sustainability

MDPI

Article

The Impact of the EU IUU Regulation on the Sustainability of the Thai Fishing Industry

Garnchanok Wongrak [1], Nany Hur [2,*], Insoo Pyo [3] and Jungsuk Kim [4,*]

[1] World Trade Institute of Sogang, Graduate School of International Studies, Sogang University, Seoul 04107, Korea; g.garnchanok@gmail.com
[2] Lee & Ko Global Commerce Institute, Seoul 04532, Korea
[3] Bae, Kim & Lee, LLC, Seoul 03161, Korea; insoo.pyo@BKL.co.kr
[4] Department of Economics, Sejong University, Seoul 05006, Korea
* Correspondence: nyhur@leeko.com (N.H.); js_kim@sejong.ac.kr (J.K.); Tel.: +82-10-9209-9643 (N.H.); +82-10-4787-8983 (J.K.)

Abstract: In recent years, the implementation of and compliance with general values such as the protection of human rights, labor, environment, and democracy has become a very important agenda in global trade policy. The new Secretary General of the WTO emphasized her strong interest in the WTO negotiations in reforming various subsidies for fishing industries, which are to be concluded by the upcoming Twelfth MC (Ministerial Conference) in November 2021. Sustainability has become another critical issue in the international trade context. Plurilateral initiatives among 50 WTO member countries have already been taken regarding the Structured Discussion on Trade and Environmental Sustainability (SDTES). In these circumstances, this study on the EU's IUU case toward Thailand helped to understand how Thailand's compliance with the EU IUU Regulation has affected Thailand in achieving the goal of "sustainability" of both fishing practice and working conditions in its fishing industry. The EU's imposition of the "Status of IUU Nations Carded" has created the grounds to combat IUU fishing in Thailand by converting an issue of public interest into a private sector issue, for which the sharp decline in fish exports is a matter of concern. This EU–Thailand case also indicated that along with intensifying international cooperation and surveillance for improving the working environment, the inclusion of a human rights issue as a tool for correcting trade distortion is most urgent and essential. For the sustainability of both economic and societal values of developing countries such as Thailand, a firm and solid implementation of adequate working conditions should be employed among global trade participants.

Keywords: non-tariff measures; fishery; human right; IUU; EU; Thailand

check for updates

Citation: Wongrak, G.; Hur, N.; Pyo, I.; Kim, J. The Impact of the EU IUU Regulation on the Sustainability of the Thai Fishing Industry. *Sustainability* **2021**, *13*, 6814. https://doi.org/10.3390/su13126814

Academic Editors: Tim Gray and Giuseppe Antonio Di Vita

Received: 11 May 2021
Accepted: 11 June 2021
Published: 16 June 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Fishing is carried out across an area spanning more than 55% of the earth's total surface and is the world's largest single industry, representing a size four times bigger than that employed for farming [1]. In global terms, more than 250 million people depend directly on fisheries and aquaculture for their livelihood, and millions are engaged with fisheries and aquaculture value chains. Fishing is carried out within a country's own territorial sea or exclusive economic zone (EEZ), and fishing production is an especially important source for the economies of Asian countries.

Overfishing, ineffective management practices, and pollution from industrial development and agricultural production have seriously depleted fish stocks. Illegal, unreported, and unregulated (IUU) fishing in the world accounts for 15 to 20 percent of the world's fisheries, and its estimated economic value is between 10 billion and 23.5 billion US dollars, which is equivalent to 11–26 million tons per year [2]. While not all illegal, unreported, and unregulated small-scale activities are equally problematic, there is a possibility that IUU fishing out of control may undermine national and regional efforts to conserve and manage

fish stocks. Thus, the UN Food and Agriculture Organization (FAO) explains that IUU fishing is "a broad term that captures a wide variety of fishing activity, especially which may be a major threat to human livelihoods, the ocean environment and food security" [3]. However, the extent of IUU trade, not captured by global monitoring, far exceeds this estimation. If this trend continues, by 2050, when the world's population is estimated to be around 10 billion, fish seeds may already have dried up [2].

The issue of depletion of fish stock is not simply a question of nature conservation. As many poor people often depend on fishing as a main source of income, the depletion of small-scale fisheries can impact this important source of livelihood of low-income groups of many developing countries. In this concern, sustainable fisheries can be an important policy objective for upgrading the living quality of the poor by providing them with a sustainable income source and provision of jobs in society. Thus, intensified global and regional governance of this vital resource is essential to safeguard the sufficient supply of fish for those living in poor regions as well as to preserve the natural resources for future generations [1]. This is why the members of the World Trade Organization (WTO), who "recognize their relations in the field of trade and economic endeavor should be conducted with a view to raising standards of living" according to the Agreement Establishing the World Trade Organization, continue to negotiate on prohibiting subsidies for the overfished stocks and for the lack of recovery of the stock or continuous reduction in the level of the stock [1].

In this regard, in April 2015, the European Union (hereafter the EU) announced that Thailand was in breach of the illegal, unreported, and unregulated (IUU) fishing regulation by carrying out inappropriate fishing activities. According to the FAO, Thailand has been illegally fishing for over a decade, which has caused negative impacts to marine resources and the environment [3]. For example, the total fishery production of Thailand has decreased about 39% in 10 years because of the substandard fishing equipment used and overfishing or illegal fishing without preserving the fishes for future food supplies [2]. The EU IUU Regulation highlights that more concerns should be paid globally to prevent IUU fishing to secure the long-term sustainability of fish stocks.

Even so, we must note that the objective of IUU is also to protect the human rights of workers by regulating illegal acts such as human trafficking and forced labor in the fishing industry. For the sustainable development of the global fishing industry, "sustainability" must be pursued not only for preserving fish stock but also for humane working conditions. This can be also confirmed in the recent EU Trade Policy Review (An Open, Sustainable, and Assertive Trade Policy), which was announced by the EU Commission on 18 February 2021. In this concern, the EU intends to exercise its interest over developing economies, such as Thailand, where comparably poor labor conditions may have existed in the past. In Thailand, workers, mainly from Myanmar and Cambodia, are forced to work in dirty and dangerous conditions and are often underpaid. For instance, under the IUU provisions in "the Trafficking in Persons (TIP) Report", an annual report issued by the US State Department's Office to Monitor and Combat Human Trafficking in 2014, Thailand saw its score downgraded from Tier 2 to Tier 3 [4].

As a part of its sanctions, the EU imposed an IUU yellow card on the Thai government by providing six months to comply with its measures.

Failure to do so would make the EU impose further sanctions, even prohibiting Thailand from exporting fishery products to EU countries. Such strong actions would undoubtedly affect and potentially undermine the profitability of the entire Thai fishing industry. While the fundamental purpose of imposing a yellow card is to protect against IUU fishing, can the IUU Regulation be considered a type of non-tariff measure (NTMs), which may have a potential impact on trade?

NTMs are "policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both [5]". In this instance, the IUU Regulation can be classified as "Technical Barriers to Trade (TBT)", which influences the flow of trade of fish products to the EU

market [6]. As part of the IUU fishing regulations, the EU is able to conduct technical procedures such as testing, verification, inspection, and certification to confirm that Thai fishing products fulfill the requirements of the EU regulations. Thus, the IUU Regulation can potentially restrict the importation of Thai fishery products. Furthermore, the EU may also be able to impose economic sanctions on its trade partners if the IUU requirements are not properly observed by partner countries.

In January 2019, the EU lifted the yellow card, which had been imposed on Thailand since 2015, in recognition of the substantive progress made by Thailand in tackling IUU fishing [7]. Yet, it is still unclear whether the EU IUU Regulation has been successful in achieving greater sustainability of the world's fishing industry. In this regard, this study analyzed the relationship between the EU regulation and the sustainability of the world's fishing industry by using the EU–Thailand case. For this purpose, we prepared three key research questions:

RQ1: How did the EU IUU Regulation impact the Thai fishing industry?

RQ2: What was the response of the Thai government to the regulation and the issue of a yellow card?

