selection of an appropriate base period from which to reference changes. A three-year average reduces some of the year-to-year variability in support levels that arise due to fluctuations in prices, exchange rates, etc.

## **6.2. *Interpreting the composition of support***

- The composition of support can be shown in terms of FSE categories and sub-categories and labels, which focus on the implementation criteria of the policies.
- The composition of support to general services (GSSE) can be shown in terms of broad policy areas.

### **6.2.1. *Composition of producer support –categories***

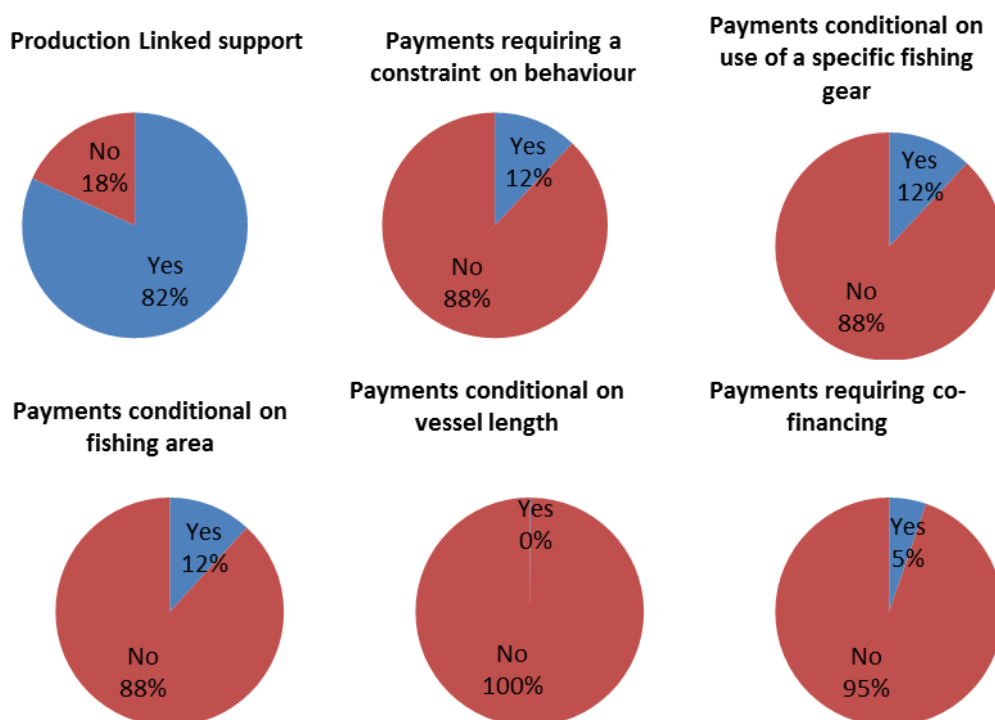
75. The composition of support is reflected in the FSE by the share of support that falls into each of the categories or sub-categories. Category values can be expressed as shares of the FSE, with the sum of the category shares equalling 100%. Alternatively, they can be expressed as shares of revenue, summing to the %TIF. This latter approach has the advantage of showing both the level and composition of support together.

### **6.2.2. *Composition of producer support – labels***

76. When policies are classified in the various categories, they may also be labelled according to certain characteristics relating to other conditions. Labels can be used to produce different aggregations of payments, emphasising a specific implementation criteria used in the policies applied, in addition to those reflected by the FSE categories:

77. The composition of support classified by labels can again be presented in either graphical or tabular form. However, using labels to create tables or figures requires attention to the scope of the data shown with respect to the FSE. Labels create subsets of either the FSE itself or its categories, and when used in combination, create subsets of subsets. For example, a table showing the share of support with vessel size limits for the FSE as a whole, and another table showing the share of support requiring production can be visually similar, even though they would contain very different numbers with a different interpretation (Figure 6.1)

Figure 6.1. Graphical representation of labels



### 6.2.3 Composition of support to general services

78. The policies that are combined to calculate the GSSE are grouped into categories of expenditure. The breakdown is made on the basis of specific activity or type of service, rather than implementation criteria. Table 6.1 illustrates how the composition of support to general services can be shown for a country.

Table 6.1 Composition of GSSE by category (example)

GSSE Category	2007-09 average		2014	
	LC Million	Share of GSSE	LC Million	Share of GSSE
Payment for access to other countries' waters	0	0%	0	0%
Provision of infrastructure	200	20%	300	23%
Marketing and promotion	100	10%	100	8%
Transfers supporting fishing communities	50	5%	0	0%
Education and training	50	5%	100	8%
Research and development	200	20%	200	15%
Management of resources	400	40%	600	46%
Other	0	0%	0	0%
<b>Total GSSE</b>	<b>1000</b>	<b>100%</b>	<b>1300</b>	<b>100%</b>

79. The example reflects the relative importance of the various GSSE categories and how they can change over time.

### 6.3. Some potential misunderstandings of the indicators

80. One potential misunderstanding is *that the FSE shows additional income for fishers*. It may be tempting to conclude that incomes increase by the amount of support provided, e.g. that a FSE of USD 100 billion means that income is higher by that amount due to support policies. Yet, this is not the case. The relation between transfers and income can be complex, and is likely to vary over time. Some of the value of transfers may be lost due to transfer inefficiencies related to market distortions caused by the support policies. For example, support to vessel modernisation may drive up the price of components or gear, or decommissioning schemes may change the value of used vessels.

