A 20-year retrospective on the provision of fisheries subsidies in the European Union

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The next few months will be crucial in determining whether the world's major fishing nations will deliver on commitments under the Sustainable Development Goals (SDGs) of the United Nations to prohibit harmful fisheries subsidies. Timing is of heightened importance given that the EU—the second-largest subsidizer—is reforming its financial instrument for fisheries. This article therefore examines the last 20 years of subsidies provided to the fisheries sector by the EU and supports discussion of the potential future for EU fisheries subsidies and the chance of success for the SDGs. Significant changes have occurred to EU fisheries subsidies during this period. Partly these changes have occurred as a result of the removal of certain capacity-enhancing subsidies and partly due to additional funds being allocated to beneficial forms of public funding. However, progress is slow and a significant amount of capacity-enhancing subsidies remain. Furthermore, the true extent of any reduction in capacity-enhancing subsidies may be shrouded by the Pollyannaish classifications of subsidization, but most disconcerting are the recent positions adopted by both the European Parliament and Council of the EU, which aim to reintroduce some of the most harmful subsidies, thereby putting the progress needed to achieve sustainable fisheries at risk.

Keywords: harmful subsidies, overcapacity, overfishing, Sustainable Development Goals, World Trade Organization

Introduction

There is agreement across academia that subsidy-based fisheries policies that artificially increase profits, whether directly or indirectly, can result in overcapacity that can subsequently lead to unsustainable fishing practices and ultimately increases the risk of overfishing fish stocks (Munro and Sumaila, 2002; Froese et al., 2018; Cisneros-Montemayor and Sumaila, 2019; Sakai et al., 2019; Smith, 2019). These harmful impacts, and the risk of overfishing, could be mitigated by beneficial forms of government intervention, such as investment in fisheries management, conservation, and control, but this mitigating effect can be difficult to ensure (Milazzo, 1998; Munro and Sumaila, 2002; Arthur
et al., 2019; Le Manach et al., 2019). The mounting evidence of the deleterious effects of harmful subsidies has resulted in worldwide commitments to discipline, eliminate, or redirect them. The Sustainable Development Goals (SDGs) of the United Nations demand that by 2020 “certain forms of fisheries subsidies which contribute to overcapacity and overfishing” be prohibited (United Nations, 2015), and in December 2017 members of the World Trade Organization (WTO) renewed their commitment to continue negotiating towards “an agreement on comprehensive and effective disciplines” for harmful fisheries subsidies at the next WTO Ministerial Conference in 2019 (WTO, 2017). However, with time having run out for the world’s major fishing nations to deliver on these commitments and the 2019 WTO Ministerial Conference having been postponed, the challenge now is to ensure that tangible steps towards these goals are taken in 2020. As such, the next few months are crucial to gauge progress towards delivering on their collective responsibility to help ensure sustainable fisheries by disciplining harmful fisheries subsidies.

The timing is further critical given that this coincides with the EU fisheries policy cycle. The next iteration of the EU’s financial instrument for fisheries and aquaculture is being negotiated and is due to cover the period from 2021 to 2027. Besides being the world’s largest trader of fishery and aquaculture products (EUMOFA, 2018), the EU harvest a significant amount of seafood—landing 5 million tonnes in 2016, i.e. >5% of the reported total global catch (FAO, 2018)—and is an important political actor with regard to fisheries subsidies—estimated to have provided EUR 3.2 billion in 2018, contributing 11% of the global total (Sumaila et al., 2019a). This key juncture therefore presents an opportunity for EU institutions to ensure that the next EU-wide fisheries financial instrument, the 2021–2027 European Maritime and Fisheries Fund (EMFF), is framed in a way that eliminates harmful fisheries subsidies altogether (Sumaila et al., 2019c).

Here, we provide, for the first time, a retrospective view on EU fisheries subsidy trends over the past 20 years. The paper uses recognized fisheries subsidies nomenclature to define and identify potentially harmful subsidy types (Sumaila et al., 2010) and broadly classifies subsidies as either “capacity enhancing”, “beneficial”, or “ambiguous”, based on the nature of the subsidy rather than the fisheries or fleets they may impact. The purpose in doing so is to enable an overview in terms of the relative contribution of and balance between, in particular, “beneficial” subsidies and “capacity-enhancing” or harmful subsidies. The trends described support a discussion about the potential future of EU fisheries subsidies in light of the reformed framework for the EMFF and progress towards prohibiting all harmful fisheries subsidies in accordance with international commitments.

