

Final Degree Dissertation

The uncertainty of Brexit La incertidumbre del Brexit

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Business Management and Administration in English

In this project it is explained how the United Kingdom decision of leaving the European Union, known as Brexit, will affect markets and individuals in macro and microeconomic terms.

First the political arguments that have driven this decision are explained through an analysis of the relationship that the United Kingdom has hold with the European Union in the last decades.

An analysis of the macroeconomic effects that the Brexit will have if the exit is developed in a no-deal scenario between the two parts is carried out. Also, the effects that have already been observed in the transition period will be highlighted.

Furthermore, the possible future microeconomic effects of this decision in different sectors like the financial sector, the automotive sector or tourism, are going to be considered.

Finally, the effects that this decision will suppose to the exterior markets and to the commercial relationships that keep the United Kingdom, the European Union and the countries of the rest of the world.

En este trabajo se explica cómo la decisión del Reino Unido de abandonar la Unión Europea, lo que se denomina el Brexit, afectará en términos macro y microeconómicos a los mercados y a los individuos.

Primero se explican los argumentos políticos que han conducido a la toma de esta decisión mediante un análisis de la relación que ha mantenido el Reino Unido con la Unión Europea en los últimos años.

Se realiza un análisis de los efectos macroeconómicos que tendrá el Brexit si la salida se produce sin un acuerdo entre las dos partes implicadas. También se resaltarán los efectos que ya se han podido observar en el periodo de transición.

Asimismo se van a estimar los posibles futuros efectos microeconómicos de la toma de esta decisión en distintos sectores, como el sector de las finanzas, el sector del automóvil o en el turismo.

Finalmente se analizan los efectos que esta decisión supondrá a los mercados exteriores y a las relaciones comerciales que mantienen el Reino Unido, la Unión Europea y los países del resto del mundo.

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1. INTRODUCTION

I have always been interested in the international economic context, how it affects the lives of people, the strategies of the companies and the relationships between countries.

Nowadays we live in a world that is globally interconnected and in which any political decision affects a high amount of businesses, not just the companies of a specific region. And so, to the business strategies.

As the country where I live is a member of the European Union I pay close attention to the news coming from the member countries. These last years the European Union has been characterised for the political decisions of its members. One of the main changes has been the decision of the United Kingdom to leave the European Union in 2016. At that moment I was surprised that they reached that decision, now I am surprised by the long transition process and by all the uncertainty that surrounds the Brexit (the so-called process of leaving the European Union by the United Kingdom).

The Brexit represents, without any doubt, an example of the huge complexity in which the political, trade and institutional relationships are developed nowadays. The uncertainty of the Brexit process is what has driven me to research about the macroeconomic and microeconomic effects that could have.

The United Kingdom has been a member of the European Union since the 1st of January of 1973. But on the 23rd of June of 2016, a referendum in relation to staying or leaving the European Union was hold in England. The referendum resulted in 51.9% leave and 48.1% remain.

British people that support the Brexit have several objectives that can be summarised as: to reduce or to eliminate its contribution to the European budget, to limit the movement of workers, to be able to negotiate its trade agreements in an independent manner and, to not depend on the Court of Justice of the European Union.

The 29th of March of 2017 the United Kingdom reported to the European Council its intention of leaving the European Union throughout the activation of the article number 50 of the Lisbon Treaty. This article explains the procedure that must be followed if a Member State decides to leave the European Union and, it also outlines the rights and obligations that the Member State must not forget all along the process.

In this moment, the United Kingdom continues being a fully-fledged Member State of the European Union with all its pertinent rights and obligations.

In this context, the enterprises, the governments, the institutions and the society demand answers and clarity in light of the high speed that the change may happen.

The general objective of this project is to give clarity to the Brexit uncertainty with figures and by explaining the political arguments behind it. But more specifically, the objective is to explain what may happen in the future to the different economic sectors if the United Kingdom leaves the European Union in a no deal scenario. Moreover, another specific objective is to explain the consequences to the European Union of the exit of the United Kingdom.

