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**Brexit and its impact on Fisheries in
UK**

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TABLE OF CONTENTS

INTRODUCTION	6
1. THEORETICAL FRAMEWORK	11
1.1. INTERNATIONAL THEORIES	11
1.1.1. TRANSATLANTIC TRADE POLICIES	16
1.2. HISTORY OF EU	18
1.3. THE UK'S DILEMMA; EUROPEAN OR COMMONWEALTH	21
1.3.1. MESSINA AGREEMENTS	22
1.3.2. WHAT CAUSED THE UK TO JOIN EU	24
2. BREXIT AND UK - EU ASSOCIATION	27
2.1. ANALYSIS OF THE UK AND EU RELATIONSHIP	27
2.2. THE PROCESS LEADING TO BREXIT	30
2.2.1. THE BREXIT CAMPAIGNS –“REMAIN” AND “LEAVE”	30
2.3. POSSIBLE ECONOMIC EFFECTS OF BREXIT DECISION	33
3. FISHING MANAGEMENT IN THE UK.....	37
3.1. COMMON FISHERIES POLICY	37
3.1.1. IMPACT OF BREXIT ON FISHERIES	38
3.2. FISHING INDUSTRY IN THE UK	40
3.2.1. THE FISHING SECTOR IN THE UK	40

3.2.2. THE SIZE OF FLEET	42
3.2.3. TRADE BALANCE	44
4. EMPIRICAL STUDY	46
4.1. METHOTODOLOGY	46
4.2. THEORETICAL CONSIDERATIONS AND EMPIRICAL FRAMEWORK	50
4.2.1.THE CALCULATION OF THE EXPECTED EBITDA.....	52
4.2.2.THE IMPACT OF BREXIT	56
4.2.3.DATA.....	57
4.3. RESULTS	60
CONCLUSION	67
REFERENCES	70

INDEX OF FIGURES

Figure 1. Economic Exclusion Zone. Source: Joint Nature Conversation Committee, 2019

Figure 2. Fishing and aquaculture economic output (£ million). Source: ONS, ‘GDP output approach – low level aggregates’, 2020

Figure 3. UK Fishing vessels. Source: Marine Management Organization, UK sea fisheries statistics, 2019

Figure 4. Fishing boat sizes across the UK. Source: Marine Management Organisation, UK sea fisheries statistics, 2019

Figure 5. Landings by boat size. Source: Marine Management Organisation, UK sea fisheries statistics, 2019

Figure 6. Import and export of fish (thousands tonnes). Source: Marine Management Organisation, UK sea fisheries statistics, 2019

Figure 7: China is the largest exporter to the UK, France the largest importer from the UK. Source: Marine Management Organisation, UK sea fisheries statistics, 2019

INTRODUCTION

Brexit gives rise to a major challenge to the stability of European fisheries management.

Up to now, adjoining EU member states have shared the credits of the living holdings of the seas around Britain.

Taking full responsibility for the regulation of fisheries within the UK's Exclusive Economic Zone will go beyond durable relationships, potentially threatening recent improvement and future sustainability of shared fish stocks. (J. Phillipson, D. Symes, 2018).

Speaking about Brexit and food, the most important place belongs to fisheries.

This is due to the following reasons:

1. Fisheries sector had a very important role in the Campaign leading up to the Brexit referendum;
2. In this campaign it was promised a brilliant forthcoming for the fishing industry;
 - a. Politicians promised to 'take back the control of british waters',
 - b. Industry member forecasted a 'sea full of opportunities' for fishermen. (STIJN BILLIET, 2019)

Given the circumstances, I found very interesting to focus on the effects of Brexit in Fisheries industry.

In detail, the elaborate will be divided as follows:

- In the first Chapter, I'll try to summarize the international trade theories and understand better trade between countries and different theories and models that have been developed from 16th century, and try to link these approaches to the international trade policies. It also gives a clear picture of the History of EU and the historical relationships of United Kingdom with the EU and Commonwealth, by going deeper in its relationships throughout the years with the other countries, by analysing important

agreements, like the one of Messina and moving to the reasons the UK chose to join the EU.

- In the second Chapter, will focus in the relationships between EU and UK, by evaluating in details the process leading to Brexit, The Brexit Campaigns: "Remain and Leave ", and the possible economic effects of Brexit decision.

- In the third Chapter, I will speak about importance of the fishing Management in the UK by mentioning the Common Fisheries Policy (CFP) and its functions.

Moreover, I will start giving some impact of Brexit on Fisheries, and analyse the fishing industry in the UK, by exploring the fishing sector in UK with provided data of the trade and exports.

- Chapter four will point out the focus of the thesis.

In this Chapter, in order to have a clearer view of Brexit impact on Fisheries I will investigate how it affects the capability of the SMEs to generate positive EBITDA using data on over 39 UK small and medium SMEs across 1 industry from 2011 to 2019.

European Union (EU) is a monetary and trade body comprising of 28 member countries. The purpose of this body is to ensure that it has a competitive edge in the global marketplace (Cappelen et al., 621). It is also involved in balancing the needs of both its political members and independent fiscals. Despite its transformation since the establishment of the concept of European trade area in 1951, the Treaty of Lisbon in 2009 highlighted the supremacy of the body (Emmanouilidis & Stratulat, n.p). The treaty granted EU the legal authority to sign and negotiate about international treaties. It thus had the powers for aspects such as border control and immigration.

The EU eliminates barriers to entry along the borders of its members and thus there is a free flow of goods and people unless in instances where there is need for crime and drugs checks. Members also benefit from environmental protection, development strategies, energy provision and research. Aspects such as public contracts in a country are made open to bidders from countries within the body. The body also standardizes taxes and products manufactured in one of the member countries are sold to other members without duties and tariffs. Practitioners of services such as banking,

law, medicine, law, and insurance among others are also permitted to operate in any member country.

The United Kingdom, on June 23, 2016, voted to leave the European Union through a referendum known as Brexit (New York Times, par.8). The section below focuses the impact that Brexit will have on the United Kingdom.

Research indicates that Brexit is expected to have profound consequences in various sectors of Britain's economy. Trade, labour access and subsidies play an essential role in Britain's agricultural sector. According to FT Reporters (par. 4), with Brexit, this sector is expected to be affected by insufficient labour, as 90% of workers come from central and eastern Europe. Farmers also depended on the tariff access to agricultural inputs under EU. Two-thirds of the agricultural products are exported to the EU and thus it is expected that it will be interrupted and will have a negative impact on the economy.

The manufacturing sector, which contributes to 10% of Britain's economy according to Dhingra et al. (p.3), will also be affected. This sector depends on the EU's negotiations on trade on how to sell their products. It also depends on global talent to improve its products, which was available through free flow of people under EU.

Services that account for four-fifths of Britain's economy will also be constrained by the barriers that will be impacted by Brexit (Begg & Mushövel, n.p.). This sector depends on staff mobility, transfer of clients and data across the borders, which were effective under EU. With Brexit, free-trade agreements will be ineffective. Affecting services will have a negative impact on Britain's economy. Furthermore, the Brexit agreement does not deal with the services industry hence there is a high level of uncertainty with this industry causing panic.

The financial services sector makes up for 7 percent of Britain's economy (FT Reporters, par. 13). After Brexit, this sector will lose significantly, as it will try to adjust from the single market rules. With free flow of people affected, the sector will also experience challenges in the labour force. Despite the prospect that it may stabilize after

several years, this interruption will adversely affect Britain's economy.

The education sector is another area that will be affected. Britain's universities generate approximately £11bn through export in a year and thus are expected to change after Brexit (FT Reporters, par. 15). They depend on funding from EU for research. EU also contributed to the sector's labour force and international students. Following Brexit, these benefits under EU will be cut and thus the sector will be unable to sustain its contribution to the economy.

Brexit translates to the fact that the trade agreements that it had under EU will be terminated. Therefore, it will need to reach new trade agreement with trade partners or even the EU. In this case, the ability of Britain to conduct business in Europe will be affected. It will tend to appear weak in the new trade deals. In the two-year deadline that Britain was allocated by EU to establish itself after Brexit, it has to carry out the task under pressure. This may make it submit to some aspects under the new trade deals that portray that its ability to do business with other countries in Europe will be affected. For instance, higher tariffs are expected to be imposed on its good under a new trade deal with EU (Dhingra et al., p.1).

One of the expected impacts of Brexit will be on the ability of Britain to conduct business with the United States. Murad (par.1) explains that Britain and the United States have strong trade ties especially through U.S companies that operate in Europe. There are also citizens of the U.S who work in Europe. However due to the restriction of free flow and new trade terms with other European countries it is expected that the strong ties with US specially due to US companies established in Europe will be adversely impacted.

Brexit tends to dampen the growth of the business activities between the countries. The uncertainty regarding the fate of the U.S citizens in Britain after Brexit is also contributing to the tension between business relations between the two countries. Companies from the United States may also be reluctant to invest in Britain over this uncertainty. This change in business relationships between Britain and the United States

portrays that Brexit tends to take Britain off the leading platform of the financial world.

Based on this background we address the following question: What would be the effect on SMEs as consequence of Brexit. In so doing we proposed a forecasting approach based on the company's earnings under different scenarios.

I am interested in finding out how the profitability of UK SMEs operating in the fisheries are affected under different scenarios as an implication of Brexit and how different companies' ratio change with respect to the effect of Brexit. The reason this industry was selected was that a specific deal has been made with respect to fisheries. The deal runs to quite 1,200 pages, with a full section and several other annexes dedicated to fisheries. Both sides have in agreement that twenty fifth of EU boats' fishing rights in kingdom waters are going to be transferred to the United Kingdom fishing fleet over a amount of 5 years. This is called the "adjustment period", giving EU fleets time to induce wont to the new arrangements. The EU wished it to be longer, the United Kingdom wished it to be shorter - it's like they've met somewhere within the middle, with a finish date of 30 June 2026. Under plans printed within the deal, EU fishing quota in kingdom waters are going to be reduced by 15 August 1945 within the initial year and a couple of.5 share points annually once. By 2026, it's calculable that United Kingdom boats can have access to an additional £145m of fishing quota per annum. In 2019, British vessels caught 502,000 tonnes of fish, value around £850m, within United Kingdom waters. The document additionally sets out details of however every species of fish are going to be divided between the United Kingdom and also the EU throughout the transition. The United Kingdom fleet will expect increases in quota for fifty seven out of the ninety varieties of fish caught in UK waters per annum. But quota shares for a few species like Channel cod, of that EU boats (mainly from France) catch quite ninetieth annually, can stay unchanged.

I perform my analysis by exploring the dynamics on a sample of 39 UK SMEs across 1 industry. Although, since Brexit is having different impact for different industries and different regions, I explore its impact at company level with respect to previous year performance and currently with Brexit under different assumptions.

CHAPTER 1

THEORETICAL FRAMEWORK

1. International Trade Theories

Trade among countries has been very important since the ancient time, as it is essential to access resources that a population in one area needs but lacks. Thus, it is not a surprise that the topic was widely investigated since the 16th century and different theories and models have been developed.

Liberalism is accepted as one of the mainstream theories of International relations (IR) discipline. Liberalism can be seen as the opposite of Realism which is accepted as the dominant theory in IR. Liberalism draws more optimistic scenario of world politics than realism.

The roots of liberal tradition can be found in the late seventeenth century. The belief of liberal thinkers, starting with John Locke in the seventeenth century was that human beings can make progress within modern civil society and capitalist economy (Jackson & Sorensen, 2007, p.98). In liberal thinkers' view, modernity provides better life conditions, increased level of material welfare and an environment without authoritarian government (Jackson & Sorensen, 2007, p.98). There was a strong faith in human progress and rationality in liberalism. The source of this faith was the modern liberal state enforcing a political and economic system that makes great number of people happy (Jackson & Sorensen, 2007, p.98).

Liberal thought also took its source from the eighteenth century of European Enlightenment. From the early liberal thinkers' point of view, the increase in human freedom is dependent on economic, social and political policies promoting democracy and market capitalism (Ackerman & Carlson&Han, 2010, p. 3). According to eighteenth and nineteenth century liberals, war and commerce have opposite spirits (Burchill, 2005, p.62). Most of the wars were waged in order to accomplish mercantilist objectives. According to a Mercantilism theory, the government should keep exports to the maximum and imports to a minimum. In other words, the increase in precious metals such as gold and silver means an increase in international economic and political power for the countries that have them. The target of countries to give more in the balance of payments is due to the intense intervention of the state in the domestic and external economic life. Moreover, the more recent version of mercantilism is the protectionism that has been partially implemented in the current years by restrictions which are incompatible with the mass production that occurred by the industrial revolution. The goods produced as a result of mass production are the subject of export and export on the world, and the import quotas advocated by mercantilism conflict with the point where the industrial revolution brought world trade. (Mason et al, 2012).

According to Immanuel Kant's writings in the eighteenth century, commerce without barriers could increase the wealth, unite the people around common interests and pave the way for world peace (Howard, 1978, p.20). He mentioned about three principles for peaceful conflict resolution in international relations (Ackerman & Carlson & Han, 2010, p. 4). The first principle is based on "republican constitutions" written by democratic states. These constitutions form "pacific union" of free states which is the second principle (Russett&Oneal, 2001, p.29). International treaties, laws and organizations play a vital role in the formation of this union. Kant's third principle is "commerce and free trade" supported by these international laws and organizations (Russett&Oneal, 2001, p.29). From Immanuel Kant's perspective, free global trade between democratic states made international relations based on economic ties rather than use of force. Thanks to these three principles, citizens of democratic states become opponents of war and show willingness for cooperation and peaceful relations. We can assert that Immanuel Kant's thoughts which had been transformed over time provided the

main sources for ideas, values of liberal theories (Ackerman & Carlson & Han, 2010, p. 4).

Beginning with the second half of the eighteenth century, classical liberalism became the dominant economic doctrine. It can be asserted that Adam Smith's views expressed in his famous book "The Wealth of Nations" represent the birth of classical liberalism. Adam Smith explains the benefits of free trade via his "Theory of Absolute Advantages". In his theory, each nation should specialize on the production of the commodities which they can produce efficiently and they should import the commodities whose production is less efficient for them. In this way, nations can specialize in the production of the commodity of their absolute advantage and sell these products by buying the products of their absolute disadvantage in return. As opposed to mercantilism, all nations benefit from trade in Smith's theory (Salvatore, 2007, p. 35).

Nineteenth century's liberal thinkers such as David Ricardo and John Stuart Mill built their views upon Kant's theory (Ackerman & Carlson & Han, 2010, p. 4). The theory of comparative advantage appeared in David Ricardo's book named Principles of Political Economy and Taxation. It can be argued that the theory of comparative advantage is a cornerstone theory in explaining international trade. According to Ricardo, there is still an opportunity to trade mutually even if a nation has absolute disadvantage of both commodities that it produces. From his perspective, comparative advantage emerges when a nation's absolute disadvantage is smaller in production of one commodity and this nation should specialize in the production of this product and export it. In other words, this nation should import the product in which it has greater absolute disadvantage (Salvatore, 2007, p. 38).

According to nineteenth century's liberal thinkers, conflicts stemming from hindered commerce could be overcome by free movement of goods and capital. In his writings in 1848, John Stuart Mill also argued that free trade was the most important instrument for ending wars and promoting prosperity for all. Trade would be the architect of the relations based on mutual dependence. Enhanced dialogue and dependence prevent people from resorting to conflict (Howard, 1978, p.37).

