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Transparency in fisheries subsidies: Notification-driven analytics of country performance and disclosure requirements

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Abstract

The availability of fisheries subsidies data has been a challenge since the beginning of WTO negotiations, with government disclosure being historically low. No multilateral agency is currently mandated to systematically collect, assemble and disseminate fisheries subsidies data and the knowledge base remains weak. While anecdotal evidence is abundant, subsidy notifications have not been systematically explored as a source of policy intelligence. By proposing a novel approach to extract and analyze information from WTO notifications, this paper aims to fill this gap and shed new light upon the ultimate determinants of government transparency. By screening texts of notifications by China and the United States under the Agreement on Subsidies and Countervailing Measures (SCM) (1995-2016), this paper identifies a unique set of 61 fisheries and aquaculture policies. For each, budget allocations or expenditures are extracted, and qualitative policy information categorized. This is then used to measure the degree of compliance with notification requirements (Art 25.3 SCM Agreement). This paper argues that, while government transparency plays a role in determining the level and quality of notified information, intrinsic characteristics of the notification framework may also work as bottlenecks to sound reporting. A comprehensive effort that simultaneously involves the content, institutional and technological dimensions is needed in order to modernize the WTO notification framework in a way that creates new and better incentives for disclosure.

Key words: Fisheries subsidies, notifications, transparency, data, text analysis



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1. Transparency in fisheries subsidies

1.1 Introduction

Fisheries subsidies have a unique mix of economic, environmental and social implications which makes them a particularly complex policy issue.¹ While being multi-faceted, the problem has been historically treated as a trade policy matter. Within the multilateral trading system, the narrative has been shaped around the concept of harmful fisheries subsidies that practitioners tend to identify with those that enhance fishing capacity and activity, as well as encouraging illegal, unreported and unregulated (IUU) fishing.² A major driver behind this policy pathway was undoubtedly the state and outlook of global fisheries, as resources have been increasingly put under pressure in the past decades and are still being depleted at a rapid rate. The Food and Agriculture Organization of the United Nations (FAO) estimates that stocks fished at biologically unsustainable rates globally have increased from 10% in 1974 to 33% in 2015, with a peak of over 60% in the Mediterranean and Black Sea (FAO, 2018).

As part of renewed efforts to preserve life below water, the international community has called for concerted and collective action on reaching an agreement that phase out harmful fisheries subsidies. While the issue has been central to WTO negotiations since the Doha round (2001), significant disagreement remains on how to enforce the prohibition and a binding agreement has not been reached yet (UNCTAD, FAO and UNEP, 2018). However, the issue has received increased attention since 2015 with the launch of the Sustainable Development Goals (SDGs).³ Despite uncertainty, policy momentum has accelerated, and negotiations have received new impetus. As of November 2018, a consolidated draft negotiating text has been put forward by negotiators, with alternative approaches to prohibition proposed by large fishing nations.⁴ Fugazza and Ok (2019), among others, argue that in order to reach a positive outcome, other policy tools such as non-tariff measures (NTMs), should be central to reform.

Despite growing momentum, the availability of information on the type, amount and beneficiaries of subsidies remains a major challenge. Not only is the availability of official data crucial to inform policymaking but would also enable effective monitoring once an agreement is reached. Yet, no multilateral agency is currently mandated to systematically collect, assemble and disseminate fisheries subsidies data. Fisheries subsidies also lack a well-established statistical framework, including a universally accepted classification and global standards for reporting. Surprisingly, subsidy notifications to the WTO – the only global and direct channel of disclosure – have not been systematically explored as a source of evidence. As presumptions of limited transparency permeate debate in policy circles, the quest for better evidence remains ever more open.

The overall objective of this paper is to explore the viability of WTO notifications as a source of subsidy information. By extracting and analyzing data and information from WTO notifications, this research provides new insight into government transparency, e.g. the degree of compliance with notification obligations, and assess the effectiveness of notification mechanisms, rules and obligations under the WTO Agreement on Subsidies and Countervailing Measures (SCM). The analysis is performed on a unique set of 61 fisheries and

¹ Fisheries have some specific characteristics that makes the effects of policy support peculiar. Some are related to intrinsic features of the industry and include the highly-depletable nature of commodities, the geography of global fishing activities and the plethora of beneficiaries (e.g. operational vs. non-operational, large vs. small scale). Other factors such as the variety of subsidized goods or services (final products, instrumental goods and knowledge assets), the complexity of governance - involving complementary actors (national, regional, multilateral) and rules (territorial waters, exclusive economic zones, high seas) are institutional or policy-related.

² Popular policy instruments in fisheries include, but are not limited to, boat construction and modernization programmes, fuel tax concessions and the construction or renovation of port infrastructure.

³ Specific reference to fisheries subsidies is made in Sustainable Development Goal 14, target 6, which sets a deadline to “prohibit, by 2020, certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to IUU fishing, and refrain from introducing new such subsidies...”.

⁴ For a detailed review and discussion of recent developments in negotiations, see Vivas Eugui and Bellmann (2019).

aquaculture policies, identified by screening notification texts by China and the United States from inception until the last notification cycle (2017). For each, subsidy amounts, i.e. budget allocations or expenditures in domestic currency, were extracted and qualitative policy information categorized. This resulted in the compilation of a first-of-its-kind database, including time series of subsidy amounts.

The rest of section 1 provides theoretical background and reviews the most authoritative literature on the topic. Section 2 describes the methodology underpinning this work, with a focus on data collection. Section 3 presents the methods and results of the analysis. In particular, compliance of notification content with SCM requirements is assessed against equally weighted criteria, developing binary indicators of country performance (sub-section 3.1). The values of subsidies notified to the WTO and the OECD are compared and contrasted, with a view to detect trends in policy disclosure (sub-section 3.2). An in-depth assessment of the WTO notification framework is also provided in an effort to identify content-related, technological and institutional shortcomings, i.e. bottlenecks to better reporting (sub-section 3.2). Section 4 summarizes research findings and develop accordingly some policy recommendations.