In order to achieve these objectives, firstly I am going to explain the political arguments behind the Brexit, both the arguments for leaving and the arguments for staying in the European Union; secondly, what Brexit will suppose to the United Kingdom, to the European Union and its members and to the rest of the world in macroeconomic and microeconomic terms. Finally, I will explain the conclusions I have reached.

2. POLITICAL ARGUMENTS BEHIND BREXIT

In this first section the context of the political arguments behind the Brexit are going to be explained.¹ Nevertheless, the rest of the project focuses on the repercussion of the Brexit on the companies of the different sectors.

It could be said that the first precursor of the Brexit is the signature of the GATT (General Agreement on Tariffs and Trade) later transformed into the WTO World Trade Organization in 1947. If there is not a withdrawal agreement, after the Brexit the United Kingdom and the European Union will trade with each other solely under the rules based on the trading system of the WTO.

The GATT enforced the most-favoured-nation policy. Since then, any privilege granted to any member country would have to be granted immediately and unconditionally to all the contracting parties of the GATT. The principle of the most-favoured-nation has resulted essential in the impetus of the international trade.

The most-favoured-country concept ended favouring all the GATT members and boosting a fairer trade. Nevertheless, it created a gap between the two main negotiators, the United Kingdom, against the most-favoured-country principle, and the United States, in favour.

The negotiations ended with the victory of the United States' point of view thanks to three relevant facts. The first was in relation with the Marshall Plan by which the United States committed to help in the rebuilding of Europe. The second was the fear that the USSR could profit itself from the division between members. And, finally, the fact that some little concessions were given to the United Kingdom.²

The United Kingdom arguments against the most-favoured-country seventy years ago resound today in the arguments of the supporters of the Brexit: the discretional loss in order to impose a tariff to protect the domestic industry.

In 1958 the Treaty of Rome, signed by Belgium, France, Italy, Luxemburg, the Netherlands and West Germany was placed into effect. The European Economic Community (EEC), also known as the Common Market, was established in the treaty. Its core objective was the developing of a Common Market offering free movement of goods,

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¹ The content of this part is mainly based on Wislom W. Chang (2017).

² Paniagua, J. (2018)

service, people and capital. By 1968, the customs duties between member states were completely removed.

In 1960, the EFTA (European Free trade Association) was created as an alternative to the EEC. Its objective was the economic stability of its members and their economic expansion. The countries who were member of it were the ones that opted not to join to the EEC, the United Kingdom was one of then.

The United Kingdom, in 1961 and 1967, applied to join the EEC, but both times it wes rejected by Charles De Gaulle. De Gaulle vetoed its application accusing the United Kingdom of not being pro-European enough and because he wished France to remain the leader of Europe without the competition of the United Kingdom.

In 1973, the United Kingdom left EFTA, the European Free Trade Association and finally joined the EEC, after the resignation of Charles de Gaulle in 1969. Two years later, in 1975, the United Kingdom "(...) renegotiated the terms of EEC membership and 66% of its voters approved it" (Chang, 2017, page 2350).

It was in 1979 when the EEC introduced the European Monetary System (EMS) with the European Exchange Rate Mechanism (ERM) in order to reduce the exchange rate variability and achieve monetary stability in Europe. The purpose was the preparation for the introduction of a single currency, the euro. The United Kingdom rejected to be part of it and it did not join the EMS because it was a form of showing their insistence on independence from continental Europe.

It only joined the ERM in 1990 and withdrawn from it in September of 1992.

The Economic and European Monetary Union (EMU) is formed by the countries that share a common market and a same currency. It was first thought in 1988 with the last objective of create a single currency, the euro, in order to build an economic union. The United Kingdom has never joined it, it has continued having its own currency, the Pound Sterling up to today.