**Material and methods**

This article reviews EU policy regulations, peer-reviewed scientific papers, technical reports, and evaluations prepared for the European Commission. All documents were sourced using Google Scholar or the Publications Office of the EU website and were publicly available. The review focuses on three key periods of the EU’s Common Fisheries Policy (CFP) and the associated financial instruments, namely the second iteration of the Financial Instrument for Fisheries Guidance (FIFG, 2000–2006) (Council of the EU, 1993), through the European Fisheries Fund (EFF, 2007–2013) (Council of the EU, 2006; European Commission, 2007), and ending with the current iteration of the EMFF (2014–2020) (European Parliament and Council of the EU, 2014).

Restricting the analysis to the FIFG, EFF, and EMFF represents a conservative approach for three reasons. First, substantial public subsidies have been allocated to the EU fisheries sector outside these three financial instruments, for instance, to secure public fishing access agreements with countries in Africa (Le Manach et al., 2013). Second, indirect subsidies such as fuel tax concessions, which represent a large portion of subsidies (Sumaila et al., 2016), are not accounted for in the FIFG, EFF, and EMFF. Finally, EU sources of funding are not necessarily the only financial support provided to the EU fisheries sector, as Member States can supplement support within their own national budgets (e.g. State and sub-State aids). The review is therefore supplemented by work previously published by the authors that provide broader estimates of global fisheries subsidies for 2003, 2009, and 2018 (Sumaila et al., 2010, 2016, 2019a, b). All amounts are presented in constant 2018 Euros (EUR\textsubscript{2018}) using annual averages of Consumer Price Index data from the International Monetary Fund (IMF, 2019) and 2017 currency exchange rates from The Bank of International Settlements (BIS, 2019).

For the purpose of this article, fisheries subsidies are defined as financial payments, either direct or indirect, from public entities to the private fisheries sector (Milazzo, 1998), and excludes “fuel subsidies”. It is important to note that while fuel subsidies are not included herein, they are recognized as harmful fisheries subsidies (Harper et al., 2012). Due to the vastness of this field of research, the analysis is confined, to the extent possible, to wild capture marine fisheries (i.e. excluding aquaculture and inland fishing). We therefore only include subsidy types where wild capture marine fisheries are the key beneficiary, as such, subsidies including the investment in processing and marketing that are known to benefit many segments of the fisheries sector are excluded from the analysis, although they are still considered to be harmful fisheries subsidies (Sumaila et al., 2010). It is acknowledged that some subsidies may still benefit multiple sectors; where data allow, these subsidies were split between the relevant sectors and only those going to marine fisheries were included.

There are a number of different but closely related classifications of fishery subsidies (FAO, 1995; Milazzo, 1998; APEC, 2000; United Nations, 2002; Porter, 2004; Westlund, 2004; Cox, 2006). This article uses the subsidies classification provided by Sumaila et al. (2010), which in itself drew from the various existing classifications in the literature. The authors describe the potential impacts of different types of subsidies on biological sustainability, therefore setting aside issues of social and economic sustainability on the basis that these are, in the first place, underpinned by the biological sustainability. Subsidies are thus classified as being either: (i) “beneficial”, (ii) “capacity enhancing”, or (iii) “ambiguous” in relation to their likely effect on the health of fish stocks:

(i) Beneficial subsidies are considered to promote conservation and management (Milazzo, 1998), and may mediate the impact of overcapacity (Sumaila et al., 2010). They aim to enhance or restore fish stocks through conservation, stock assessment, and the recording of catch rates through monitoring, control and surveillance, helping ensure appropriate management, and enforcement (OECD, 2005).

(ii) Capacity-enhancing subsidies are those that are expected to lead to disinvestments in natural capital assets by overfishing (Sumaila et al., 2010). They include all forms of capital inputs and infrastructure investments from public sources
that artificially reduce costs or enhance revenue, and in the context of EU fisheries include vessel construction, renewal, and modernization.

(iii) Ambiguous subsidies are defined as those that could lead to either investment or disinvestment in the fishery resource (Sumaila et al., 2010). These subsidies may lead to positive impacts on the health of fish stock, or negative impacts due to excessive exploitation. The impact of this category of subsidies is dependent on precisely how they are designed and implemented. Subsidies in this category include interventions such as fisher assistance, income support programmes, and vessel cessation programmes (Clark et al., 2005).

