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Around 60 per cent of global commercial fishing stocks are being fished at their maximum levels or are already overfished. Meaning, that they are either at the maximum sustainable yield or have already surpassed it. This will result in a global crisis, as an estimated 10-12 per cent of the world's population depends on the fishing industry and more than 3 billion people depend on fish as a main source of protein in their diet (Arthur, et all., 2019). With new technologies, fishing fleets have transcended beyond their territorial sea borders and began fishing the 'high seas', the waters outside the limits of national jurisdiction. In the article by Sala et all. (2018), 'The economics of High Sea Fishing', satellite data revealed, that of these high sea fishing grounds 54 per cent are unprofitable at current fishing rates. However, these waters are still being fished. The only way in which this can be economically viable, is through subsidies.

What is the motivation for governments to subsidize unprofitable, highly damaging, fishing fleets in our common high seas? This is puzzling. The damaging environmental impact, caused by high sea fishing, has been a well-studied topic within academia. Even the direct causes of governmental subsidies have been well linked to topic. However, the political motivations behind granting the subsidies making this extraction possible of have not been studied so far are not. At the top level of international politics people are aware of the damage of high sea fishing and the fact that subsidies create this. For example, in the United Nations Sustainable Development Goals (SDGs) one of the main objectives is to make an end to subsidies causing overfishing in the world's oceans. The European Commission has stated as their goal to support only sustainable fisheries. Remarkably, the number of subsidies directly linked to overfishing has increased (Khalilian, et all., 2020). With governmental bodies aware of the damaging nature of the subsidies, and even urging for its cancelation, the problem cannot simply be resolved by raising more awareness within politics. Different actors within the system are profiting from the status quo and are able to block possible reform. This paper outlines the system of high sea subsidies and investigates what factors are hindering its reform.

The research in this paper focuses on the European Union. After China, the European Union is the biggest producer of fish in the world, with many of its member states heavily

depending on it. Six out of the twelve leading countries in bottom trawl high sea fishing are member states of the EU (Sumaila et all., 2010). In combination with the EU specifically addressing its intention towards reform, the focus of thesis will be on this contradiction.

What is hindering subsidy reform within the European Union's high sea fishing industry?

To try and answer the research question, the thesis examines secondary scientific papers as well as some primary governmental resources. The analysis is done through the Institutional and Context Analysis (ICA), developed by the United Nations Development Programme. This method, constructed by a non-scientific body, has not been used before within academia. However, the analysis fits the research question, as it is developed to specifically examine why certain SDGs have not been achieved. The analysis gives a structure to applying political economy theory to the system. It provides a framework, using stakeholder analysis to map out the scheme. At the final stage, the model uses the Alignment, Interest and Influence Matrix (AIIC) to evaluate possible coalition for reform. The AIIC model has been widely used within scientific research, adding an academic weight to the overall method.

Scholars have already pointed at subsidies causing overfishing within the high seas. This paper adds to the scientific study, by applying political economy theory to the motivations behind these seemingly irrational transfers of public money. Within academia the structures hindering subsidy reform within the industry have not been thoroughly examined. By applying the ICA model, the thesis analyses specific stakeholders' position regarding the subsidies, ultimately providing possible coalitions for change. Further by applying a non-scientific bodies' model for analysis, the thesis examines if this specific framework is relevant within academia as well.

The subsidies are enabling a practice which has been proven to cause great environmental harm. In addition, the depleting fish stocks are a threat to world food security (Arthur, et all., 2019). Short-term, highly concentrated, gains are subsidized at the cost of the general public. This paper helps the reader to understand the underlying structure enabling the extraction and finally provides possible solutions to the matter. The analysis of the provided stakeholder's incentives can also be applied to other sectors, where seemingly rational reform is being hindered.

The thesis starts with a literature review. First, establishing what a fishing subsidy actually is, in what it results, and who the recipients are. Followed by an overview of existing theory on the political motivation of subsidy allocation and political economy theory. In the second part of the thesis, the method of analysis, the ICA, is elaborated and the specific case selection is justified. In the third section, the actual analysis is conducted. This is done through the steps provided by the ICA. First the scope of the analysis is constructed. Here the two main routes of subsidy-flow within the EU are analysed; one directly through the member states and the other via an EU fund. In the second step, the stakeholder-analysis evaluates all the different actors at play within the system. In the last step, the AIIC model is used to analyse possible coalitions for change. The thesis ends with a conclusion. The main answer to the research question focuses on powerful institutions which have little incentive for reform; the fishing industry, the national governments and the EU are all profiting in some form of the current status quo. In addition, the industry has powerful lobbies which are allowed to enter the decision-making process around subsidy allocation. On the other hand, the actors with high interest in reform lack the power the implement them.

Literature Review

In trying to understand the political motivations behind subsidizing high sea fishing, there must first be established what a (fishing) subsidy actually is, and in what it results. A recent article by Schuhbauer et all. (2020) defines a fishery subsidy as ‘any direct or indirect financial transfer from public entities to the fishing sector, which enable the enterprise, here the fishery, to make more profit than it would otherwise’.

Within the fishing sector, there exist a diverse range of subsidies. Fisheries industrialize a commodity, fish, which can be evaluated, like any other natural resource, as natural capital. They have a certain regeneration rate specific to the type of species and the region. Recent studies have for example shown that high sea fish ecosystems have a lower regeneration rate compared to their coastal counterparts (Koslow, et all. 2010). This characteristic of renewability results in the possibility of a form of investment in the industry, by undertaking measures which increase the overall fish stock.