In 1961, the Swedish economist Steffan Linder developed a modern firm-based international trade theory named Country Similarity theory. He explained the concept of intra industry trade by stating that trade should happen between two countries which produced goods in the same industry. The usefulness of this theory is a better understanding of trade in which product reputation and brand names are significant factors in the decision making of buyers in the process of purchasing (Mason et al, 2012).

In the 1960s, Product Life Cycle theory was developed by Raymond Vernon who was a professor at Harvard Business School. This is another modern model of firm-based theory which stated that there are three different stages in product life cycle: (1) new product, (2) maturing product, and (3) standardized product. This theory expected that the production of a new product will happen totally in the home country of its innovation. However, this theory was less able to explain trade forms where manufacturing and innovation happen around the world. For instance, global firms focus on development and research in emerging markets, such as China and India, where highly skilled labor and facilities are typically inexpensive (Vernon, 1966).

In the 1980s, Global Strategic Rivalry theory was developed and based on the work of both economists Paul Krugman and Kelvin Lancaster. This theory stated that firms should try to gain a competitive advantage in their industry against other global firms. The barriers to entry are critical ways to gain a sustainable competitive advantage. The barriers to entry show the difficulties a new company may face when they enter into a new market, such as, research and development, economies of scale, the ownership of intellectual property rights, unique business processes as well as extensive knowledge in the industry, and the control of resources or favorable access to raw materials (Krugman et al, 2018).

In the 1990s, Paul Krugman measured several costs in trade, but he found out the transport cost was the major cost among the other costs of international trade. But, later in the 2000s, trade was changed a lot. There are many factors which affect the cost of trade. For instance, the cost of negotiation with the buyer or seller, the cost of finding buyer or seller, etc. were the main factors affecting the international trade (HE Yong et al., 2011).

In 1990, another professor from Harvard Business School named Michael Porter developed Porter's National Competitive Advantage theory which was a modern model

of firm-based international trade theory. He stated that the competitiveness of a nation in an industry depends on the volume of the industry to promote and innovate. His theory concentrated on clarifying why some nations are more competitive in certain industries. Porter acknowledged four elements to explain his theory, such as: (1) local market demand conditions, (2) local market resources and capabilities, (3) local firm characteristics, and (4) local suppliers and complementary industries (Porter, 1990).

The doctrine of *laissez-faire* was criticized by the Keynesian economic doctrines which claimed that there should be a balance between economic liberty and the regulatory role of state for promoting social justice (Griffiths, 2007, p. 26). From the perspective of the Keynesian economic doctrines, state should play more active role in providing equitable social and economic conditions for its citizens. This divergence between classical and welfare (social) liberals represents one of the most important divisions within the liberal theory (Griffiths, 2007, p. 26). This critique of classical liberals provided the main explanation for the inequality within states and increasing level of militarism, authoritarianism and conflict observed in international level in the inter-war period (Griffiths, 2007, p. 26).

According to Marx's theory, trade, whether domestic or international trade had created an exchange value and was in dissociable from surplus benefit through surplus labor exploitation. Besides having absorbed the difference in prices over space, he took the major part of the surplus generated by mediating between societies and regions in pre-capitalist society in which the marketing surplus of goods was of secondary importance to the merchant and in which it was possible to take advantage of the luxurious consumption of landed owners. Marx applied Adam Smith's concept of town-and-country trade in the manner of J S Mill, who had broadened it to include trade between developed and developing countries in general, and between the mother land and the colonies in general.

Neo-liberalism is one of the most dominant strands of liberal thinking today. Neoliberals believe that states are in the pursuit of absolute gains and the fundamental barrier to cooperation is non-compliance by other countries. Hence, their main belief is that states are ready to cooperate if they are sure about the compliance of others with the

rules. From neo-liberal point of view, relative gains are not important for states and they are not interested in how much the others gain (Baylis, Smith, & Owens, 2008, p. 133).

Whilst there are clear divergences between neo-realism and neo-liberalism, we can assert that these differences are minor in comparison with the division between reflectivist and rationalist theories (Lamy, 2008, p. 137). Both of these theories use positivist epistemology and try to find answers to similar questions. In addition, they agree on the critical assumptions concerning the state and the international system. Both of them share the idea that the defining feature of the international system is the anarchy. Within this anarchic international system, neo-liberals attach utmost importance to the concepts of interdependence, international institutions and regimes.

1.1. Transatlantic trade policies

For a long time, economists have been arguing a lot that under most circumstances unilateral trade liberalization is the economically most efficient policy. Actually, by encouraging specialization and a more efficient allocation of resources, trade creates welfare gains for a country. Simultaneously, political economists and political scientists have demonstrated in a convincing way that putting barriers to trade is a politically sensible position. Whereas, consumers as the prime recipients of trade liberalization, fail to become politically active as a consequence of free-rider problems, exporters often neglect or undervalue the potential advantages from mutual trade liberalization. At most times, import-competing interests are more likely to dominate the political arena, making the decision makers to have an incentive to cultivate or boost barriers to imports.

Liberalization has been more prevalent than most political economy accounts would lead one to await. Since the mid-1930s, trade negotiations have shown an important reduction of both tariff and nontariff barriers to transatlantic trade, slightly provoking the fast increase of transatlantic trade progress that has taken place since World War II. Diversely, liberalization hasn't developed as fast and complete than one would expect

if policymakers would be mostly concerned with economic efficiency. Furthermore, the process of liberalization has not been rectilinear, since in the 1950s transatlantic trade liberalization stagnated and trade barriers were somehow expanded. (Dür, Andreas, 2011).

Transatlantic trade relations, have experienced an important revolution since the 1930s, as a series of trade negotiations have destroyed trade barriers that were raised before and during the Great Depression in the early 1930s. Consecutive trade rounds have decreased tariffs until not being relevant in producing current transatlantic trade flows related to most products. In the 1990s and 2000s, international arrangements have also established restraints regarding to nontariff barriers. (Howe, Martin, et al, 2016). The process of transatlantic trade liberalization is one of the key improvements in the global political economy over the last century. Correspondingly, this liberalization, in most developed countries trade has grown in importance relative to gross domestic product (GDP) ever since World War II. This growth in international trade flows, in sequence, has been a primary incentive of globalization, a development that has had significant effects for societies across the world.

2. History of EU

The foundation of the European Union was based on a goal for the creation of a European common market and customs union in the first place. While, the European Economic Community composed six Member states in the beginning, European integration process turned to an important example of inter-state cooperation over the past 500 years. Integration in all areas has advanced from the Treaty of Rome (1957) and to the Treaty of Lisbon (2007). During this phase, EU membership has increased from six to 27. The founders of the EU believed that when they create an economic integration, it would be followed by the political integration. As one of the leading European integration scholar Ernst Haas examines this idea in his theory of regional integration. With the spill-over effects, engagement of the process of EU integration would increase when rules and policies shifted to Brussels. Even though citizens were not so interested in the EU project during the 1960s, the view of Europe would be embedded in their political activities gradually.

United Europe was seen before as a policy that was only included in the thought of philosophers. When many people died in the wars between 1870 and 1945, this idea became a thought adopted by philosophers as well as their leaders. European leaders and thinkers agreed on the necessity of an environment of peace, but the continuity of this peace environment was far more important than its existence. The only way to ensure continuity was to unite the countries economically and politically. Efforts to establish a permanent peace environment after the Second World War gained momentum in Europe. It is possible to see the first result of these efforts as the European Coal and Steel Community (ECSC), which was established in 1951. This community was founded on May 9, 1950, with the approval of the plan that Robert Schuman presented to the European States based on the proposal of Jean Monnet, the General Secretary of the League of Nations, with the aim of ending the centuries-old conflict between France and Germany. Jean Monnet, who inspired Schuman's plan, is the first head of the AKST's high authority. Coal and steel, which are seen as the cause of the war with the community in question, have become the tools of peace. Belgium, Federal Germany, Luxembourg, France, Italy, the Netherlands are members of the European Coal and Steel Community.

These countries met in other communities in 1957 and 1958, after seeing the benefit of acting as a community.

In 1957, they decided to establish the European Economic Community based on the free movement of labor, goods and services, and signed the Treaty of Rome. The founding fathers of the EEC were Centralists as their institutions formed a centralizing structure of their own way. The aim was to establish economic unity in other sectors as well as coal and steel, to establish a common market in which goods and capital move freely, and ultimately to ensure political integrity. Based on the same treaty (Treaty of Rome) in 1958, the peaceful and safe European Atomic Energy Community has been established in order to use of nuclear energy. These communities, based on the Fusion Treaty signed in 1965, are now known as the European Communities. This success of the European Organizations has encouraged other countries to join. Among the countries applying for membership, we see the UK, Ireland and Denmark in the top.

The United Kingdom, which later decided to join in the early 60s, was rejected by the President of France Charles de Gaulle on the grounds that this membership was a threat to France. The opposition of the French to the UK's membership came to an end in 1969 due to the resignation of De Gaulle and the growing economic power of Germany. Unfortunately, the UK's European Community membership coincided with the oil crisis and international economic instability that took place in 1973, and the expanding European Community had to struggle with difficult economic conditions such as slow growth, severe inflation, and increasing unemployment. This recession has increased uncertainty in the UK against the European Community. Regular meetings of leaders have ensured that the institutionalized Council of Europe Community stays together.

Although France under General de Gaulle vetoed the UK's application for membership twice, in 1963 and 1967, all countries became members of the European Community in 1973. The number of members of the community has increased over the years. With the participation of Based on the White Book prepared by the commission in 1985, the community changed its goal to become the single market until January 1, 1993, and the Single European Act was created in line with this goal. Signed by Belgium, Germany, France, England, Ireland, the Netherlands, Spain, Luxembourg and Portugal in February 1986, and 11 days later by Denmark, Greece and Italy, the Single European Act

entered into force in 1987 and the treaties establishing the European Communities were amended extensively suffered.

On 9-10 December 1991, the member states met at the European Union Summit in Maastricht. The Maastricht Treaty was signed at the summit. Also known as the Treaty of European Union entered into force on 1 November 1993. The Maastricht Treaty is the founding treaty of the EU. With this agreement, a serious change was experienced in the EC, and the law and rights were renewed with political and economic regulations. After Margaret Thatcher, the government of John Major was established in the United Kingdom. In this period, relations with Europe rather than the USA came to the fore. Compared to Thatcher, John Major took a more moderate attitude. It focuses on being European and in this context establishing political and economic cooperation. (J.M. Roberts, 2010)

With the Lisbon Treaty signed in 2007, the last and most important step in the deepening process of the EU has been realized. The EU's decision-making mechanisms did not work as intended, and in fact, the purpose of the Lisbon Treaty, also known as the "Treaty on the Functioning of the EU", was that this mechanism had an effective working structure. Many issues have changed with this agreement.

3. The UK's Dilemma; European or Commonwealth?

As it is known, the United Kingdom stayed away from the union during the establishment of the European Union, but in the following years preferred to become a member by abandoning this policy. It was mentioned briefly in the previous section. This section will be discussed in general terms. As the title suggests, the United Kingdom felt obliged to choose between two options during the founding years of the Union: Will the close cooperation with the Commonwealth or European countries after the war? United Kingdom used this preference for the Commonwealth and did not want to take part in the establishment of the Union. There are several underlying reasons for the UK's choice:

The first reason is the difference between the resources and conditions of the UK and Continental Europe in the post-war period. The UK has a national strategy for post-war recovery, supported by its own resources (Commonwealth, colonial resources, London's financial position, US alliance and military power), even if it failed dramatically. (Gowland et al., 2010: 20).

The second reason, as mentioned in the previous section, is the United Kingdom's great state delusion. The United Kingdom won the war, emerged victorious, did not experience any invasion unlike other European countries, was one of the "three great" (Soviet Union, USA and United Kingdom) that defeated Nazi Germany and still had a large overseas fleet, thus it did not see European countries as its equivalent and did not feel the need for a close relationship.

But actually United Kingdom's greatness was already gone before the World War II, so at the end it was just a giant "with feet of clay".

The third reason is the overriding importance of Commonwealth countries to European countries.

From the UK point of view, there is greater affinity between an ordinary British and a citizen of the Commonwealth than there is between a British and a European citizen. This difference in national identity had also been reflected in the economy. Trade with Commonwealth countries at that time was much more than Europe (George, 1996, p.133). 50% of UK trade was with the Commonwealth. The trade with the whole of Europe corresponds to only 20% and it has been argued that a possible customs union with Europe

would damage this trade with the Commonwealth and the customs union would not be able to compensate this damage (Gowland et al., 2010, p.24). In addition, it was hoped that Europe would see the United Kingdom as an indispensable country since 42% of European imports were to the UK (Crowson, 2011, p.57).

The fourth reason is the change in the US policy towards the UK. US economic aid promise, later the US-led Atlantic Alliance (NATO) showed that the US will have a special relationship with the UK and the UK will be able to use its resources to sustain its resources beyond Europe.

These developments showed that the United Kingdom could be a North Atlantic power because of its special relationship with the USA rather than a regional European power (Gowland et al., 2010, p.27).

On the other hand, the focus of the U.S. administration, however, was on achieving a trade agreement with the United Kingdom that would protect the interests of U.S. exporters in this eminent market. In fact, enough to remember to the reasons given by presidents Franklin D. Roosevelt in the 1930s and George W. Bush in the 2000s, in both cases were for the need to protect the interests of U.S. (Dür, Andreas, 2011, p.69)

All this has shown that in the post-war period Europe is not vital to the UK and the Commonwealth is more dominant. To summarize the reasons mentioned above; The UK's post-war situation is better than Europe, the delusion of the great state, the special relationship with the USA, the overwhelming importance of the Commonwealth countries kept the UK government away from Europe in the post-war period.

3.1. Messina Agreements

The economic momentum created by the ECSC among the Six had strengthened the idea of furthering the integration in the field of economy. For this reason, the Six gathered in Messina in 1955 to discuss the "customs union" proposal that would further economic integration (Crowson, 2011, p.71). At the Messina Conference, it was decided to invite the United Kingdom to discuss the common market, this time, unlike the Schuman Plan, no pre-commitment was asked from the UK on supranational principles

and the Conservative government decided to send representatives to the Spaak Committee established for this purpose. (Young, 1993, p.44).

The Conservatives, who opposed the Workers Party Government who did not participate in the Schuman Plan negotiations, participated in the negotiations because they were in power in this period and aimed to bring the Sixes to a reasonable point. However, at the beginning of the negotiations, it was understood that the Six would not make concessions regarding supra nationalism.

The authorities thought that the customs union would also hurt the Commonwealth countries because the agricultural products they sold to the UK account for 50% of their exports. (Crowson, 2011, p.71). The topic of agricultural products represented an important issue for the UK. The UK's need for agricultural products was high, and it provided this need from Commonwealth countries duty-free. It was thought that these products, which previously entered free of charge, would face tax if they enter the customs union (Diebold, 2016, p.4). The arguments of those who argue that entry into the Customs Union was harmful could be summed up in this way.