RQ3: What were the key policy provisions implemented by the Thai government that encouraged its fishing industry to adhere to the IUU Regulation?

In recent years, non-traditional issues in previous international trade contexts such as environment and labor protection are being discussed actively now in the EU as well as in the US. For instance, in 2020, the US also initiated the investigation of the seafood products obtained from IUU fishing and their potential economic effects on US fishermen [8]. Further, the US has recently sanctioned the Chinese government officials in connection with involving serious human rights abuse against ethnic minorities in the Xinjiang Uyghur [9]. Further, in the United States-Mexico-Canada Agreement (USMCA), the trade norms such as the rules of origin or the trade-related dispute settlement procedures have been linked to the labor rights issue strengthening the labor standard, especially in Mexico. In this concern, the review on this particular EU–Thailand case in relation to the governance of human rights issued through the international trade sanction would address the important policy implication.

The remainder of the study is structured as follows: Section 2 reviews the existing literature on the IUU fishing regulation and the Thai fishing industry. Section 3 outlines the current situation of the Thai fishing industry and its dependence on the EU market. Section 4 analyzes and discusses the sustainability and legal and economic impact of the yellow card issued by the EU on the Thai fishing industry. Section 5 describes how the Thai government reacted to the EU IUU Regulation, which proved the effectiveness of the trade measure encouraging third countries to realign with the EU's objective of sustainability.

2. Literature Review

The majority of previous related studies have focused on the export effect on Thailand, while only a few have looked at the nature of the IUU yellow card on Thailand's fishing industry. The analysis of [10] reviewed the reasons why the EU imposed on Thailand an IUU fishing yellow card and the situation of Thailand's IUU fishing industry as a whole. This study has explained the on-going processes of Thailand's implementation of the measures of restricting the number and size of fishing vessels and fishing efforts to control fishing capacity. On the other hand, the report prepared by [11] estimated that the EU's yellow card issued to Thailand would impact US exports of seafood. Thailand imports raw tuna, salmon and Alaska Pollock from the US to produce canned and prepared/preserved fish. Thus, Thailand's yellow card also caused concern for US seafood exports. As for studies on Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary (SPS) measures regarding export outcomes, [12] found no concrete evidence that the EU SPS measures have a serious negative trade impact on African groundnut exports. The works in [13,14] looked at the TBT and SPS measures for exports to China and presented similar results;

however, a study by [15] revealed that the impact of TBT measures on international trade flows between China, Japan and Korea was insignificant.

There have been other works carried out regarding Thailand's IUU fishing practices, but very few works have focused on the EU IUU Regulation. For example, [16] focused on how international treaties and organizations influence Thailand's IUU Regulation. According to this study, Thailand will gradually reduce IUU fishing in its territory due to its international obligations. The study in [17] investigated the economic effects of IUU fishing and the Thai government's countermeasures on Thai fishing communities, in particular, on small-scale fishermen households. Here, the study pursued a mixed quantitative and qualitative approach to better grasp the complexity of fishing-related changes to household income.

Unlike the existing studies, this study focuses on the EU IUU Regulation and its impact on the Thai fishing industry based on the sustainability. Due to the one-time event of IUU case in Thailand, the data is not sufficient to make an empirical analysis thus we find it better to conduct a simple descriptive analysis of the impact of the IUU Regulation on Thailand's exports to the EU. As indicated by the study of [18], EU uses NTMs (non-tariff measures) as a tool to encourage fish supply country to eliminate Illegal Unreported Unregulated (IUU) fishing. Thus the imposition of the IUU Regulation on Thailand can be regarded as non-tariff measures, and this partially reflects the issue of human rights. Whether one country's NTM can have real extra-territorial enforcement power will be discussed along with analysis of the impact of the EU's IUU yellow card and the new Thai fishery laws.

3. The impact of the "Yellow Card" on the Thai Fishing Industry

3.1. Thai's Fishing Industry Overview

Thailand is a land abundant in fisheries. Such views are supported by an old Thai proverb; "*Nai Nam Mee Pla Nai Na Mee Khao*", meaning "There are fish in our waters and there is rice in our fields". Like most economies in Asia, the Thai economy is heavily dependent on trade, and the most important source of economic growth is export (see Figure 1).

Thailand is also well known as the world's largest exporter of rice, sugar, and fishery products [19]. Figures 2 and 3 show the trend of Thailand's production of food and fish.

Thailand's economy heavily depends on trade, and food export, in particular, is one of the major sources of Thailand's economic growth. Figure 4 illustrates the relationship between Thailand's food export and GDP change over the period of 1960 to 2019.

According to the FAO (The Food and Agriculture Organization) of the United Nations, Thailand is known as one of the largest seafood-exporting countries in the world. With its advantageous geographic location, Thailand's coastal area is suitable for both aquaculture and fishing activities, and, as such, Thailand has naturally become a very competitive producer of fish products. In addition, Thailand's fisheries sector plays a vital role in the country's economy as it creates jobs for many unskilled laborers while providing important resources of nutrition for the populace.

With more than 3200 km of coastal area, Thailand has been able to develop into one of the largest seafood processing and exporting countries in the world [20]. Fishing and seafood processing are major competitive areas in Thailand's fish production industry. It also plays an important role in driving economic growth and provides employment opportunities for many of its citizens, with over 650,000 people working in the country's fishing industry. Since 1977, Thai fisheries have experienced massive growth, with the total production reaching over 2 million tons per year [20].



Figure 1. Thailand's trade and exports of goods and services (% of GDP). Source: Authors' own calculation based on WDI from www.worldbank.org (accessed on 21 July 2020). Note: Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product. Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.

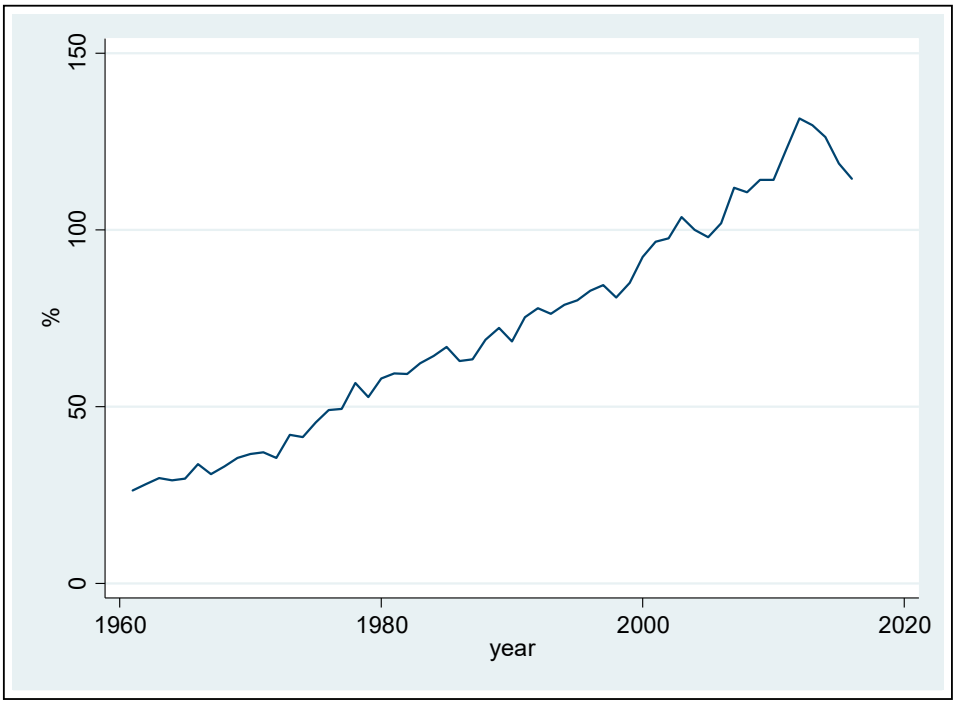


Figure 2. Thailand's food production index (2004–2006 = 100). Source: Authors' own calculation based on WDI from www.worldbank.org (accessed 21 July 2020). Note: The food production index covers food crops that are considered edible and that contain nutrients. Coffee and tea are excluded because, although edible, they have no nutritive value.