1.2 The importance of transparency

The availability of fisheries subsidies data and information has been a challenge since the beginning of WTO negotiations, with no official statistics being collected to date. Government transparency and the lack of incentives for better reporting remain major challenges in this domain (Appleton, 2017; South Centre, 2017; Tipping, 2015; Moltke, 2011). Contrary to other popular policy topics, such as merchandise trade, no official reporting framework - including a universally-accepted classification, reporting mechanism and guidelines - has been adopted.⁵ Unilateral efforts by policy institutions and academics have proliferated in recent years, with some having become reference points in the field (Table 1). Yet, no multilateral agency is currently mandated to systematically collect, assemble and disseminate fisheries subsidies data, and the evidence base remains weak. A large number of estimates has been produced, placing global fisheries subsidies in the range of US\$10 billion to US\$35 billion (Arthur et al., 2019; OECD, 2017a; European Parliament, 2013; Milazzo 1998).

Table 1. Global databases and classifications of fisheries subsidies

Type	Source	Name	Key features
1. Direct notification	Organisation for Economic Co-operation and Development (OECD)	Fisheries Support Estimate (FSE)	<ul style="list-style-type: none"> • Questionnaire notifications; • Proprietary classification (budgetary vs. non-budgetary measures); • 40+ OECD members and observers; • Yearly releases; • OECD.Stat (open access).
2. Global estimate	University of British Columbia – Fisheries Economics Research Unit	Self-titled	<ul style="list-style-type: none"> • Estimate, based on best-available sources (official and non-official); • Proprietary classification (beneficial, harmful, ambiguous subsidies); • 152 countries; • Subsequent updates (last: 2016); • Disseminated via the Sea Around Us project (country and territory profiles only).

⁵ Subsidies are currently covered by UNCTAD Classification on Non-Tariff Measures (NTMs), chapter L, as developed by a Multi-Agency Support Team (MAST) of experts from 8 multilateral organizations (UNCTAD, 2015). A revision of the classification is currently ongoing and aims to include in Chapter L a detailed breakdown of subsidy administrative forms. No chapter, or nomenclature within it, is specific to fisheries subsidies.

Source: Author.

Note: For more information, see: 1. OECD (2015, 2017b); 2. Khan et al. (2006), Sumaila et. al (2010, 2016). Data access: 1. OECD.Stat: <https://stats.oecd.org/> and 2. Restricted access, country and territory profiles published via the Sea Around Us project: <http://www.seararoundus.org/>

In this context, government transparency becomes even more important in that it determines, to a large extent, the availability of official information that informs multilateral negotiations. Crucial information include the type, amount (unit vs. total), objective, duration and beneficiaries (small vs. large-scale fishermen) of policy support. In this view, institutional transparency matters for at least three reasons. Better government disclosures would enable policy practitioners to more objectively and effectively: a) assess the magnitude and impact of fisheries subsidies nationally and globally; b) advance (real) evidence-based policy making and c) monitor the implementation of prohibition or regulation once an agreement is reached. Relying as much as possible on official information would also reduce the costs associated with consensus-building.

1.3 Notifications as a source of evidence

To date, the subsidies notification mechanism under the SCM Agreement of the WTO is the only global channel of direct disclosure. By ratifying the agreement, members commit to notify the Chair of the Negotiating Group on Rules on specific subsidies granted or maintained within their territories on a biannual basis (Art. 25.1) (WTO, 1995).⁶ Although not specifically meant for fisheries subsidies, this is, at least theoretically, an important source of information as it directly and regularly captures a large universe of subsidy providers (164 WTO members) within a multilateral trade agreement. However, governmental disclosures are at a historic low and most countries have failed to meet their notification obligations. According to the WTO, 78 out of 164 members (48%) did not notify any subsidies in the last notification cycle (June 2017). The share has almost doubled since 1995, when the share of non-complying members stood at 25%. (WTO, 2019a).

Notifications have not been systematically explored as a source of policy intelligence. While the Secretariat regularly tracks member compliance with notification obligations, it does not use notification content to compile economic statistics; nor does it consolidate and publish notified information in machine-readable formats. Scientific work has been sporadic and purely focused on quantitative information. The World Wildlife Fund has discussed the issue of government transparency by providing an in-depth statistical review of officially reported amounts (WWF, 2001). Later on, the WTO published some figures of notified subsidies - perhaps not fisheries specific - and a technical note on the compilation of data from notifications (WTO, 2006). In academia, Khan et al. (2006) and Sumaila et al. (2010, 2016) have repeatedly listed WTO notifications among the data sources underlying their global estimates but did not publish results as a standalone effort. No contribution has ever assessed, or even acknowledged, the value of qualitative information.

2. Notification-driven analytics: A novel approach

2.1 Objective

By proposing a novel approach to extract and analyze information from WTO notifications, this paper aims to shed light on fisheries subsidies in the multilateral trading system, particularly the determinants of government transparency. It aims to provide policymakers and negotiators with new tools in the interpretation of complex issues that are heading the negotiations agenda. These include, for instance, how to redefine disclosure requirements in a way that makes notification less burdensome but also more informative. In doing so, this research contributes to three main objectives:

⁶ A subsidy is deemed to be specific - and subject to SCMA discipline - if it has been specifically provided to an enterprise or industry or group of enterprises or industries. The basic principle is that a subsidy that distorts the allocation of resources within an economy should be subject to discipline. Where a subsidy is widely available within an economy, such a distortion in the allocation of resources is presumed not to occur.

- a) Enrich the evidence base of transparency in fisheries subsidies with new country insights (underpinned by a novel methodology).
- b) Identify bottlenecks to transparency by assessing the notification framework of the SCM Agreement.
- c) Inspire analysts and researchers to undertake similar efforts, paving the way for future data collection and economic research.

2.2 Methodology

While taking a relatively long time-frame, the analysis is limited to the “New and Full Notifications” of China and the United States - the two largest providers of fisheries support according to the Organisation for Economic Co-operation and Development (OECD) Fisheries Support Estimate (FSE).⁷ It was deemed a small but relevant sample for the purpose of a test. The process spans from the collection of original data to the analysis of numerical, categorical and text-codified information. While the former two are, with few exceptions, attached to WTO notifications, the latter results from analytical effort.