As in most policy areas, regulations governing the allocation of EU funds such as EMFF follow the ordinary legislative procedure: since entry into force of the Lisbon Treaty, they are broadly determined by the European Commission in a proposal, which is then amended and approved by both co-deciders, i.e. the Parliament and Council of the EU. A “trilogue” between these three institutions then ensues—which is the current stage of the EMFF 2021–2027, at the time of writing—before they adopt the post-trilogue common-ground position and the new regulation enters into force. The precise spending of allocated funds within the parameters set is subsequently determined by individual Member States. Their intentions and objectives are presented within national Operational Programmes (or similar), which often include expected expenditure against individual measures or programmes (European Parliament and Council of the EU, 2014). These documents were therefore the primary source for reviewing EU subsidies. During the execution of a funding period, each Member State’s administration must submit annual implementation reports to the Commission for their review and approval. Where available, these documents provide further information about how the funds are disseminated and what projects were funded under each measure. A transparent process of the EU allocation of public subsidies to fisheries, like other EU measures, needs to be consistently evaluated over time to increase the institutional reputation and credibility of EU institutions (Da Rocha et al., 2012; Carpenter et al., 2016). As such, the effectiveness, efficiency, and relevance of the entire fund are subsequently evaluated via ex post evaluations. These provide the best evidence in terms of realized fisheries subsidization from EU funds.

Each relevant measure or article under each funding period was categorized as either capacity enhancing, beneficial, or ambiguous. The definitions in the regulations or to the extent possible the types of projects funded were used to inform this categorization. Spending across individual measures or clusters of measures within each Member State was then summed to provide an estimate of subsidization from each of the financial instruments. While acknowledging that this broad-brush approach may lead to some estimation error, the authors considered it suitable for the purpose of providing a narrative of fisheries subsidies trends across the EU as a whole. The resultant estimates were compared to previous estimates of EU fisheries subsidies that include, e.g. Member State contributions through their national budgets and other types of subsidies (cf. above). These two sources of subsidy estimates are presented side by side to give a more complete view of the evolution of EU fisheries subsidies over time. Given the differences in how estimates are produced and that the number of EU Member States varies over time, we do not compare quantitative estimates directly, rather we support the discussion using relative proportions of the three subsidy types.

**Fisheries subsidies in the European Union**

**The FIFG (2000–2006)**

The FIFG provided financial support for the implementation of EU fisheries policies from 1994 to 1999 and again from 2000 to 2006. Its core aim was to fund solutions to economic and social problems while improving competitiveness, market supply, and value addition to EU products and to address the imbalance between resource availability and fishing capacity—that is, to reduce fleet overcapacity.

The budget between 2000 and 2006 totalled around EUR\textsubscript{2006} 6.7 billion (ca. EUR\textsubscript{2005} 4.9 billion) and covered six key intervention areas (axes), each linked to one or more structural measures (Council of the EU, 1999). Of the measures related to marine capture fisheries, we classify six as being ambiguous in their nature, four as being capacity enhancing, and two measures as beneficial (Table 1). Based on this classification, 27% of the total funds were in the form of capacity-enhancing subsidies while 7% were beneficial. Indeed, 17% of funds went towards vessel construction and modernization, compared to 15% towards vessel scrapping (Cappell et al., 2010). This distribution is similar to the preceding FIFG period, 1994–1999, where 1% was allocated to the protection of marine resources, the only beneficial measure during this period, while capacity-enhancing measures accounted for ~67% (Lages and Ordaz, 2014).

Despite real-terms net reductions in fleet capacity, in terms of number of vessels, for particular regions (Chen, 2010), the FIFG was ultimately criticized for failing in this respect (Hatcher, 2000). Between 2000 and 2006, the FIFG supported the construction of around 3000 vessels and the modernization of nearly 8000, compared to the scrapping of 6000 mostly small inshore vessels. This was thought to have resulted in an actual net increase in overall EU fishing capacity (Cappell et al., 2010; Villasante, 2010). The prevalence of capacity-enhancing subsidies and the few funds allocated to the protection of fish stocks that could mitigate the effects of such subsidies could be seen as in direct conflict with the overarching goals of the CFP to limit overcapacity, reduce overfishing, and rebuild depleted fish stocks (Economics London, 2004). Cappell et al. (2010) went as far as stating that the FIFG had directly contributed to the overfished status of several stocks. The lack of a targeted approach and significant vessel construction irrespective of target stock status meant that the overall legacy of the FIFG was considered as a negative contribution in terms of sustainability, both due to its role in exacerbating fishing capacity and ultimately in failing to alleviate fishing mortality of overfished stocks (Cappell et al., 2010; Villasante, 2010).