81. It is also important to understand clearly that *the FSE should not be considered as an indicator of policy-induced changes in effort or harvest*. The FSE is an aggregate measure of transfers resulting from a wide variety of policies, all of which may have different effects. For example, a payment for early retirement of fishers is likely to have much less effect on harvest than a support for vessel construction of the same amount. Without taking a close look at the composition of support from different types of policies, it is impossible to say anything about the implication of support on effort. It is perfectly possible that a country with a constant level of support over time has changed its policy composition in a way that significantly reduces the undesired impacts resulting from that support. Moreover, the stringency and effectiveness of management systems in controlling harvest will be much more important. In the limit case of perfect management control, no form of support can increase harvest (though some may reduce it).

82. Bearing in mind that any changes in support lead to economic adjustments is important in order to avoid another *mistake*, i.e. *to suggest that aggregate revenue would decline by the amount of total support if all policies were removed*. The FSE captures support to fishers in current world market conditions, and fishers make decisions based on the level of support. These conditions and decisions would change if support changed, mitigating the impact of a reduction in support.

83. The FSE data does *not* inform on the *impacts* of policy measures. The analysis of policy impacts involves moving beyond the data to policy simulation modelling, which can give an indication of the effects of changes in the level of support on harvest, stocks, fleets and more.

84. One *misinterpretation* of this kind is *to consider that a change in the FSE necessarily implies change in policy settings*. Fuel tax concessions can depend on the amount of fuel consumed, while employment insurance for crew can depend on market and fish stock conditions. Variation in the measured level of support is nevertheless an appropriate reflection of the nature of policies. It indicates that these policies depend on conditions and are not simply fixed.

85. It would be *equally erroneous to conclude that an unchanging level of support necessarily implies no change in policies*. In fact, the policy settings may change, but the overall amount of policy transfers to fishers may not. For example, in order to pursue new objectives, e.g. marine ecosystem protection, government may introduce new support schemes (perhaps associated with new regulations). However, this increase may well be offset by a reduction support elsewhere, such that the total remains unchanged. This should be kept in mind in particular when evaluating a country's progress in policy reform over time. *The total amount of support alone is not sufficient to indicate progress (or lack of it) in policy reform*.

86. In conclusion, attention to the underlying concepts and to the overall policy context is essential in interpreting the FSE. As has been shown in this Chapter, all dimensions of the FSE — its level, its composition in terms of support categories, and the factors driving annual and long-term changes — should be considered when evaluating developments.

## ANNEX: SOME CALCULATED INDICATORS

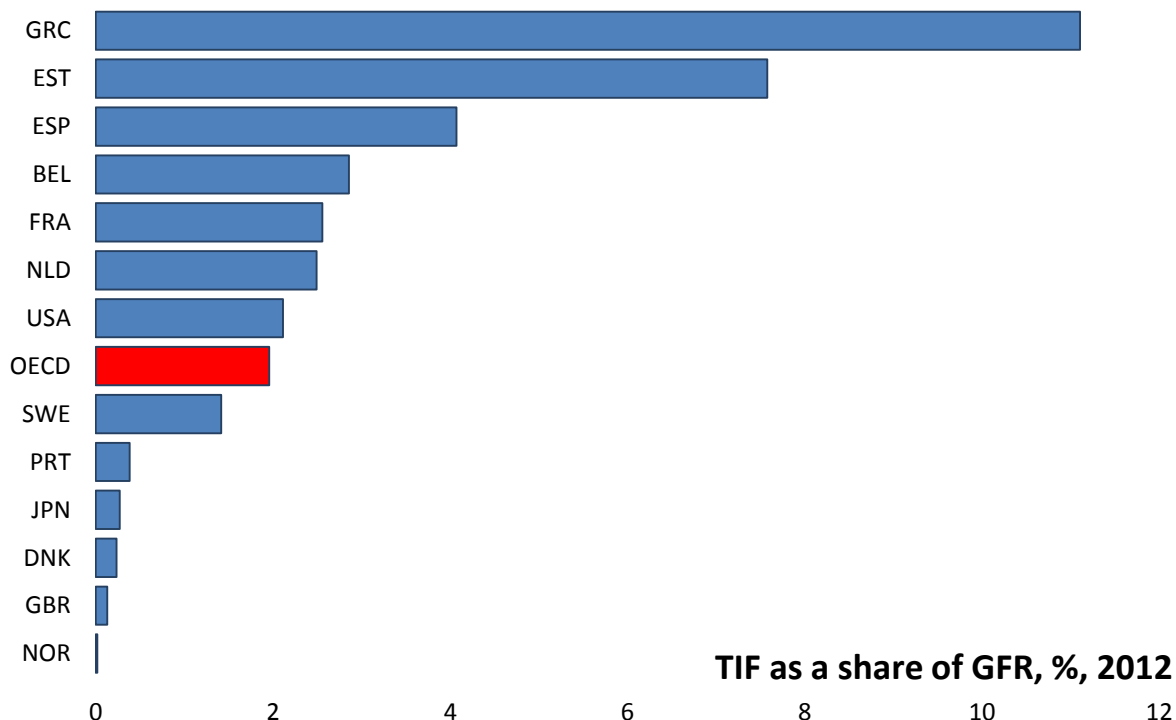
87. The following is a set of indicators with definitions, potential use, and current calculation using the preliminary data available. The results show that the indicators provide a wide perspective on support and that the structure of the sector and approach taken to support varies considerably across countries. It also points out the importance of addressing missing values in the data to ensure a full and accurate reporting as in many cases the results look a bit odd (such as when 100% of total support (FSE) is transfers to individual fishers (TIF)).