The underlying methodology can be summarized as follows:

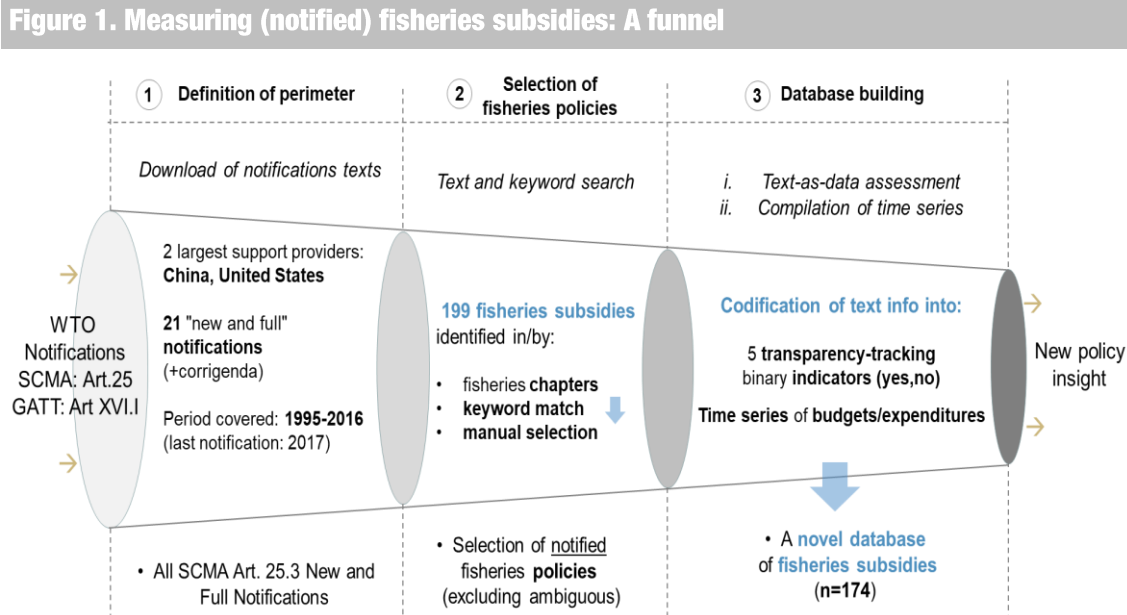
- i. **Collect data and policy-relevant information from notification texts**, according to the content of notification requirements and the Questionnaire Format for Subsidy Notifications of the SCM Agreement (WTO, 1995 and 2003).
- ii. **Categorize qualitative subsidy information** (type, beneficiaries, objective, duration etc.) and **build coherent time series of subsidy amounts** (annual expenditures/budget allocations in domestic currency).
- iii. **Extract policy-relevant insight by:**
 - a. **Tracking country transparency in policy disclosures:**
 - Assess the level and quality of notified information against objective criteria and develop, accordingly, binary indicators of country performance (e.g. compliance with SCM notification requirements).
 - Calculate descriptive statistics with a view to ascertain levels of transparency across: i. countries and ii. different policy instruments within the same country (section 3.1).
 - Compare and contrast values of subsidies notified to the WTO and OECD (section 3.2).
 - b. **Assess the effectiveness of the SCM notification framework**, with a focus on its content of notification requirements (Art 25.3):
 - Identify content-related, institutional and technological shortcomings, e.g. possible bottlenecks to government transparency (section 3.3).
 - Propose actionable policy solutions to inform future rounds of negotiations (section 4).

Given the pilot nature of this research and the limited size of the sample, this piece does not aim to draw definitive conclusions on the subject; but to rather present and disseminate, by means of new evidence, a new approach to the analysis of fisheries subsidies. It does so by taking a purely descriptive approach, with the hope of becoming the starting point of a more comprehensive analytical effort.

⁷ According to the latest release of the OECD FSE database, in 2016 the United States and China accounted for roughly 60% of support provided to fisheries sectors globally.

2.3 Data collection

The process of data collection involves three steps (Figure 1):



Source: Author

- i. **Definition of perimeter:** Texts of all "New and Full Notifications" submitted by China and the United States under art. 25 of the SCM Agreement and art. XVI.1 of the General Agreement on Tariffs and Trade (GATT), including *corrigenda*, were downloaded in pdf format. Submissions are from inception up to the last notification cycle (June 2017) and cover the period 1995-2016. While data collection is limited to two countries, the longest available time period was considered in order to increase the sample size and enable detection of trends in government reporting over time. Overall, detailed information of 1000+ notified policies was accessed.
- ii. **Selection of fisheries policies:** At this stage, fisheries-relevant policy instruments were identified. In some cases, the identification was straightforward as notifications contained specific fisheries chapters or sections that clearly pointed to meaningful policies. In most cases, however, manual selection via keyword search was necessary. In this way, policies matching search criteria (a small but relevant set of keywords) were marked as relevant.⁸ A comprehensive set of 199 policies covering marine fisheries and aquaculture was identified (United States of America=175; China=24).
- iii. **Database building.** For each of the 199 policies, policy-relevant information including duration, amount, beneficiaries, provider(s), objective and, when available, the indication of trade effects was extracted from notification texts. Even though disclosures are not always made in a standardized form, information was categorized as much as possible according to the notification requirements of SCM Art 25.3, considering also guidelines provided in the Questionnaire Format for Subsidy Notifications (WTO, 1995 and 2003). Ambiguous subsidies, i.e. sea-related policy instruments that were not explicitly linked to fisheries, were discarded.⁹ The original set was narrowed down to a *selection of 174 fisheries policies*, of which 61 unique entries.

⁸ Keywords set as matching criteria are words that clearly point to entities, concepts and principles underlying the functioning of global fisheries. These include fish, fishing, fisheries, aquaculture, vessels, landing, boat, fuel, capture, catch, port, sea.

⁹ See, for instance, tax concessions provided at United States ports for ships transit or access to/use of port infrastructure (loading etc.). In most cases, it was unclear from notified information whether fishing vessels or operators were beneficiaries of these support schemes.