Sumaila et al. (2010) estimated that in 2003 the EU Member States spent a total of EUR\textsubscript{2003} 2.6 billion supporting the fisheries sector, including other subsidies that are not accounted for within the FIFG (e.g. State aids; see above). Although a larger share of this was attributed to beneficial subsidies (25%), compared to spending under the FIFG, the majority was still deemed to have been capacity enhancing (54%), some EUR\textsubscript{2003} 1.4 billion (Figure 1). Indeed, the two highest subsidy sub-types estimated by Sumaila et al. (2010) were for vessel construction and renovation (21%) and fishing access agreements (20%).
The EFF (2007–2013)

Following wide-ranging fisheries policy changes (Suris-Regueiro et al., 2011), partly as a result of EU enlargement, the EFF was established in 2006 (Council of the EU, 2006; European Commission, 2007) with the aim of being a simpler system for reducing overcapacity while also aiming to emphasize the environmental dimensions of fisheries. The total budget of the EFF was approximately EUR2018 5.1 billion (EUR 2007 4.3 billion), between 2007 and 2013.

The EFF supported many of the same measures as the FIFG although some new measures were introduced, including seemingly more “environmentally focused” measures such as the promotion of more selective fishing methods under the pilot operations measure. Some of these allegedly beneficial subsidies—namely those promoting pilot projects for the reduction of unwanted catches—were later shown to have contributed to the illegal expansion of electric fishing in the southern North Sea, which provoked an outcry from the small-scale fishers communities (Le Manach et al., 2019), a method eventually banned in 2019 (European Parliament and Council of the EU, 2019). Support for vessel construction was removed, and the ability to notionally reduce EU fleet capacity through the transfer of vessels to a third country was also eliminated (Economics London, 2004)—although, this practice continued via other arrangements such as “joint ventures” in Africa and South America (Villasante et al., 2014).

Funds were divided across 5 axes, and 16 strategic measures. Of the measures linked directly to marine capture fisheries, we classified six as ambiguous, three as capacity enhancing, and two as beneficial (Table 2). It was estimated that 25% of the total fund was in the form of capacity-enhancing subsidies, while 5% was beneficial. This represents a slight reduction in the proportion of capacity-enhancing support since the FIFG.

The permanent cessation measure, in conjunction with economic downturn and heightened fuel prices of 2008, contributed significantly to overall fleet reductions during the EFF period (Anon, 2016). Between 2007 and 2015, the EU fleet gross tonnage decreased by an estimated 17%, of which 53% was through EFF measures (Lagares and Ordaz, 2014). However, improved technological efficiency of the EU fishing fleet (Villasante and Sumaila, 2010) led to an increase in the fishing capacity during this time (Villasante, 2010). As such, although it appeared to be achieving its aim of reducing fleet capacity, an ex post evaluation concluded it to be an inefficient method as it did not do so “at a reasonable cost [to the public] compared to the implementation of management measures supported by control systems” and recommended its discontinuation (MRAG, 2017). This was corroborated by a European Court of Auditors Special Report in 2011, which highlighted several weaknesses of permanent cessation, including

Table 1. Priority axes and strategic measures of the FIFG from 2000 to 2006 (Council of the EU, 1999) and the proportion of the total FIFG funds spent on each measure (Cappell et al., 2010).