Likewise, disinvestment can also occur. Based on these outcomes, subsidies are grouped as, beneficial, capacity enhancing and ambiguous (Munro & Sumaila, 2002; Sumaila, et all., 2010)).

- Beneficial subsidies are 'good' subsidies. They protect and permit growth of the fish population, or in economic terms, invest in the commodity to enhance long-term sustainable profits.
- Capacity-enhancing subsidies allow fisheries to overexploit fishing stocks
- Ambiguous subsidies catch all subsidies where the result is indetermined. It is not clear if the lead to investment or disinvestment in the fish stock (Sumalia, et all., 2010).

The Tragedy of the High Sea Common: The Common Pool Effect

Within the fishing industry it is hard to establish property rights. Property rights are vague and often non-existent, therefore, a link to Hardin's Tragedy of the Commons is seen as a possible relevant scope of analysis (Berkes, 1985). An article by Al-Fattal (2009) and the empirical analysis by McWhinnie (2009) describe the link between the fishing industry and the Tragedy of the Commons. Al-Fattal analyses three case studies. The first two are local fisheries, here the study shows that The Tragedy of the Commons can be mitigated through regional institutions and co-management. However, in the last case of fishing in international waters, the Tragedy of the Commons does occur. Because of the lack of ownership, the incentive to mine the source, rather than extract it sustainably persists. The empirical examination by McWhinnie (2009) further strengthens this claim and says: ''The international tragedy of the commons in fisheries supports economic theory and is consistent with free-riding results found in international pollution studies and in case studies of international fisheries management'' (McWhinnie, 2009, p. 331).

Subsidies aggravate the commons problem. The tendency towards overexploiting, which the common already has embedded within its system, is amplified by lower prices and higher capacity technology. Or in economic terms lead to disinvestment in the common. An article by Munro & Sumaila (2002) names this the 'common pool effect'. One side of this effect is called 'Pure Open Access', where no regulations exist ruling the fishing industry. The High

seas have offered good examples. The separate, rationally acting fishing fleets are given every incentive to exceed the Maximum Sustainable Yield of the fish population, because otherwise another fishing fleet would capture its left-over fish. In an unregulated fishery the additional value of the fish in-situ, the future value of the fish if left in the ocean, is not accounted for. If left in the ocean the fish would grow bigger and contribute to a larger total population. The fish only is a part of the economy in this model, if it is being fished (Khalilian, et all., 2010).

In the article by Munro & Sumaila (2002) the question has been raised if the focus should shift from combating 'irritating' subsidies, towards addressing the common nature of the industry. They conclude that subsidies enable most of these common pool effects to occur, because many areas of the high seas are only economically viable to be exploited through capacity enhancing subsidies. Secondly, they found that the subsidies still cause harm, even if the common pool aspects were to be removed (Munro & Sumaila, 2002; Sala, et all., 2018).

Recipients of Fishing Subsidies

The total amount of subsidies to fisheries worldwide is estimated at around USD 35,4 Billion in 2018 (Sumaila, et all., 2019). The article by Schuhbauer et all. (2020) researches who the recipients are of these subsidies. They divide the fisheries into two: the small-scale fishing subsector and the large-scale, industrial, fishing industry. The small-scale fisheries received 19% of the total subsidies, consequently the large-scale subsector received more than 80%. If calculated per fisherman (or employee in the industry), a fisher from the small fishery receives four times less subsidies than one operating in industrial fishing. This creates a non-competitive advantage for large scale operators, outcompeting the smaller ones. This is not only worrying for the marine ecosystem, but also for the communities who directly rely on them as income and a source of nutrition. A large portion of these subsidies are also granted by a few political bodies: China, European Union, USA, Republic of Korea and Japan. Together they provide more than 58% of the total amount subsidies in the sector (Sumaila, et all., 2019). The main flow of subsidies is thus concentrated between a few countries and big industrial fishing fleets.

Political Motivation to Grant Subsidies

Back to the puzzle. We have now established the damaging nature of subsidies in high sea fishing. Subsidies that lead to overall harmful outcomes for society are not limited to the fishing industry. Other ecologically damaging industries like oil, and gas, forestry, mining and agricultural expansion are also heavily subsidized. What characterizes them is their deeply political roots. Their subsidization is linked to short-term employment goals and re-election ambitions. Within the political decision-making scheme, big and powerful lobbies exist.

Political Economy

A method to analyse these outcomes is through political economy, which is built on the assumptions of economic theory, applied to politics. Political actors like, civil servants, elected officials and others in the governmental sector make decisions based on their own self-interest. The theory follows these choices at all the different layers of decision making. As stated in the article by Sutinen (2008): ‘’in general, governance failure (that is, undesirable policy outcomes) has been attributed to special interest effects, rational voter ignorance, bundling of issues, short-sightedness, decoupling of costs and benefits and bureaucratic inefficiencies’’ (Sutinen, 2008, p. 2). Special Interest Effects take place when a small concentrated number of voters receive large individual gains in the issue. The costs, on the other hand, are being diffused amongst a large population of voters, who therefore only suffer small individual losses. This disproportionally distributes power towards the small group of people who benefit from the outcome. During an election, these groups form a block of single-issue voters, who, for example, only vote against the reform of high sea fishing subsidies. Other voters in the country, who only bear small losses from this policy, will probably not let their vote depend on this single issue.

Some motivations for granting fishing subsidies could come from temporary interests. Because the fishing industry has highly variable incomes, subsidies could have been applied to overcome short term difficulties. However, because it is hard to reform subsidies, they have become permanent over time. In the case of the High Seas, they could be used to gain a competitive advantage over the other countries, like previously analysed in the common pool effect. Financial support has also been justified to safeguard employment in regions highly depending on the sector (Merayo, et all., 2019; Sutinen, 2008).