**TIF as a share of GFR (%TIF)**

$$\text{Formula: } X\_TIF\_GFR = \frac{TIF}{VL + TIF} \times 100$$

*Description:* The value of *Transfers to Individual Fishers* (TIF) divided by the value of *Gross Fishing Receipts* (GFR). *Gross Fishing Receipts* (GFR) is calculated as *Value of Total Landing* (VL) + *Transfers to Individual Fishers* (TIF).

*Purpose:* It shows the share of gross receipts from fishing represented by the support provided to individual fishers, *i.e.* how much fishing revenues are supported by the government.

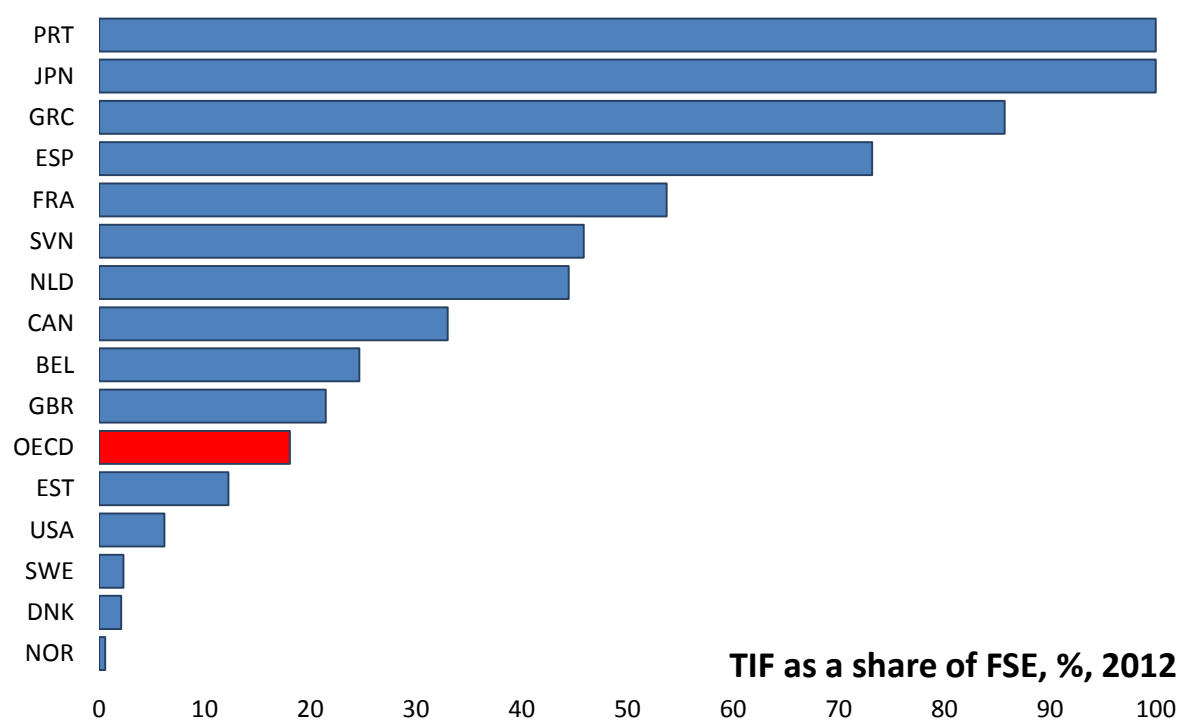


**TIF as a share of FSE (X\_TIF\_FSE)**

$$\text{Formula: } X\_TIF\_FSE = \frac{TIF}{FSE} \times 100$$

*Description:* The percentage of total support (FSE) provided to individual fishers (TIF).

*Purpose:* It provides a measure of the share of total government transfers addressed to individual fishers. High values are in some cases due to under-reporting of GSSE policies.