3. Insight into country performance and disclosure requirements

The resulting database is used to conduct three types of descriptive analysis. By tracking country performance in disclosure and assessing the notification framework, the primary objective of the analysis is to provide new elements for the discussion of government transparency. Compliance of notification content with SCM requirements is assessed against equally-weighted criteria, developing binary indicators of country performance (sub-section 3.1). The values of subsidies notified to the WTO and the OECD are compared and contrasted, with a view to detect trends in policy disclosure (sub-section 3.2). An in-depth assessment of the WTO notification framework is also provided in an effort to identify *content-related*, *technological* and *institutional* shortcomings, i.e. bottlenecks to better reporting (sub-section 3.3).

3.1 Binary indicators of country performance

The notification process at the WTO is regulated by the SCM Agreement, which sets specific and detailed provisions regarding the time (art. 25.1), the type of subsidies (art 25.2) and the content of notifications (art. 25.3). With a view to assessing country performance in disclosures, collected information is used to measure the level of compliance of China and the United States with the five content of notification requirements of art. 25.3 (Box 1). This can be seen as a good proxy for, and measure of, government transparency.

Box 1. Art 25.3 of the SCM Agreement: Content of notifications

“The content of notifications should be sufficiently specific to enable other Members to evaluate the trade effects and to understand the operation of notified subsidy programmes. In this connection, and without prejudice to the contents and form of the questionnaire on subsidies, Members shall ensure that their notifications contain the following information:

- (I) form of a subsidy (i.e. grant, loan, tax concession, etc.);
- (II) subsidy per unit or, in cases where this is not possible, the total amount or the annual amount budgeted for that subsidy (indicating, if possible, the average subsidy per unit in the previous year);
- (III) policy objective and/or purpose of a subsidy;
- (IV) duration of a subsidy and/or any other time-limits attached to it;
- (V) statistical data permitting an assessment of the trade effects of a subsidy”.

Source: WTO (1995)

In order to minimize the subjectivity of judgement, equally-weighted criteria were defined for each requirement in Box 1. Criteria describe the type and minimum-sufficient level of information that is deemed necessary to consider a notification compliant (Table 1).¹⁰ According to these criteria, each of the 174 notified policies was classified as compliant or not compliant with requirements. For each defined criterion, “1” was assigned to policies providing a satisfactory level of information and “0” to policies failing to do so. This resulted in the compilation of six binary indicators (0,1), one for each criterion, which are used to calculate the percentage shares of notifications complying with criteria, and ultimately quantify country transparency.¹¹

¹⁰ Each notification requirement presented in Box 1 was associated to a single criterion, with the exception of requirement 2 (subsidy amount), for which two different criteria were set: subsidy amount per unit (criterion ii.) and subsidy amount total (criterion iii.).

¹¹ Consider, for the sake of clarity, the following example. Suppose that compliance with criterion i., “subsidy form”, is tested for 72 policies notified by country x. Each policy whose notification is judged to include satisfactory information based on criterion i. is assigned “1”; each which does not is assigned “0”. Suppose now that 23 policies score “1”, i.e. are deemed compliant with criterion i. The percentage share of notifications that are criterion-compliant, is, in this case, 32%: $(23/72) \times 100 = 31.94\%$. As per country x, shares of compliance with each criterion (6) are calculated for both China and the United States (figure 2).

Table 2. Assessment criteria linked to content of notifications requirements (Art. 25.3)

WTO SCMA Art. 25.3	Criteria (0,1)
i. Form	A clear indication of the underlying policy instrument, e.g. loan, grant, tax concession.
ii.a. Amount (unit)	A subsidy amount per unit of product <u>OR</u> corresponding percentage of product value <u>OR</u> all the information required to calculate/estimate the former.
ii.b. Amount (total)	A subsidy total amount, e.g. annual budgeted amount <u>OR</u> programme expenditure <u>OR</u> foregone government revenue of the policy instrument, <u>OR</u> all the information required to calculate/estimate the former.
iii. Objective/purpose	A description of the objective or purpose of the policy instrument, explicitly stating the benefit/effect it is aimed to provide <u>AND</u> the beneficiary product/sector/industry/community <u>OR</u> type of business/economic activity of the beneficiary.
iv. Duration	A clear indication of the policy duration, including the beginning date of the instrument.
v. Statistical data	Trade and/or production statistics, or other quantitative data permitting an assessment of the trade effects of the subsidy <u>OR</u> a statement of no discernible trade effects supported by technical knowledge, authoritative evidence <u>or</u> policy motives.

Source: Author's elaboration.

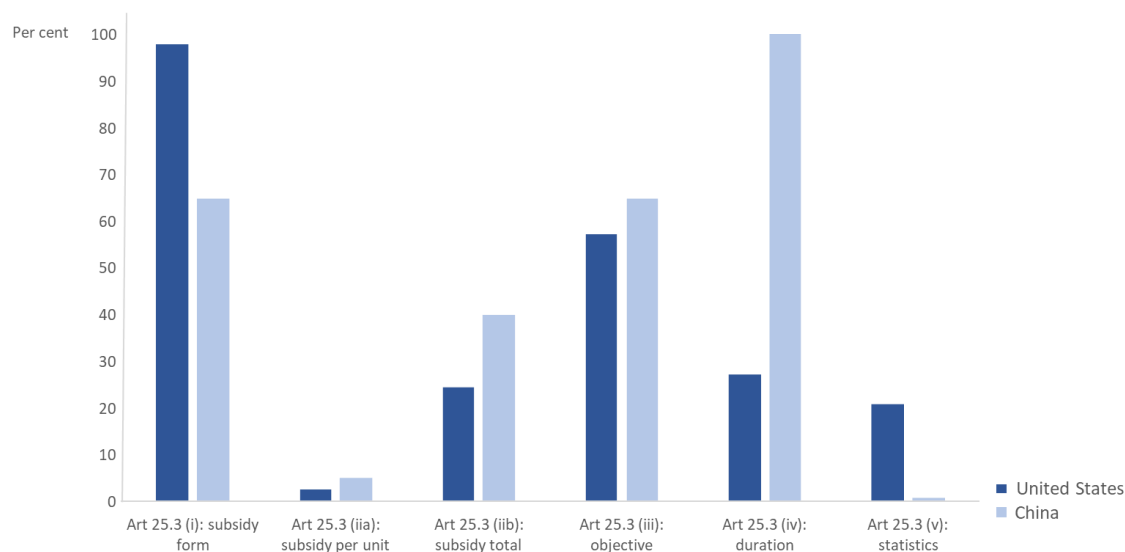
Accordingly, the six binary indicators are used to assess whether the amount and quality of notified information differ when i.) an homogeneous set of policies is notified by different countries ("**transparency between**") and ii.) different types of policies are notified by the same country ("**transparency within**").