Benefits from reforming subsidies tend to be costly in the short-term and only become economic in the long-term, when fishing stocks start to regrow. With the short-term election cycles, it tends to be against the self-interest of politicians to make decisions against the will of the industry. The combination of the grand public often not being well-informed about the topic and the strong lobbying by the sector, makes it even more difficult (Merayo et all., 2019; Sutinen, 2008; Telesetsky, 2012).

Methods

Theoretical Framework

Political economy analysis helps to map out the underlying structures and dimensions that result in a policy, in this case the subsidization of capacity enhancing fishing fleets. It seeks to understand the different levels at which decisions are made, to then try to explain why outcomes, which are negative overall for society as whole, occur. The three main pillars of political economy analysis are structures, institutions and actors. Structures look at the overall, long-term, trends. During the analysis it seeks to understand in what kind of given framework these decisions are made. Within these overall structures, certain guiding rules exist, the institutions. They go beyond formal laws, as it also confines costumes or certain 'traditions' that shape human behaviour. Within this set climate, the final scope of analysis are the actors. Which consist of organizations, individuals and groups from the civil, public, or private sector. These actors are the decision-makers within broader framework. Political economy analysis seeks to understand the winners and losers of certain policy, or policy reform. (Australian Government Department of Foreign Affairs and Trade, 2016).

Within political economy, different specific forms of analysis exist. The main ones differ in their level of investigation, namely the country, sector and issue-specific levels. The United Nations Development Programme developed a multi-layer analysis which takes all of the previously mentioned layers into account, namely the Institutional and Context Analysis (ICA) developed in 2012. The method of analysis tries to find reasons to why certain Sustainable Development Goals (SDGs), a list of seventeen goals which aim to be a guideline to achieve a sustainable future, fail to be implemented within a certain sector.

ICA focusses on what is present, rather than what should be there within a country or organization (United Nations Development Programme, 2012). If a system is not delivering the best outcome, it does not necessarily mean that it is poorly designed, it implies that actors are profiting from it and keeping it in place.

The first step in ICA is defining the scope of analysis. This mainly focusses on the first pilar of political economy and lays out the setting in which the main question takes place. The second step tries to map out and analyse formal and informal rules and institutions. It looks at the existing laws and policies that have a relation with the subject. In this step, a list of all relevant actors within the system is presented, categorized under private, public or civil stakeholders, followed by an overview of how certain actors influence a certain policy, either negatively or positively, and understand why. Then their overall incentives and positions within the decision-making process are investigated. After a 'map' of the system is established, key intersections within the structure are given. Followed by the implementation of the 'Alignment, Interest and Influence Matrix' (AIIC), developed by the Overseas Development Institute, a global-affairs think tank (Mendizabal, 2010). The tool plots actors' levels of alignment and influence on a matrix, which can later be used to foster coalitions for change towards a beneficial policy outcome regarding the SDGs. The score for 'interest' and 'power' is attributed to each stakeholder on a scale from 1 to 4. This is done through answering the following questions:

1. How much formal or informal power does each stakeholder have on a scale from 1 to 4?
2. How much interest does each stakeholder have in the success of the proposed project on a scale from 1 to 4?

(United Nations Development Programme, 2012)

It must be noted that the 'proposed project' refers to reform of the subsidization of the high sea fishing sector, ending capacity-enhancing subsidies granted to the industry. After the AIIC is presented different possible coalitions for change are discussed. Followed by an overview of how certain stakeholders could move within the matrix, to eventually advance towards change within the system.

ICA is developed as a method by the United Nations Development Programme, and thus is an approach developed by a non-scientific body. However, the combination of different forms and levels of analysis, provides a comprehensive overview of the issue at hand. It structures the different pillars, already provided by political economy, and combines them with questions and tools as guidelines. Compared to other political economy analysis, which are more specifically focused, this multi-level research looks at the system as a whole. Finally, the method is specifically designed for understanding why certain sustainability goals are not achieved. With the allocation of capacity-enhancing subsidies in high sea fishing, SDG 14.6 which aims to end overcapacity in fisheries, is specifically not being met (United Nations, 2015; United Nations Development Programme, 2012).

Case Selection

Within this research the specific scope of the subsidization of fishing fleets is on the high sea industry in particular. The focus is narrowed within this analysis because of the crucial role of subsidies within these waters, as more than half of the high seas would not be economically viable for fisheries without subsidies (Sala, et all., 2018). As a result, eliminating subsidies towards the high sea fishing industry alone, would have strong effects. In addition, the biology of fish in the high seas differs from their coastal counterparts. The fish mature at a later stage and grow bigger. As a result, their regeneration rate is lower. Their Maximum Sustainable Yield is lower, with this knowledge, and without regulation the incentive is even bigger for the separate fishing fleets to overfish the high sea fish population (Sumaila, et all., 2010).

Another specification for this research is its focus on the European Union. The EU is one of the largest contributors of fishing subsidies across the world. Also, EU member states score high on the list for countries active in high sea fishing operations (Sumaila, et all., 2019). However, countries like China, Japan, the United States and South Korea share the same characteristics. What separates the EU case, are its goals to stop the allocation of these capacity enhancing subsidies, whilst still granting vast amounts of said subsidies. This means shifting the scope of the analysis from trying to inform the institutions on the damaging effect of their subsidies, towards research which analyses the reasons for hindering reform.