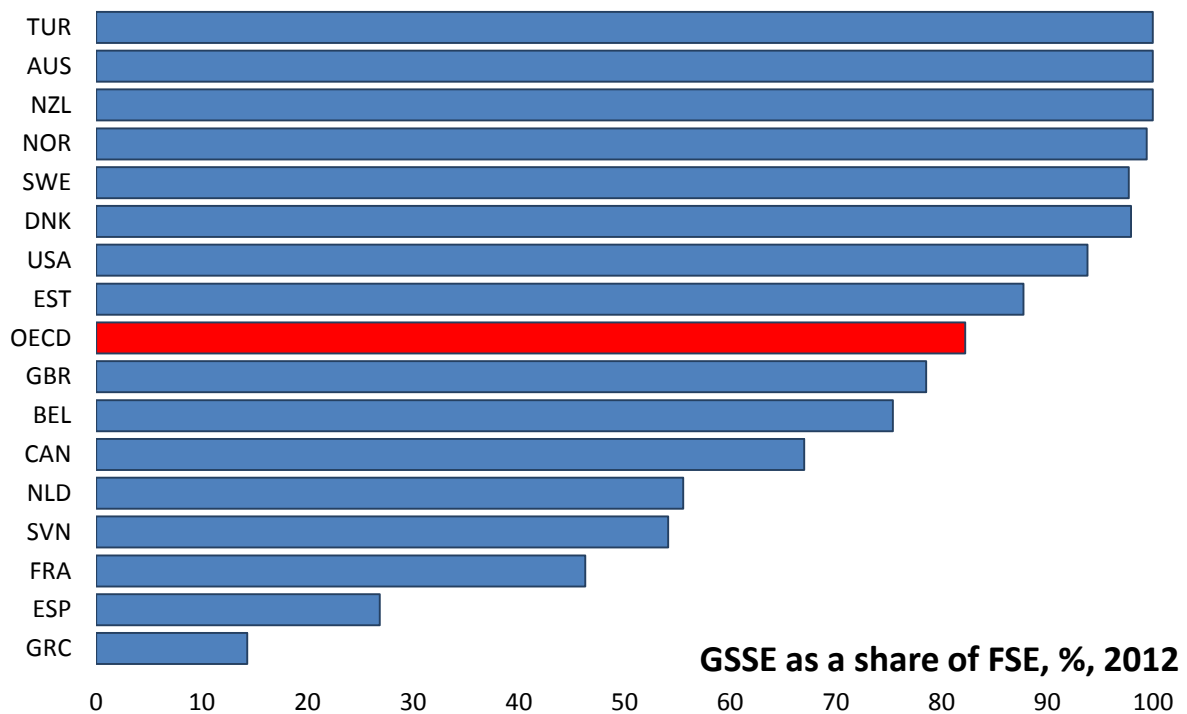


**GSSE as a share of FSE (X\_GSSE\_FSE)**

$$\text{Formula: } X\_GSSE\_FSE = \frac{GSSE - CR}{FSE} \times 100$$

*Description:* The percentage of total support (FSE) providing services to fisheries generally (GSSE), and including policies for which fishers are the main beneficiaries. GSSE is calculated Net, *i.e.* excluding the part of the cost covered by fishers (CR).

*Purpose:* It provides a measure of the share of support addressed to the whole sector such as management, monitoring control and surveillance.

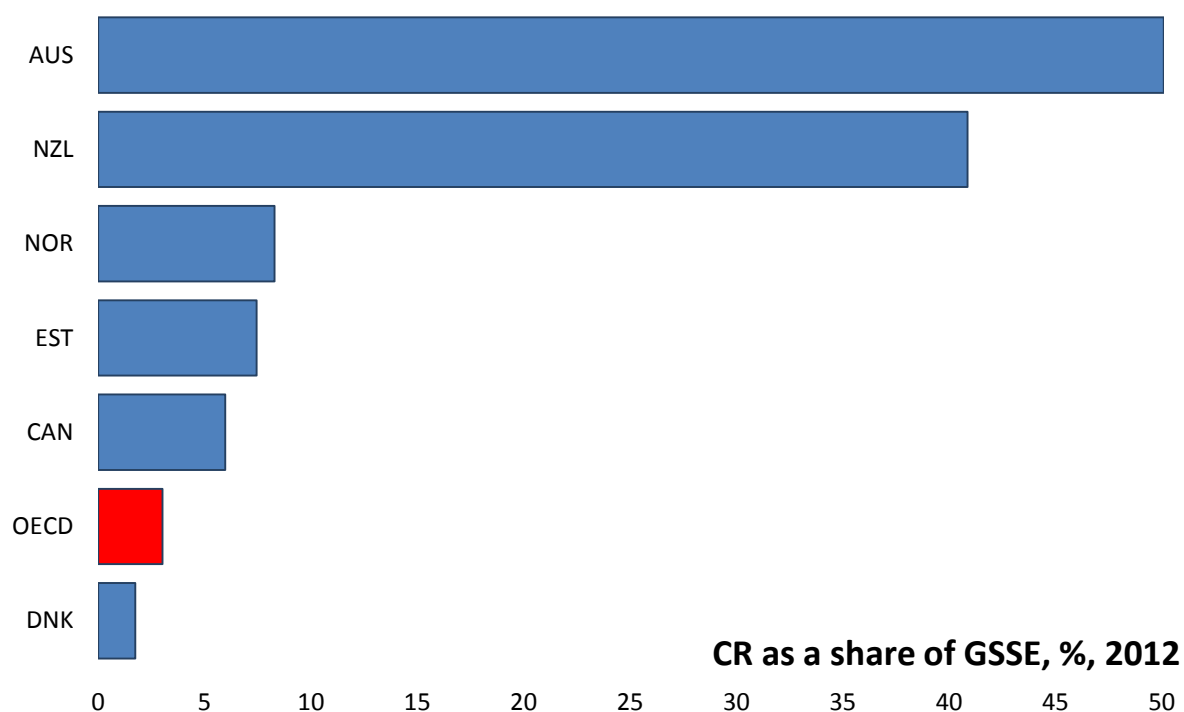


### Cost recovery as a share of GSSE (X\_CR\_GSSE)

$$\text{Formula: } X\_CR\_GSSE = \frac{CR}{GSSE} \times 100$$

*Description:* The value of cost covered or funded by fishers (CR) divided by the value government expenditure for providing general services (GSSE).