| Priority axis | Measure Description | Subsidy category | % of FIFG |
|---------------|---------------------|-----------------|-----------|
| 1: Adjustment of the fishing effort | 11: Vessel scrapping | Ambiguous | 15 |
| | 12: Transfer to a third country or reassignment | Ambiguous | 1 |
| | 13: Joint enterprises | Ambiguous | 1 |
| 2: Fleet renewal and modernization | 21: Construction of new vessels | Capacity enhancing | 13 |
| | 22: Modernization of existing vessels | Capacity enhancing | 4 |
| | 23: Withdrawal of vessels in association with fleet renewal with public aid | Capacity enhancing | 0 |
| 3: Protection and development of resources, aquaculture, ports facilities, processing and marketing, and inland fishing | 31: Protection and development of aquatic resources | Beneficial | 2 |
| | 32: Aquaculture | n/a | 9 |
| | 33: Fishing port facilities | Capacity enhancing | 10 |
| | 34: Processing and marketing | n/a | 18 |
| | 35: Inland fishing | n/a | 0 |
| 4: Other measures | 41: Small-scale coastal fishing | Ambiguous | 0 |
| | 42: Socio-economic measures | Ambiguous | 1 |
| | 43: Promotion | n/a | 3 |
| | 44: Operations by members of the trade | n/a | 6 |
| | 45: Temporary cessation of activities and other financial compensation | Ambiguous | 8 |
| | 46: Innovative measures | Beneficial | 5 |
| 5: Technical assistance | 51: Technical assistance | n/a | 2 |

n/a, not applicable

Figure 1. Total subsidy estimates per subsidy type for EU Member States in 2003; beneficial (25%), capacity enhancing (54%), and ambiguous (21%). Amounts as reported within Sumaila et al. (2010), presented in 2018 real EUR.
the inadequacy of fishing capacity indicators to reflect the ability of vessels to catch fish and insufficient rules for the treatment of fishing rights following scrapping (European Union, 2011). Indeed, the European Commission conceded that “the fishing rights of decommissioned vessels [could not] be withdrawn from the fishing quotas allocated to the Member States” (European Union, 2011). That is, Member States could reallocate quotas from decommissioned vessels to other vessels within their fleets. So, while the fleet capacity reduction objective, in terms of power and gross tonnage, may have been met (MRAG, 2017), albeit many of the removed vessels operated outside of EU waters (Lagares and Ordaz, 2015), the retention of quotas and the modernization of the remaining vessels offset this decline in nominal capacity by maintaining fishing effort levels (Khalilian et al., 2010; Bloom, 2013).

This move towards reducing capacity-enhancing subsidies is reflected in the updated empirical estimates of total EU fisheries subsidies. Sumaila et al. (2016) estimated that in 2009 the proportion of capacity-enhancing subsidies had reduced from 54 to 46%, while beneficial subsidies had increased from 25 to 28% of the EU subsidy total (Figure 2).

Despite the EFF largely being considered as an improvement over the FIFG, it continued to provide financial support that is considered capacity enhancing under the present subsidies classification (Sumaila et al., 2010). Ultimately pressure on overfished stocks was not sufficiently relieved during this period (MRAG, 2017). The root cause of continued overcapacity, however, was considered to have moved from direct vessel construction to vessel modernization, in particular the replacement of vessel engines (JISD, 2008). The claim was that vessel modernization increased vessel efficiency, but not capacity. However, providing funding for vessel modernization, thus increasing vessel efficiency, while simultaneously requiring these investments not to increase the ability of that vessel to catch fish was highlighted by the European Court of Auditors as a contradiction (European Union, 2011). This led to calls for more tangible progress towards eliminating these “perverse incentives” (Lutchman et al., 2009). The Commission themselves stated that “while a few EU fleets [were] profitable with no public support, most of Europe’s fishing fleets [were] either running losses or returning low profits. Overall poor performance [was] due to chronic overcapacity of which overfishing [was] both a cause and a consequence” (European Commission, 2009). The use of compensation for temporary cessation was also recommended to be limited after it was deemed to have possibly contributed to keeping some “unprofitable fleets active” (MRAG, 2017). Therefore, despite a number of regulatory changes, particularly the inclusion of additional environmental considerations and a change in focus from vessel construction to vessel modernization, the EFF continued to provide capacity-enhancing subsidies (Markus, 2010; Surí’s-Regueiro et al., 2011).