Analysis

Scope of the Analysis

In this first part of the analysis the overall system of high sea fishing subsidies within the European Union is defined. The subsidies themselves are granted through the EU member states. They consist of budget received via a European Fishing Fund or separately given by the member state. So, it is within these routes, that decisions are made in favour of capacity-enhancing subsidies. To better analyse this, a brief overview of the mechanisms is presented.

European Union Route

The allocation of money travels via one of the European Structural and Investment Funds: the European Maritime and Fisheries Fund (EMFF). Between 2014 and 2020 the fund had a budget of over six billion EUR. The amount of the budget and its allocation follows the general legislative procedure used by the EU since the Lisbon Treaty. The European Commission presents a proposal, which is then amended and later approved by the two other main bodies, the Council and Parliament of the EU. After back-and-forth amendments between the three institutions, a common ground position is implemented. The EMFF provides capacity enhancing funds, which make high sea fishing possible, in the form of vessel manufacturing or renewal (Skerritt, et all., 2020).

An article by Skerritt et all. (2020) analyses the three different fishing funds since the year 2000 and labels their axes, areas of intervention, according to the nature of the subsidy. To provide a more comprehensive analysis of the flow of these subsides they should be explained briefly. The fund, active between 2000 and 2006, was the Financial Instrument for Fishing Guidance (FIFG) (budget of 6.7 billion EUR). More than 1.8 billion EUR has been labeled by the study as being allocated as a capacity enhancing subsidy, with most funds going to vessel construction (nearly 3000 vessels) and modernization (nearly 8000 vessels). In hindsight, studies have suggested that the policy of subsidies by the FIFG directly contributed to the overfished status of multiple fish species (Cappell et all., 2010). Between 2007-2013, the European Fisheries Fund (EFF) was established. It replaced most of the FIFG role to tackle the problem of overcapacity. However, the bulk of subsides went towards vessel modernization, resulting in an increase in fishing capacity, even though subsidies towards vessel construction were scrapped. In 2014, the EFF got replaced by the

European Maritime and Fisheries Fund (EMFF), active until 2020. Within this period some steps were made towards reducing capacity-enhancing subsidies, as within this period the allocation of beneficial subsidies was larger than the capacity enhancing ones. However, the EMFF still continued subsidizing overfishing caused by the industry (Cappell et all., 2010).

Member State Route

The other main line of subsidy flow is directly from the member states to the industry. This route is more straightforward, with subsidies being directly allocated to the different high sea fishing firms. Within this route, fuel subsidies amount the largest sum and are also key facilitators of high sea fishing. These subsidies give tax-exemption towards the industry, allowing vessels to have a lower operating cost, as fuel is one of the main expenses. Fuel subsidies in particular are defined as 'the difference between the price per liter of fuel paid by fishers and the national price applied to fuel purchases for other uses in a given economy.' (Sumalia, et all., 2010). Fuel subsidies alone are responsible for around a quarter of total subsidies granted to the fishing sector worldwide. They play a vital role within the high sea fishing industry. Eliminating only fuel subsidies would cause more than half of all high sea fishing by distant water fleets to become unprofitable (Sala, et all., 2018). Another actor within this route are the national fishing industry lobbies, who advocate in favor of subsidies towards the sector.

Stakeholder and Engagement Analysis

In the previous section we have established the overview of the flow of subsidies towards the European fishing sector. However, this paper is specifically focused on High Sea fishing subsidies, which allows us to zoom in. One of the main characteristics of the high sea fishing industry is that it is far out from shore. As a result, the ships spent weeks, sometimes even months at sea fishing, with a permanent crew of around 40 fishermen (Greenpeace, 2018). In addition, to be able to store the caught fish for such a long time, the ships require a large storage freezer. Consequently, high sea fishing fleets are big and expensive to build, which narrows the analysis towards a few specific companies. In this research 22 companies registered in Europe, are identified, with fishing vessels capable of fishing in the high seas. The companies (see Appendix for list of companies used for analysis) are registered in Spain, Portugal, Lithuania, Greece, Denmark, France and the Netherlands (Carmine, et all., 2020;

Greenpeace, 2018). These companies are mainly represented by two overarching fishing lobbies, specifically dedicated towards European policy, namely Europêche and the Pelagic Freezer-trawler Association (PFA). These are overarching organizations uniting multiple national lobbies to project 'one' European voice, specifically directed towards the EU (Makris, et all., 2021). The different stakeholders, as presented in Table 1. In the next part, each stakeholders' role, incentives and 'power' is discussed.

Table 1

Different stakeholders within the high-sea fishing subsidization system

Private stakeholders	Public Stakeholders	Civil society stakeholders
(high sea) Fishing Industry	EMFF (previously FIFG (2000-2006), EEF (2007-2013))	National Fishing lobbies
MSC	European Commission, Parliament and Council	United European fishing lobby: 'Europêche' and the 'PFA'
	National Governments of Spain, Netherlands, Portugal, Denmark, France, Greece, Lithuania;	The consumer
	Regional Governments	Advocacy groups Scientific community

Private Stakeholders

The High Sea Fishing Companies. The 22 European companies with fleets capable of fishing the high seas are one of the main actors in question. They are the recipients of the subsidies and are the ones fishing within the high seas. Many of these firms are now complex and multinational corporations, owning multiple different boats, as well as having undertaken vertical expansion through the acquisition of, for example, fish processing plants. Some of these massive corporations started out as small family-owned enterprises, and are now still in the hands of the same family. Like, the owners of the Dutch Parlevliet & Van der Plas, who

own 43 ships. Among them is the immense freezer-trawler *Annalies Ilena*, which measures 144 meters and is capable of processing 400 tons of fish a day and has a storage capacity of 7000 tons. To put it into perspective, the average small scale fishing boat collects 104 kgs a day, which is more than 3489 times smaller than *Annalies Ilena's* average daily catch. Amongst the company's fleet is also the ship *Helen Mary*, which received more than 6 million EUR in European subsidies during its construction alone (Greenpeace, 2018; Makris, et all., 2021).