According to the supporters, it is a fact that the Commonwealth countries are the biggest market of the UK, but this market was not a dynamic and expanding market like the European market (Horber, 2006, p.314). In other words, the trade of the United Kingdom with these countries tended not to grow but to shrink, while the trade with the Commonwealth corresponded to 39% of all trade in 1938, this rate decreased to 27% in 1956 (Crowson, 2011, p.71). In addition, when looked individually, the growth rate of the United Kingdom was lower compared to the Six, while the UK grew by an average of 2.9 between 1950-55, France grew by 4.4, Italy by 6.3 and Germany by 9.1 average (Cairncross, 1981, p.376).

These figures showed that the economic future in the European market. According to the numbers, European countries were better than the UK in their recovery plans after World War II, and they did better economic growth. While current data for the period show that entry will be detrimental, long-term trends have shown that entry will be profitable. It would not be wrong to say that the United Kingdom does not think long term on this issue.

Finally, the United Kingdom's unilateral withdrawal of its troops in the operation against Nasser Egypt due to the Suez Crisis broke up with France, and when the phobia of the UK's transfer of sovereignty was added to all this, the UK's withdrawal from the Spaak Committee on November 11, 1955. (Crowson, 2011, p.71-72). The government of London opposed Euratom as well as the EEC established by the Rome Agreements. But the reason for opposing this organization was not the same as that of the EEC. The United Kingdom did not participate in Euratom because it did not comply with its atomic weapons program (Young, 1993, p.47). Eventually, the Sixes reached an agreement without the UK, and in 1957 signed the EEC and the Rome Treaties that formed Euratom.

3.2. What caused the UK to join EU?

As it is known, the United Kingdom stayed away from these communities during the establishment period of the EEC and ECSC due to the reasons mentioned in the previous sections, but applied to join these communities in 1961. This decision of the UK Government is not a sudden decision, there are a number of reasons leading to stay as well as to apply. In this section, both domestic and foreign political and economic reasons that pushed the UK Government to this decision is mentioned.

The Soviet threat, which gradually grew with the technological revival, was one of the most important political reasons. The construction of the Berlin Wall and the failure of Macmillan's efforts to soften with Nikita Khrushchev reiterated the importance of the Soviet threat (Crowson, 2011, p.78). The UK's membership of the EEC will bring the two separate trade blocs in Western Europe into a single bloc, and this would strengthen the position of the Western bloc against the Soviet Union by creating unity (Gowland et al., 2010, p.56).

The deterioration of political relations with the Commonwealth was also one of the reasons that led the UK to the EEC. So much so that the UK's influence on the Commonwealth was not as before, especially the 1956 Suez Crisis significantly reduced

this impact. Canada and India were among the countries that opposed the Suez Operation most strongly (May 2001, p.86). Finally, the aim of regaining the leadership of the United Kingdom, which saw the leadership of Europe shifting towards France, was among the political reasons (Kaiser, 1999, p.116).

The economic reasons can be started by talking about the declining economic relations with the Commonwealth. So much so that between 1956-1962, the exports of the United Kingdom to the Commonwealth countries decreased from 1.26 billion pounds to 1.19 billion pounds. In the same period, exports to Sixes increased from £ 468 million to £ 762 million (Kaiser, 1999, p.110). As can be seen, in this 6-year period, while there was a 5.5% decrease in exports to the Commonwealth and a downward trend in trade, exports to the EEC increased by 62.8%. It should be taken into account that there were also customs duties in exports to Europe during this period. It is seen that this increase would be much bigger and more profitable in the absence of customs duties.

Another economic reason was that the economic indicators of Six were better than the UK. In the period 1955-1960, the United Kingdom grew by an average of 2.5, while France grew by 4.8, Germany 6.4 Italy by 5.4. Even the EEC average was above the United Kingdom with a rate of 5.3 (Cairncross, 1981, p.376). In the same period, when the per capita national income was taken as 100 for the United Kingdom, it was 124 for France and 144 for Germany. In addition, the share of the United Kingdom in world exports decreased, such that the ratio, which was 25.5% in 1950, decreased to 16.5% in 1960 (Alford, 1988, p.14-15).

In addition, the change in the US attitude towards the United Kingdom could be counted for both political and economic reasons. USA's special relationship with the United Kingdom did not continue in the period after World War II and immediately after. So, for the first time in 1960, 50% of the Western European direct investments of the USA started to go to the EEC countries, while the share of the United Kingdom decreased to 40% (Kaiser, 1999, p.113). The rapid loss of overseas resources of the United Kingdom, in other words, the disintegration of the Empire could be counted among the political reasons, breaking the perception of the great state, and cutting the revenues from the sources (Leach et al., 2006, p.270).

Internal political reasons included the strong activities of the lobbies that support Europe, business communities and some major press organizations (Crowson, 2011, p.78). In addition, the Lee Report, named after the Undersecretary of the Treasury Department Frank Lee, had a great impact on both domestic policy and decision-makers. Namely, Macmillan asked Treasury Department undersecretary Frank Lee to produce a report on community entry. According to the report, unlike EFTA, the larger and rapidly growing EEC offered much greater advantages for the UK. In addition, it was thought that the United Kingdom could regain its direct investments of the USA at its old level (Kaiser, 1999, p.112-113). Following the Lee Report, EEC membership in the UK had been seen as the only remedy for the UK's economic problems and political isolation (May, 2001, p.88). The UK would not have been able to stay out of the community. According to Stephen Lee (1996, p.142), Macmillan had to enter the European stage to stay on the World stage.

To sum up, the UK was losing its resources, had fallen behind the Six economically, its links with the Commonwealth were weakening, and its relations with the United States were no longer the same. Hence, these are the reasons that previously kept the UK out of the community. And now that these reasons have been reversed explains why the UK wants to become a member of the EEC.

CHAPTER II.

BREXIT AND UK - EU ASSOCIATION

1. Analysis of the UK and EU relationship

In this part of the study, we will explain the relationship between UK and EU as well as the Brexit process, the UK exit from the EU within the theoretical perceptions which we discussed in the previous chapter.

The United Kingdom has been in relation with EU countries for many years due to its geographical proximity and being a member of the Single Market. As a matter of fact, 7 of the 10 UK's largest trade partners in the world are EU countries.

The complicated relationship between Britain and the European Union has not been framed by a war, the main subject of which is Neorealism. Nevertheless, neorealism can lead to the three major theories of Brexit. First of all, the exercise of power places a great deal of emphasis on the partnership as an array of conflicts of interests with the best way to achieve state capacity in the EU. According to *the Financial Times*, there is a concern in the current era that a no-deal negotiation would lock both the UK and the EU in a 'Brexit Cold War'. (Waterfield, 2019) Despite the historically UK's favor of an intergovernmental approach, UK and EU power ties are always in dispute with the EU that represents supranational or federal expectations. To clarify, neorealism first gives itself the chance to consider a power inequality in which the EU authority has a supra-national position more and more.

The development of the EU is a second and related topic. The EU is an organization which, from its founding, has undeniably increased its power capacity. As such, neo realistic theory could well see Brexit as a reaction towards the EU consecrated by an

emerging force of imperialism against a protective realism of the United Kingdom that is attempting to stick to less central and more conservative policies.

A final point focuses on state centrality. State-centric theories such as realism might appear inadequate at explaining international organizations which ultimately do not constrain states. However, several British political discourses have historically framed the European Union project as a Franco-German project. A dizzying array of pejoratives to describe both the French and German national characters can be easily found in the history of UK-EU relations. Although these are elite-driven opinions of national character, and leadership roles do not fit into neorealism, one can argue that these images are reflections of perceived power capabilities of the EU which are driven most forcefully by France and Germany.

In regards to neoliberal approach, at first sight, the UK seems anti-liberally to be doing something isolationist in its attempt to sideline itself from the biggest trade bloc. In 2018, UK exports to the EU amounted to £291 billion, 45% of all exports from the UK (Ward, 2019).

Single European Act of 1986, which sought to reduce trade barriers and promote the development of the single market by 1992. The Maastricht Treaty can also be seen as a step in strengthening EU hegemony. The introduction of the euro paved a way for the common currency and established a degree of monetary integration that levied on Member State debt and inflation costs and essentially supra-nationalized the EU's authority. But perhaps the intervention most connected with changing the EU from an elitist to an inclusive movement that consolidated its position as a 'historical bloc' in the 1980s was the notion of 'democratic' Europe.

Brexit, consequently, does not affect directly any process of integration at EU level. It only allowed the UK to escape it. For instance, the reaction of Germany and France (and partially Spain and other smaller countries) to Brexit is to push further to integration.

As one scholar has indicated, the uneven development which causes such decisions in the first place may well be due to the broader ideological dominance of neoliberalism, rather than the specific machinations of institutions like the EU. (Jessop, B., 2018)

The Constructivist transform was dissatisfied with materialist ideas. The way a State like the United Kingdom complies may be focused not on materialistic conceptions

of balance of power and capability, or on the will to practice hegemony and independence, but instead on the personality of the nation which is created by lengthy processes of community, history and culture.

Focusing on identity definitely illustrates the UK's decision to leave the EU. It is worth stressing two things. The first is when such historical home readings are articulated. After all, one can remember that the United Kingdom was a member of the EU for almost 50 years and still it probably did not seem to have been completely absorbed by public or political mainstream sentiment in Great Britain.

The underlying Euroscepticism in British culture, as seen in Daddow, 2006, Protestantism, monarchy and the Empire, may also play an important role in these distinctions (Thompson, A. S., 1997). The UK has had a pessimistic frame for the EU, and Brexit is the next step of its evolution, owing to deep-seated historical and cultural attitudes. The more structural societies of chaos are a second example of using a constructionist approach. The United Kingdom has agreed not to leave Europe, amid a widespread misunderstanding, nor the European Union.

To conclude, international theories have some analytical benefits. First of all, it serves as an instrument for recognizing the State's identity and function. Notwithstanding whether the national audience, international or regional structures or individual policy-makers' psychology influence State preferences and values and personalities, the positions generated provide an account of who the state is. Secondly, theory allows a multidisciplinary approach to fuse components of other theories efficiently. A neo-realistic outlook incorporates the distribution of power in the international system into the work of the state with restricted capacity, for example, cannot define itself as having a 'hegemonic' or 'global presence.' In addition, the theory will capture a neoliberal perspective on rights, democracy and values. Therefore, these theories help us to understand exit of the UK from EU and the role of Europe in Brexit process. Besides, the findings have significant implications for countries and regions where there are pressures to step away from trade the liberalization toward the protectionism.

2. The Process Leading to Brexit

The term Brexit is a combination of the words "Britain" and "Exit" and means the departure of the UK from the EU. In the literature, depending on the severity of the separation, the terms —Hard and Soft Brexit are used. "Hard Brexit", which is used in the sense of a difficult exit, includes a violent separation in which relations will be completely distant, and suggests that this separation includes not only political but also entities such as the Single Market, the Customs Union, and the European Court of Justice.

"Soft Brexit", which means soft exit, foresees the continuation of the existing relationship, which is closer to the EU, with a little change. If Soft Brexit occurs, the UK may continue to be a member of the Single Market and the Customs Union. However, in this case it will not be able to make its own trade agreements. The distant attitude of the UK to the EU is not a situation that has been developed with current policies or has been guided by politicians. European skepticism has always had a significant impact on British politics. The EU, where many powers of nation states are transferred and nations are gathered under a European supreme identity, is a political formation that has been cautious since the years when Thatcher was prime minister in the UK domestic policy.

In June 2016, a referendum on European Union (EU) membership was held in the United Kingdom and the decision of "separation" was taken, which was amazed by the whole world. Thus, the concept of Brexit, consisting of the words Britain and Exit, emerged.

2.1. The Brexit Campaigns- “Remain” and “Leave”

In the Brexit referendum, UK voters had to vote between the continuation of the UK membership to the European Union (Remain) under Prime Minister Cameron’s newly negotiated terms, or withdrawal from the European Union (Leave). Prime Minister

Cameron and most members of the Conservative cabinet such as Home Secretary Theresa May and Foreign Secretary Philip Hammond campaigned for “Remain” while other Conservatives such as Boris Johnson, Andrea Leadsom and Michael Gove supported “Leave”.

The official Remain campaign group (titled “Britain Stronger in Europe”) focused on the economic advantages of EU membership and the anticipated negative economic effects of Brexit (Harold D. Clarke, 2017). They also highlighted the notion that a non-EU member UK would be at a disadvantageous position in its international relations. It has been agreed upon by the academia that argued that the “Remainers” focused much of their attention to economic issues. They argued that withdrawal from the EU would cause a notable depreciation of the UK Pound Sterling and would hurt UK businesses. According to the economic theories, which we discussed before, this situation is linked with the neo-protectionist arguments come from latest “gravity-related” trade thinking.

Furthermore, statistical study revealed that there was no evidence that immigration decreased incomes, according to a survey in *The Financial Times* (2017), while a Bank of England survey suggested a marginal impact on the low paid group—a 10% rise in the share of low skilled migrants reduced low paid wages by 2%. However, the rise in migration from the EU was only about 2% throughout 2008 and 2015, meaning that low pay incomes were only decreased by about 0.4 percent over the 7-year period. Some claim that relocation of highly skilled jobs increases average incomes. Any UK businesses are also having difficulty finding new employees. Technology, health care, and hospitality are among the businesses in desperate need of migrant labor. It is also vital to know that Brexit can jeopardize British citizens' right to reside and work in other EU countries.

Christopher Fear identified that the main political parties of the UK avoided the issue of immigration, which was a major consideration for voters in the UK. Noticing that many Leave supporters were older citizens, Cameron tried to win them over by saying "As you take this decision whether to remain or leave do think about the hopes and dreams of your children and grandchildren." Szczerbiak and Taggart argue that an important result of the Brexit referendum was the ability of hard Euroscepticism to pass from the “fringes” of the Conservatives to mainstream Conservatives such as Johnson and Gove.

The Leave campaigners (officially organized under “Vote Leave”) was a large coalition that extended amongst parties. Swales summarizes the main arguments of Leave as ‘taking back control’ of borders, law-making, and the money Britain contributes to the EU budget” (Kirby Swales, 2017). One of the most notable arguments of the Vote Leave campaign were the vast amounts of money “sent” to the EU, which was allegedly 350 million UK pounds weekly (Jon Henley, 2016) Vote Leave also argued that, once out of the EU, the “350 million pounds” could be spent partially or entirely to improve on the National Health Service (NHS).

One of the major arguments by Nigel Farage was that by being outside the EU, the UK would have enjoyed greater freedom for trade. This position has some kind of logical bases linked to the fact that by being outside of the EU the UK can negotiate its own trade agreements with other countries. However, this also means to lose the freedom of trade with the major trade partner. This is a very intriguing point since it clearly suggests that there is no such thing as a total freedom or an absolute win situation. A country faces always a trade-off (there are both advantages and disadvantage) and then it has to make its own choice.

There is an argument to be made that the EU, as a continental trading bloc, has stifled free trade growth. This is most evident in agriculture, where the EU's mercantilist practices have hampered the development of agriculture in developing countries. The "Leave" campaign argues that if the UK is out of the EU, it will be able to secure fair trading agreements with non-EU nations. Furthermore, the Leave campaign wants to overturn the primacy of EU legislation in areas such as free flow of labor, utilities, capital, customs duty, fisheries, transportation, and migrant workers' Social Security. Finally, the Leave campaign emphasized the high cost of EU membership.