The EMFF (2014–2020)

In 2014, the EFF was superseded by the EMFF (European Parliament and Council of the EU, 2014). Its aim was to assist the fisheries sector in adapting to the reformed CFP for the period 2014–2020. This reform was more substantial than previous efforts and included new policies such as the use of Maximum Sustainable Yield (MSY) as a biological target, a landing obligation for the catch of all species under quota control, and a move towards more regional governance (Salomon et al., 2014). An important change was the removal of subsidies for scrapping vessels. Vessel construction remained unavailable; however, some

### Table 2. Priority areas and strategic measures of the EFF from 2007 to 2013 (Council of the EU, 2006) and the proportion of the total EFF fund spent on that measure (MRAG, 2017).

| Priority axis | Measure | Subsidy category | % of EFF |
|---------------|---------|------------------|----------|
| 1: Adjustment of the fleet | 1.1: Permanent cessation | Ambiguous | 18 |
| | 1.2: Temporary cessation | Ambiguous | 8 |
| | 1.3: Investments on board (modernization) | Capacity enhancing | 4 |
| | 1.4: Small-scale coastal fishing | Ambiguous | 1 |
| | 1.5: Socio-economic compensations | Ambiguous | 2 |
| 2: Aquaculture, processing and marketing, and inland fishing | 2.1: Aquaculture | n/a | 11 |
| | 2.2: Inland fishing | n/a | 0 |
| | 2.3: Investments in processing and marketing | n/a | 16 |
| 3: Measures of common interest | 3.1: Collective actions | Capacity enhancing | 7 |
| | 3.2: Protection of aquatic fauna and flora | Beneficial | 2 |
| | 3.3: Fishing ports and shelters | Capacity enhancing | 14 |
| | 3.4: New markets and promotion campaigns | n/a | 4 |
| | 3.5: Pilot operations | Beneficial | 3 |
| | 3.6: Modification for reassignment of vessels | Ambiguous | 0 |
| 4: Sustainable development of fisheries areas | 4.1: Community development | Ambiguous | 7 |
| 5: Technical assistance to finance the administration of the fund | 5.1: Technical assistance | n/a | 3 |

n/a, not applicable

![Figure 2.](https://academic.oup.com/icesjms/advance-article-fig/doi/10.1093/icesjms/fsaa142/5902157)
capacity-enhancing measures persisted, including support for the modernization and replacement of old engines, albeit now with spending limits per Member State. The EMFF introduced new beneficial measures, including the provision of funds to improve data collection, monitoring, and enforcement. Despite the persistence of modernization measures, overall the EMFF was seen as a positive step towards ending overcapacity (Pew, 2013).

Over its 7-year period, the EMFF had a budget allocation of EUR2018 8.9 billion (EUR2014 8.6 billion), divided across six union development of Blue Economy sectors. Furthermore, the post-2020 strategies for the sustainable exploitation of fisheries and the de-

Importantly, this iteration of the EMFF intends to increase focus the Blue Economy; and international ocean governance.

The proposed EMFF (2021–2027)

The structure and goals of EU fisheries fund beyond 2020 are still being discussed. The Commission presented its proposal on 12 June 2018 for the EMFF 2021–2027, which aims to move away from direct financial support for fishers and towards creating “enabling conditions for the sector”. The proposal includes a number of changes from the previous EMFF, including citing only four Union Priorities (although these mirror the current EMFF); fostering sustainable fisheries; food security; growth of the Blue Economy; and international ocean governance. Importantly, this iteration of the EMFF intends to increase focus on small-scale fishers and outermost regions, aiming to support strategies for the sustainable exploitation of fisheries and the development of Blue Economy sectors. Furthermore, the post-2020 proposal aims to avoid listing eligible measures, instead describing programmes that are ineligible. As such, there is some uncertainty regarding how the estimated EUR2018 6.14 billion of public funds will actually be spent should the proposal enter into force in its current state. Of the proposed measures linked to capture fisheries, two were considered capacity enhancing and four ambiguous, while seven were considered to be beneficial (Table 4).

The proposed post-2020 fund appears to strengthen the EU’s position on a number of issues by providing further beneficial subsidies, including the implementation of an EU fisheries control system that would introduce support for widespread vessel tracking and electronic reporting systems, for example. However, there have been criticisms (e.g. Client Earth, 2018), with claims that it would continue to provide capacity-enhancing subsidies. Indeed, support under Priority 1 will continue to cover “innovation and investments on-board fishing vessels in order to improve health, safety and working conditions, energy efficiency and the quality of catches. Such support should, however, not lead to an increase of fishing capacity”. Again, the contradiction of vessel modernization, particularly with regard to increasing energy efficiency, was previously highlighted by the European Court of Auditors, and the Commission now recognizes that modernization without increasing fishing capacity is not always achievable (European Commission, 2019b). There is also a return of permanent cessation of fishing activities “in fleet segments where the fishing capacity is not balanced with the available fishing opportunities”, and while there appear to be additional controls in place for its implementation, this goes against the advice of previous evaluations and the European Court of Auditors as the possibility that capacity in terms of gross tonnage is reduced, while the overall effort exerted may remain constant if the fishing opportunities are redistributed within the remaining fleet. Finally, the Commission’s proposal also allows for the provision of preferential treatment to small-scale coastal fleets, allowing them access to support for the first acquisition of a second-hand vessel, and the replacement or modernization of engines (European Commission, 2017). Essentially reintroducing capacity-enhancing measures that reduce the costs of fishing or increase existing vessels ability to catch fish.