These companies profit highly from fishing in the high seas, which is in turn made possible by its heavily subsidized technological fleet and through fuel subsidies. Their stake is to make as much revenue as possible, by collecting as much fish as possible. We previously described in the article that in reality these things do not go together, however because of the 'mining' nature of the high seas, we can assume that collecting as much fish as possible is a result of its profit orientation. Within subsidies specifically, their interest is to collect as much of them as possible. They can achieve this through promoting a higher budget for the EMFF and later lobbying for the highest share of the budget. Another route is through direct lobbying for subsidies via regional and national governments. They form the actors who profit the most by maintaining the status quo, and thus are the most reluctant for change.

The power within the system of the companies is relatively high. During talks on the division of subsidies and fishing quotas, owners and representatives of the industry receive a seat at the negotiation table, which grants them access to confidential meetings and information, unavailable to other, pro-change, stakeholders. For example, each year the fishing quotas are set on certain fish species. The European Commission, informed by scientific advice the International Council for the Exploration of the Sea, sets a total allowable catch (TAC) for a certain fish stock. This amount, based on the Maximum Sustainable Yield, is then distributed amongst EU member states, who in turn subdivide the quota amongst the fishing firms. However, during these negotiations, the industries themselves have a seat at the table. As a result, the final distributed TACs end up higher than the original scientific based one. With Ireland, Belgium and the Netherlands averaging a 10% higher TAC than the scientific advice (Makris, et all., 2021).

These industrial fishing ships are highly efficient, as a result they require a very low amount of personnel compared to their company's revenue. For example, the Spanish fishing firm

Moradiña SA has revenues of over 12 million EUR a year, but employs only 68 people (Greenpeace, 2018). Thus, making the role of the labour force, an uninfluential stakeholder.

Marine Stewardship Council (MSC). The Marine Stewardship Council (MSC) was founded by the company Unilever and the World-Wide Fund (WWF). MSC is the most famous certification in the fishing industry, claiming to set the bar for sustainable fishery certification. It was broad to life to give consumers and their purchasing power the option to choose for certified sustainable fish and thus creating incentives for more fisheries to shift towards sustainable fishing. However, it is very expensive to acquire a MSC certification for your business. Between 2009-2017 80 percent of MSC certifications were given to large-scale vessels, because only they could afford it, directing supermarkets and its consumer away from small scale fisheries towards the big industrial fleets, operated by only a few companies (Le Manach, et all., 2020). This creates another incentive in favour of industrial fleets, who are in turn capable of fishing in the high seas. The certification profits to a certain extent of the status quo, as their income is dependent on these industrial fishing fleets. However, their aim is to play an important role towards sustainable fisheries, which makes them possible actors for change. They have some influence through the canalization of purchasing power and are a visible link between consumer and industry.

Public Stakeholders

EMFF. The European Maritime and Fisheries Fund (EMFF) and its predecessors have been introduced in the previous part of the analysis. The fund plays a key part in the EU-route of the subsidy flow, and had a budget of 6.4 billion EUR over the program period of 2014-2020 (Skerritt, et all., 2020). The fund is largely managed by the member states of the EU (89 per cent), with the remaining part being managed by the European Commission (11 per cent). With much of the fund being attributed by the member states, its actual power becomes limited. This is echoed in its goal to solely promote sustainable fishing practices, whilst a large percentage of the budget is later labelled as promoting capacity-enhancing fishing practices (European Maritime and Fisheries Fund, 2015; Skerritt et all., 2020). The fund itself thus has little power with its goals most of the time being overshadowed by the member states' interests. However, its prescribed purpose is to help move the European fishing industry towards sustainable practices. As a result, there is some incentive for change.

European Commission, Parliament and Council. The role of the European Commission, Parliament and Council is to form the financial fisheries fund (EMFF, FIFG, EEF) every seven years, and is thus part of the EU-route of subsidy flow. They decide on its budget and provide a direction towards the allocation of said funds, with the European Commission also being partly responsible for managing the fund. The different EU bodies all have different incentives and role in process, with political parties advocating for various outcomes within the parliament. There also exist overlaps between actors, as for example Javier Garat, a board member and shareholder of the Spanish fishing company Albacora SA, is also a member of parliament in the EU (EU Whoiswho, 2020; Greenpeace, 2018). The power of the institutions is limited towards the setting of the total subsidy budget and giving directions towards its spending. However as seen previously, the goals set by the EU-institutions do not always represent its outcomes. Hence its actual influence remains somewhat narrow. However, their goals do represent the EU's incentive in favor of transformation.

National Governments. The national governments of the member states, specifically the ones with a (high sea) fishing industry, present another keystone actor within the system. They are highly intertwined with EU and its bodies, and are mostly responsible for granting the EU-subsidy route through the EMFF. They are also the main actors within the other route, the subsidy flow from the national governments themselves. Zoomed out, they are subsidy granters, and the companies the recipients, which makes them one of the most powerful actors within the system. For the politicians within the governments, the election cycle, ranging from four to seven years, differing in country and position, is the main driver of incentives. This in turn leads to a short-term focused pattern of incentives. In combination with the earlier established notion of bounded political action towards a small group of power actors, because the harm caused by the group is diffused over many whilst the gains are collected by a few, makes the national governments reluctant to change. Their incentive to change lies with the electorate, when demand for reform starts to shift up people's agendas, the motivation for reform will move.