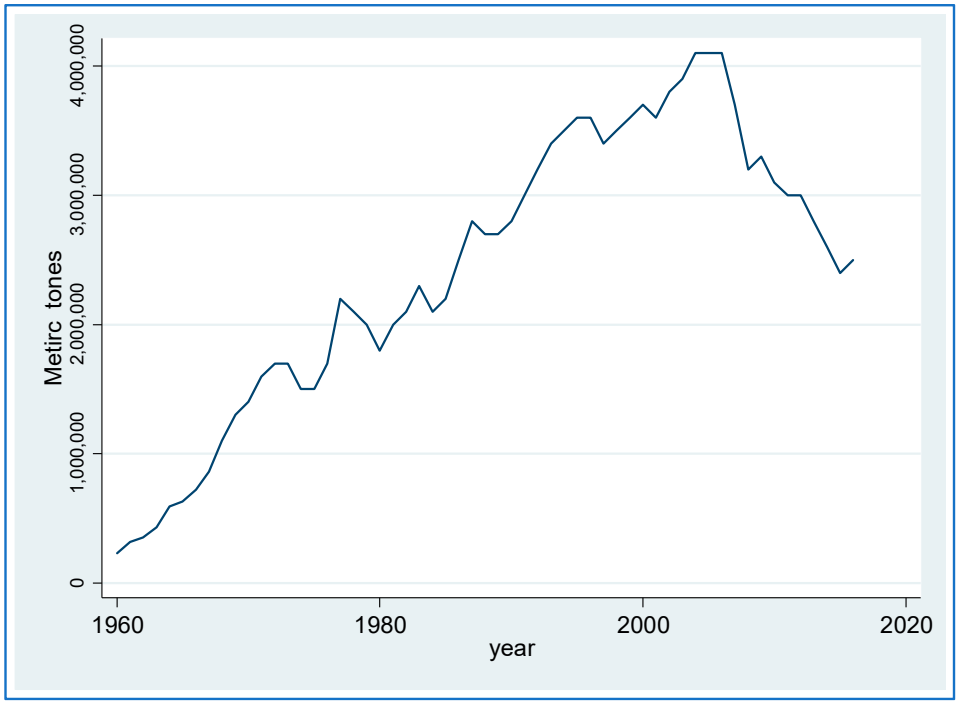


Figure 3. Thailand's total fisheries production (metric tons). Source: Authors' own calculation based on WDI from www.worldbank.org (accessed 21 July 2020). Note: Total fisheries production measures the volume of aquatic species caught by a country for all commercial, industrial, recreational, and subsistence purposes. The harvest from mariculture, aquaculture, and other kinds of fish farming are also included.

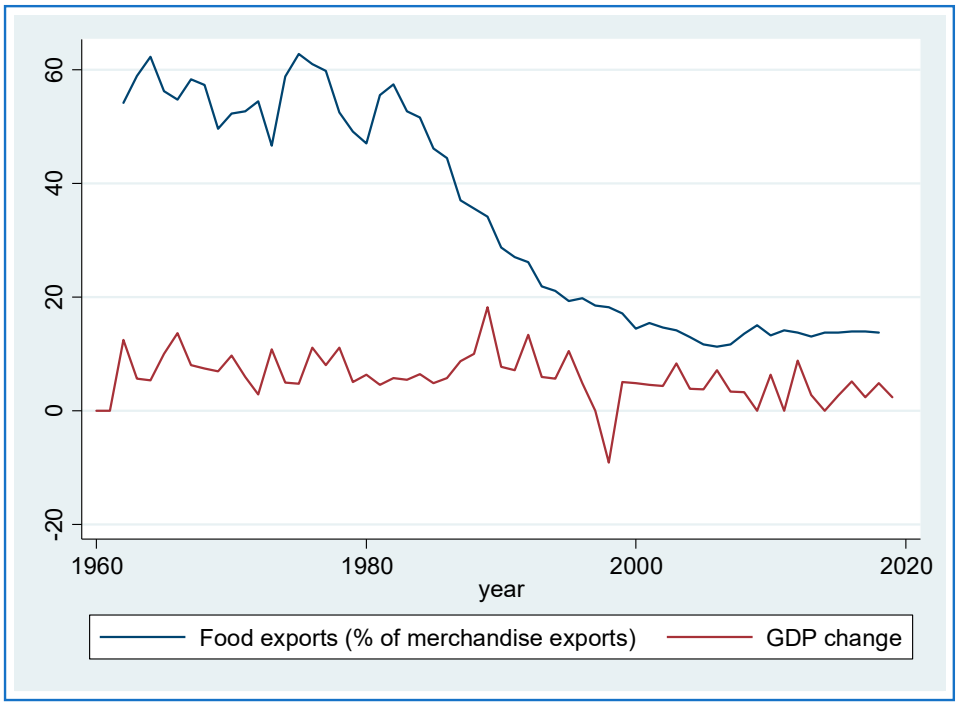


Figure 4. The changes in Thailand's food export and GDP. Source: Authors' own calculation based on WDI from www.worldbank.org (accessed 21 July 2020). Note: Food comprises the commodities in SITC sections 0 (food and live animals), 1 (beverages and tobacco), 4 (animal and vegetable oils and fats), and SITC division 22 (oil seeds, oil nuts, and oil kernels).

As domestic demand continues to increase due to a burgeoning middle and upper-middle class, the Thai fishing industry has prospered. In 2018, the GDP of the Thai fishery industry was USD 3560 million [21].

As shown in Tables 1 and 2, the main fishery products for export are prepared/preserved tuna, skipjack, and frozen or prepared/preserved shrimps and prawns. In 2017, the value of Thailand's tuna exports was around USD 2.1 billion and about USD 1.8 billion for processed shrimps and prawns. Apart from the EU, Japan, the U.S., Australia, Canada, and China are the most important countries among Thailand's global trading partners.

Table 1. Thailand's seafood export status (USD million).

Year Export		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
World	HS_03	3075	3335	3057	2196	2102	1753	1783	1787	1686	1180
	HS_16	5911	7034	7049	6760	6249	5945	5751	6094	6387	6027
EU	HS_03	486	548	447	320	365	197	196	206	164	174
	HS_16	1634	1981	1596	1602	1491	1262	1119	1116	476	1122

Source: Authors' own calculation using data from https://comtrade.un.org/data/ (accessed 20 July 2020). Note: HS 03—Fish and crustaceans, mollusks, and other aquatic invertebrates and preparations thereof. HS16—Meat, fish or crustaceans, mollusks, or other aquatic invertebrates and preparations thereof. EU includes the United Kingdom.

Table 2. Thailand's seafood items for export (USD million).

Year Category	2014	2015	2016	2017
Fish, fresh/chilled, excluding fish fillets and other fish meat (0302)	51.8	45.1	42.8	33.4
Fish, frozen, excluding fish fillets and other fish meat (0303)	173.8	127.4	121.6	156.6
Fish fillets and other fish meat, fresh/chilled/frozen (0304)	317.6	289.1	281.7	249.1
Fish, dried, salted, smoked (0305)	110.2	95.1	104.9	90.3
Mollusks, live/fresh/chilled/frozen/dried (0307)	448.1	364.1	352.8	373.8
Shrimps and prawns, frozen/not frozen, prepared or preserved (030617, 0330626, 030627, 160521, 160529)	1974.30	1644.20	1952.80	1873.80
Tuna, skipjack, and bonito, prepared/preserved (160414)	2354.80	1966.20	1978.80	2061.70
Sardines, sardinella, and brisling or sprats, prepared/preserved (160413110)	168.8	154.5	116.9	108
Salmon, prepared/preserved (1604111000, 16041190000)	122.3	132.8	100.2	113.8
Cuttlefish, squid, octopus, live/frozen/chilled (030741, 030742, 03074910001, 03074910002, 03074910003, 030743, 030751, 030752, 03075910000)	349.8	289.8	283.5	345
Other prepared/preserved fish/seafood	578.8	533.8	514.6	725.9
Total export	6300.50	5352.30	5567.10	5786.40

Source: Authors' own calculation using data from the Global Agricultural Information Network. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Seafood%20Report_Bangkok_Thailand_5-8-2018 (accessed on 25 May 2019).