To sum up, the Brexit vote cannot disregard three facts. First of all, more ancient British electors voted 'Leave.' Secondly, the main explanation offered by the voters of the 'Leave' was the lack of British sovereignty, while the remaining voters are worried about the economy of Britain. Third, ‘Leave’ supporters were also more likely to see multiculturalism, progressive democracy, feminism, and the green revolution as social ills, while ‘Remain’ voters saw them as social goods (Ashcroft, 2016).

Ultimately, the British electorate voted “Leave”, in a close vote by 17,410,742 votes for Leave (51.89 per cent) and 16,141,241 votes for Remain (48.11 per cent) with a turnout of 72.2 per cent.

3. Possible economic effects of Brexit decision

In the literature, many studies have looked at the overall impacts of Brexit on the public finances, international organizations, such as the IMF and the OECD, and also they have contributed to the debate, looking both at the impact on the UK’s macroeconomic indicators and the economic relationships between the UK and EU, but also at potential risks for the global economy, and politics for example, Bulmer and Quaglia (2018) studied the economic and political effects of Brexit on the UK and the EU and warrant scholarly examination. (Howarth, D., 2018) They have two main aims which are to investigate the implications of Brexit for the EU and the UK, placing this assessment in the context of the long-term evolution of UK-EU relations and to draw some lessons from it, relating these findings to debates within the literature on EU policy-making, comparative politics and political economy.

The UK's leave the European Union can open the door to some other countries and a fragmentation in Europe. It could also lead to a loss of clarity in the financial markets and a trade destabilization that could adversely affect the global economy. Howarth and Quaglia (2018) have recently studied that focuses on Single Market-related policy developments in finance in the Brexit context. Theoretically, Europe is concerned with two working units that make contradictory predictions in the development of EU policies on financial market integration and financial regulation. One focuses on a new mercantilist war among member states, while the other emphasizes the importance of transnational financial networks (or coalitions). Empirically, they find limited evidence of the formation of international alliances in favor of the United Kingdom. They maintain broad access to the EU Single Market in financial services. In contrast, the main financial

centers and national authorities in the EU 27 competed to drive the financial business away from the UK - what they described as a war between member states and national financial centers.

Given the uncertainties associated with the decision to leave the European Union (EU), the need to consider its potential effects on the UK's energy sector becomes even more pertinent. With the lens of several widely revised trading regimes in the light of Brexit, it is unlikely that the UK energy policies will likely change significantly, while Brexit still threatens the UK's capacity to protect its energy supply. At the sectoral level, Brexit will mostly affect UK's engineering, automotive and chemical industries. EU's MFN import tariffs are relatively high in these areas. However, the financial sector may be the most "damaged" sector for the UK. On the contrary, Germany, France and Luxembourg may get benefits from it. Meanwhile, in the whole continent, losses will be concentrated in automotive, food and paper industries.

With the UK's accession to the EU, the international trade volume has increased and costs have decreased. The Customs Union evolved into the European Single Market, and the United Kingdom achieved more economic integration than the European Free Trade Area (EFTA), which it was a member before 1973. This integration has increased the UK's trade and income levels. Undoubtedly, Brexit will affect not only diplomatic relations and political cooperation but also joint trade between the UK and the EU.

This situation, along with uncertainty regarding future bilateral trade relations, is a source of concern for many companies, as well as politicians and decision-makers. Research shows that the business activities of many companies with headquarters in the UK and Germany will be adversely affected.

The uncertainties that emerged as a result of the UK's decision to leave the EU had a negative impact on both the UK and the Eurozone economies. Brexit has created significant fluctuations in the exchange rate, causing long-lasting uncertainty in the UK's financial markets and trade relations with the EU. It was predicted that the growth in the Euro zone and the United Kingdom would slow down in the following periods, and it certainly has been. The Brexit impasse and the failure of parliamentary approval of agreements made so far continue to hurt the UK economy.

The UK is the EU's country which receive the largest foreign direct investment, but with Brexit, the UK may not appeal to foreign investors. Membership made the UK a center of attraction for investors for several reasons. The free movement of capital, one of the four freedoms, has made it easier for investors from other EU member states to invest, also the UK. Its presence on the EU Single Market has made the UK not indispensable for multinational companies. Brexit as the UK's gateway to Europe can reduce its appeal, and at the same time, uncertainty in the markets can reduce direct investments. It will be more difficult to get foreign direct investment from the 27 EU members after Brexit.

According to the reports of leading economists, removing trade barriers with the EU will adversely affect the UK economy and lower the welfare level. Post-Brexit UK's economic strategy was announced by Prime Minister May as "Global Britain" in February 2017.

After Brexit takes place, the UK will have limited access to the EU single market. For this reason, the Global Britain Strategy aims to create a new and remarkable growth drive on the economy by reducing the effects of limited access. With the Global Britain Strategy, free trade agreements with countries with large markets such as Japan, China and India are foreseen and studies are continuing.

After the UK voted to leave the EU, UK is re-considering to establish new business relations with both the remaining 27 EU members and other countries around the world. However, it is uncertain which scenario will take place. The model to be determined should take into account, on one hand, the situation of EU citizens living in the UK, on the other, UK citizens living in EU countries. There are five different alternatives that might be possible for the United Kingdom to cooperate commercially with the Commonwealth. The chance of trusting the Commonwealth for a bright future is increasing. Besides, the consideration to expand trade with Commonwealth countries would be wise, but the belief that this trade would fix its relationships with EU is not simple. The UK is expected to focus more attention on the Commonwealth in the future, but this will not exclude the negative effects of leaving the EU.

Brexit gives rise to a major challenge to the stability of European fisheries management.

Up to now, adjoining EU member states have shared the credits of the living holdings of the seas around Britain.

Taking full responsibility for the regulation of fisheries within the UK's Exclusive Economic Zone will go beyond durable relationships, potentially threatening recent improvement and future sustainability of shared fish stocks. (J. Phillipson, D. Symes, 2018)

CHAPTER III.

FISHING MANAGEMENT IN THE UK

As mentioned above, speaking about Brexit and food, the most important place belongs to fisheries.

This is due to the following reasons:

1. Fisheries sector had a very important role in the campaign leading up to the Brexit referendum;
2. In this campaign it was promised a brilliant forthcoming for the fishing industry;
 - a. Politicians promised to ‘take back the control of british waters’,
 - b. Industry member forecasted a ‘sea full of opportunities’ for fishermen. (STIJN BILLIET, 2019)

1. Common Fisheries Policy

The Common Fisheries Policy (CFP) is a set of rules for managing European fishing fleets and protecting fish stocks. It provides equal access to EU waters and fishing grounds for all European fishing fleets designed to manage a common resource and enables fishermen to compete fairly. Stocks may be renewable, but some of these fishing stocks are over fished. As a result, EU countries have taken action to ensure the European fishing industry is sustainable and do not threaten the size and productivity of the fish population in the long term.

CFP was first introduced in the 1970s, with successive updates, the last of which took effect on January 1, 2014. The main goal of the last CFP is providing a resource management including sustainable economic, environmental and social conditions. In order to achieve this goal, an ecosystem-based practice in fisheries management has been

stipulated. Furthermore, improving the quality of life of those living with fishing activities, taking care of the interests of the consumers, creating an economically consistent and competitive fishing industry are stated as the main objectives of the CFP. The new CFP deal with its policy on a long-term scale, taking into account the ecological balance, and introduces new regulations in improvement plans, operational management plans, emergency measures, regulation of fishing capacity, access to resources and sanctions. It has also made new expansions in the areas of decision-making and governance, in this context; it has envisaged a structuring for more effective and widespread participation of stakeholders in governance. Ensuring integrity with other common policies of the EU has also been an important goal.

Until now, the impact of fishing on the fragile marine environment is not fully understood. Therefore, CFP has adopted a cautious approach that recognizes the impact of human activity on all components of the ecosystem. It wants to make his fishing fleet more selective when they hunt and eliminate the practice of throwing unwanted fish.

The reform also changes the way the CFP is governed, giving EU countries greater control at the national and regional level. It is essential to hunt in a way that does not endanger the existence, balance and continuation of each fish stock. However, in practice, a mixed catch occurs because many species coexist in the same hunting area and the stocks generally consist of fish that contain both age and size in a very wide area. In addition to determining the amount of catch, small immature fish are caught. Measures should also be taken to prevent.

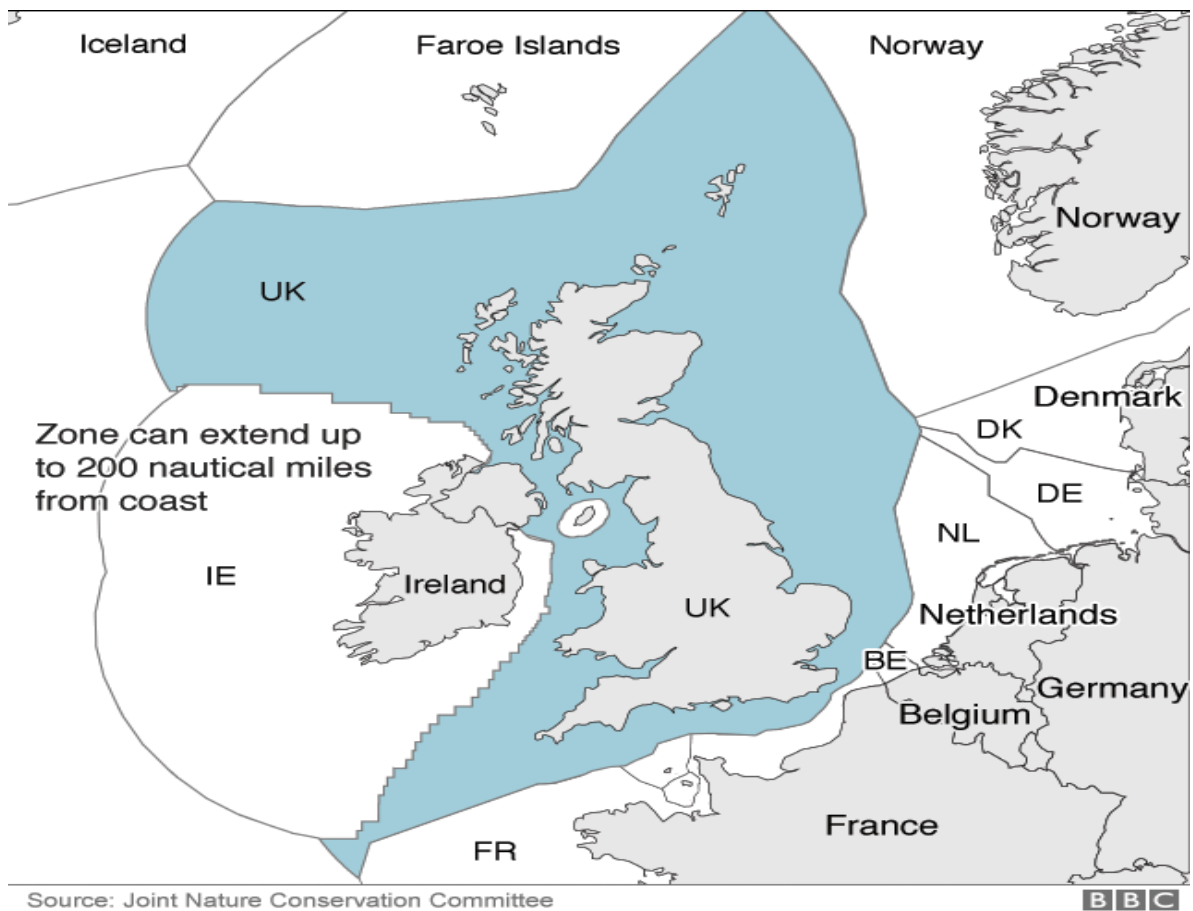
1.1. Impact of Brexit on fisheries

The fishing industry was crucial one of the agricultural sector in the Brexit process, when Nigel Farage and Bob Geldof participated in a kind of nautical war on the Thames.

According to the negotiations in 2020, Brexit exclude the UK from the EU's Common Fisheries Policy (CFP) and has new status as a sovereign autonomous maritime state that has the freedom to administer resources in its waters. As a result, the UK have a five and a half years, transition cycle beginning from January 2021 during which the

United Kingdom's catch value will rise gradually to an average of 25 percent with its own Economic Exclusion Zone (EEZ). (Figure 1). It will reflect its own interests in agreements on fisheries with the EU and other northern states. Thus, this will save the UK fishing industry some £140 million a year by 2026 in monetary terms.

Figure 1. Economic Exclusion Zone



Fishing-boat from the rest of the EU captured much more fish in UK waters than the other way around. The UK exports the bulk of its fish catch to the Europe, but the majority of its fish demand comes from the EU (Johnson, 2016). The disparity between domestic supply and demand generates a slew of new bargaining points. Brexit raises the UK's EEZ endowment, which can be used as a bargaining chip, but both sides can also use economic practices to disrupt demand and productivity. Continued access to unrestricted or preferential trade in fish and seafood is in everyone's best interests.

The CFP establishes a shared system for fisheries management through the devolved nations. Following Brexit, the system would no longer be accurate. As a single coastal state in negotiations with the EU, the UK will need to consider the needs of all of its devolved governments. Since Scotland is a big fish exporter to the EU, it has voiced anxiety about a trade agreement result that could be unfavorable to it.

One point to note is that after the UK leaves the EU, it is no longer constrained by the EU's freedom of establishment. This encourages the United Kingdom to ban “quota hopping.” This, also, would be a negotiating point. Because fish have no boundaries, the UK needs to cooperate with the rest of the EU States and other northern neighbors in order to prevent 'tragedy of the commons' in ensuring the environmentally, financially and socially viable fishing industry.

To conclude, much of the underlying problems remain unresolved, and the impact of climate change on the management of fish stocks will begin to wreak havoc on arrangements, without an approach to catch allocation.

2. Fishing industry in the UK

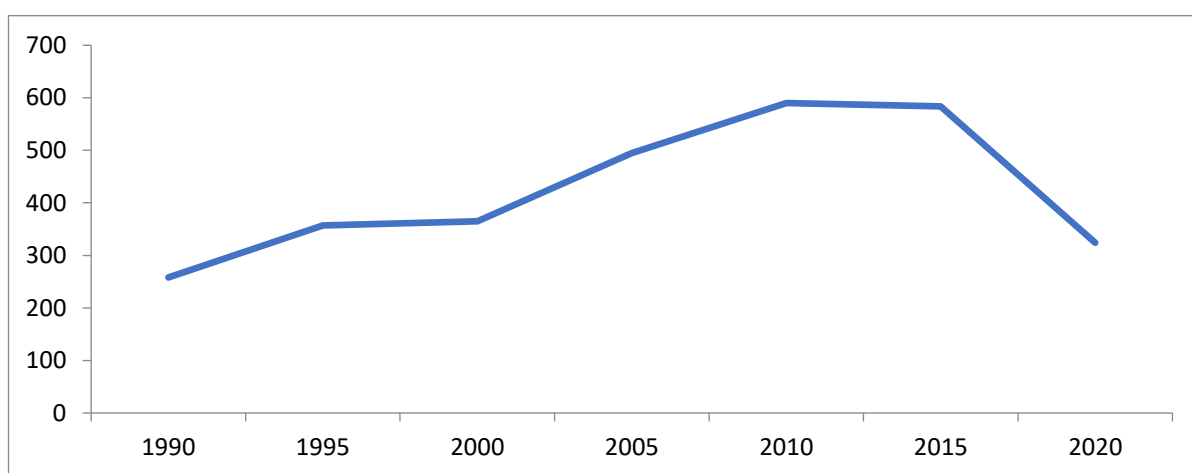
The UK is one of Europe's main fishery and aquaculture regions. The British trade fishing industry is composed of three sectors: I the fishermen's sector which covers the collection of all aquatic life for human consumption, including fish, crustaceans and mollusks; and ii) aquaculture or aqua-farming, including fish farming, mollusks, crustaceans and aquatic plants such as seaweed; iii) the fish processing industry is a food production sector that produces and stores food and animal feed fish for consumption.