*Purpose:* This percentage will measure how much of the government expenditure for providing general services is covered or funded by fishers. It can help indicate the extent to which the sector pays for the shared costs of its operation.

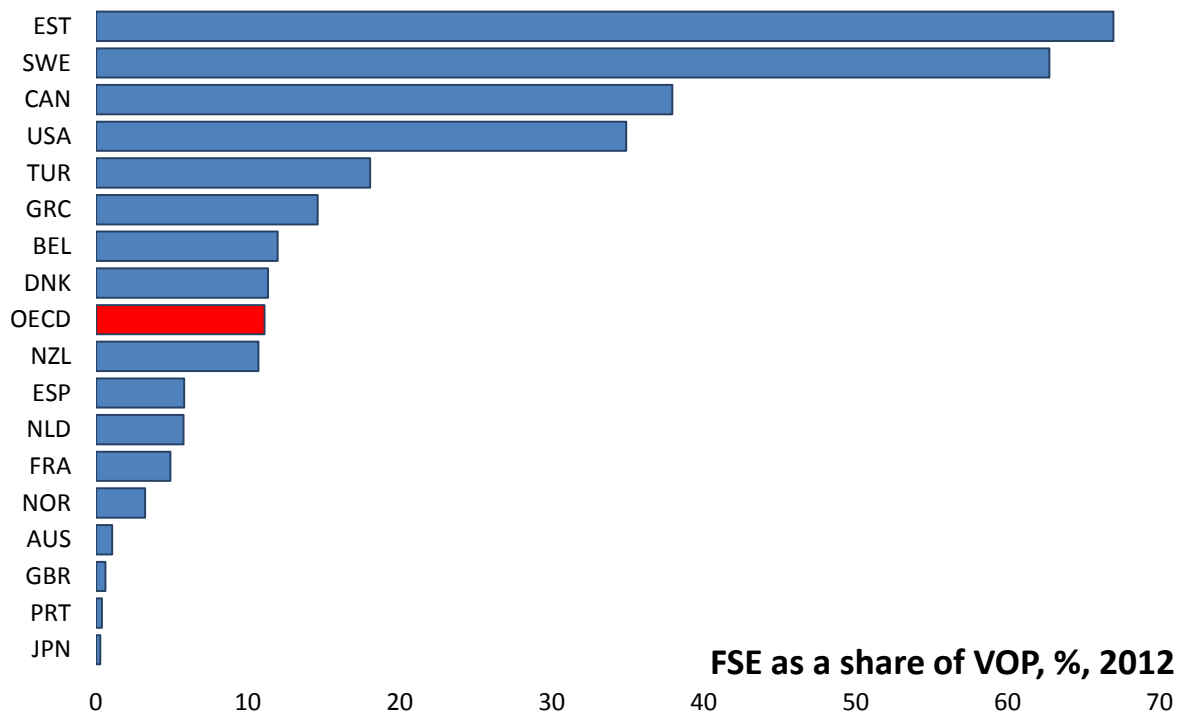


**FSE as a share of VOP (X\_FSE\_VOP)**

$$\text{Formula: } X\_FSE\_VOP = \frac{FSE}{VL} \times 100$$

*Description:* The annual monetary value of transfers to individual fishers or collectively (FSE) as a percentage of the fisheries *Value of Total Landing* (TL).

*Purpose:* It measures the scale of policy effort relative to the size of the sector. Smaller countries will have higher values when there is a fixed or minimum cost component of fisheries management.





**Support to fishing costs as a share of TIF (X\_FC\_TIF)**

$$\text{Formula: } X\_FC\_TIF = \frac{\sum FC_i}{TIF} \times 100$$

*Description:* The value of all the individual policies categorised under *Transfers based on variable input use* (FC) divided by the value of *Transfers to Individual Fishers* (TIF).

*Purpose:* Support to fishing costs is most closely linked to the potential to increase fishing effort. Understanding the share of support directed to fishers that is of this type is an important indicator of the potential impact of support.