The consumption of fish in the EU is very popular, and in order to accommodate the increasing demand in the region, the EU imports high volumes of seafood products from global producers every year, which has led the EU to become the world's largest seafood importer. In 2017, the EU imported food products with a value of EUR 143 billion, among which around 18% was seafood [22]. The top five seafood products in the EU are tuna, cod, salmon, Alaska Pollock, and shrimp, and these products are mostly imported from non-EU countries. Thailand is one of the biggest EU seafood trade partners, and in 2018, 8% of Thailand's total exported seafood products went to the EU. (See Figure 5). As we can see from Table 3, Thailand's main seafood exports to the EU are canned tuna, frozen shrimp

and fish meat, prepared or preserved cuttlefish, mollusks and scallops, and others (See Table 3 and Figure 5).

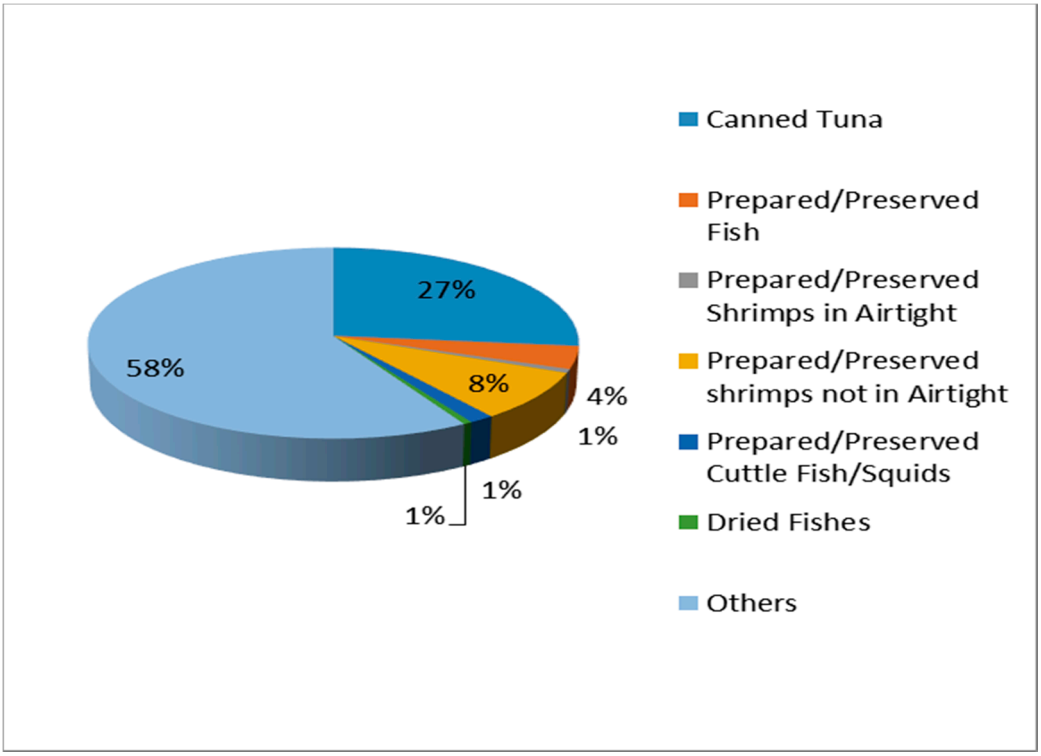


Figure 5. Thailand's exports of seafood products to the EU (2014 to 2018; unit: percentage). Source: Author's own calculation using data from the Global Agricultural Information Network. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Thailand%20and%20EU%20Seafood%20Yellow%20Card%20Will%20Lead%20U.S.%20Exports%20to%20Rise_Bangkok_Thailand_3-11-2019 (accessed on 25 May 2019).

Table 3. Thailand's exports of seafood products to the EU by type of product, for the period 2014–2018 (USD 1000).

Items	HS Code	2014	2015	2016	2017	2018
Canned Tuna	160414	210,145	174,862	131,641	127,211	123,494
Prepared/Preserved Fish	160420	30,231	29,745	28,126	21,889	22,473
Prepared/Preserved Shrimps in Airtight	160529	5237	3524	3961	8326	10,394
Prepared/Preserved shrimps not in Airtight	160521	66,347	21,895	20,305	16,340	15,504
Prepared/Preserved Cuttlefish/Squids	160554	12,013	8062	10,940	12,011	10,898
Dried Fishes	30559	4244	3279	2564	804	654
Others	Others	459,163	299,807	303,390	280,163	245,774
		787,380	541,174	500,927	466,744	429,191

Source: Authors' own calculation using data from the Global Agricultural Information Network. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Thailand%20and%20EU%20Seafood%20Yellow%20Card%20Will%20Lead%20U.S.%20Exports%20to%20Rise_Bangkok_Thailand_3-11-2019 (accessed on 25 May 2019).

3.2. Impact on Sustainability

As the issue of sustainability has become important in various areas, international trade is not an exception in this regard. The concept of sustainability started in the early twentieth century. The more recent concept of sustainable development has evolved by seeking to link the concept of environmental sustainability with economic development, especially in developing countries [23]. The concept of MSY (maximum sustainable yield) has become important in determining and managing sustainable fishing. The EU regulation

against IUU fishing was created to aim at ensuring the sustainability of the global fishing industry. IUU fishing represents a major hazard to the marine environment, the sustainability of fish stocks, and marine biodiversity. The EU regulation specifically provides a system of monitoring third countries' compliance with the international duties against IUU fishing. If a certain country fails to do so, the EU Commission can put it on the "yellow card" list or even on the "red card" list if the country continues to not carry out its proper duties. The EU's decision on listing Thailand as a yellow-card country has legally and economically brought a significant impact on Thailand's fishing industry, as discussed below.

3.3. Legal Impact

According to the concept of territorial sovereignty [24], EU measures are only effective in the territory of the EU. Thus, as an independent nation with its own sovereignty, Thailand falls outside the EU's territorial jurisdiction. However, when the fish products from Thailand enter into the territory of the EU, those products are subject to the EU IUU Regulation, including the aforementioned sanctions. The EU IUU Regulation executed within its territory may not be challenged by other states unless those regulations are in violation of international trade norms. For this reason, international trade laws such as the WTO agreements regulate member states' trade measures, which might unnecessarily restrict trade. However, if those trade measures do not unreasonably restrict international trade, and if Thailand wants to continue to export to the EU market, Thailand may still have to consider changing its own domestic policy and behavior.

The Agreement on Technical Barriers to Trade (the TBT Agreement) deals in particular with each member country's internal technical measures such as "technical regulation" or "standards". The so-called TBT measures may be generally taken by each member country to regulate the imports of those products due to domestic industrial policies and/or the protection of consumers or the environment. Additionally, regulation of the process and production methods (PPMs), which refer to the ways of manufacturing or producing a product, may be regarded as a kind of TBT measure [25]. Although the case of non-product-related (NPR) PPMs, which exclusively concern the production method without any physical impact on the end product, is still debatable, the WTO's adjudicating bodies recently seem to expand the scope of the TBT Agreement even to NPR PPMs [25]. In this regard, the EU's regulation of NPR PPMs, such as the ways of catching seafood, may fall within the scope of TBT measures.