2.1 The UK fishing sector

Gross value added¹, which is the same as GDP in 2020 amounted to £324million from the economic production of fisheries and aquaculture industries (including marine fisheries, freshwater and fish farming). Among all the agriculture sectors the industry accounted for 0.03 per cent of the overall UK’s GVA.

The given figure shows the economic production between 1990 and 2020 of fishing and aquaculture. From 1990 to 2010 GVA rose gradually and remained somewhat stable until 2014. Since 2015, production has decreased, reaching nearly the rate of 1990.

Figure 2. Fishing and aquaculture economic output (£ million)



Source: ONS, ‘GDP output approach – low level aggregates’, 2020

There were 3,705 companies in the UK in 2020, according to the registered fisheries company.² Small fisheries without employee and sales below the yearly VAT threshold of £85 000 are excluded in this figure.

The fisheries sector is marked by a large number of ships which have their own crew as the only employees with an average proportion of enterprises employing 5 or less, while 93% of enterprises hire less than 5, comparing with 78% in the UK economy overall.

The UK fisheries fleet accounted for £240 million in 2019, marginally more than £238 million in 2018 in terms of operational income. Fleet profits ranged according to

¹ ONS dataset: GDP output approach – low-level aggregates, 30 September 2020 release: GVA £ million at current prices. Gross value added (GVA) measures the value of goods and services produced by an industry. GVA is a measure of economic output that is closely related to gross domestic product (GDP). GVA = GDP plus subsidies on products minus taxes on products (e.g. VAT).

² ONS, *Business activity, size and location*, 2020, via NOMIS database. Data excludes very small businesses with no employees and turnover below the VAT threshold of £85,000 a year.

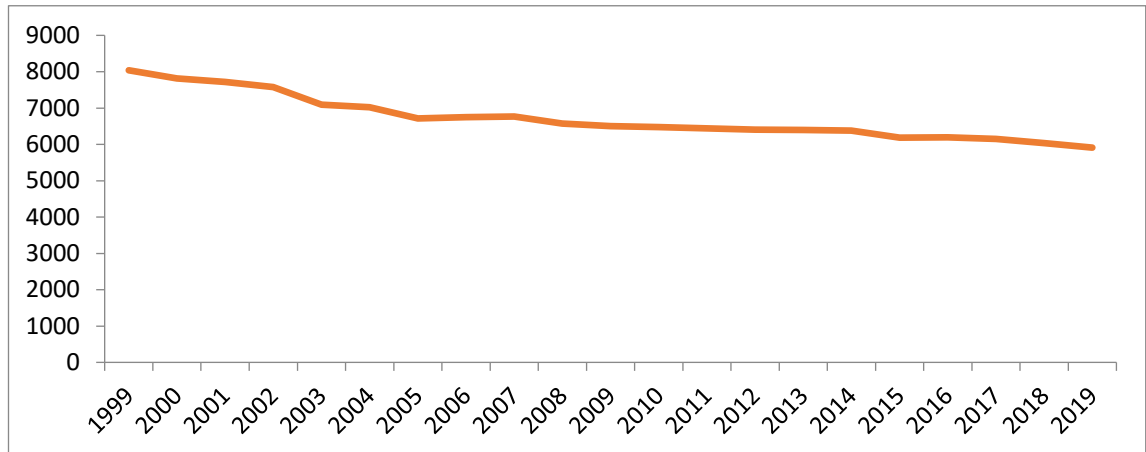
type of ship and waters fished. Demersal vessels in the North Sea and the West (NSWoS) saw substantial average profits per ship rise in 2019, while trawls in the North Sea faced a loss in 2018 and 2019.

At £450,246, in 2019, NSWoS's largest annual operative benefit by shipping sailors was £373,742; on the other hand, North Sea trawlers made an overall operational loss of more than 300 kW, down from \$53,792 in 2018, per ship by an average of €119,210.

2.2. The size of fleet

As can be seen in the figure below, the size of the UK fishing fleet decreased since 1999. At the end of 2019, 5,911 was the number of registered ships which represents 9 percent down since 2009. Of such vessels, 79 percent are 10 m or less whereas 21 percent are more than 10 m long.

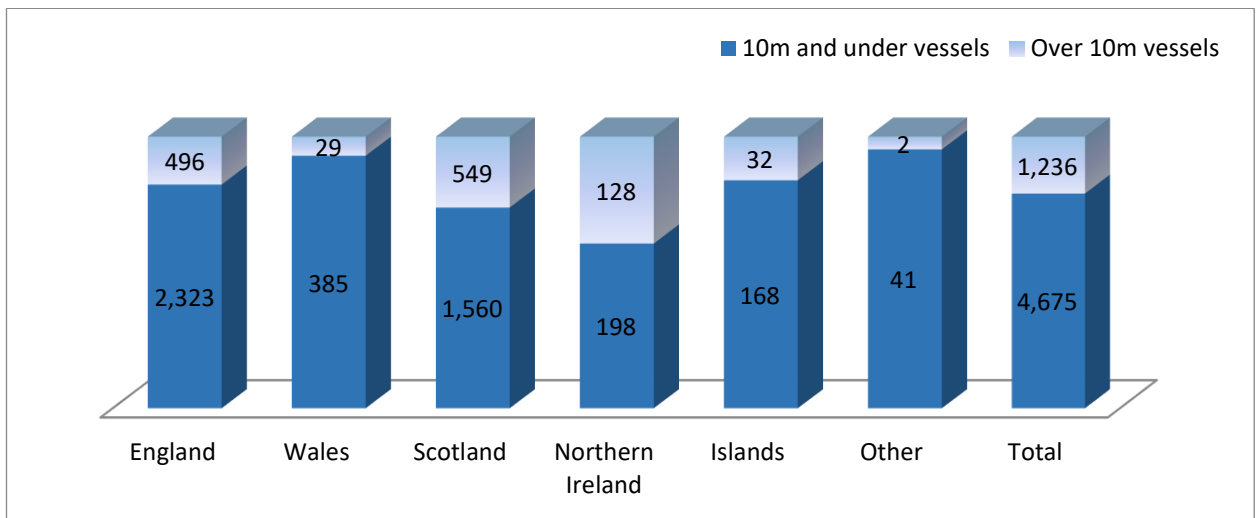
Figure 3. UK Fishing vessels



Source: Marine Management Organization, UK sea fisheries statistics, 2019,

Figure 5 shows major fluctuations in the fishing fleet's makeup across the various areas of the UK. Whereas U-10m vessels constitute the largest category in all parts of the UK, England has the most U-10m, 2.323 and the smallest in Northern Ireland, 198. However, there are more than 10m of vessel in Scotland, 549 and the smaller in Wales, 29.

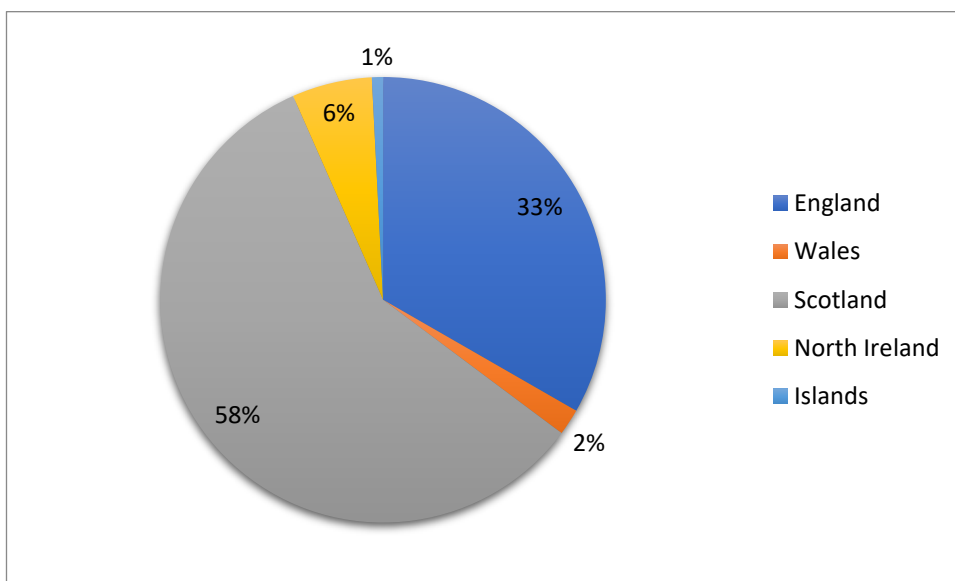
Figure 4. Fishing boat sizes across the UK



Source: Marine Management Organisation, UK sea fisheries statistics, 2019

Since the UK fleet consists mostly of U-10m ships, they land just about 33% by weight while landing in Scotland, primarily by larger ships, at around 60%. England lands a higher fish rating compared to the number landed. More of the English fleet targets higher inventories of value, especially shellfish.

Figure 5. Landings by boat size



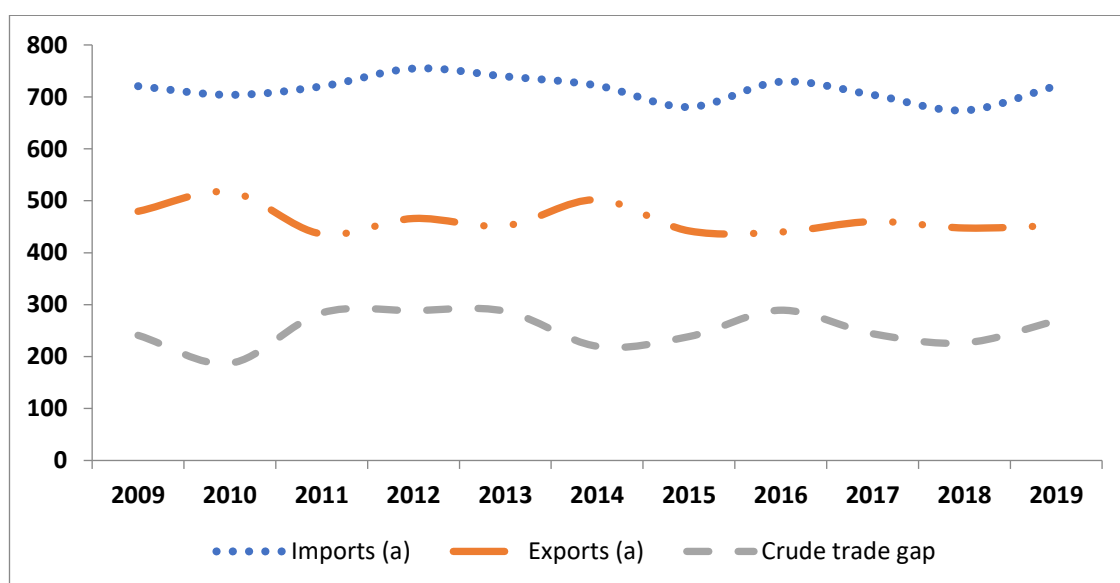
Source: Marine Management Organisation, UK sea fisheries statistics, 2019

2.3. Trade and exports

In 1983, the UK was a net fish exporting company but since 1984 has been a net importer. The reason is that imports have increased more quickly than exports. In 2019, the UK imported more than twice the amount of 854,300 tons of fish and related products in 1983, and exported 496,300 tons of fish and related products (value £1,9 billion). This represents - £1.7 billion's trade imbalance.

Between 60-80% of UK landings are expected to be exported. Five species (cod, haddock, tuna, saumon and creeks) make up 60-80% of all fish intake throughout the United Kingdom. These species make up a considerable share of the UK's fish imports.

Figure 6. Import and export of fish (thousands tonnes)



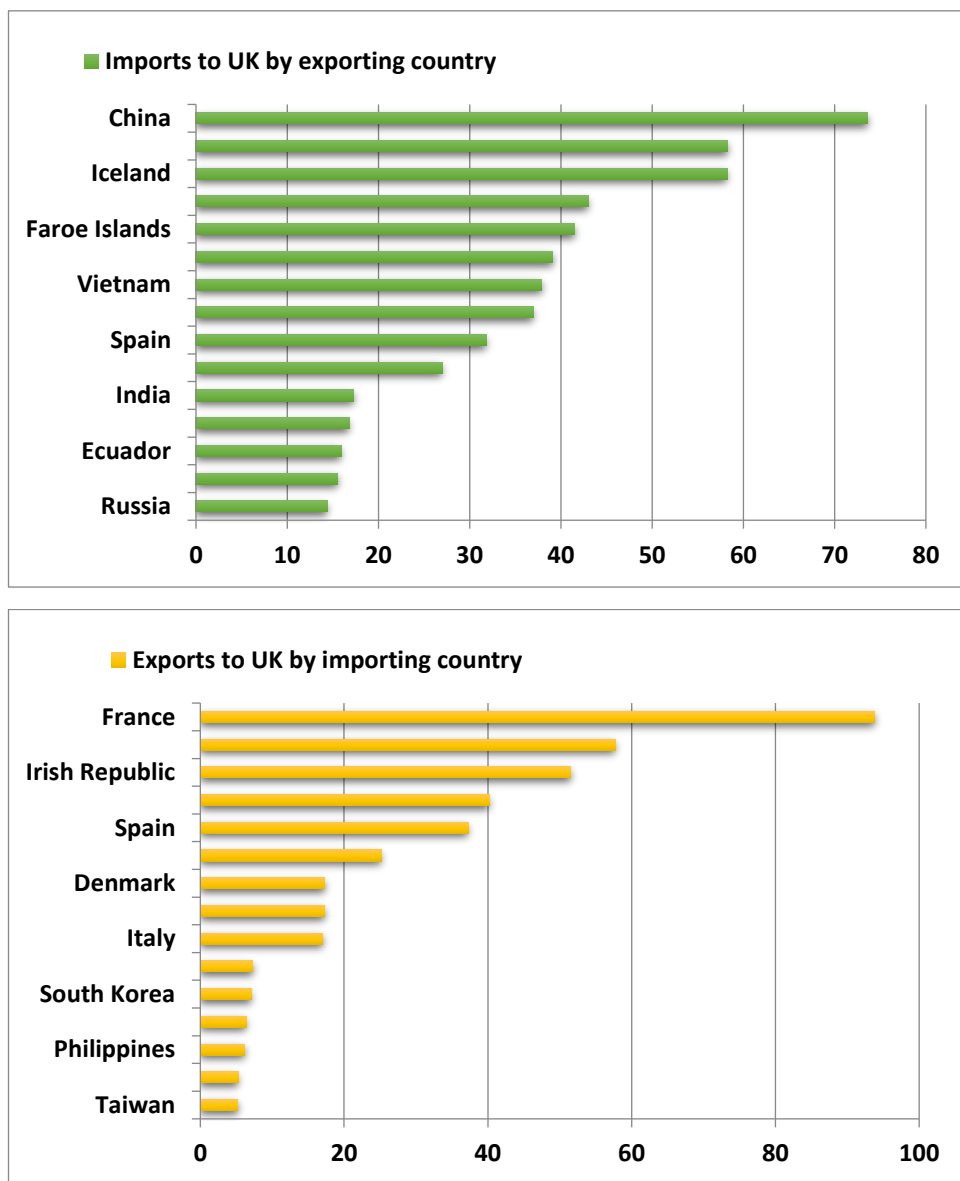
Source: Marine Management Organisation, UK sea fisheries statistics, 2019

Fish exports into the EU in 2019 totaled £1.4 billion (67 percent of all UK fish exports from the UK by value). EU imports of fish amounted to £1.2 billion (35 percent of all fish imports to the UK by value). A deficit of £1.6 billion with non-EU countries overweighed the trade surplus with the EU of £0.1 billion.

