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Strengthening European Union fisheries by removing harmful subsidies

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ABSTRACT

Harmful fisheries subsidies have historically contributed to fleet overcapacity and continue to be allocated to the fishing industry to artificially maintain its profitability. However, in this contribution we show that removing harmful subsidies and reducing overfishing will help to recover the resource biomass, subsequently leading to increased levels of sustainable catches, income and well-being of fishers, and reduces inequities in income and consumption when fish stocks are not effectively managed. Maintaining harmful fisheries subsidies is socially and economically inefficient. Taking the example of the EU fishing fleet, one of the largest fishing fleets in the world, we use the total factor productivity to show that small-scale fishing fleet's productivity is almost two-fold in the North Atlantic and 16% higher in the Mediterranean and Black seas compared to large-scale vessels. This result is explained because the harmful fisheries subsidies disproportionately allocated to large-scale vessels introduce distortions in the efficient allocation of inputs. With critical WTO negotiations ongoing regarding the global rules on fisheries subsidies, the EU must take advantage of the opportunity to lead a desirable transformative change while also supporting developing nations to truly achieve global sustainable and equitable fisheries.

Harmful fisheries subsidies – government payments that incentivize overcapacity and lead to overfishing – can distort seafood markets, hinder international fisheries cooperation [1], exacerbate inequality by undermining the economic viability of small-scale fisheries [2], lead to higher CO_2 emissions [3], and act as a driver for Illegal, Unreported and Unregulated (IUU) fishing [4] and distant-water fishing [5]. Previous research shows that distant-water fishing, including that within the high seas, is almost exclusively conducted by a handful of rich countries [6] and that the majority of their activity occurs within the Exclusive Economic Zones (EEZs) of low-income developing countries [7]. Economic concerns have been increasing because many fisheries exploiting high-seas resources and those within or adjacent to other nations' waters would not be viable without government subsidies and only provide jobs and significant financial benefits to relatively few [8,9].

Harmful fisheries subsidies have historically contributed to fleet overcapacity and continue to be allocated to the fishing industry to artificially maintain its profitability [10]. However, scientific evidence shows that removing harmful subsidies and reducing overfishing will help rebuild the resource biomass, subsequently leading to increased levels of sustainable catches, income and wellbeing of fishers, and

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reducing inequities in income and consumption when fish stocks are not effectively managed [11].

Although positive changes have occurred to the fisheries subsidies provided by the European Union (EU) over the past two decades [12], progress has been slow and significant capacity-enhancing subsidies remain, particularly in the form of fuel tax exemptions [13]. Maintaining harmful fisheries subsidies is socially and economically inefficient. The total factor productivity[1] estimated for the EU fishing fleet, one of the largest fishing fleets in the world, indicates that the small-scale fishing fleet's productivity is almost 200% higher in the North Atlantic and 16% higher in the Mediterranean and Black seas compared to large-scale vessels [15]. This result can be explained because the harmful fisheries subsidies disproportionately allocated to large-scale vessels introduce distortions in the efficient allocation of inputs (capital, labour and energy) [11]. Therefore, vessel size and productivity are not necessarily correlated or, in other words, large or small vessels cannot be considered synonymous of productive or unproductive vessels in the EU fleets, respectively [16].

Concerted international efforts to formally discipline fisheries subsidies have carried on for more than twenty years. The World Trade Organisation (WTO) began negotiations on fisheries subsidies in 2001 with a mandate to 'clarify and improve' existing WTO measures on fisheries subsidies. That mandate was further developed in 2005 to include prohibiting fisheries subsidies that contribute to overcapacity and overfishing [17]. In 2017, the Eleventh Ministerial Conference adopted a work program to conclude the negotiations by aiming to adopt an agreement on fisheries subsidies that supports the United Nations Sustainable Development Goals (UN SDGs) [18]. Despite the work plan, still no agreement has been reached, and negotiations are continuing.

Further delay jeopardises the progress needed to achieve sustainable and equitable fisheries, which underpin broader efforts to protect biodiversity, reduce poverty, provide nutritious food and secure livelihoods, making the achievement of interconnected UN SDGs less likely. Reducing policy distortions that affect resource allocation across broad EU fishing fleet segments could yield significant productivity payoffs. Subsidies to EU distant-water fishing fleets must also be eliminated to avoid overfishing on the high seas and in the EEZs of other countries where EU distant-water vessels operate. Overseas development aid should be separated from fisheries partnership agreements, and designed to support coastal State management and development priorities. Simultaneously, coastal developing states need flexibility to use appropriate non-harmful subsidies to achieve their own development aspirations, for example; incentivising landings at processing plants through partial fee refunds, financing local coastal community projects, or providing community infrastructure to improve long term economic viability. This can be addressed through proposals on special and differential treatment for developing States that avoid perverse consequences for developing States. With critical WTO negotiations ongoing regarding the global rules on fisheries subsidies, the EU must take advantage of the opportunity to lead a positive transformative change while also supporting developing nations to truly achieve global sustainable and equitable fisheries [19].