When the TBT measure is mandatory and requires specific product characteristics, it becomes a "technical regulation", which is different from a "standard" regulation whereby compliance is voluntary [25]. The EU IUU Regulation is mandatory in the sense that exports from non-EU countries to the EU have to be accompanied by a "catch certificate", which verifies the legal origin of the products [26]. This "catch certificate" scheme is complemented by the pre-identification of non-cooperating third countries [26]. According to this procedure, third countries may be "yellow-carded" or "red-carded" if they fail to be consistent with certain actions against IUU fishing "in line with their international flag, coastal, port and/or market State obligations" [27]. The impact of the final red card is quite serious, and it even includes the ban of products caught by the vessels of countries with the "Status of IUU Nations Carded" [28] into the EU market [29]. As this compulsory measure can be categorized as a technical regulation, Thailand may challenge the measure whether it is consistent with the TBT Agreement or not. If there exists any legal inconsistency, the EU as a WTO member, has to withdraw or modify the measure.

Here, the EU may be in violation of Article 2.1 of the TBT Agreement, which prevents discrimination against the imported products, since the import ban only applies to the imported products and causes an "unfavorable" condition compared to the domestically produced products. However, in certain circumstances, the TBT provisions relating to discrimination may be interpreted as "balancing the pursuit of trade liberalization and Members' right to regulate." [30]. As such, the regulatory concerns of IUU fishing that underlie the catch certificate may justify the measure as non-discriminatory if it is applied

even-handedly and supported by a multilateral discussion [30]. Indeed, the multilaterally agreed to catch documentation scheme by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) was discussed by the WTO Committee on Trade and Environment [31]. Furthermore, Article 2.2 of the TBT Agreement also states that technical regulations should not be prepared with a view to creating unnecessary obstacles to trade and should not be more trade-restrictive than necessary to fulfill a legitimate objective. As many objectives of the IUU Regulation can be regarded as legitimate such as "national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment", which can justify any inconsistency with the WTO Agreements according to the General Agreement on Tariffs and Trade (GATT) Article XX and XXI, it is likely that the EU's measure may pass this hurdle at the WTO [30].

If the EU's carding decision is regarded as being consistent with the TBT Agreement, the EU would likely continue applying the measure as a legally acceptable measure under the WTO. Thailand would then voluntarily follow what has been requested by the EU IUU Regulation in order to keep its exports flowing to the EU market. Thus, as already discussed above, the legal impact, such as the extraterritoriality, is inevitably related to the economic impact of the measure.

3.4. Economic Impact

The EU's yellow- and red-carding process has caused both positive and negative effects on Thailand's fishing industry. In the long term, it has brought about overall positive effects on the fishing industry, preventing seafood shortages which may increase the price of Thai fishery products, thus keeping the Thai seafood exports competitive [21]. In contrast, since the Thai government started the process of eliminating IUU fishing, negative impacts have also occurred in many sectors related to Thailand's fishing industry, as outlined below.

Since the Thai government reformed its fishing laws by changing the regulation of fishing licenses, some ship owners have had to sell their ships, which they could not use any longer, and around 60,000 people in the fishing industry, which account for around 20% of Thai fisherman, both Thai and non-Thai, have lost their jobs. Even though the Thai government has assisted those Thai fishermen who have lost their jobs due to the new regulation by providing financial compensation or new job training, it seems this is not enough to cover their living expenses. As shown in Table 4, the decline in employment in the agricultural sector has been significant since 2014, and especially so in 2015. The unemployment rate has also increased since 2014. Although we cannot directly link the macro variable with events in a certain industry, the employment trends captured in both micro and macro areas support the notion that the imposition of the EU IUU Regulation has had some impact on Thailand's economy.

Table 4. The impact on Thailand's job market (unit: %).

Year Category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Employment in agriculture	−0.46	6.30	2.71	0.70	−0.29	−6.47	−1.19	4.71	5.51	0.12
Unemployment	0.622	0.66	0.58	0.489	0.576	0.597	0.688	0.83	0.766	0.754

Source: Authors' own calculation based on WDI from www.worldbank.org (accessed 21 July 2020). Note: Employment in agriculture (% of total employment; modeled ILO estimate). Unemployment, total (% of total labor force; modeled ILO estimate).

Firstly, due to the declining number of fish, by about 1 million tons per year, the whole seafood supply chain has been affected, and many enterprises and entrepreneurs such as those working in seafood processing plants, canned fish factories, and fish markets have faced shortages of raw seafood ingredients [32].

At the same time, both Thailand's total seafood exports and those only to the EU have decreased, as we can see from Table 4. The value of Thailand's seafood exports to the EU has decreased since 2014 but rebounded in 2019 as shown at the Table 5. From 2014 to 2015, Thailand's seafood exports to the EU decreased from USD 1856 million to USD 1459 million and continued decreasing to USD 640 million in 2018 (See Table 5). In 2019, after the EU had lifted the IUU, the export of seafood to the EU increased up to USD 1296 million, which is almost an increase of 103% within a single year.

Table 5. Thailand's exports of fishery products to the EU and the rest of the world (unit: USD million).

Year Destination	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
The European Union	2120	2529	2043	1922	1856	1459	1315	1322	640	1296
Non-EU Countries	6865	7840	8063	7034	6495	6239	6219	6559	7433	5911
Total	8.99	10.36	10.10	8.96	8.36	7.70	7.53	7.88	8.073	7.21
% of EU	24%	24%	20%	21%	22%	19%	17%	17%	8%	18%

Source: Authors' own calculation. Source: https://comtrade.un.org/data/ (accessed on 20 July 2020).

Figures 6 and 7 indicate the patterns of Thailand's trade, GDP, and seafood exports to the EU. The patterns of increase are quite similar.

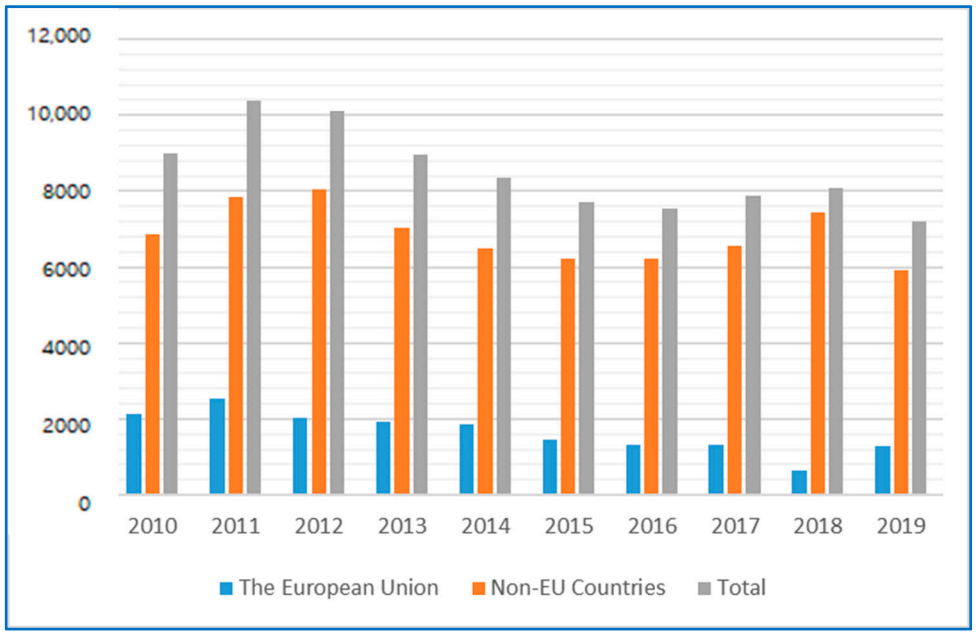


Figure 6. Thailand's exports of fishery products to the EU and the rest of the world (2010–2019) (unit: million US dollars). Source: Authors' own calculation. Source: https://comtrade.un.org/data/ (accessed on 20 July 2020).