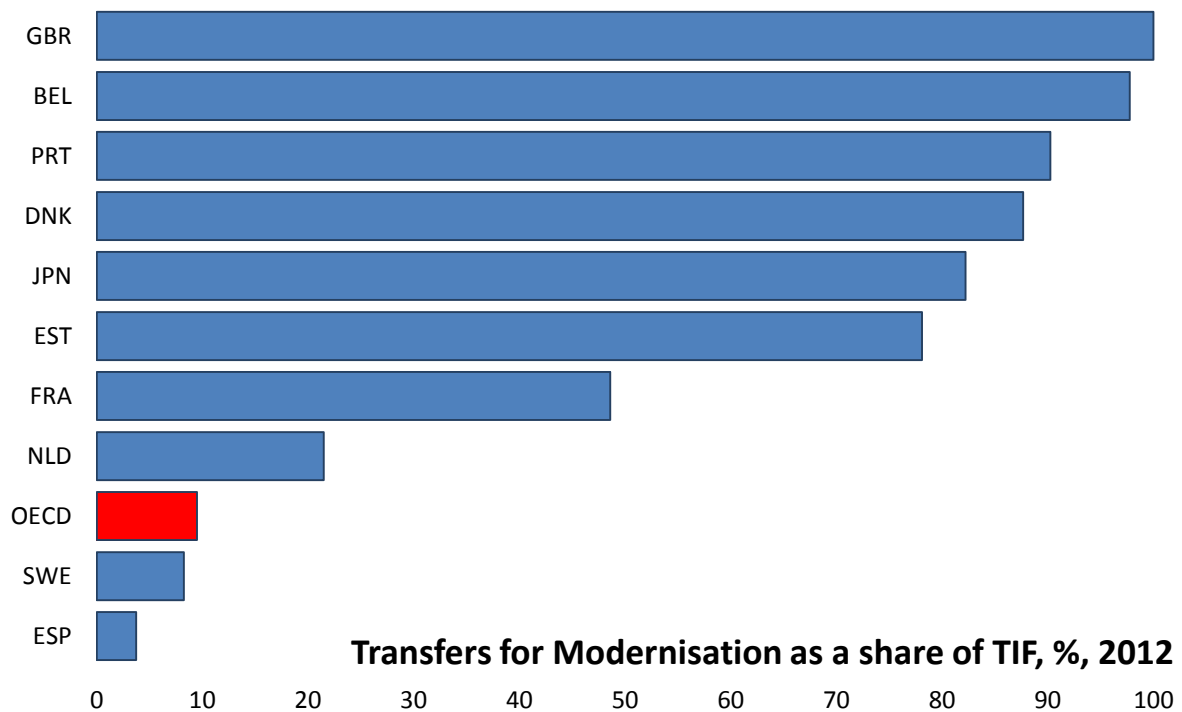
*No chart is available as numbers provided for Transfers based on variable input use - IFINP\_VAR (FC) drops to zero once FTCs are excluded.*

### Transfers for Modernisation as a share of TIF (X\_MOD\_TIF)

$$\text{Formula: } X\_MOD\_TIF = \frac{MOD}{TIF} \times 100$$

*Description:* The value of all the individual policies categorised under *Support to Modernisation* (MOD) as a percentage of the value of *Transfers to Individual Fishers* (TIF).

*Purpose:* Modernisation means improvements of *inter alia*, safety on board, working conditions, hygiene, product quality, energy efficiency and selectivity. This indicator shows the share of transfers to individual fishers that supports modernisation.

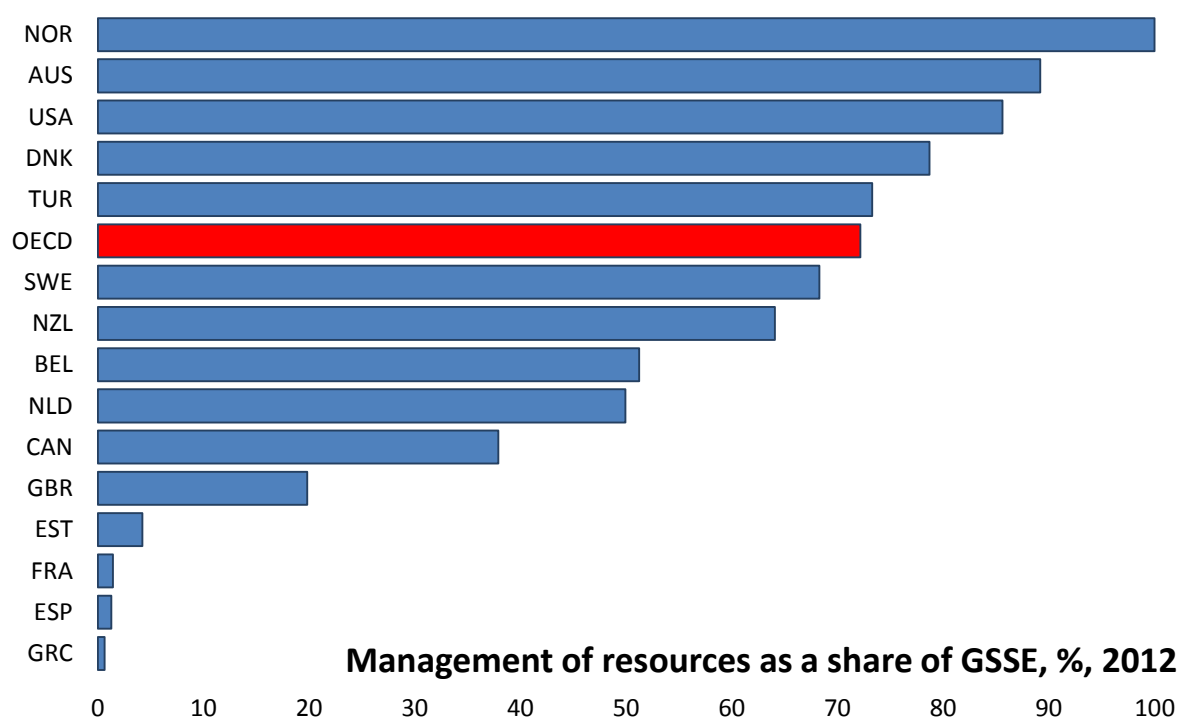


### Management of resources as a share of GSSE (X\_RES\_GSSE)

$$\text{Formula: } X\_RES\_GSSE = \frac{RES}{GSSE} \times 100$$

*Description:* The value of government expenditures for resources' management, *i.e.* all policies categorised under *Management of resources* (RES) divided by the value of government expenditure for providing general services (GSSE).