According to the figure 8, we can see that Britain's largest food and fish oil export destination is France, with exports to France worth £561 million in 2019, which accounts for 92% of all fish exportations.

In 2019, the United Kingdom, Chinese fish products were the largest importer at about 75% of all importations. However, Iceland was the United Kingdom's largest EU importer with a total fish import of £318 million in 2019.

Figure 7: China is the largest exporter to the UK, France the largest importer from the UK



Source: Marine Management Organisation, UK sea fisheries statistics, 2019

CHAPTER IV. EMPIRICAL STUDY

The effects of Brexit on SMEs

Abstract

I investigate the impact of Brexit on 39 UK SMEs in the fisheries industry and how it affects their capability to adopt. The results show that, without the effect of Brexit, 95% of UK SMEs sample report Positive earnings. The analysis shows that even with a hit of 15% to revenue the positive earnings percentage change from 95% to 89% however the limitation is due to a small sample of companies and targeting 1 industry only.

1. Methodology

Based on the background established earlier I address the following question: What would be the effect on SMEs in the fishery industry as consequence of Brexit. In so doing I proposed a forecasting approach based on the company's earnings under different scenarios as an implication of Brexit and how different companies' ratio change with respect to the effect of Brexit. I perform my analysis by exploring the dynamics on a sample of 39 UK SMEs across the fishing industry. Although, since Brexit is having different impact for different industries and different regions, i explore its impact at company level with respect to previous year performance and currently with Brexit under different assumptions based on the researches regarding what is expected of the impact of Brexit regarding the fisheries industry.

To fully understand the impact on fisheries it was first established that what is the expected impact on the EBITDA of the fishing industry and that was done through various research. On Analysis of Brexit deal it can be found that in relation to fisheries the deal runs to quite 1,200 pages, with a full section and several other annexes dedicated to fisheries.

Both sides have in agreement that twenty fifth of EU boats' fishing rights in kingdom waters are going to be transferred to the united kingdom fishing fleet over a amount of 5 years.

This is called the "adjustment period", giving EU fleets time to induce wont to the new arrangements. The EU wished it to be longer, the united kingdom wished it to be shorter - it's like they've met somewhere within the middle, with a finish date of 30 June 2026.

Under plans printed within the deal, EU fishing quota in kingdom waters are going to be reduced by 15 August 1945 within the initial year and a couple of.5 share points annually once.

By 2026, it's calculable that United Kingdom boats can have access to an additional £145m of fishing quota per annum. In 2019, British vessels caught 502,000 tonnes of fish, value around £850m, within United Kingdom waters.

The document additionally sets out details of however every species of fish are going to be divided between the united kingdom and also the EU throughout the transition.

The United Kingdom fleet will expect increases in quota for fifty seven out of the ninety varieties of fish caught in UK waters per annum.

But quota shares for a few species like Channel cod, of that EU boats (mainly from France) catch quite ninetieth annually, can stay unchanged. In order to explore full potential in export, the UK Productivity Performance highlights the action needs to happen at the level of individual business. (Mc Kinsey & Co, 2016). Whatever the outcome of the Brexit will be, the McKinsey Company call companies that they should act in three spheres:

“First, UK exporters need to prioritize growth, speed to market, and proximity to customers. With the economic centre of gravity shifting east and south, businesses need to be present in the world’s big growth markets. Over the next 15 years, China’s working-age-consumer segment will expand by an additional 100 million people. The speed of innovation in the digital powerhouse that is China is both a challenge and an opportunity; companies require customer-centric operating models to succeed. For example, product managers responsible for developing new offerings need the authority to make decisions quickly and to hold staff from functional groups accountable.

Second, UK companies need to make the most of digital technology to optimize their supply chains. By better capturing individual-customer data, companies can improve demand forecasts by up to 90 %, minimizing the cost of lost sales and customer disappointments. They can also reduce logistics costs by up to 30 % - for example, by using dynamic routing, capacity-sharing platforms, autonomous vehicles, and 3-D printing. With advanced-systems support, they can automate as much as 90 % of all planning tasks, delivering better quality compared with tasks performed manually. The same tools can dramatically reduce inventory needs.

Third, to respond to the rapidly changing environment, UK companies need to become more agile as a whole, beyond digitization, customer centricity, and supply-chain optimization. In the survey, respondents in agile units were 1.5 times more likely than others to report financial outperformance. The path to agility depends on the starting point, so the first step is to identify where the biggest pain points lie, and address these. However, in all cases, it will be necessary to put in place incentives to reinforce the new, agile behaviours.

It is important to analyze the main challenges that would be faced by the SMEs to make an educated assumption of the financial effect on company revenues and EBITDA.

First, the UK's long-running trade deficit could be worsened as European supply chains make plans to withdraw to the continent. The survey also shows that severing supply chain ties travels in both directions. Nearly one-third of UK businesses that use EU suppliers are now looking for British replacements. But UK domestic supply chains are relatively weak and it is not clear whether they will be able to take advantage of emerging opportunities.

The second challenge is productivity. The UK has a long tail of unproductive firms hindering supply chain competitiveness. According to the Bank of England, one-third of companies have seen no increase in productivity growth since 2000. Many SMEs have weak internal R&D and managerial capabilities, making them unable to update production processes and adopt new technologies.

Third is innovation. While the scientific output of the UK is world-leading, many SMEs are unable to reap the benefits. The smaller the company is, the harder it is to innovate or capitalise on its innovations.

THE CATAPULT Program is a network of not-for-profit, independent physical centers which connect businesses with the UK's research and academic communities. Each Catapult center specializes in a different area of technology, but all offer a space with the facilities and expertise to enable businesses and researchers to collaboratively solve key problems and develop new products and services on a commercial scale. Whether a business is in need of a new manufacturing process, a fresh approach to digital rights protection, or a new way of balancing energy demands in a future city environment, Catapults can help them. [9] According to the 2015/2016 Report 636 academic collaborators supported 2850 SMEs, delivered 2473 industrial collaborations. The Open Access Research and Demonstration Program has GBP 850 m operation facilities. Yet the opportunity for SME growth post-Brexit is huge, given proper investment. Research commissioned by the Confederation of British Industry, the UK's main employers'

group, estimates that strengthening supply chains could add GBP 30 billion to the UK economy and create more than 500,000 jobs by 2025. [10]

2. Theoretical considerations and empirical framework

As discussed at the outset of this paper the impact with respect to Brexit is mainly the result of reduced Sales and increased costs due to a number of factors in play. According to research of Dr Ross Brown, who led the research, said: "The results of our analysis suggest that Brexit-related concerns could result in a range of negative consequences for UK SMEs [small and medium-sized enterprises], especially the impact on reduced capital investment, which critically weakens and undermines their ability to grow and prosper. "Most worryingly, these perceived negative impacts appear to be foremost in the minds of entrepreneurs and managers located in the types of innovative and export-oriented companies, which are often viewed as the high growth 'superstars' of tomorrow. "In other words, SMEs thought to be the most significant for boosting productivity and economic growth may be the most negatively affected by Brexit."

I divided the impact of Brexit in two categories, the Impact on cost and the impact on Revenue owing to number of factors but most importantly to the trade within Europe being effected as regulatory divergence grows over time increasing the cost of trade, impacting on volumes, damaging bilateral trade volumes and the UK's position in European supply chains. The costs will be borne by consumers as well as businesses. On research I found that EU membership is estimated to have boosted British goods trade with other member states by 55%, equal to £130bn in 2013. (1) Overall, the evidence does not suggest this has been at the expense of trade with non-EU states, but this may be a factor in individual protected sectors, such as agriculture, footwear and

clothing. Costs for consumers might fall in these sectors but rise overall. After Brexit the UK would be less able to influence the future development of the single market, particularly in services where regulatory barriers remain significant and where full liberalisation could add 7% to UK GDP.(2). Furthermore, the single market provides opportunities for economies of scale, competition and innovation, which enhance productivity and which would be hard to replicate fully through trade outside Europe. There is a strong relationship between exporting and productivity: between 1996 and 2004 the productivity growth for UK exporters was 1.3%, compared to 0.8% for non-exporters. (3). Another factor to consider was that supply chains are becoming more important for competitiveness but tend to be geographically concentrated. About half of EU imports to the UK are intermediates. (4) The high ratio of trade in gross relative to value-added terms suggests that much UK trade with Europe is connected to supply chains.

Owing to the research the assumption was developed for the shock on revenue for the sake of the analysis to be of three tiers, 5%, 10% and 15%. The reason to set these three thresholds were that it is expected the SME in fishery industry to have a shock up to the extent of 15% due to various reasons for example the fact that initially EU boats will be allowed to fish up to 6 KM from UK waters which means that EU would still be having a share in the fish production of the UK waters and only UK fishers would not be able to enjoy the entire supply. Furthermore, new trade deals would be signed, which is expected to be harsher than earlier hence the SME in this industry are expected to face higher export costs. Finally, one more major challenge that effects these SMEs would be that there would still be demand of EU species of fishes that would still have a place in UK market and would be direct competition for UK SMEs that supply UK fisheries. Hence the three shock percentages reduction are justified to be 5%, 10% and 15%.

In order to explore the SMEs capability and the effect on the profitability of the companies we develop a simple but versatile forecasting model based on the firm EBITDA, in which sales shock is the key input. My model builds on the shock that

firms face as earlier explained based on the expected impact of the deal on their sales and then see how it affects the capability of the firms to generate positive EBITDA. By relying on EBITDA, I follow past research (Altman 1968; Altman et al. 2012, 2020; Altman and Sabato 2007; Mramor and Valentincic 2003; Philosophov and Philosophov 1999, 2005; Pompe and Bilderbeek 2005; J. Thomas and Evanson 1987) that argues that EBITDA is a measure of firm's capability to generate operating margin and that it is a good proxy for the cash generated by the firm. Besides, SMEs tend to disclose aggregated data so that it is not possible to estimate precisely the cash flow.

I estimate EBITDA of the SME under two different scenarios:

- ordinary scenario – expected EBITDA based on the past performance and not considering any negative effect linked to Brexit shock
- scenario with the shock on sales at three different scenarios: 5%, 10% and 15% Shock.

My estimations are based on data up to 2020 in order to rely on a large dataset of 39 observations. Then, I re-estimate the three scenarios of shock using 2020 data ensuring full data availability which reduced the sample size to 19 companies.

2.1. The calculation of the expected EBITDA

The first step is to be able to break the total cost of each SME in to Variable cost and Fixed cost in order to be able to drive the variable cost from the respective revenue and fixed cost being the same and independent of revenue would derive the total cost and hence EBITDA. I assume the SME-specific relationship between change in sales and cost of sales to be following a relationship of a straight line where the constant is the fixed cost and the gradient is the variable cost of a company.

In order to first find the cost function, we first had to remove any known fixed nature of cost from the total cost and hence having the information of depreciation expense and knowing of its fixed nature we first calculated the Total cost for ten years without depreciation assuming that it is the fixed cost and would not change using the following formula:

$$\text{Total Cost without dep} = \text{COGS} + \text{Operating Expenses} - \text{depreciation}$$

The reason to add operating expenses and COGS was that each company did not have properly bifurcated expenses in our data and we were required to do a proper analysis of the total cost to identify the variable aspect and fixed aspect of the cost. To have an independent analysis of the cost, the depreciation was removed from the total cost to make the cost independent of the known fixed costs with respect to assuming that the depreciation does not change with respect to change in sales.

Once having the total expenses independent of Depreciation, it was used to calculate the variable cost portion of the total cost that was calculated by focusing on the change in total expense in comparison to change in revenue which is represented by gradient of trend line of Total expense – Sales graph and can also be calculated for each SME using the following formula:

$$\begin{aligned} & \text{change in total expenses in relation to change in revenue} \\ & = \frac{\text{Total expense}_t - \text{Total expense}_{t-1}}{\text{Revenue}_t - \text{Revenue}_{t-1}} \end{aligned}$$

We calculated the change in total expense over a period of ten years to take into account against change in revenue over a period of ten years to average out the rate of change of total expenses dependent on sales directly.

With rate of change of expenses in relation to revenue calculated, the fixed cost was calculated using the intercept of trend line giving the cost at a point where the revenue was 0 hence representing the cost that is not dependent on sales, it was calculated using all the data sets from years 2011 to 2019 by putting in the respective values in the cost function equation below:

$$C = Y - mX$$

Where: Y= Total Expenses

m= change in Total expenses in relation to change in Revenue

X= Sales

C= Fixed Cost

It was calculated for over ten years and averaged out for each SME to have an average fixed cost that did not change dependent on sales. Having fixed costs and change in Total expenses in relation to change in Revenue we had the cost break up for each company.

For the estimation of revenue without any impact of Brexit i calculated the change in revenue over the period of ten years being the gradient of Revenue function and calculated the y Intercept of the trend line to use the equation $Y = mX + C$ to calculate the revenue for a specific year. The proportional change is calculated using the following formula:

$$\text{Proportion change in Revenue} = \frac{\text{Revenue}_t - \text{Revenue}_{t-1}}{\text{Time}_t - \text{Time}_{1-1}}$$

The intercept for the trend line of revenue is calculated by substituting different data sets over the period of ten years and finding the variable c being the intercept using the following formula:

$$C = Y - mX$$

Where: Y= Revenue

m= Proportional increase in revenue

X= Year

C= Y Intercept

C (intercept) was calculated for over ten years and averaged out for each SME to have an average Intercept which was then computed in the revenue function equation along with the proportional change in revenue mentioned above to calculate for the year 2020 and 2021. Hence, the values given under these estimations are considered the base case revenue for no impact due to Brexit.

To calculate the total expense less depreciation, the base case revenue calculated above is used in the cost function to find out the variable cost of each SME in the fishing industry as per the cost function calculated for each SME and then add the variable cost in the Fixed cost for the respective SME as follows:

$$Y = mX + C$$

Where: Y= Total Expenses

m= change in Total expenses in relation to change in Revenue

X= Sales

C= Fixed Cost

With this I have calculated the total costs excluding the depreciation and since this cost is assumed to be fixed in nature which in other term is giving me EBITDA and to get to operating profit/loss (EBIT) I subtracted the depreciation calculated as average for the companies over ten years from EBITDA, giving me base EBIT and EBITDA.