With regard to international trade, the impact of the yellow card likely decreases the competitiveness of Thailand's fishery products in the EU market. While there is a very limited chance for Thailand to have an FTA with the EU [33], the rapid expansion of Southeast Asia's fishing industry as a whole is a major threat to the Thai fishing industry. For example, Vietnam will be granted a Generalized System of Preferences (GSP) once the EU–Vietnam FTA is enforced [33]. The EU–Vietnam FTA will render a tax exemption privilege by a quota limit to Vietnam for most of its agricultural products, such as rice, sweet corn, and sugar [34], including fishery products exported to the EU market such as surimi and canned tuna [34]. Furthermore, the EU will also sign an FTA with India and Ecuador soon; thus, these two countries will increase their fishery exports to the EU. Thailand will be less competitive than these two countries as its fishery products will have

an import tax of around 7.6–17.0% imposed for the HS 03 groups and 5.5–25.0% for the processed food group HS 1604, 1605.

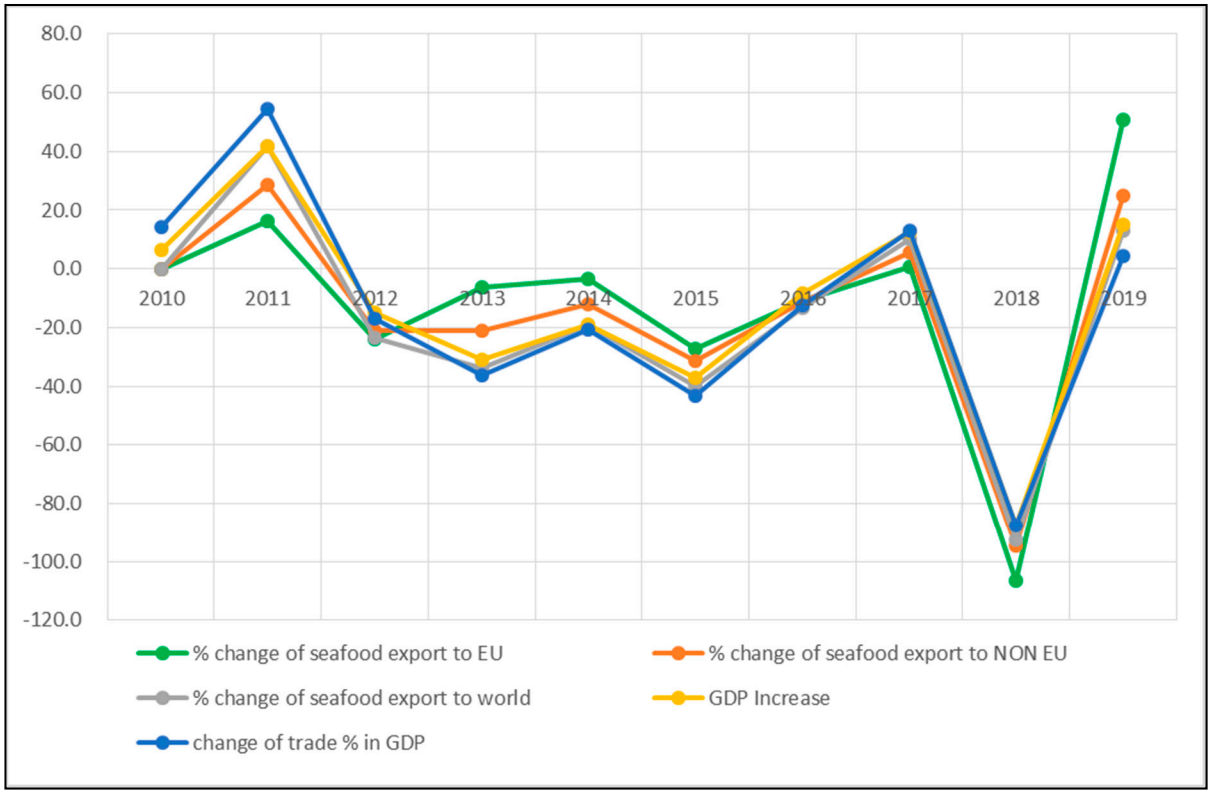


Figure 7. Thailand's seafood exports to the EU and to the rest of the world. Source: Authors' own calculation. Source: https://comtrade.un.org/data/ (accessed on 20 July 2020).

4. The Effectiveness of the EU IUU Regulation: The Thai Government's Reaction and Sustainability

The EU IUU Regulation does not specifically address the working conditions on-board fishing vessels, nor does it refer to human trafficking. However, improvements in the fisheries control and enforcement system on IUU fishing would, at last, bring a positive impact on the control of labor conditions in the fisheries sector [35]. The EU IUU Regulation has successfully worked as a catalyst for action to be taken. The Thai government has raised the IUU fishing issue, including human trafficking, as a national agenda that needs to be resolved promptly [35]. It has also shown a commitment that Thailand will take strong actions against IUU fishing and will work with all involved government agencies, and that the country looks forward to becoming an IUU-free country. Thus, Thailand has replaced an old and ineffective fisheries law framework by releasing the Fisheries Act 2015 [36]. The new act will be strictly controlled with stronger regulations and sanctions. The new fishing license will consist of the maximum sustainable yield (MSY) in order to control and eliminate overfishing [37]. Similarly, the Thai government will work with the new strategic policy toward becoming an IUU-free country.

Thailand also established the Command Center for Combating Illegal Fishing (CCCIF) as a center of integration, working with both the private and public sector, in order to abolish the country's yellow card as soon as possible and to establish a port-in-port-out control center (PIPO) over all 28 seaside provinces to control and report when ships enter and exit. Moreover, the Command Center MC, or the Fisheries Monitoring Centre, monitors and inspects all fisheries activities under the Thai state to prevent IUU fishing. The Monitoring, Control, and Surveillance system (MCS), with a huge number of inspectors, over 4000 people, is now being practiced both in the center of the ships' area and the

coastal area, including checking and tracking ships in the ocean [35]. Furthermore, fishing ships that are larger than 30 gross tons under the Thai state flag have to install a Vessel Monitoring System, or VMS, in order for their position to be tracked during fishing [38].

In terms of forced labor, the Thai government has also made more serious efforts in monitoring those who work at sea and in seafood factories. The government increased the budget from THB 2080 million, or around USD 58.15 million, to THB 2580 million, or USD 72 million, for managing migrant workers and combatting human trafficking [39]. The Thai government also approved the Department of Employment to employ more foreign workers working as interpreters to help and work with the Foreign Workers Administration Office that investigates and interviews migrant workers. Furthermore, Thailand has modernized many relevant laws by claiming that new regulations have to be modern, comprehensive, and straight to the point regarding the problems that need to be solved. The Thai government recently released the Labor Protection Act by providing a stronger standard of labor rights to fishery workers, such as those relating to health and welfare [40]. Workers have the right to ask for holidays as well as the right to disembark. The new Act also gives authority to government officers to board ships without advance permission in order to freely inspect working and living conditions.

According to all the government plans above, the private sector also helps the government eliminate IUU fishing. The private sector, with other involved parties, has set up a task force to support all the government's requirements. For example, Charoen Pokphand Foods Public Company Limited, one of the biggest food retailers and wholesalers in Thailand, announced that it would terminate all contracts and stop buying raw seafood ingredients from partners who violated the Fisheries Act 2015 or who use human trafficking. Their cooperation also includes the "Shrimp Task Force" that has been working alongside the Royal Thai Government (RTG) to build a monitoring system focused on vessels carrying the Thai flag fishing overseas [41]. Furthermore, in 2018 the government initiated a cooperation with the private sector and established the Thai and Migrant Fishers Union Group (TMFG) to help and protect fisherman rights and to ensure fair treatment for all workers, including foreign workers.

This improvement was attainable as the Thai government has pursued good governance, sympathizing with the EU's concern on the sustainability of fisheries. If there has been an issue of corruption in fisheries regulation, as in the South African fisheries sector, where bribery is being ramped, no fundamental reform would have been possible [42]. To guarantee the government's efforts transparent and effective, there also needs to be a watchdog system preventing any corruption and loss of trust. 'Sustainable' good governance is also an important element to achieve [42,43] what the IUU Regulation has aimed.