Regional Governments. Regional Governments play a smaller role within the system compared the national governments. However, they are also able to subsidies the fisheries with their own budget, which makes them a minor branch within the government-subsidized route. For example, the Basque regional government partly subsidized the construction of the

Albacora Uno fishing vessel, a ship owned by the Albacora group. The ship had only returned to the shores of Spain a handful of times, since it was built (Greenpeace, 2018). Furthermore, the regional governments can also perform a type of lobbying, where they advocate for example for subsidies for the fishing industry within its region. On the other hand, these regional governments can also form incentives for change, as their small-scale fisheries are being outcompeted by the industrial ones, causing regional economies to suffer.

Civil Society Stakeholders

National Fishing Lobbies. Fishing lobbies translate the interests of the industries, and more specifically the companies that they represent. They form the political voice of the fishing firms, advocating for more subsidies, quotas and territories to fish in. Most of the time, multiple lobbies are active within every member state with a prevalent fishing industry. The lobbies can have quite some power within the system, for example the Dutch lobby group VisNED defended the Dutch fishing interests around the Faroe Islands. The islands' fishing minister wanted to reform the industry, by limiting private excess rights of foreign ships and allocating them to fishing companies within its own borders. However, VisNED lobbied the Dutch national government against this reform, as a result Mark Rutte, the Dutch prime-minister, threatened ending free-trade agreements between the Faroe Islands and the EU. Consequently, the fishing minister of the island archipelago made an end to the suggested reforms, and the private excess rights remained accessible to Dutch ships (Makris, et all., 2021). This example is used to demonstrate the power of the national lobbies, even at an international stage.

Europêche/PFA. The previously mentioned national lobbies group at European level to form larger, EU oriented lobby groups. One of the most prominent one is Europêche, combining the interests of their fifteen member lobbies, with a focus on the EU-route of subsidy flow. Representatives of Europêche are allowed access at the negotiation tables within the decision-making process, which gives them a degree of power. Their interests are aligned with the interests of national lobbies, who in turn represent the interest of the fishing firms. Another European lobby is the Pelagic Freezer Trawler Association (PFA), which has nine members across the EU, and represents specifically the interests of the freezer trawler fishing vessels. Freezer trawler fishing ships are industrial fishing ships, which can process caught fish on board and store them in its freezers. As a result, they can travel further and fish

for months, which makes them a key part of the high sea fishing fleet (Makris, et all., 2021). The interests of these overarching lobbies are aligned with the interests of national lobbies, who in turn represent the interest of the specific fishing firms. Their motivation for reform is the same as the industries', very low.

The Consumer. The consumer is a direct and indirect buyer of fishing products. They are also a key player within the system. As previously established, overfishing is a threat global food security and high sea fishing subsidies in turn lead to overfishing. Consequently, it is within the long-term incentive to have reform in the subsidization of high sea fishing. However, the short-term incentive is partly driven by the arbitrarily low prices of fish products due to the subsidization of these industrial fishing vessels (Telesetsky, 2012). When well informed, I argue, that the consumer will be guided towards the long-term benefit and subsequently reform. As seen through the MSC certificate, when given the choose, consumer and retailers will choose for what they believe, is sustainable certified fish. It must be noted though, that this choice relies on the certificate to be actually branding sustainable fisheries, which is not always the case. This leads to the group of consumers having a low amount of power, because of their reliance on other institutions, whilst having a high incentive for reform.

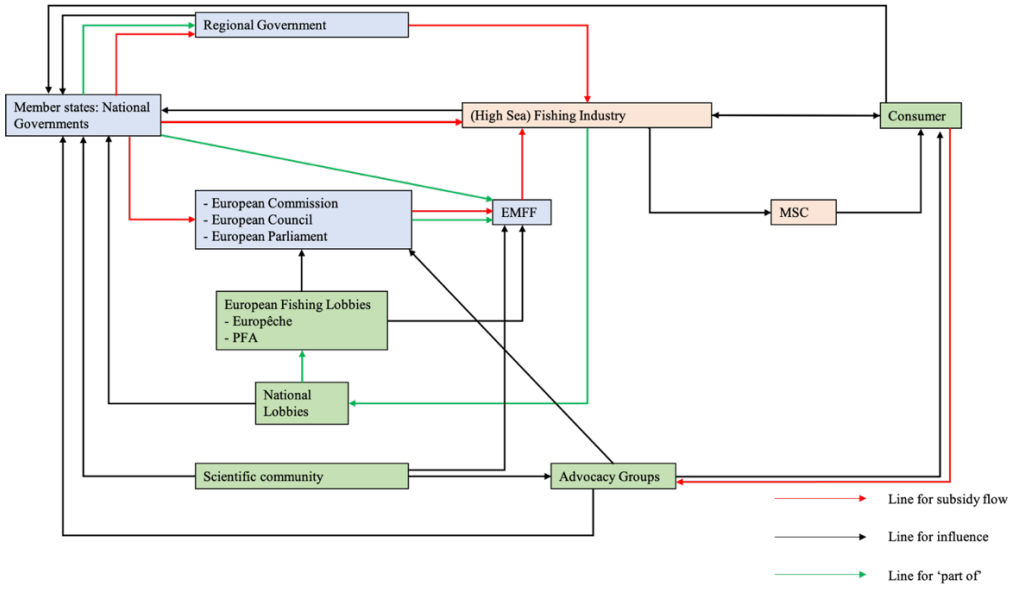
Environmental Advocacy Groups. Environmental groups, like Greenpeace, who advocate for subsidy reform, try to give voice to the oceans and their ecosystems. Because of their wide scope, they do not have a narrowed focus on the issue of subsidizing high sea fishing perse. As a result, they have relatively low amounts of power compared to anti-reform lobby groups, who tend to be more issue specific. They have a maximum incentive for change and relatively low amounts of influence. However, they do have some power, mostly in the form of informing and promoting change at the consumer and governmental levels.