Criticisms were enhanced when on 4 April 2019 the European Parliament established its first-reading position on the EMFF 2021–2027 proposal and voted on how they believed funds should be allocated. This vote was widely publicized, not least because of the interest from academia (e.g. Smith, 2019; Sumaila et al., 2019c) and non-governmental organizations (e.g. Client Earth, 2018). The unified message was to eliminate harmful subsidies, as stipulated in a number of open letters to the Members of the European Parliament that urged them to use their vote to achieve such an outcome, and as mandated by the SDGs. However, despite the support of solid scientific evidence and robust recommendations, the vote indicates that the European Parliament is prepared to channel funding into a number of potentially capacity-enhancing measures, including the reintroduction of vessel construction subsidies that were eliminated in 2004, or have voted to remove some of the safeguards for these measures proposed by the European Commission, such as the proposal that support for vessel cessation should be linked to the achievement of conservation objectives.

The EMFF 2021–2027 proposal states that during the stakeholder consultation there was “a polarization of opinion concerning the support to fishing fleets … with stakeholders split nearly
equally between those in favour and those against the continuation of fleet measures”. Although stakeholder consultation does not confer decision-making power on those stakeholders, based on this lack of consensus, it is surprising to see the Parliament’s proposal for the return of measures considered to be capacity enhancing under the present classification (Sumaila et al., 2010). A full comparison of the positions of the European Commission, the Council of the EU, and the European Parliament, with regard to the proposed subsidies within the EMFF 2021–2027, is provided in the Supplementary material.

**Discussion**

This article provides a timely overview of how the subsidization of EU fisheries has changed over the past two decades in their broadest sense. It is clear that a sequence of EU financial instruments and their implementation at the Member State level have failed to remove capacity-enhancing measures associated with EU fisheries. In particular, the renewal, modernization, and construction of fishing vessels are deemed to have exacerbated fleet overcapacity in the EU, or at least have failed to bring it in line with resource availability for some time (Symes, 2009; Markus, 2010; Villasante, 2010; Villasante and Sumaila, 2010; Surís-Regueiro et al., 2011; Lagares and Ordaz, 2014). Although capacity-enhancing support has persisted in EU fisheries funds, the proportion has decreased over time (Table 5). Partly these positive
Changes have occurred as a result of certain capacity-enhancing forms of support being removed, such as vessel construction, and partly due to funds being redirected towards beneficial support. This latter trend of redirection looks set to increase under the EMFF 2021–2027 proposal by the European Commission (Sumaila et al., 2019c), with seven beneficial measures being proposed. The general trend is also reflected in broader estimates of EU fisheries subsidies, where the proportion of beneficial subsidies has been increasing (Table 6). However, capacity-enhancing subsidies are still in place (Sumaila et al., 2019a) and look set to be continued in the proposals for EMFF 2021–2027.

Figure 4 shows the evolution of EU fisheries subsidies, taking into account subsidies directed through the EU fishery financial instrument (Table 5) and published estimates of total subsidies (Table 6). Clearly, there is a slight positive narrative to be drawn. However, the SDGs, to which all EU Member States have committed, aim to prohibit and redirect fisheries subsidies, which contribute to overcapacity and overfishing. Using the definition of fisheries subsidies presented herein, the EU has made some progress in removing such subsidy types, but that progress is slow and the bulk of capacity-enhancing subsidies remains present—even based on the most conservative estimates of the current EMFF. It is therefore important that the positive steps taken over the past 20 years are built upon and not quickly undone, as proposed by both the European Parliament and the Council of the EU for EMFF 2021–2027 (see Supplementary material). Subsidies for the construction or renewal of the fishing fleet, or those that increase the fishing capacity of a vessel or increase the ability of an operator to make additional profit artificially, must be avoided.