After a long reformation period, in 2016, Thailand moved from Tier 3 to Tier 2, and in 2019 Thailand's yellow card status was removed. Due to the high standards and regulation of the EU and Thai Government's efforts, Thailand has made significant strides in combatting IUU fishing and human trafficking. Thai fishery products can be sold in both domestic and international markets. In addition to this, Thailand may gain a competitive advantage over its trade competitors in order to increase the export value of its products. Despite this, Thailand still needs to make further progress towards sustainable development. As illegal labor has decreased markedly, entrepreneurs now have to hire workers following the regulations contained in the Labor Protection Act 2019, which means they have to bear higher principal costs. Moreover, as overfishing is now prohibited, this may cause seafood supply shortages. The domestic market price of seafood has increased because of the increase in processing costs and the decrease in supply. Even though the EU has decided to remove Thailand from the IUU fishing watch list, it will continue to investigate and evaluate the Thai fishing industry to check the status of IUU fishing and labor rights.

5. Conclusions

Along with the EU's ambition to create better international governance of human rights, the EU IUU Regulation functions as an important measure to ensure that the other third countries comply with the obligations concerning the IUU fishing control and the international laws for the protection of human rights. The protection of basic human rights is important for the wellbeing of people, which is an important goal of sustainable growth. However, this public interest may not be properly pursued by private parties whose major interests are low production costs by using forced labor and poor working conditions. Additionally, if there is not enough concern among domestic constituents, the government may not often actively become involved in the issues of human rights. In this regard, the EU's measure has been successful in initiating the setting to combat IUU fishing in Thailand by changing the issue from a public interest into a private interest, that is, the decrease in exports.

It has been almost five years since Thailand began working on combatting IUU fishing. Owing to the significant efforts rendered from both public and private sectors in Thailand, in January 2019, the European Commission announced that Thailand was removed from the list of the "Status of IUU Nations Carded" countries by recognizing Thailand's vast improvement in the fishing industry following the ratification of the ILO Convention. In this context, and with the compliance to the EU IUU Regulation, Thailand has been closer to achieving the goal of "sustainability" of both fish stock and proper labor conditions. Indeed, the number of human trafficking and slave labor cases previously hidden in Thailand's fishery industry has also reduced. According to the ILO report, there have been improvements in the working conditions in Thailand's fishing and seafood processing sectors [44]. The study in [45] reports that 83% of surveyed fishers and 32% of surveyed seafood processing workers noted that there was an enhancement in their working conditions in recent years, and as of April 2019, around 112,000 undocumented workers in the seafood sector received up-to-date nationality verification papers.

However, as the ILO also pointed out, there still remain problems with forced labor in the fishing industry. In order to prevent the recurrence of similar incidences, Thailand should make the utmost effort to maintain its fishing practices at international standards, which will ensure sustainability. If Thailand cannot maintain or improve these issues, the EU may issue a yellow card to Thailand once again, which will lead to much more difficult challenges from domestic unrest and more losses in seafood exports to international markets. Thus, the EU's regulation would continue to function as a watchdog of human rights protection in Thailand's fishing industry.

As both the EU and the US are leading the discussion, environmental concerns and labor protection related to trade issues are likely to become more important subjects in the global trade regime.

The current global trading environment represents a partial breach of traditional support for free trade. This breakdown has been revealed by events such as America First or the Made in America movement in the US as well as the Brexit [45] decision of the UK in 2016, both of which are contrary to much of the neoliberalism-based trade theory. Although it may seem difficult to bring back an effective multilateral approach, there is a high possibility of cooperation regarding the issues related to universal values in the global economy, such as the protection of human rights, environment, and labor. In this concern, the discussion in this paper contributes to international surveys by facilitating academic discussions on these topics. Along with intensifying international cooperation and surveillance to improve the working environment, the inclusion of a human rights issue as a tool for correcting trade distortion is most urgent and essential. For the sustainability of both economic and societal values of developing nations such as Thailand, a firm and solid implementation of proper working conditions as a precondition to trade with developed countries should be employed among global trade participants.

In this regard, the analysis of the impact of collective actions directed toward the violation of human rights, such as forced labor and human trafficking, is a meaningful starting point for further discourse in this area.

Author Contributions: Developed the research framework, analyzed the data, conducted the literature review, and wrote the original draft, J.K. and N.H.; conducted the literature review and policy implication and edited the manuscript, I.P.; developed the research framework, collected data, and conducted the literature review, G.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Kroodsma, D.A.; Mayorga, J.; Hochberg, T.; Miller, N.A.; Boerder, K.; Ferretti, F.; Wilson, A.; Bergman, B.; White, T.D.; Block, B.A.; et al. Tracking the global footprint of fisheries. *Science* **2018**, *359*, 904–908. [CrossRef] [PubMed]
2. Food and Agricultural Organization of the United Nations (FAO). *World Food and Agriculture—Statistical Pocketbook*; FAO: Rome, Italy, 2018.
3. Food and Agricultural Organization of the United Nations (FAO). Illegal, Unreported and Unregulated (IUU) Fishing. 2021. Available online: www.fao.org/iuu-fishing/en/ (accessed on 5 July 2020).
4. Smith, N. Human Trafficking and Violence Still Rife in Thai Fishing Industry. *The Telegraph* 2018. TEIR is the Level in the Trafficking in Persons (Tip) Report Based on Countries' Acknowledgement and Efforts against Human Trafficking. The Ranking System Categorized into Four Levels, which Are Tier 1, Tier 2, Tier 2 Watch List and Tier 3, which Is the Lowest. Available online: https://www.telegraph.co.uk/news/2018/01/23/human-traffickingand-violence-rife-thai-fishing-industry-uks/ (accessed on 5 July 2020).
5. United Nations (UN). *Non-Tariff Measures: Evidence from Selected Developing Countries and Future Research Agenda, Developing Countries in International Trade Studies*; UNCTAD/DITC/TAB/2009/3; UN: Geneva, Switzerland, 2009; Volume xix, p. 143.
6. World Trade Organization (WTO). *Technical Information on Technical Barriers to Trade*; WTO: Geneva, Switzerland, 2021; Available online: https://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm (accessed on 16 June 2021).
7. Banks, M. EU Lifts Thailand's Yellow Card on Tackling Illegal Fishing. *The Parliament*. 2019. Available online: https://www.theparliamentmagazine.eu/news/article/eu-lifts-thailands-yellow-card-on-tackling-illegal-fishing (accessed on 16 June 2021).
8. United States International Trade Commission (USITC). *USITC to Investigate Extent of Illegal, Unreported, and Un-Regulated Seafood Imports and Impact on U.S. Commercial Fishermen*; News Releases 20-006, Inv. No. 332-575; USITC: Washington, DC, USA, 2020.
9. United States Department of the Treasury (USDOT). *Treasury Sanctions Chinese Government Officials in Connection with Serious Human Rights Abuse in Xinjiang*; Press Releases 22 March 2021; USDOT: Washington, DC, USA, 2021.
10. Kulanujaree, N.; Saline, K.R.; Noranarttragoon, P.; Yakupitiyage, A. The Transition from Unregulated to Regulated Fishing in Thailand. *Sustainability* **2020**, *12*, 5841. [CrossRef]
11. Global Agricultural Information Network (GAIN). Thailand and EU Seafood Yellow Card Will Lead U.S. Exports to Rise. 2019. Available online: https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Thailand%20and%20EU%20Seafood%20Yellow%20Card%20Will%20Lead%20U.S.%20Exports%20to%20Rise_Bangkok_Thailand_3-11-2019.pdf (accessed on 8 July 2020).
12. Xiong, B.; Beghin, J. Does European aflatoxin regulation hurt groundnut exporters from Africa? *Eur. Rev. Agric. Econ.* **2011**, *39*, 589–609. [CrossRef]
13. Wood, J.; Wu, J.; Li, Y.; Kim, J. TBT and SPS impacts on Korean exports to China: Empirical analysis using the PPML method. *Asian Pac. Econ. Lit.* **2017**, *31*, 96–114. [CrossRef]
14. Wood, J.; Wu, J.; Li, Y.; Kim, J. The impact of TBT and SPS measures on Japanese and Korean exports to China. *Sustainability* **2019**, *11*, 6141. [CrossRef]
15. Choi, B.Y.; Bang, H.K.; Lee, B.R.; Yoo, S.B. A proposal to lower non-tariff barriers of China, Japan and Korea. *World Econ. Brief* **2015**, *6*, 1–4. [CrossRef]
16. Saisunthorn, C. Control of IUU Fishing under International and Thai Laws. *J. Law Thammasat Univ.* **2018**, *47*, 416–436.
17. Zwoelfer, R. The economic impact of IUU-fishing and its countermeasures on small scale fishermen in Thailand: A case study of Baan Khan Kradai. *IOP Conf. Ser. Earth Environ. Sci.* **2020**, *416*, 012019. [CrossRef]
18. Sandaruwan, K.P.G.L.; Weerasooriya, S.A. *Non-Tariff Measures and Sustainable Development: The Case of the European Union Import Ban on Seafood from Sri Lanka*; ARTNeT Working Paper Series, No. 185; Asia-Pacific Research and Training Network on Trade (ARTNeT): Bangkok, Thailand, 2019.
19. Rastogi, V. Thailand's Investment Outlook for 2018. *Asean Briefing* **2018**. Available online: https://www.aseanbriefing.com/news/thailands-investment-outlook-2018/ (accessed on 9 April 2021).
20. Kightley, N. Ethical Trading Initiative, Thailand's Seafood Industry, Thai Government Starts to Act on Fishing Industry Problems. 2018. Available online: https://www.ethicaltrade.org/blog/thai-government-starts-to-act-fishing-industry-problems (accessed on 16 June 2021).