Scientific Community. The scientific community is widely ranging. But within this system we are focusing on the scientists who set Maximum Sustainable Yield values, and overall are responsible for monitoring the condition with the oceans. They have power in the form of setting the original total allowable catch (TAC), however its influence diminishes when a country sets the de facto level higher than their scientific advice. Their incentive for reform is high, as they monitor the fish stocks being depleted and advise bodies to stop overfishing.

All mentioned stakeholders have their own incentives in the subsidization of high sea fishing. In figure 1, an overview is presented of the 'web' of stakeholders within the system of high sea fishing subsidies.

Figure 1

Map of stakeholders within the high sea fishing subsidization system



Key crossroads

From the previous analysis we can identify three key crossroads where decisions about high sea fishing subsidies are being made. These are critical when analysing the obstacles within subsidy reform.

The first key intersection takes place at the EMFF within the scheme. The EU has set the budget and certain goals they wish to achieve with said budget. However, the actual resulting subsidies do not always align with these goals, many of which still end up being capacity-enhancing. Because of the huge power of member states, controlling the direction of the budget, combined with fishing lobbies getting a seat at the table, the actual goals fade away and the outcome shifts away from subsidy reform.

The second key intersection lays at the direct subsidy route from member states towards the industry. Election cycles cause incentives to be more short-term oriented. As a result, they tend to be in favour of short economic gains, and against reform in subsidies. However, this is taken away when the subsidy reform becomes a higher priority for the electorate. Then, the reform aligns with the politicians' short-term goals.

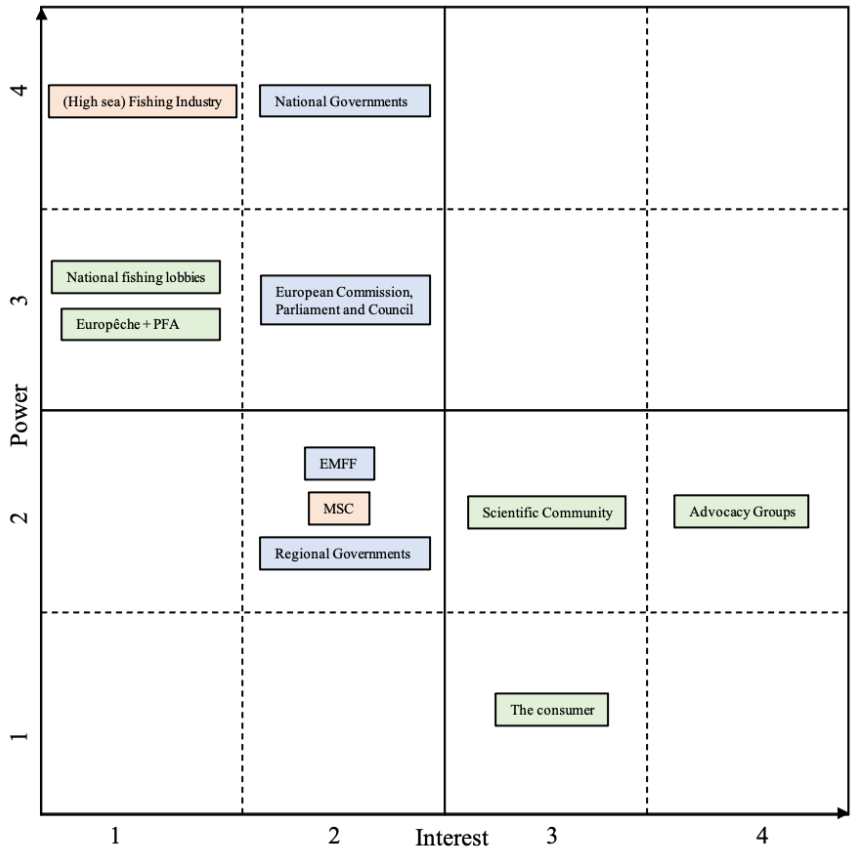
The final key intersection is located at the link between the high sea fishing industry and the consumer. If consumers are incentivized to use their purchasing power, to stop buying subsidized high sea fish, then the incentive to lobby for subsidies is minimized.

Framework for Change

From this analysis a possible framework for change is made. First each stakeholder is mapped on a matrix according to their power and interest in subsidy reform, using the AIIM model as described earlier. The actors, most likely to realize subsidy reform, are situated in the top right corner of the matrix (High level of power; High level of interest). Stakeholders who are hindering the implementation of reform are situated in the upper left-hand corner (High level of power; low level of interest). In figure 2, each identified stakeholder is placed within the AIIM model.

Figure 2

AIIM model of the high sea fishing sector



The most notable is the lack of high interest and high-power stakeholders within the system. Most actors who have a conservative position on subsidy reform also benefit from the most power to do so. While at the opposing side of the spectrum, the stakeholders who suffer the most from the lack of reform, have low degrees of power. The ICA model goes on to analyse possible coalitions for change. With different strategies according with the four corners of the matrix. The ICA model attributes four main approaches according to the stakeholders' position on the matrix:

- High level of power; Low level of interest: Advocacy
- High level of power; High level of interest: Close engagement
- Low level of power; Low level of interest: Awareness raising
- Low level of power; High level of interest: Empowerment

Trying to move the different actors towards the top right corner. Using a combination of empowering the one's with the highest interest and increasing commitment to reform for the

ones holding high amounts of power. The ICA model goes on to form possible coalition for change, trying to move each stakeholder towards to top right direction of the matrix. In this research paper, a few examples are presented.