2.2. The impact of Brexit

The impact of Brexit is explored by simply applying a 5% 10% and 15% decrease in revenue by simply multiplying the revenue calculated for each SME in 2021 in the following Manner:

1st Scenario: 0.95 X Revenue under no Impact due to Brexit

2nd Scenario: 0.90 X Revenue under no Impact due to Brexit

3rd Scenario: 0.85 X Revenue under no Impact due to Brexit

After the revenue was calculated under different years and to calculate the total expense less depreciation, the three Brexit case revenue calculated above is used in the cost function to find out the variable cost of each SME in the fishing industry as per the cost function calculated for each SME and then add the variable cost in the Fixed cost for the respective SME as follows:

$$Y=mX + C$$

Where: Y= Total Expenses

m = change in Total expenses in relation to change in Revenue

X = Sales

C = Fixed Cost

With this I have calculated the total costs excluding the depreciation and since this cost is assumed to be fixed in nature which in other term is giving me EBITDA and to get to operating profit/loss (EBIT) I subtracted the depreciation calculated as average for the companies over ten years from EBITDA, giving me base EBIT and EBITDA. In case we consider theoretical implication of Brexit, another scenario that can be analyzed is the case where cost impact is analyzed, for example an increase in export charges. In this case the increase of cost charges would not cause the revenue to increase however with the increase in export cost either in form of shipping or taxes, it would be an increase in variable cost for each company that is the increase in the change in expenses in relation to increase in revenue, hence increasing the variable cost aspect of the cost function earlier derived and hence increasing the variable cost of the SMEs even though at the same Revenue being earned. The three scenarios for increase in cost are:

1st Scenario: 1.02 X change in Total expenses in relation to change in Revenue

2nd Scenario: 1.05 X change in Total expenses in relation to change in Revenue

3rd Scenario: 1.07 X change in Total expenses in relation to change in Revenue

In case of the above scenario, once alternate cost equation is calculated it is then used to calculate the total expense by using the base case revenue in the cost equation and calculating the EBITDA by deducting the total expense from revenue. To calculate the EBIT depreciation calculated earlier shall be deducted from EBITDA.

2.3. Data

My analysis relies on UK data about SMEs with sales and total assets size between 10,000GBP and 50,000,000GBP, and a number of employees up to 250. Thus, our sample of SMEs in the fishery industry is in line with the definition of small and medium

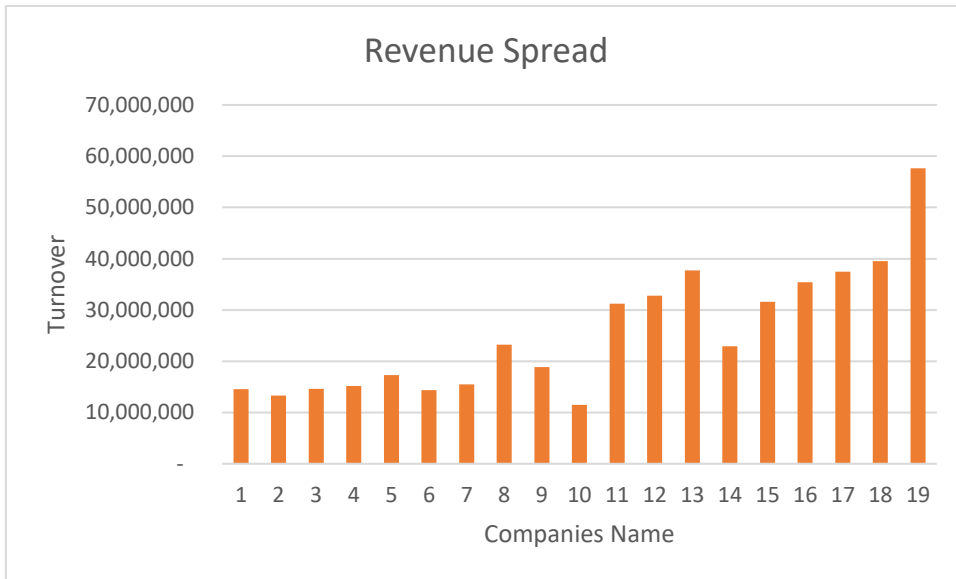
enterprise according to the EU standards (European Commission 2003). I use firm-level data obtained from the Fame - Bureau van Dijk - database for the fiscal years 2011-2019. To draw meaningful inferences, I require each SME to have at least five years of data. I exclude SMEs classed as Public Administration, Education, Health Social Services (BvD sector), Guarantee (Legal form), and SMEs without employees. Overall, this results in an original sample size of 19 firm observations across one single industry in UK.

Table 1. Full Sample, n: 19 SMEs

Variable	Mean	Std. Dev.	Min	Max
└ Operating revenue (Turnover)	25,514,578	12,427,410	11502416.08	57,617,584
└ Costs of goods sold	18,346,942	10,511,313	6227207.226	48,394,795
└ Gross profit	7,167,636	7,014,378	-1731266.838	23,704,549
└ Other operating expenses	1134561.959	1,548,445	121986.04	6,839,076
└ Operating P/L [=EBIT]	6033073.569	6,470,519	-1877547.552	22,243,952
└ Operating P/L + Depreciation [=EBITDA]	7167635.527	7014377.975	-1731266.838	23704548.78
└ Depreciation & Amortization	1,134,562	1,548,445	121986.04	6,839,076

Table 1 provides SMEs key descriptive statistics for the main variables used in the empirical framework. I find that, on average, an SME has a revenue of 25,514,578 GBP and on average without the impact of Brexit the EBITDA is 7,167,636. If we analyze the spread of the data taken for the 19 SMEs from the fishing industry, we can look that the data is spread over a good range as the minimum Turnover is 11.5 M to the maximum turnover being 57 M as shown by the revenue spread graph below. Even in case of EBITDA the data ranges over negative 1.7 M to 2.37 M profitability. This provides the insight that the set of companies used in case of the basic scenario for the comparison already has a versatile set of company which offers a good representation of

population, considering it already has data sets where a SME is not making profit to SMEs making profit in the fishery industry.



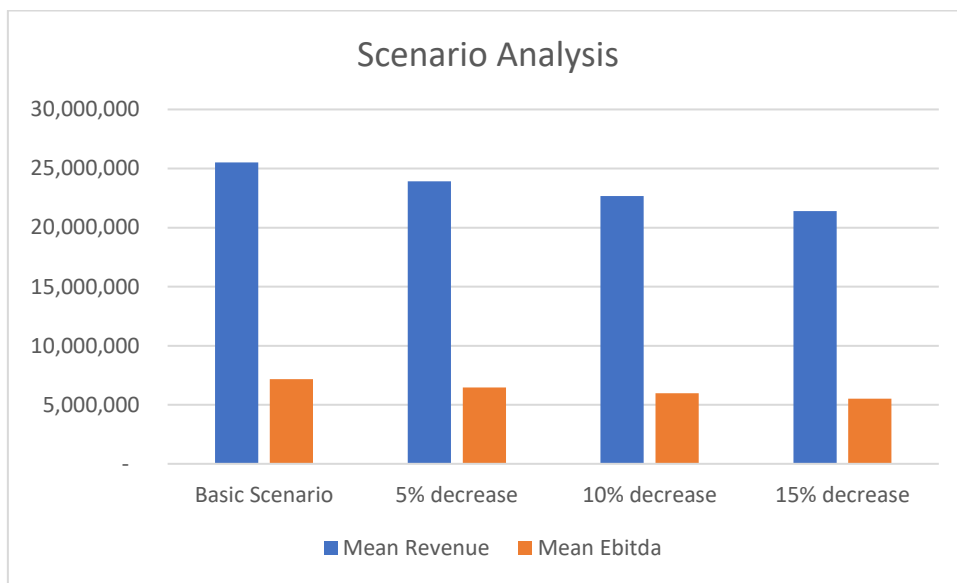
3. Results

Table 2. Full Sample, n: 19 SMEs

Variable		Mean	Std. Dev.	Min	Max
Ordinary	└ Operating revenue (Turnover).O	25,514,578	12,427,410	11,502,416	57,617,584
	└ Operating P/L [=EBIT].O	6,033,074	6,470,519	-1,877,548	22,243,952
	└ Operating P/L + Depreciation [=EBITDA].O	7,167,636	7,014,378	-1,731,267	23,704,549
	└ Depreciation & Amortization.O	1,134,562	1,548,445	121,986	6,839,076
5% decrease	└ Operating revenue (Turnover).A	23,921,254	10,882,278	12,801,095	52,063,238
	└ Operating P/L [=EBIT].A	5,305,713	5,823,799	-1,971,257	20,187,278
	└ Operating P/L + Depreciation [=EBITDA].A	6,459,395	6,360,429	-1,824,977	21,623,233
	└ Depreciation & Amortization.A	1,153,682	1,571,661	113,382	6,909,259
10% decrease	└ Operating revenue (Turnover).B	22,662,240	10,309,527	12,127,353	49,323,068
	└ Operating P/L [=EBIT].B	4,810,031	5,450,664	-2,378,549	18,469,594
	└ Operating P/L + Depreciation [=EBITDA].B	5,982,229	5,960,359	-2,232,268	19,891,174
	└ Depreciation & Amortization.B	1,172,199	1,583,740	104,079	6,916,683
15% decrease	└ Operating revenue (Turnover).C	21,403,227	9,736,775	11,453,611	46,582,897
	└ Operating P/L [=EBIT].C	4,335,197	5,097,555	-2,794,969	16,743,024
	└ Operating P/L + Depreciation [=EBITDA].C	5,505,064	5,575,540	-2,639,559	18,159,115
	└ Depreciation & Amortization.C	1,169,867	1,553,429	91,350	6,713,085

The results of the analysis is discussed using EBITDA, or earnings before interest, taxes, depreciation, and amortization, is a measure of a company's overall financial performance and is used as an alternative to net income in some circumstances. EBITDA, however, can be misleading because it strips out the cost of capital investments like property, plant, and equipment. This metric also excludes expenses associated with debt by adding back interest expense and taxes to earnings. Nonetheless, it is a more precise measure of corporate performance since it is able to show earnings before the influence of accounting and financial deductions. Table 2 presents the results on the entire sample for the tree scenarios: ordinary scenario (expected situation without Brexit), scenario that includes the impact of Brexit under three different scenarios. I start by analysing the expected EBITDA for each SME. In the ordinary scenario, I find that the average expected EBITDA is positive (£7.167 million), suggesting that the average SME is able to generate enough margin to support its operations. The survival rate (that is the percentage of SMEs generating positive EBITDA) is 95%. Next, I focus on the three scenarios that demonstrate the shock impact of Brexit under three different effects. Focusing on SMEs under Brexit

scenario 1, a 5% decrease in revenue (Operating revenue (Turnover).A) has resulted in the average EBITDA.A to be 6.46 Million and still 95% of the SMEs reported positive EBITDA. However, I could see a 2 Million drop in the highest EBITDA as compared to the EBITDA in ordinary circumstances. Focusing on the 15% decrease in sales assumptions we can analyse by looking at EBITDA.C, the average has decreased to 5.98 Million and one company's EBITDA has become Negative to Positive making the survival rate to be 89% and dropping by 6%. It can also be seen how the Max EBITDA.C has seen a decrease of approx. 3.5 Million. The scenario analysis can be seen in a better manner



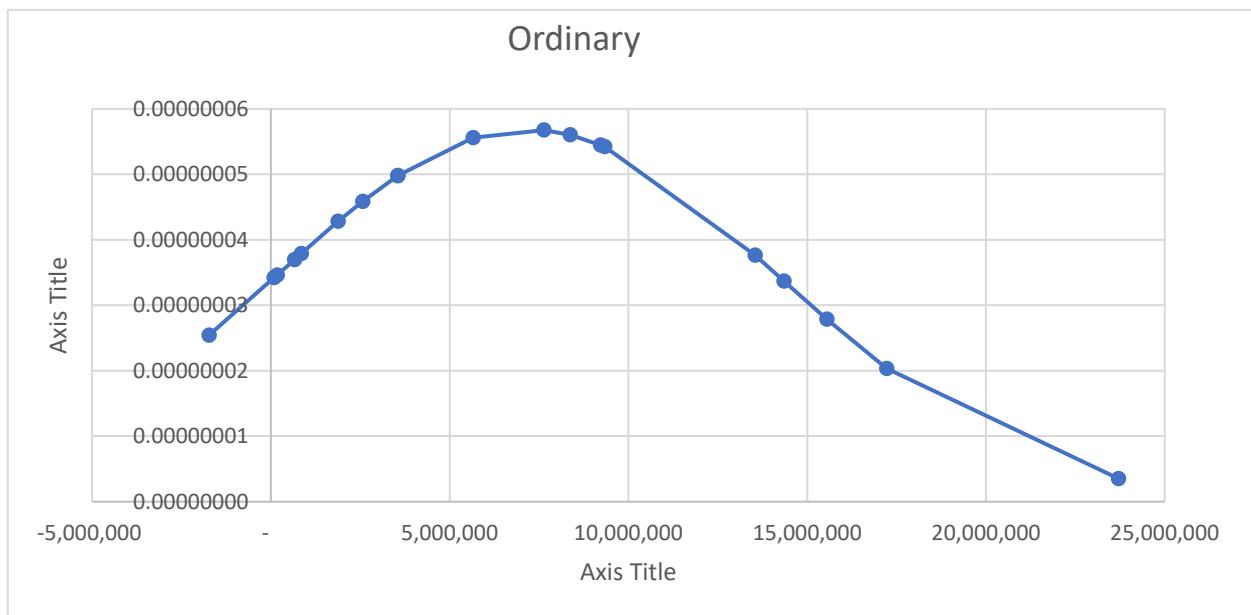
If I analyze the distribution of EBITDA under all 4 scenarios, the results can be seen in the 4 figures below. The Distribution graphs have plotted the distribution on the y Axis and EBITDA on the X axis hence show the frequency of distribution of the companies on the companies over the different level of EBITDAs. We can analyze that in case of Base scenario the peak is at 7.6 M which means that is where most of the companies are in the base scenario, however if we analyze the 5% case graph, we can see that the peak has shifted from 7.6M to 6.3 M showing that the over EBITDA of the companies has decreased and hence we can see a slight shift towards the left as compared to the base level graph. On further analysis of the 10% scenario, we notice that now the peak of the graph in this case has shifted to further left and is now at 5.8 M indicating a further decrease in EBITDA where majority of the companies lie. Finally, if we analyze the 15% shock scenario graph, we can witness that how the normal distribution curve is