21. Yenpoeng, T. Fisheries Country Profile: Thailand, Southeast Asian Fisheries Development Center (SEAFDEC): Bangkok, Thailand. 2017. Available online: http://www.seafdec.org/fisheries-country-profile-thailand/ (accessed on 16 June 2021).
22. European Market Observatory for Fisheries and Aquaculture products, (EUMOFA). *The EU Fish Market*, 2018 Edition ed; EC: Brussels, Belgium, 2018; p. 54.
23. Du Pisani, J.A. Sustainable development—Historical roots of the concept. *Environ. Sci.* **2006**, *3*, 83–96. [CrossRef]
24. While All States Possess Territory, Title to Territory is Based on its State Sovereignty. Territorial Sovereignty is a Basis for the Territorial Jurisdiction. Available online: https://www.cambridge.org/core/books/international-law/sovereignty-over-territory/4A3BF4AE9CFEE0CD134557C50F4781D9 (accessed on 5 May 2019).
25. Wolfrum, R.; Stoll, P.T.; Seibert-Fohr, A. (Eds.) *WTO—Technical Barriers and SPS Measures*; Max Planck Commentaries on World Trade Law; Martinus Nijhoff Publishers: Leiden, The Netherlands, 2007; pp. 186–200.
26. European Commission. *EU's IUU Regulation, COUNCIL REGULATION (EC) No 1005/2008 of 29 September 2008 Establishing a Community System to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Amending Regulations (EEC) No 2847/93, (EC) No 1936/2001 and (EC) No 601/2004 and Repealing Regulations (EC) No 1093/94 and (EC) No 1447/1999*; Article 12 Catch Certificates; European Commission: Brussels, Belgium, 2008.
27. The Environmental Justice Foundation (EJF). *The EU IUU Regulation Analysis: Implementation of EU Seafood Import Controls*; Oceana: Washington, DC, USA; The Pew Charitable Trusts: Philadelphia, PA, USA; WWF: Gland, Switzerland, 2017; p. 5.
28. European Commission. EU Rules To combat IUU Fishing. 2021. Available online: https://ec.europa.eu/oceans-and-fisheries/fisheries/rules/illegal-fishing_en (accessed on 16 June 2021).
29. European Union. 4. "COUNCIL REGULATION (EC) No 1005/2008", Article 37. Available online: https://www.legislation.gov.uk/eur/2008/1005/contents (accessed on 12 December 2020).
30. Young, M.A. *Trade-Related Measures to Address Illegal, Unreported and Unregulated Fishing*; International Centre for Trade and Sustainable Development (ICTSD): Geneva, Switzerland; World Economic Forum: Cologny, Switzerland, 2015; p. 12.
31. World Trade Organization (WTO). *Communication from the CCAMLR Secretariat*; /W/148. WT/CTE.; WTO: Geneva, Switzerland, 2000.
32. The Siam Commercial Bank Public Company Limited Economic Intelligence Center (SCM). *The EU Yellow Card is a Wake-Up Call Before Trade Sanctions*; SCM: Bangkok, Thailand, 2015.
33. InfoQuest Limited, Kasikorn Research Center. Thai Fishery Exports to the EU Are Expected to Return. 2019. Available online: https://kasikornresearch.com/en/analysis/k-econ/business (accessed on 5 July 2020).
34. European Commission (EC). EU Vietnam Trade Agreement-Memo. 2018. Available online: http://trade.ec.europa.eu/doclib/press/index.cfm?id=1922 (accessed on 16 June 2021).
35. European Commission (EC). Questions and Answers—Illegal, Unreported and Unregulated (IUU) Fishing in General and in Thailand. 2019. Available online: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_19_201 (accessed on 16 June 2021).
36. Thai Embassy. Highlights of Thailand's New Fisheries Legislation. 2015. Available online: https://www.thaiembassy.be/2015/11/18/highlights-of-thailands-new-fisheries-legislation/?lang=en (accessed on 16 June 2021).
37. Ministry of Foreign Affairs of Thailand. Thailand's Reform of Fishing License Regime, 25 February 2016. Available online: https://thaiembdc.org/2016/03/07/thailands-fisheries-reform/ (accessed on 5 July 2020).
38. International Labor Organization (ILO). Measuring Progress towards Decent Work in Thai Fishing and Seafood Industry. 2018. Available online: https://www.ilo.org/asia/media-centre/news/WCMS_619724/lang--en/index.htm (accessed on 5 July 2020).
39. U.S. Department of State. 2017 Trafficking in Persons Report Thailand. 2017. Available online: https://www.state.gov/reports/2017-trafficking-in-persons-report/thailand/ (accessed on 16 June 2021).
40. Thai's Department of Labor Protection and Welfare. The Ministry of Labor Announced the Enactment of Labor Protection Law in Sea Fishery Work. 26 June 2019. Available online: https://www.labour.go.th/index.php/en/more/47745-the-ministry-of-labour-announced-the-enactment-of-labour-protection-law-in-sea-fishery-work (accessed on 16 June 2021).
41. Royal Thai Government. Thailand's Fisheries Reform: Progress and Way forward in the Fight against IUU Fishing and Forced Labor. *March 2016.* Available online: https://thaiembdc.org/2016/03/07/thailands-fisheries-reform/ (accessed on 1 June 2021).
42. Sundström, A. Exploring Performance-Related Pay as an Anticorruption Tool. *Stud. Comp. Int. Dev.* **2017**, *54*, 1–18. [CrossRef]
43. Österblom, H.; Sumaila, U.R.; Bodin, Ö.; Hentati-Sundberg, J.; Press, A.J. Adapting to Regional Enforcement: Fishing Down the Governance Index. *PLoS ONE* **2010**, *5*, e12832. [CrossRef] [PubMed]
44. ILO. *Endline Research Findings on Fishers and Seafood Workers in Thailand*; ILO: Geneva, Switzerland, 2020.
45. The Freedom Fund and Humanity United. *Tracking Progress: Assessing Business Responses to Forced Labour and Human Trafficking in the Thai Seafood Industry*; 2019; p. 13. Available online: http://www.praxis-labs.com/uploads/2/9/7/0/29709145/09_hu_report_final.pdf (accessed on 5 July 2020).