*Purpose:* It shows the share of the whole sector support oriented in achieving environmentally sustainable fisheries.

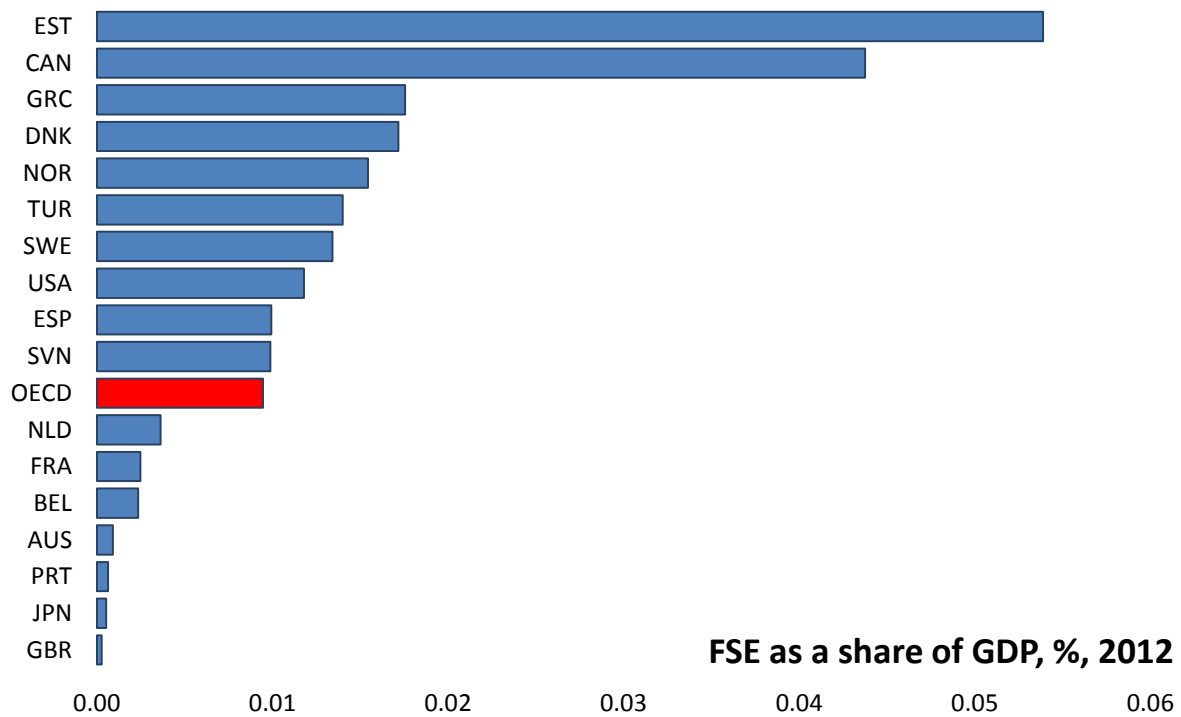


**FSE as a share of GDP (X\_FSE\_GDP)**

$$\text{Formula: } X\_FSE\_GDP = \frac{FSE}{GDP} \times 100$$

*Description:* The annual monetary value of transfers to individual fishers or collectively (FSE) scaled using GDP.

*Purpose:* It allows cross country comparisons of total support. Numbers may be too small to be useful.