On the 16th of September of 1992, the "Black Wednesday", the United Kingdom refused to join the Economic and European Union Monetary System that was created recently. After the German reunification, the Bundesbank increased the interest rates up to near the 10%, really above the official interest rates of the Bank of England and the

pound depreciated a 10% with respect to the framework. Consequently, this fact contributed to the particular mistrust from the United Kingdom to the European Union.³

Seven years after that "Black Wednesday", in 1999, the Treaty of Amsterdam increased powers for the European Parliament. This Treaty recognised three important facts: the fundamental rights of the citizens of Member States, the Stability and Growth Pact, which places a limit on Member States' annual budget deficits and national debt to no more than 3% and 60% of GDP (Gross Domestic Product) respectively and the incorporation of the Schengen acquis into the European Union's legal system. The Schengen Area, established by the Schengen Treaty of 1985, is an area in which its Member States have officially abolished passport and border controls at their mutual borders. But the United Kingdom and Ireland opted to be out of the Treaty.

In the 2000s, a surge of migrants into the United Kingdom in 2004 was caused due to the incorporation to the European Union of ten countries from eastern and central Europe. In fact, it was in 2004 when the United Kingdom registered its highest immigration rate.

Some years later, in 2011, the United Kingdom Parliament enacted Article 50 of the Treaty of Lisbon, by which, any European Union member has the right to withdraw from it. It was in that moment when the United Kingdom required a referendum.

Nowadays, the United Kingdom continues being a full-fledged member of the European Union. And, it is not clear yet if it will leave the European Union with or without a deal.

As it has been observed in this brief description, the United Kingdom has not been willing to become a full-fledged member of the European Union during the years, as, for example, it has opted to not be inside the Eurozone among other decisions.

The 23rd on June of 2016, a referendum about the permanence or not of the United Kingdom in the European Union was hold. David Cameron, the Prime Minister of the United Kingdom in that moment was who convened it. The referendum ended in a 51,9% leave and 48,1% remain vote. This result set the formal stage for the Brexit.

³ Paniagua, J. (2018)

After the referendum results obtained, David Cameron resigned and Theresa May relieved him.

On the 29th of March of 2017, the British government formally notified the European Union about its withdrawal from the bloc. As Article 50 of the Treaty sets, the country that is willing to exit has up to two years of negotiation for withdrawal. In the case of failing this time, if all Member States unanimously approve it, an extension can be granted. According to it, the 19th of March of 2018 both parties agreed that the transition period would end the 31st of December of 2020.

Nowadays it is not clear what is going to happen in the future because Brexit is being postponed in time.

The arguments for the referendum that have been used for leaving or for staying in the European Union according to Chang (2017) are explained in the following points.

2.1 Arguments for leaving the European Union

Several arguments against the position of staying in the European Union explain the result of leaving the European Union in the referendum of 2016.

The first argument used by the leaving part is related with the immigration from the European Union to the United Kingdom. The United Kingdom's immigration exceeds its emigration, and the recent rise of terrorism inside the country has contributed the antiimmigration sentiment between British people.

"According to The UK's Independent Fact checking Charity, an estimated 248,000 citizens from other EU countries immigrated to the UK during the 12 months ending in March 2017, and about 122,000 emigrated abroad. EU's latest net migration was around 127,000" (Chang, 2017, page 2350).

The population of the United Kingdom in 2017 according to the Office for National Statistics of the United Kingdom was of 66,040,200. In total, in 2017, there were 8,841,717 immigrants in the United Kingdom what represented a 13.34% of the total population.⁴

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⁴ Datosmacro. Expansión. (n.d.).

Moreover, it is also argued by the leaving party that immigrants are taking away jobs and lowering the wages in the country. And they claim that the increase of immigrants has strained public services and relations with natives. The leaving part believes that by leaving the bloc the flow would be stemmed.

In addition, what contributed to the victory of the leaving part was the dynamics of public opinion during the referendum campaign as well as the factors that influenced how people voted.