Transparency "between": United States of America vs. China; all notified subsidies

China and the United States of America include different types of information in their notifications, with the level and quality of disclosures being SCM requirement-specific. In other words, each country provides better disclosure in specific policy areas, i.e. is better at fulfilling specific criteria. The number of policies matching criterion iii., "objective/purpose" is relatively similar (China: 65%, United States: 57%). The gap widens in the cases of criterion iv., "policy duration" and criterion i., "subsidy form" (Figure 2). In the former, China provides more accurate notifications according to the analysis, providing satisfactory information for all notified subsidies. By contrast, the United States does so in only a quarter of instances. Conversely, for "subsidy form", the disclosures of the United States fulfil criterion in 98% of cases, compared to 65% for China. China performs relatively better at notifying subsidy amounts. Compliance with criterion ii.a and ii.b, per unit and total amount, is higher for Chinese notifications, as they match criteria in 5% and 40% of cases respectively, as opposed to 3% and 25% for the United States.

While the analysis shows remarkable differences across criteria, average compliance by China and the United States is similar and relatively low. If the average share of compliance for all criteria is considered, less than half of notifications by both countries are criteria-compliant (China=46%; United States=38%).¹² This suggests a varying propensity among countries to disclose information in specific policy areas, which sums up to a similar, perhaps low level of notification quality. This may result from different priorities in the policy agenda, lack of information, or, more simply, under-reporting.

¹² The average share of compliance is the arithmetic mean of the 6 criterion shares. The analysis produces same results if conducted with weighted or unweighted averages.

Figure 2. China and the United States: notified subsidies matching criteria.

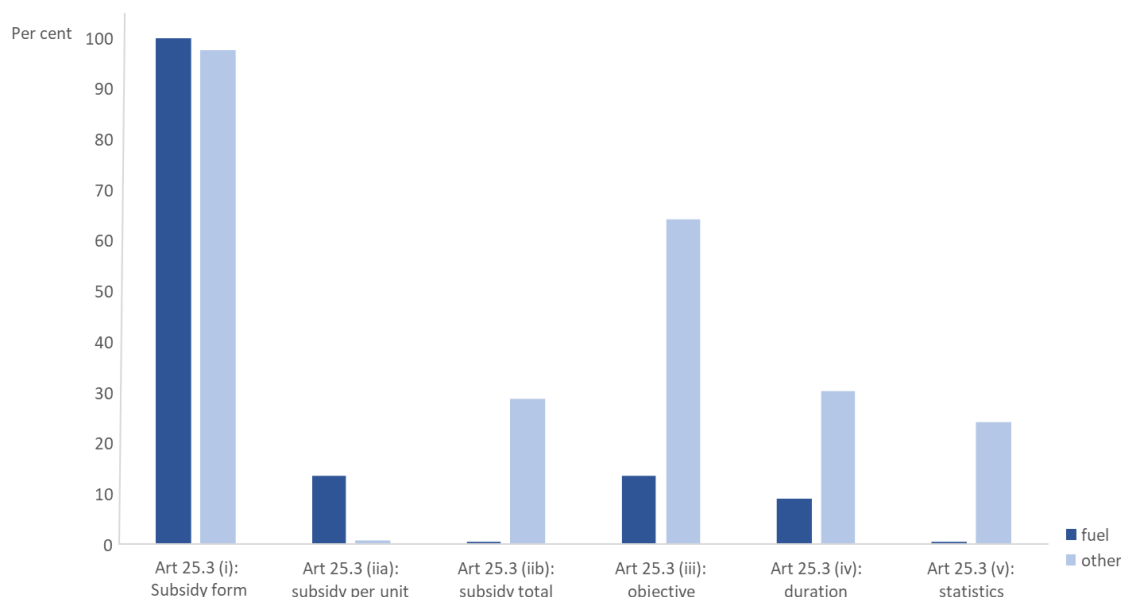
Source: Author's analysis on United States and China notifications to the WTO (Art. 25.3 of the SCM Agreement; inception-2017).

Transparency “within”: United States; fuel vs. other subsidies

The presumption of limited, or at least varying transparency is further investigated by comparing notifications of different policy instruments by the same country. Among several options, the comparison of fuel vs. other subsidies notified by the United States was deemed the most relevant.¹³ With the exception of criterion i., “subsidy form” and criterion iia., “per unit amount”, notifications of non-fuel policy instruments match criteria in a larger number of cases (Figure 3). Differences in compliance are significant. For instance, no (adequate) indication of budget allocations or expenditures is provided for any notified fuel subsidy (criterion ii.b), while some 30% of notifications of non-fuel policy instruments include such information. A similar pattern is observed for qualitative notification requirements (criterion iii. and iv.), where the share of fuel subsidy notifications that are criteria-compliant is, respectively, four and three times smaller than non-fuel policy instruments. Notifications of fuel subsidies match criterion iii. and iv. in 14% and 9% of cases respectively, as opposed to non-fuel policy instruments that do in 64% and 30% of instances.

A lower level of quality of fuel subsidy notifications is also pictured by a remarkable difference in the average shares of compliance for all criteria. On average, fuel subsidy notifications that are criteria-compliant are 23%, compared to 41% for non-fuel policy instruments. On the one hand, this confirms findings of the analysis in figure 2, where less than half of notifications by the United States and China attach information that is accurate enough according to criteria. It adds that, in the case of the United States, the level of accuracy is twice as low for fuel subsidy notifications. This points to a different ability by the United States to disclose information about policy instruments that are different in nature, effects and political sensitiveness. As above, such a difference originates from factors that descriptive analysis is not able to control. Forces at play are multiple and may, but do not necessarily involve under-reporting.