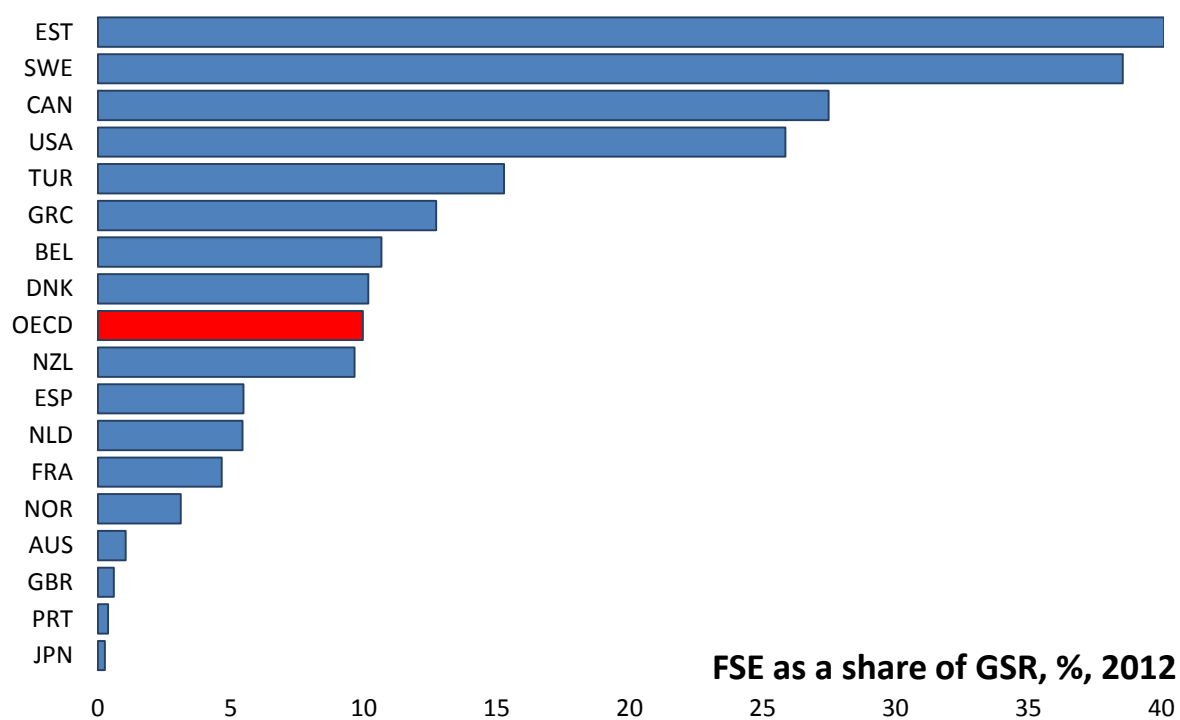


### FSE as a share of GSR (X\_FSE\_GSR)

$$\text{Formula: } X\_FSE\_GSR = \frac{FSE}{VL + FSE} \times 100$$

*Description:* The annual monetary value of transfers to individual fishers or collectively (FSE) scaled using the total gross revenues of the sector including all forms of support. Total *Gross Sector Revenue* (GSR) is calculated as *Value of Total Landing* (VL) + *Fisheries Support Estimates* (FSE).

*Purpose:* It shows total support as a share of the gross revenue of the sector (including all form of support being defined as revenue)

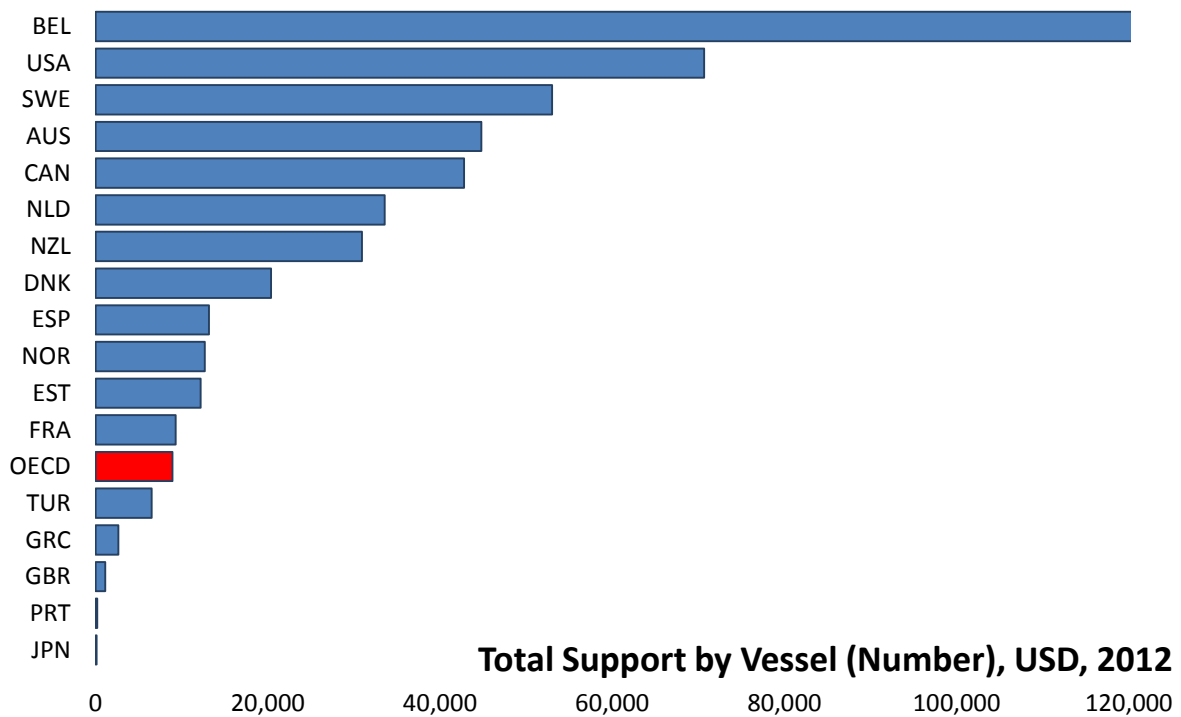


### Total Support by Vessel (SPV)

$$\text{Formula: } SPV = \frac{FSE}{Vessels}$$

*Description:* The annual monetary value of transfers to individual fishers or collectively (FSE) scaled using total number of vessels (*Vessels*).

*Purpose:* It provides a measure of the intensity of support per fishing vessel. This will be strongly conditioned by fleet characteristics and so is best when combined with other indicators.



### Total Support by Gross Tonnage (SGT)

$$\text{Formula: } SGT = \frac{FSE}{GT}$$

*Description:* The annual monetary value of transfers to individual fishers or collectively (FSE) scaled using gross tonnage of vessels (GT).

*Purpose:* It provides an alternative measure of the intensity of support. This will be strongly conditioned by fleet characteristics and so is best when combined with other indicators.