Furthermore, the 2008 financial crisis has diminished the beliefs in the benefits from staying in the European Union of British people as after the crisis, very slow economic growth rates have been experienced in the United Kingdom, as well as on the other European countries. In the United Kingdom the growth rate of GDP decreased up to a -4.2% in 2009 and in 2017 (1.8%) remained under the percentage that it had before the crisis.⁵ As a result of it, Britain's trade with the European Union has fallen as a proportion of its total trade. This fact has pushed the idea of increasing trade elsewhere.

Finally, the high cost of the European Union membership fees has been pointed out to impulse the leaving arguments.

The recent rise of populism and identity politics all around the world and, also, the rise of radical right parties such us the UK Independence Party (UKIP) which has further driven Brexit sentiments trough British people contributed to the leaving part. These rises have been a consequence of some United Kingdom voters feeling that the European Union is too rigid and unwieldy and that it hampers the United Kingdom's own will to navigate its own national and economic policies.

2.2 Arguments for staying in the European Union

Many counterpoints against the leaving part are set by the staying part.

The opinion of the leaving part in relation to the immigration topic is totally clear, they are against. Nevertheless, the remaining part argues that immigration actually promotes economic growth in the United Kingdom because immigrants tend to be young

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⁵ The World Bank. (n.d).

and are likely to be employed. Indeed, they contribute to the United Kingdom public finances more than they receive.

Moreover, the migration of high-skilled workers raises overall wages and this kind of workers is what the country is demanding, as some British firms are struggling to find new workers. There are industries as engineering, health care and hospitality that are desperately in need of hiring migrant workers. So that high-qualified immigrant workers is what the United Kingdom needs.

If the place of origin of the immigrants is analysed, we realise that the United Kingdom has more immigrants from non-European Union countries than from the European Union. So that leaving the bloc will not improve this situation.

Another important topic that cannot be forgotten is the exports and the imports relationships. Leaving the European Union might have a severe effect on the British economy because the European Union is the United Kingdom's largest export market and it is also the United Kingdom's largest source of imports. "If there is not free trade between them, the bilateral trade volumes would shrink, harming both sides' export sectors and raising the prices of imports. The national welfare on both sides would decline" (Chang, 2017, page 2350).

Also, by staying, global companies would remain and would locate in the United Kingdom because they can sell into the European Union countries without tariffs. And it must be remembered that the United Kingdom has comparative advantages in the financial service industry and in some industrial goods and by leaving the European Union this competitive advantage will not be leveraged at its maximum.

3. MACROECONOMIC EFFECTS

There exists a common thought that, unless the United Kingdom can preserve essentially full access to the European Union market without paying a high price, Brexit could make the country poorer on a sustained basis. In this section the possible future macroeconomic effects that the Brexit could cause are going to be analysed.

The macroeconomic effects of the Brexit will depend on the final scenario, if there is a deal or a no deal, although some consequences can already be found. I am going to focus on the no deal scenario effects as it is the scenario where more changes would be.

First, a global vision of the macroeconomic effects to the United Kingdom and the European Union are going to be set and then, on the next point, I will focus in deep on what will happen to some different sectors: education, culture, science, aerospace, automotive, financial, food, tourism and telecommunication and technology.

In global terms, when the United Kingdom leaves the European Union, higher barriers to trade, capital flows, and labour mobility will affect output and jobs not only in the United Kingdom but also in the remaining 27 European Union member states. Since Brexit means both parties will withdraw from a frictionless economic relationship, there will be costs on both sides.⁶

Comparing the differences between remaining in the European Union and leaving it, estimates by the IMF suggest that United Kingdom's real output would be between 2.6 and 3.9 percent lower under a free-trade agreement scenario than under a scenario of continued European Union membership, and between 5.2 and 7.8 percent lower under the WTO scenario than under a no-Brexit scenario.⁷ In the table 3.1 we can observe the differences between a free-trade agreement scenario and a WTO one.