The most striking observation therefore is that while there has been a positive redirection of subsidies, from capacity enhancing forms of support being removed, such as vessel construction, and partly due to funds being redirected towards beneficial support. This latter trend of redirection looks set to increase under the EMFF 2021–2027 proposal by the European Commission (Sumaila et al., 2019c), with seven beneficial measures being proposed. The general trend is also reflected in broader estimates of EU fisheries subsidies, where the proportion of beneficial subsidies has been increasing (Table 6). However, capacity-enhancing subsidies are still in place (Sumaila et al., 2019a) and look set to be continued in the proposals for EMFF 2021–2027.

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decoupling of the policy and the funding instruments are outside of the scope of this paper, but they are likely to lie within the functioning of the EU and the Member States.

It is important to recognize that many of the EU fisheries are managed with strict effort and quota limitations, which could prevent fleet overcapacity leading to overfishing. While the exploitation of many EU fish stocks has been decreasing over time, with some now within sustainable fishing levels, overfishing continues to be a problem (STECF, 2018). Therefore, subsidies that artificially reduce the cost of fishing and/or increase the price for fish would, almost surely, negatively impact the state of the fish stocks. Despite some progress in the reduction in fishing effort, up to 69% of assessed EU stocks are still considered subject to ongoing overfishing and 51% were outside of safe biological limits (Froese et al., 2018). Indeed, Munro and Sumaila (2002) showed that subsidies can be damaging, even if the “common pool” aspects of fisheries are removed (Munro and Sumaila, 2002). In light of the legally binding commitment to end overfishing and rebuild fish stocks, the continued presence of harmful subsidies and the proposed reintroduction of some of the most directly capacity-enhancing subsidies within the proposed funding programme are clearly a significant step backwards and increase the risk that further progress to decrease overfishing will be slowed or reversed.

The EU operates throughout the world’s oceans, either directly via access agreements (Villasante et al., 2014; Sumaila et al., 2015; Sala et al., 2018; Chesnokova and McWhinnie, 2019) or indirectly via trade (Bayramoglu et al., 2018; Fugazza and Ok, 2019) and considers itself “a global ocean actor . . . [with] a strong responsibility to protect, conserve and sustainably use the oceans and their resources”. As such, the capacity-enhancing subsidies that the EU continues to provide not only fail to achieve the commitments of SDG 14.6 to prohibit fisheries subsidies that could contribute to overcapacity and overfishing in EU waters and other waters that the EU fleet operates within, but importantly they set a problematic course that other WTO Members may follow. The controls and measures that are in place in EU waters that, in some regions, are helping to reduce overfishing are not in place throughout much of the world. Given that reaching an agreement at the WTO negotiations requires multi-lateral consensus, it is important that the EU sets a precedent for removing public sources of funding that artificially reduce costs or enhance revenue, i.e. capacity-enhancing subsidies under the present definition. In this light, understanding the reasons for the present divergence between policy intentions and outcomes could become an important step towards achieving the SDGs as a whole.

The persistence of capacity-enhancing support and the EU’s failure to restrain overcapacity despite clearly stated policy intentions to the contrary are crucial but often overlooked concerns that have been brought to the fore by the EU’s commitments under the SDGs. Yet, a window of opportunity to reform EU fisheries subsidies still exists. The efforts to persuade decision-makers to keep taking steps towards achieving these goals must persist to safeguard our fisheries not only for present and future generations but the entire marine ecosystems and the coastal communities (and millions of people) that depend on them. With critical WTO negotiations planned until the end of 2020 regarding the global rules on fisheries subsidies, the EU must consider its role in this and take advantage of the opportunity to lead a positive transformative change in global fisheries. Will it spearhead the delivery of these international commitments and help change collective attitudes towards fisheries subsidies, celebrating and building on its efforts over the past two decades to remove capacity-enhancing subsidies, or will it take that backward step towards the proposed reintroduction of subsidies that support potentially harmful practices?

**Supplementary data**

Supplementary material is available at the ICESJMS online version of the manuscript.

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**Author contributions**

Individual contributions to this paper were as follows: conceptualization, DJS; methodology, DJS; literature review, DJS, VLB, FLM, SV; data curation, DJS, NE, VLB, FLM, AS; formal analysis, DJS, VLB, FLM, AS; writing—original draft, DJS; writing—review and editing, DJS, RA, VLB, FLM, SV, URS; visuals, DJS; supervision, URS; funding acquisition, URS.

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