¹³ Fuel subsidies, generally provided in the form of tax concessions, have long been under the spotlight for being a particularly harmful type of support. Not only do they encourage overfishing by reducing vessel operating costs, but they also have adverse environmental impacts by encouraging use of and perpetuate reliance on fossil fuels. Countries may have an incentive to under-report this type of policy instrument, which makes fuel subsidies a relevant benchmark for the assessment of transparency. For the sake of analytical rigor, the analysis is limited to notifications submitted by the United States. As opposed to China, United States notifications include a statistically significant number of fuel subsidies.

Figure 3. United States: notified fuel vs. other subsidies matching criteria

Source: Author's analysis on United States notifications to the WTO (Art. 25.3 of the SCM Agreement; inception-2017).

3.2 Time series of subsidy amounts

Among content of notification requirements, the *per unit* amount of a subsidy has, in principle, the most informative value, in that it allows understanding of the extent to which a subsidy affects prices (WTO, 2006). However, calculating a subsidy amount per unit is a complex task. It requires a considerable amount of information - most of which may not be readily available - and it is of relevance only to subsidies that are specific to a single product (Steenblik and Simón, 2011). Data collection underlying the analysis in subsection 3.1 shows that the fisheries policy spectrum is wide and only a few notified policies belong to this type. Indeed, in most cases support is provided horizontally to the production of all fisheries commodities without targeting specific species or products. It also frequently targets the purchase or use of instrumental goods, such as equipment and fuel, or is provided to non-productive entities (universities, local authorities).

In line with these statements analysis shows that, in both the United States and China, less than 5% of notifications provide an indication of subsidy amounts *per unit* (figure 2). However, a much bigger share - 25% of United States notifications and 40% of Chinese notifications – do attach *total* subsidy amounts in the form of annual budget allocations *or* expenditures in national currency. For those, time series of (total) subsidy amounts have been compiled and compared with figures of the OECD FSE database. Given the variety and complexity of fisheries support, and the lack of a harmonized classification for notification, only total amounts are compared. This approach enables us to at least point to differences in notified amounts when disclosure is made to different institutions and, likely, under different policy constraints.¹⁴

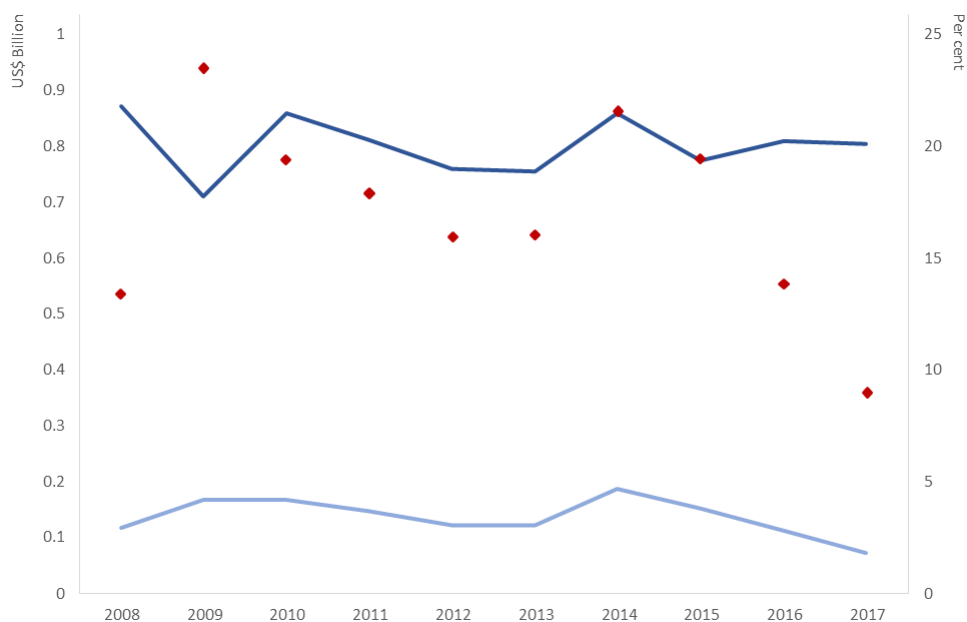
In both countries, WTO-notified and FSE amounts differ widely, with OECD figures being generally much higher (figure 4). Interestingly, country-specific trends are observed over time. In the United States, both WTO-notified and FSE amounts stay relatively flat in the reference period, except for WTO-notified amounts declining steadily after 2014 (figure 4, panel a). Accordingly, the ratio between WTO-notified and OECD FSE amounts drops from over 20% in 2009 to less than 10% in 2017. This may be symptomatic of different disclosures made by the

¹⁴ The OECD FSE is the only global database of fisheries subsidies based on direct notifications by governments. With a few exceptions in the case of non-OECD members, data are collected from national administrations on an annual basis. This makes FSE figures the best available benchmark for WTO-notified amounts. Although, it must be noted that OECD and WTO amounts may differ for reasons other than non-coherent notification and may not be fully comparable. Different subsidy definitions, collection methods and, therefore, perimeters of notification may be used by the two organisations. Note, for instance, the specificity requirement of art 25.2 of the SCM Agreement, which narrows the scope of notification at the WTO but does not necessarily apply at the OECD.