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⁶ Chen, J., Ebeke, C., Lin, L., Qu, H. & Siminitz, J. (2018)

⁷ International Monetary Fund. (2018)

Table 3.1: Differences between FTA and WTO

Greater access Greater independence					
	EU Membership	FTA	WTO rules		
Tariffs on goods	None	None	High		
NTBs on goods and services	None	Medium	High		
EU migration	Continued mobility	Some restrictions	Strict labor mobility		
Inward investment	High	Unchanged	Reduced		

Source: International Monetary Fund. (2018).

Moreover, the European Parliament (2017) on "An Assessment of the Economic Impact of Brexit on EU27, March 2017, suggests an average long-term impact of Brexit on EU27 output between -0.2 and -0.5 percent by 2030.

Connell et al. (2017)'s new study, that incorporates supply chain links between countries, finds an impact of Brexit on the EU in the order of -0.4 for the deal scenario and -1.4 percent for the no deal scenario.⁸

Results from the IMF suggest a negative and rather small effect of Brexit on the European Union countries output and employment in the long run, as it is observed in graph 3.2.

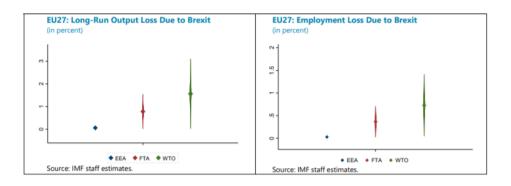
One macroeconomic effect that can already be observed is the depreciation of the pound. Since June 2016, when the referendum was held, the pound accumulates an 18% depreciation (De Castro, 2019). Looking to a recent date, the 23rd of May of 2019 for instance, the change EUR-GBP was of one euro for each 0.88 pounds (XE, 2019) and, the 23rd of June of 2016, the change was of one euro for each 0.77 pounds.⁹

⁸ International Monetary Fund. (2018)

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⁹ Euro libra esterlina exchange rate history (EUR GBP) junio 2016. (n.d.).

Table 3.2: EU27 Brexit loss



Source: International Monetary Fund. (2018).

The depreciation of the pound is linked to the increase of the inflation in the United Kingdom since the referendum. In 2016, there was an inflation of 1.79%, in 2017 a 2.74% and in 2018 a 2.00%. ¹⁰

Nevertheless, during this year the pound has recovered a 5% (De Castro, 2019) as it has been stated that the Brexit could not have an outcome as destructive as it was supposed to in the first moments after the referendum and the inflation of the country has decreased.

The pound used to be a solvent currency but investors now have doubts about it. The reason is clear according to Mohorte (2019), the pound is now showing the characteristics of an emerging market currency, with a high volatility. In graph 3.3 we can observe the volatility that the Sterling pound has suffered all along the year 2018.

Big companies that operate in the United Kingdom and that export could obtain benefits from the depreciation of the British currency. With the depreciation of the pound their products are cheaper for the foreign customers. In contrast, they support more risk in their operations.

¹⁰ Inflation.eu. (n.d.).

3-month implied volatility (%)

Major developed market currencies

Emerging markets

Sterling

12

Jan 2018 Apr 2018 Jul 2018 Oct 2018 Dec 2018

Sources: ING, Bloomberg

FINANCIAL TIMES

Graph 3.3: Volatility of the pound

Source: Mohorte, 2019.

In addition, the free movement of European people is going to change with Brexit. Nowadays, the citizens of the countries that are members of the European Union have rights, freedoms and advantages in all the countries that are also members, as the free movement through countries. As the United Kingdom would be out of the European Union with the Brexit, the free movement of British people to the countries of the European Union would disappear, as well as on the other way round. This fact will affect all the industries as we will see in the following points. The free movement has not changed yet as the United Kingdom remains being a member of the European Union in this transition period.