Coalition for Purchasing Power

This coalition involves consumers, advocacy groups and the MSC-certification, fFocusing on the key-intersection between the (high sea) fishing industry and the consumer. The coalition would mainly be focused on the MSC, who would block certification for subsidized high sea fishing fleets. As a result, allowing for the consumer to use its purchasing power to block the primary transfer of income of high sea fishing fleets. This would also apply to non-EU fishing fleets, as the European Union is the largest importer of fish (Grafton, et all., 2010). With advocacy groups raising awareness to the public on the effects of subsidies on overfishing, it would encourage them to buy the certified, non-subsidized fish. Resulting in a move towards increasing amount of power for consumer and, in addition, because of the awareness raising, also to? an increase in the amount of interest to? reform for the consumer stakeholder. Providing a possible coalition for reform (deze zin wellicht weg?). However, it should be noted that implementation will be very difficult, as MSC has had difficulties monitoring fishing fleets and does not have complete access to the flow of subsidies in most countries (Le Manach, et all., 2020).

Coalition for Scientific Long-Term Management

This possible coalition for change, relies on the limiting of powerful national governments. It is aimed at a cooperation between the EMFF, European Commission, Parliament and Council, and the scientific community. It is focussed on the EMFF key intersection within subsidy flow. The goals for allocation of the EMFF budget, set by the European Commission, Parliament and Council, do not match the actual outcomes. This is due to the high power of the national governments within the EMFF. If the EMFF would be allowed to have more power within the fund, in combination with an interwoven role of the scientific community, the coalition could move towards reforming its subsidies. Here it must be noted that this reform will have large resistance from the national governments, who in this scenario would hand in control over the EU.

Coalition to Foster Change on an International Scale

This last coalition focusses on limiting overall fishing in the high seas. It would involve the scientific community, European Commission, Parliament and Council, and advocacy groups to promote a change in worldwide legislation. In this plan 54% of the high seas, where fish extraction has only been possible because of capacity-enhancing subsidies, will all become Marine Protected Areas (Sala, et all., 2018). Here all fishing industries from around the world would be prohibited to fish and ecosystems will get a chance to recover. This would not cause economic harm, because these waters are already unprofitable for fisheries. The European Union, with its big role in the world fishing trade, would promote the establishment of this large Marine Protected Area. This coalition would get a lot of internal and external opposition, with big high sea fishing industries like Japan, China, South Korea, and certain EU member states possibly forming their own coalition hindering this reform.

Conclusion

This research aimed at trying to understand why the unprofitable and ecologically damaging high sea fishing sector has not been subject to subsidy reform within the European Union. Through qualitative research focused on political economy, using the ICA method of analysis, it can be concluded that stakeholders with high amounts of power to foster reform, do not have the incentive to do so. The fishing industry, the national governments and the EU all lack the incentive to promote reform. This is mostly due to short-term benefits outweighing long-term outcomes. Also, the industries' lobbies are allowed to enter the decision-making process regarding the allocation of subsidies, which gives them a big advantage over the small-scale fisheries, who are not represented. On the other side actors who have the highest interest in the reform, lack the capabilities to implement them. The ICA method of analysis has not previously been used within scientific research; however, it has provided a useful framework within this research. It gives a clear overview highlighted within the mapping phase of the research. Furthermore, it has helped the paper channel the political economy theoretical approach. It finalizes with the usage of the AIIM model, which has widely been used throughout academia, adding to its scientific relevance. However, ICA's reliance on its prescribed questions can be seen as lacking, as they have a high tendency to focus on more localized, informal relations between actors, which on the scale of the European Union can be difficult to incorporate. More specifically, the questions determining score used in the AIIM model, were simplistic and lacking in its depth. Overall ICA can be

useful for academia, with slight adaptations when applying it on a larger system. In addition to examining if the non-scientific body's method of analysis could be useful to scientific research, the paper has contributed to the overall science on the topic of high sea fishing subsidies by providing an overview of actors at play within the subsidization system, and, more specifically, identifying which stakeholders are hindering reform. At the end, possible coalitions for change are identified. Further research needs to be conducted to identify the feasibility of the possible solutions.

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Appendix

Table 1
list of companies used for analysis

Company	Country of registration
Albacora S. A	Spain
Parlevliet en Van der Plas B. V	Netherlands
Sociedade de Fomento da Pescalda	Portugal
Cornelis Vrolijk Holding B. V	Netherlands, UK
Moradina S. A	Spain
Pedro Franca S. A	Portugal
Samper Holding	France
W. Vand er Zwam Zonen Visserij Maatschappij B.V.	Netherlands
Svenn Anker Gasberg GrønkjærHvedemarken	Denmark
Unimed Glory	Greece
Batlanta (Lispa)	Lithuania, Panama
Pesquerias Marinenses S.A	Spain
Atlantex Sp. Z o. o.	Poland
INPESCA	Spain
Grupo Nores-Manuel Nores Gonzalez S.L	Spain
Hermanos Gandon SA	Spain
Grupo Profand SL	Spain
Freiremar SA	Spain
Machado & Cardoso LDA	Portugal
Grupo FRIP	Portugal
Pesmar -Pesquerias Marinenses SA	Spain
Pesquera Inter SL	Spain

Note: (Carmine, et all., 2020; Greenpeace, 2018)