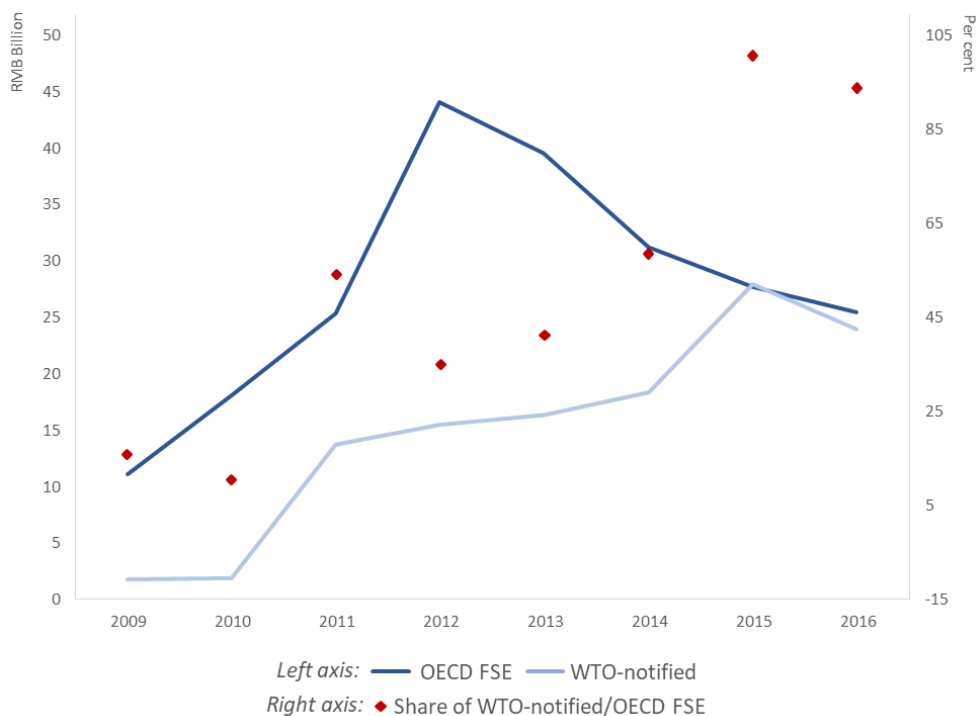
United States in the two policy contexts, which, as data show, did not change importantly over time. In this context, the drop in WTO-notified figures is ambiguous and may result from a real phasing out of subsidies or increased under-reporting.

Figure 4. WTO-notified subsidies vs. OECD FSE, total amounts (2008-17)

Panel a. United States



Panel b. China



Source: Author's analysis on United States and China notifications to the WTO (Art. 25.3 of the SCM Agreement; inception-2017) and OECD Fisheries Support Estimate (2019 release).

Note: WTO-notified time series totals are calculated using annual programme expenditures or budgeted amounts as they appear in notifications. The analysis spans years for which both OECD FSE and WTO-notified data are available.

In contrast to the United States, the amount of subsidies notified by China to the WTO has been increasing for 7 over 8 consecutive years for which data is available (2009-16) (figure 4, panel b). OECD figures follow a similar, perhaps steeper trend but only up to 2012, after which they decline sharply. Since then, the two have been on a fast-converging path and end up matching in 2015. Interestingly, WTO-notified amounts, equal to only 10% of OECD figures in 2010, increased to roughly 100% in five years' time. As opposed to the case of the United States, this indicates a time-changing disclosure by China, which ultimately led to coherent reporting to the WTO and OECD (2015 and 2016).

3.3 Assessment of the WTO notification framework

Extracting, consolidating and analyzing policy relevant information from WTO notification texts offers a different viewpoint, and practical experience with the SCM Agreement notification framework. Some intrinsic characteristics of the notification framework may also work as bottlenecks to sound reporting. Hoping to provide new input to negotiations and help steering the direction of policy innovation in this domain, this sub-section presents the main shortcomings that have been identified and proposes, for each, some actionable policy solutions.

Weaknesses identified differ widely in scope and can be: *content-related*, when content of notification requirements, as well as concepts, principles and methods underlying the notification process are only partially appropriate in the case of fisheries subsidies; *institutional*, in cases where the information base could benefit from better inter-agency coordination, particularly on the use and integration of publicly-available information; or *technological*, when the reporting infrastructure – e.g. the tools, mechanisms and practices of notification – is found to be obsolete and could be improved with the adoption of state-of-the-art technology. According to this typology, the main shortcomings and policy solutions can be summarized as following:

Content-related

- **Lack of a harmonized and fisheries-specific notification framework:**
 - a. Lack of a classification and nomenclature of administrative forms: A recurrent pattern in notifications of China and the United States is the lack of standardized and comparable information. This does not only apply to broad and qualitative policy concepts that are currently part of notification requirements, but also to standard information such as a subsidy's form (loans, grants, tax concessions etc.). Financial support is a prominent case in point: The United States distinguishes among loans, grants and other forms of transfer, while China generically refers to "financial appropriations". A possible reason may be the lack of a baseline classification of subsidies, which would ultimately make countries stick to national standards and rely on a broad set of non-comparable, ambiguous nomenclature. Developing and adopting a classification of fisheries subsidies not exclusively based on administrative forms, but also on subsidy objective/purpose and beneficiaries, would help both standardize reporting and capitalize on the (relatively) good performance of countries in disclosing this information (figure 2).
 - b. Lack of standardized categories for qualitative reporting: A similar situation materializes for qualitative notification requirements, such as policy objective and policy duration. Also in this case, poor standardization (and comparability) of notified information is recurrent. With respect to objective/purpose, notified information varies widely, and spans from concise statements with low policy significance, such as "to support the xxx industry" to referenced paragraphs that are overly dense in policy motives. Also in this case, the issue may originate from a lack of framework standardization - e.g. a limited number of categories set by the WTO Secretariat to facilitate common reporting and, subsequently, policy analysis.¹⁵ Both in this and the previous case, the Questionnaire

¹⁵ Issues raised in point a and b are not fisheries specific and are likely to apply to notifications of all subsidies. From point c. onwards, fisheries-specific bottlenecks are discussed.

Format for Notifications do not provide detailed guidance and does not include a standard template for notifications (WTO, 2003).