Nevertheless, with the restriction of the free movement of people, the United Kingdom could achieve one of the purposes of the Brexit, the decrease of immigration to the country. Between other aspects that will be explained in the project, this would be translated in less workers from outside the United Kingdom who would be willing to go to work there as their future entrance will be likely to be limited.

The loss of immigrants will be translated in a loss of a high number of qualified workers as immigrants of the United Kingdom are more qualified than locals (International Monetary Fund, 2018).

Another main point is trade of products and services. In the same way as people, products and services with Brexit are going to experiment important restrictions. Exports and imports tariffs are foreseen to increase as the United Kingdom will be out of the

Common Market in a no deal scenario, what will affect many different industries as it is explained in the following points.

Furthermore, by being out of the European Union the United Kingdom will stop contributing to the European budget, but it will not benefit from it neither. Moreover, it will be out of common policies like the common agricultural policy.

There are two very important points that are common to the effects related to all the sectors, the population effects and the trade ones. This is the reason why I am going to analyse in depth.

3.1 Effects on population

During the Brexit negotiations between the United Kingdom and the European Union, the priority has been to protect the rights of the European Union citizens living in the United Kingdom and of the United Kingdom nationals living in the European Union. In fact, the United Kingdom government is continuing reassuring European Union citizens and their family members living in the United Kingdom that they are welcomed to stay in the United Kingdom in the unlikely event of a no deal scenario. At the same time, the United Kingdom government is trying to protect the rights of United Kingdom nationals in the event of a no deal scenario by calling on the European Union and Member States to uphold their commitments to British citizens.

The United Kingdom and the European Union have agreed on a deal for citizens, the Withdrawal Agreement. If it is approved by the Parliament, the agreement will assure the departure from the European Union, including securing the rights of over three million European Union citizens in the United Kingdom and, also, the rights of around one million United Kingdom nationals in the European Union, so that they can carry on living their lives as before the Brexit process. Moreover, this pact also sets out the assistance and support, in a no deal scenario, that the United Kingdom government will make available to United Kingdom nationals in the European Union.

In relation to those non-British people that live in the United Kingdom, their rights are protected even in an unlikely no deal scenario.

"The United Kingdom government has reached an agreement with the European Union that will protect the rights of European Union citizens and their family members living in the United Kingdom. It has also reached an agreement with Norway, Iceland and Liechtenstein, and a separate agreement with Switzerland" (Gov. UK, 2018).

"These agreements mean that most citizens from the European Union, Norway Iceland, Liechtenstein and Switzerland will need to apply to stay in the United Kingdom" (Gov. UK, 2018).

Summing up, a citizen of an European Union member (except from Ireland), from an EEA (European Economic Area) country or from Switzerland, planning to continue living in the United Kingdom after the 31st of December of 2020, independently of having a valid permanent residence document from the United Kingdom government or not, will need to apply by the 30th of June of 2021 to the European Union Settlement Scheme.¹¹

So that, foreign citizens, inside the options explained above, could continue living in the United Kingdom as they do nowadays after the 31st of December of 2020 remembering to elaborate the required applications by the 30th of June of 2021.

On the other hand, British people living in the European Union rights and status can be guaranteed only by the Withdrawal Agreement. This is the reason why the one million United Kingdom nationals living in the European Union face a huge uncertainty situation.

The United Kingdom government continues pushing the European Union and Member States to secure British people rights as soon as possible. In addition, the United Kingdom will continue to preserve certain rights of British people in the European Union, as, for instance, by continuing to pay and uprate United Kingdom state pension to eligible United Kingdom nationals living in the European Union.

In case British people were unable to continue to live their lives as they do now in a no deal scenario and returned to the United Kingdom, there are a number of steps the Government would consider that have been raised. For example, the government has assured the access to healthcare system on the same basis as United Kingdom nationals already living in the country. Also, those that would return would be able to vote in local

¹¹ Department for Exiting the European Union. (2019).

and national elections and they will have access to education. The right to bring European a non-European Union citizen family members is being considered by the government of the United Kingdom as it is an important concern.