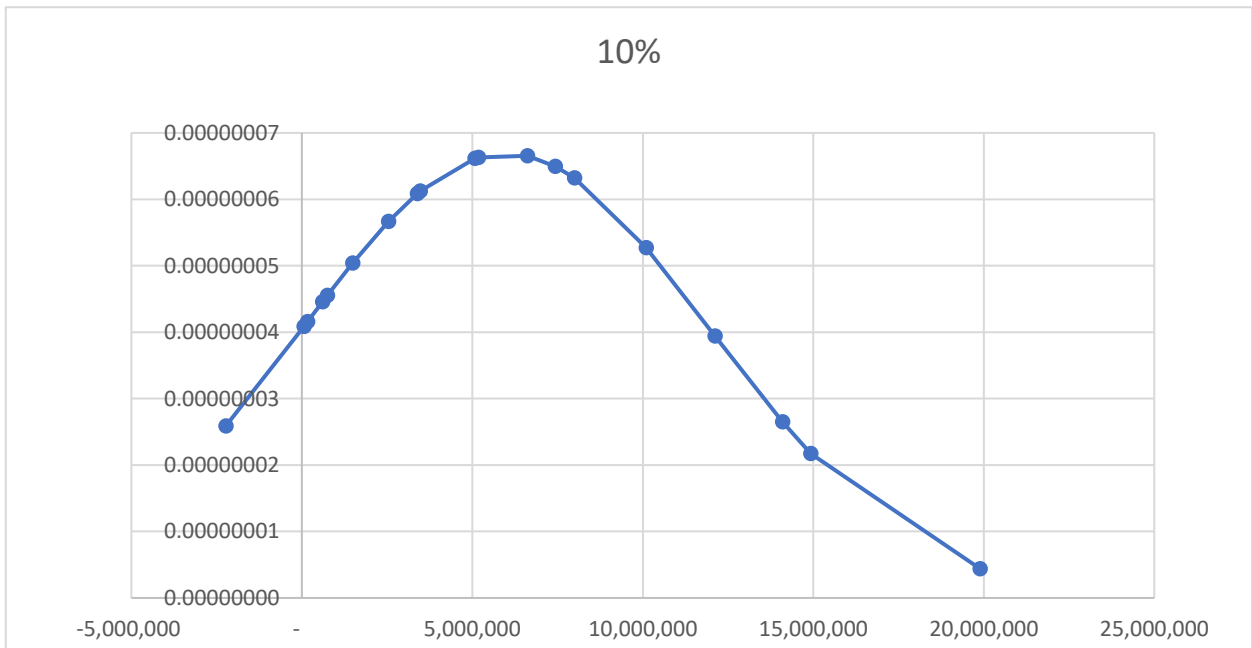
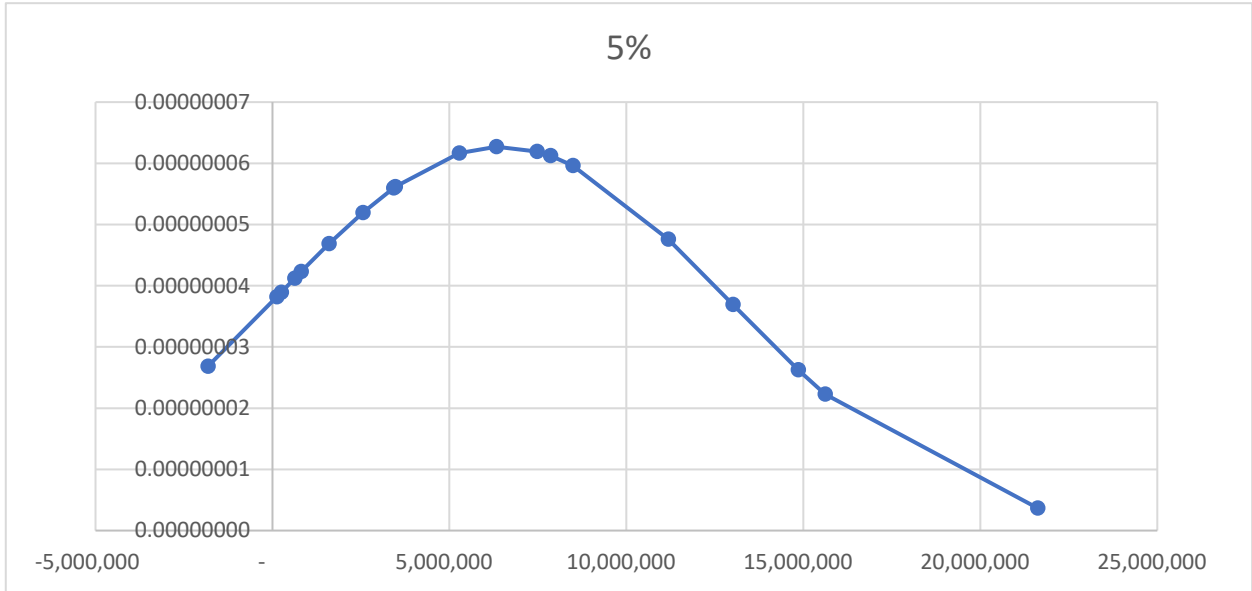
shifting from right to left, the peak being at 5.3 M and hence over all in comparison to the base scenario without the Brexit impact the peak has shifted from 7.6 M to 5.3 M showing a decrease in EBITDA for companies and hence represented by a shift of the distribution curve from right to left, starting from Ordinary scenario where there is no impact due to Brexit to 15% decrease in revenue to Brexit. It shows that there is an overall decrease in EBITDA owing to the different scenarios, however, the change is not quite dramatic. If we further analyze the 4 scenarios we can find that the way EBITDA of SMEs are effected also depends upon the variable cost proportion for each company. It is seen that in case of the companies where the variable cost is higher proportion of the revenue, the effect of the shock is greater on EBITDA and EBIT. This can be explained by the fact that in case of a company with higher proportion variable cost, when the revenue is decreased the variable cost decreases greatly too because of the higher proportion and although due to this the total cost decreases but still margin of such companies are quiet low. On the other hand, in the SMEs where the variable cost is at a lower proportion of the revenue, in this case when there is a shock on the revenue the variable cost does not decrease to such extent as the decrease in the revenue because a smaller proportion of the revenue is variable cost hence it also has a larger margin. If we further analyze the effect of the shock on revenue with respect to different structure of the company, we can see that the structure also has the effect on how robust a company is. Robustness of a company means how prone a company is with respect to change in EBITDA in response to change in Revenue. It is seen from the principal data that the companies with lower proportion of variable cost are less prone to changes in EBITDA, as when the Revenue changes due to the shock the variable cost does not decrease a lot and since it is already lower percentage pf revenue, such companies only need to survive enough to be able to majorly support their fixed costs. In case of higher proportional variable cost, it is seen that there is already lower margin and EBITDA in such companies are very responsive to the shock of revenue. To further analyze the result of the three Scenarios where the cost is increased with no effect on Revenue we can see that first of all such a cost hit is directly related to the quantity sold and hence this has the effect on the variable aspect of the cost. As the charges for export hit becomes bigger it can be analysed that the proportional variable cost gets bigger and that causes the companies cost to increase at the same level of revenue. In this case the

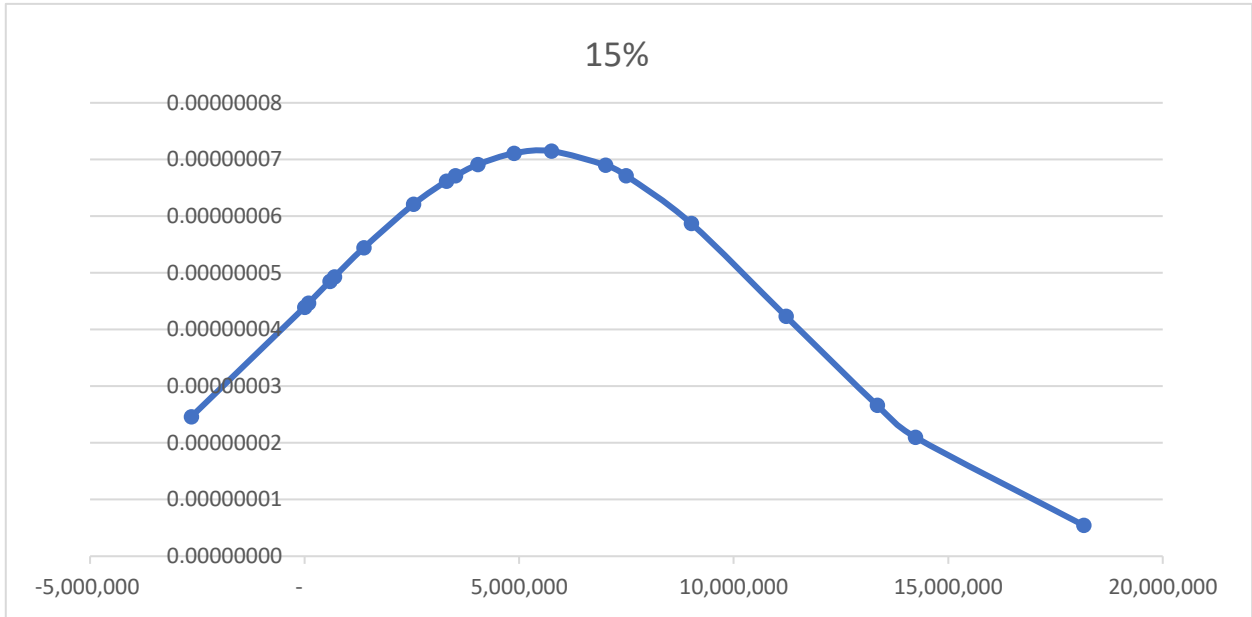
gross margin decreases of the company and the companies where the variable cost is higher proportion of the revenue, the effect of the shock is greater on EBITDA and EBIT. This can be explained by the fact that in case of a company with higher proportion variable cost, when the revenue is decreased the variable cost decreases greatly too because of the higher proportion and although due to this the total cost decreases but still margin of such companies are quiet low. If we further analyze the situation we can see that as the effect on the variable cost increases the EBITDA decreases and same is the case for how responsive different company's EBITDA are, the companies become more responsive. Moreover, in case where we analyze the result theoretically of any change in the fixed nature of cost we can see it having an effect on all the SMEs in such a manner where the cost functions of each SME is changed and hence the company EBITDA is effected at the same absolute value. However, if we look at the results we can see that the change in EBITDA is dependent on the fact that how high the turnover is as in case of the companies with highest turnover the change in EBITDA Is very minimal however for the companies where the turnover is low, the same absolute change in fixed cost cause the EBITDA of the company to change drastically which in conclusion gives the result that the responsiveness of the company in this aspect depends on the turnover of the company. It is seen that for all the companies with higher turnover, the EBITDA did not suffer much, however in case of the lower turnover, the EBITDA was impacted and hence reducing the capacity of the companies to invest in capital assets and reducing the chance to grow.

It can be seen that the Government has talked about the aid it would provide to the fishery industry and the SMEs in it. In case of that, upon analysing we can deduce that such grants would be quite beneficial for the SMEs, as this would effect in 2 ways. First way is the increase in cash reserves which means that the companies can now invest in more fishing ships and equipment which would result in increase in revenue which would than according to the cost function of each company result in an increase in the total expenses as variable cost is directly linked to the revenue and if revenue increases, the variable cost also increases and then it would result in EBITDA being calculated. The same result is witnessed in this scenario too that the companies where the variable cost is comprised of a lower portion of the revenue has a higher margin and hence a higher EBITDA. Hence it can be concluded that the effect on the company can be

deduced by studying the cost structure. Furthermore, if an asset is purchased, depreciation expense would increase hence the EBIT would decrease. Earnings before interest and taxes (EBIT) is an indicator of a company's profitability. EBIT can be calculated as revenue minus expenses excluding tax and interest. EBIT is also referred to as operating earnings, operating profit, and profit before interest and taxes. Hence such a government grant is if used to invest in capital assets it can be seen that the impact would be on both EBIT and EBITDA and this when compared can help understand a lot.







CONCLUSIONS

The focus of my thesis has been to demonstrate the impact of Brexit on the Fisheries sector, by exploring the dynamics on a sample of 39 UK SMEs across the fishing industry, and I investigated how it affects the capability of these companies to generate positive EBITDA using their data from 2011 to 2019.

After the analysis, now it is time to make some considerations.

Firstly, since Brexit is having different impact for different industries and different regions, I explored its impact at company level with respect to previous year performance and currently with Brexit under different assumptions based on the researches regarding what is expected of the impact of Brexit with regard to the fisheries industry.

Secondly, I estimated EBITDA of the SME under two different scenarios:

- Ordinary scenario – expected EBITDA based on the past performance and not considering any negative effect linked to Brexit shock.
- Scenario with the shock on sales at three different scenarios: 5%, 10% and 15% Shock. My estimations were based on data up to 2020 in order to rely on a large dataset of 39 observations. Then, I re-estimated the three scenarios of shock using 2020 data ensuring full data availability which reduced the sample size to 19 companies.

According to my results, In the ordinary scenario, I find that the average expected EBITDA is positive, suggesting that the average SME is able to generate enough margin to support its operations.

Meanwhile in the other three scenarios where the companies have a shock on sales, we can notice that the EBITDA have respectively decreased with respect to the first scenario

(with the impact of Brexit). Furthermore, to add if we focus on EBIT we can analyse that the EBIT also decrease from Basic scenario to 15% shock scenario which in turn means that the profit margin also reduces as the shock becomes greater. One more thing that is seen as the result of analysis that although not many companies EBITDA became negative, however there were 2 SMEs whose EBITDA became negative meaning that they would start burning their cash reserves. In case if the EBITDA does not become negative, it is analysed that the companies still will face much problems as this would restrict them from having higher cash flows and instead would decrease the rate of growth of cash reserves which would mean slower capex investments and hence slower growth. Since if we compare the basic scenario SMEs and the 15% shock scenario SMEs we can easily see that the basic scenario SMEs can manage to grow their reserves and hence plan capex projects which can in return bring higher return as investment in capital assets increases the return, in this example would be the SME could invest in fishing boats and hence catch more fish and in return increase the revenue and further add to reserves.

Thirdly, I found that Brexit does not have a huge impact on small and medium firms reducing the percentage of those with positive EBITDA (that we label solid ones) from 95% to 89%. Besides, for those that have still positive EBITDA, it can be seen by the decrease in EBITDA that companies have overall faced a reduction in their profitability.

All in all, my evidence suggested that the effect of Brexit is not dramatic as it did not force multiple companies to suddenly have negative EBITDA, but yet it does show that a few of the companies may be forced to start burning cash due to negative EBITDA.

Limitations

My work suffered from at least three limitations. First, I used a small sample of only 39 companies (not the entire population of UK small SMEs) and I relied on estimates in terms of small SMEs' performance that is based on the 2011-19 data. Thus, even if I used a relatively larger dataset, I couldn't rule out that results can be different if the entire population is used. Besides, even if I performed additional test with more

recent data that suggest no qualitatively different results, nevertheless, I couldn't rule out that the outcomes can be different when data from the entire population including data for 2019 financial performance is used.

Finally, my entire analysis was based on estimation of the current situation faced by SMEs since there are no available data. These weaknesses suggested areas for further research, namely, reproduce the analysis with larger and more updated dataset when they are available. In addition, my work assumes a proper cost break up in terms of variable cost and fixed cost and that the fixed cost stays constant over the period of time, which is not the case in actual for any company. Also one final thing to consider was that I have analysed only 1 industry and it might be the case that Brexit has effected other industries in a different manner.

Final Consideration

To conclude, whatever the outcome, looking beyond the negotiations per se, the future administration of confined zones like the North and Irish Seas will require a collaborating of UK and EU management approaches through a mutual view, common strategy and appropriate – yet not necessarily the same – regulatory systems. Unilateralism and a failure to maintain effective administration that will ensure the sustainability of the renewable but fragile living resources of the sea would have a huge cost for solving the fisheries question.

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