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References

[1] B. Bayramoglu, B.R. Copeland, J.F. Jacques, Trade and fisheries subsidies, J. Intern. Econ. 112 (2018) 13–32, https://doi.org/10.1016/j.jinteco.2018.01.009.
[2] A. Schuhbauer, U.R. Sumaila, Economic viability and small-scale fisheries—a review, Ecol. Econ. 124 (2016) 69–75, https://doi.org/10.1016/j.ecolecon.2016.01.018.
[3] F.L.V. Machado, V. Halmenschlager, P.R. Abdallah, G. da Silva Teixeira, U. R. Sumaila, The relation between fishing subsidies and CO_2 emissions in the fisheries sector, Ecol. Econ. 185 (2021), 107057, https://doi.org/10.1016/j.ecolecon.2021.107057.
[4] B. Le Gallic, A. Cox, An economic analysis of illegal, unreported and unregulated (IUU) fishing: key drivers and possible solutions, Mar. Pol. 30 (2006) 689–695, https://doi.org/10.1016/j.marpol.2005.09.008.
[5] D. Tickler, J.J. Meeuwig, M.L. Palomares, D. Pauly, D. Zeller, Far from home: distance patterns of global fishing fleets, Sci. Adv. 4 (2018), https://doi.org/10.1126/sciadv.aar3279.
[6] W. Swartz, E. Sala, S. Tracey, R. Watson, D. Pauly, The spatial expansion and ecological footprint of fisheries (1950 to present), PLoS One 5 (2010), e15143, https://doi.org/10.1371/journal.pone.0015143.
[7] D.J. McCauley, C. Jablonick, E. Allison, C. Golden, F. Joyce, J. Mayorga, D. Kroosdma, Wealthy countries dominate industrial fishing, Sci. Adv. 4 (2018), https://doi.org/10.1126/sciadv.aau2161.
[8] U.R. Sumaila, V. Lam, D. Miller, L. Teh, R. Watson, D. Zeller, W. Cheung, I. Côté, A. Rogers, C. Roberts, E. Sala, D. Pauly, D. Winners and losers in a world where the high seas is closed to fishing, Sci. Rep. 5 (2015) 8481, https://doi.org/10.1038/srep08481.
[9] S. Villasante, U.R. Sumaila, M. Antelo, Why cooperation is better? The gains of cooperative management of the Argentine shortfin squid fishery in South America, in: S. Barrett, K.-G. Mäler, E. Maskin (Eds.), Environment and Development Economics: Essays in Honour of Sir Partha Dasgupta, Oxford University Press, 2014, pp. 270–294.
[10] U.R. Sumaila, N. Ebrahim, A. Schuhbauer, D. Skerritt, Y. Li, H.S. Kim, et al., Updated estimates and analysis of global fisheries subsidies, Mar. Policy 109 (2019), 103695, https://doi.org/10.1016/j.marpol.2019.103695.
[11] J.M. Da-Rocha, J. García-Cutrín, R. Prellezo, J. Sempere, The social cost of fishery subsidy reforms, Mar. Pol. 83 (2017) 236–242, https://doi.org/10.1016/j.marpol.2017.06.013.
[12] D. Skerritt, R. Arthur, N. Ebrahim, V. Le Brenne, F. Le Manach, A. Schuhbauer, S. Villasante, U.R. Sumaila, A 20-year retrospective on the provision of fisheries subsidies in the European Union, ICES J. Mar. Sci. 77 (7–8) (2020) 2741–2752, https://doi.org/10.1093/icesjms/fsaa142.
[13] N. Carvalho, J. Guillen, Economic impact of eliminating the fuel tax exemption in the EU fishing fleet, Sustainability 13 (5) (2021) 2719, https://doi.org/10.3390/su13052719.
[14] D. Squires, Productivity measurement in common property resource industries: an application to the Pacific coast trawl fishery, Rand. J. Econ. 23 (2) (1992) 221–236.
[15] Scientific, Technical and Economic Committee for Fisheries (STECF) 2020 - The 2020 Annual Economic Report on the EU Fishing Fleet (STECF 20-06), Luxembourg, 2020.
[16] T. Adamopoulos, D. Restuccia, The size distribution of farms and international productivity differences, Am. Econ. Rev. 104 (2014) 1667–1697.
[17] World Trade Organisation. Factsheet: Negotiations on Fisheries Subsidies, 2021. ⟨https://www.wto.org/english/tratop_e/rulesneg_e/fish_e/fish_intro_e.htm⟩. (Accessed 9 November 2021.
[18] World Trade Organisation. High Time for Global Rules on Fishing Subsidies, the DG and Chair Declare on Ocean Day, 2021. ⟨https://www.wto.org/english/news_e/news21_e/envir_07jun21_e.htm⟩. (Accessed 9 November 2021).
[19] U.R. Sumaila, D. Skerrit, A. Schubauer, S. Villasante, A.. Cisneros-Montemayor, H. Sinan, D. Burnside, WTO must ban harmful fisheries subsidies, Science 374 (6567) (2021) 544, https://doi.org/10.1126/science.abm1680.

[1] Total Factor Productivity (TFP) is defined as the portion of output not explained by the amount of inputs used in production [14]. TFP measures the productivity of all inputs or factors of production, in terms of their combined effect on output.