- c. Lack of fisheries-specific notification requirements: Fisheries subsidies are currently notified to the WTO according to rules and mechanisms that were not specifically designed for fisheries subsidies (WTO, 1995). The assessment suggests that notification requirements fail to capture important aspects of fisheries subsidies, while requiring disclosure of information that may be only partially relevant (or feasible). Important *left outs* include, for instance, a registry of beneficiary vessels, as well as fleet capacity and catch by species in the industry where the subsidy is provided. On the other hand, the disclosure of subsidy per unit amounts, which may have strong informative value but whose calculation is far from straightforward, may not be worth the costs.¹⁶ This entails the risk of exerting excessive pressure on countries - particularly developing economies and LDCs who may lack technical capacity - and discourage notification.
- d. Lack of statistical guidelines for the calculation of quantitative information: The WTO publishes and periodically revises a Handbook on Notification Requirements, which illustrates notification obligations, guidelines and formats under the SCM Agreement (WTO, 2019b). The document, inspired by technical cooperation motives, is supposed to assist members in complying with their notification obligations both in procedural and technical terms. However, it fails to clearly define key concept and principles, nor provides statistical guidelines in areas where calculation is needed. The per unit amount of a subsidy, requirement ii. of SCM art. 25.3, is a case in point. Both the Handbook and the Agreement generically refer to “subsidy per unit”, leaving the type and nature of subsidy up for interpretation by the notifying entity (per unit of produced vs. exported product; value vs. quantity of product). Guidance on how to calculate or estimate the amount is also missing. Ideally, a sound methodology for the calculation of subsidy amounts should be developed and attached to the agreement. The estimation of a subsidy’s trade effects should also be central to technical assistance activities organized at the WTO.

Institutional

- **Limited use and integration of publicly available data sources:** It is for impact quantification purposes that “statistical data permitting an assessment of the trade effects of a subsidy” are listed among the SCM notification requirements. Based on the assessment, information of this type is rarely attached to notifications. If provided, it is of poor quality and low informative value. However, it must be noted that a bulk of information enabling impact assessment, including data of import/export and catch by species, is regularly reported by governments to multilateral agencies. Some, such as the FAO and the United Nations Statistics Division (UNSD), have gained political legitimacy to produce harmonized country-level figures based on well-established statistical frameworks. In most cases, decade-long times series are available. Better inter-agency coordination, under the leadership of the WTO, may help effectively integrate this information and directly feed it into the notification process reducing the burden of notification on countries.

Technological

- **Outdated reporting mechanism(s) with low technology content:** Notifications are usually made in the form of text documents based on the Questionnaire Format for Subsidy Notifications (WTO, 2003).¹⁷ Once received, they are published within a few weeks by the WTO Secretariat and permanently stored in their online document repository. No analysis is conducted in-house using

¹⁶ Given the challenges related to the calculation of subsidy per unit amounts – both in terms of technical skills and information availability - consistent and timely disclosure of subsidy total amounts becomes crucial in the case of fisheries subsidies.

¹⁷ Note that, for our purpose, format is different from template.

notified information. Replacing open-ended text notifications with an electronic notification template would not only increase standardization and reduce transaction costs, but also facilitate notification-based analysis of the type presented in chapter 3. This would allow extracting policy insight from information that would remain, otherwise, dormant. A possibility lies with the development of a user-friendly web interface where practitioners directly input information by answering yes/no or multiple-choice questions. For each notification requirement, the use of open-ended questions would be reduced at the minimum and a limited number of options be made available. A subsidy amount calculator may also be developed.

4. Findings and policy recommendations

The results of the analysis aim to stimulate discussions around the reform of notification obligations in a way that contributes to enhance transparency and improves, as a result, the global evidence base. In a nutshell, the analysis points to a varying performance in fulfilling SCM notification requirements across countries (“transparency between”) and across policy instruments (“transparency within”). Notified subsidy amounts also change over time and in different policy contexts, i.e. the WTO and the OECD. In particular:

- The level and quality of notified information, a proxy for government transparency, is specific to countries and SCM-requirements. In other words, China and the United States notify different types of information and perform differently in fulfilling specific requirements (figure 2).
- Disclosures of qualitative information, including subsidy form and objective/purpose, comply with criteria in a larger number of cases (above 50% for both China and the United States) as opposed to quantitative metrics, such as subsidy total amounts, where compliance is lower (figure 2).
- In the United States, the share of notifications matching criteria is consistently smaller in the case of fuel subsidies - a particularly controversial type of policy support. Differences are most remarkable in the case of total amount, objective/purpose, duration and statistics (figure 3).
- In value terms, subsidies notified to the WTO are well below those notified to the OECD, suggesting the existence of some form of underreporting to the former. Yet, country-specific trends can be observed over time: WTO and OECD amounts converge in the case of China, while they follow separate paths for the United States (figure 4).

While the analytical framework enables identifying *stylized facts* of subsidy notification, it does not allow to detect *where* and *how* diverging country performance originates. Beyond deliberate under-reporting, multiple factors may determine the level of government transparency. Some are country-specific, e.g. prioritization of specific policy issues, or structural constraints, such as the lack of technical capacity. Some characteristics of the reporting framework, including notification mechanisms, rules and procedures, may also be important factors at play. The analysis highlights an almost complete lack of standardization of notified information, which makes notification requirements and guidelines under the SCM Agreement good candidates in this respect.

An in-depth look at the notification framework reveals a number of shortcomings. *Content-wise*, some key building blocks are missing. These include a classification and nomenclature of subsidies, standardized categories for qualitative reporting (policy objective, duration etc.) and fisheries-specific notification requirements (mostly data- and statistics-related). The framework also lacks thorough statistical guidelines for disclosure of quantitative information, including, ideally, a methodology for the calculation of subsidy amounts. From an *institutional* standpoint, no inter-agency coordination exists, which would enable channeling publicly available statistics into the notification process. This likely puts an unnecessary burden on countries that are requested to notify information that is, in most cases, readily available. With respect to *technology*, the SCM notification mechanisms make only limited use of information and communication technology (ICT), with notification being purely text-based, organized in an open-ended format and conducted entirely offline. All of the shortcomings are highly intertwined. They may not only contribute to the poor standardization and comparability of notified information, but also discourage reporting in the first place.

A comprehensive effort that simultaneously involve the content, institutional and technological dimensions is needed in order to identify, develop and deploy actionable policy solutions. Modernizing the SCM notification framework in a way that provides new and better incentives for reporting is paramount to improve the knowledge base of fisheries subsidies. Ultimately, it is about enabling countries to “speak the same language” with the long-run goal of achieving better transparency and enhanced policy coordination. As the SDG deadline for ending harmful fisheries subsidies approaches, transparency has become central to negotiations and there is growing momentum on the subject. While there are many challenges ahead, this is arguably the best and the right time to act.

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