Finally, the United Kingdom is pursuing reciprocal agreements with Member States to secure the right to stand and vote in local elections for British people in the European Union, as it is doing in a deal scenario.

3.2 Trade effects

After the Brexit, exports and imports costs are going to be higher due to the return of the duty taxes that the countries that want to do operations with the United Kingdom will have to face. This is because firms will need to pay customs duty when their products pass across the new "border". They will need to submit customs declarations and pay administration fees when they want to export or import.

As a consequence of this new "border", the international logistics services are going to be affected. And, it is also foreseeable that the freight transports, ocean-going freighter and air transports will increase their costs due to the appearance of new tariffs for transports at the border.

As it is foreseen that exports costs will increase, so will the final product prices. The United Kingdom can lose many current customers as they would have to face higher prices if they want to purchase the same products. Therefore, it is foreseen that they would look for other countries that may offer similar products. This would entail a drastically decrease of exports even though the United Kingdom companies enjoy a comparative advantage in a wide range of sectors as insurance, food and drinks, chemical or pharmaceuticals.

Moreover, related to the increase of costs and prices, many international companies based on the United Kingdom would move to other European countries mainly in order to avoid the duty taxes. With this movement of companies, the United Kingdom economy would be heavily damaged as the circular flow of income will lose a high amount of one of the factors, the companies. But, in contrast, the economies of the countries chosen by the multinational companies would be benefited as companies create wealth on its surroundings.

In a similar way, the prices of the current products that the United Kingdom consumes will be higher as a consequence of the appearance of tax duties and higher transport costs. Therefore, the British economy would be also damaged as they would have to pay more for the same products.

Clothing will be one of the sectors that would suffer the most as the United Kingdom imports predominantly clothes from the European Union. Between the first twelve countries that export more clothes items to the United Kingdom are Germany, Italy, Netherlands, Belgium, France and Spain (World Bank, 2019).

But it is not the United Kingdom the only country that would lose. The European countries that sell to the United Kingdom would lose income too as they will lose a "client". It could be that the United Kingdom would stop purchasing the same products that it is buying nowadays and search for substitutive products that were cheaper in order to compensate the tax duties costs. Or, that the United Kingdom would decrease the consumption of import products due to the increase in prices for it. If this happened, the seller countries would have to search for other potential clients in order to compensate losses. But during all this process, all the economies will suffer and many jobs could disappear.

It must be remembered that the United Kingdom is the fifth largest exporter in the world in value-added terms, so the European countries would not be the only ones affected, the rest of the world would also be as the United Kingdom will not have access to the European Union trade agreements.

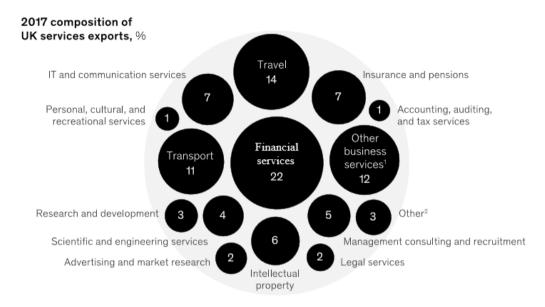
The United Kingdom companies enjoy a comparative advantage in a wide range of sectors, insurance, food and drinks, chemicals, pharmaceuticals... for instance, it generated around 8 percent of the value of intangibles crossing the world's borders in 2017, with more than a quarter of that coming from its healthcare and pharmaceuticals sectors.¹²

The United Kingdom's services exports are highly diversified too. In order to have an idea of how diverse it is we can look to the following image (graph 3.4) where we can see the 2017 composition of the United Kingdom services exports in percentages. Many

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¹² Tera Allas, David Chinn, Vivian Hunt and Daniel Mikkelsen. (2019).

diverse sectors can be observed. The three most relevant are the financial services, the travel sector and other business services like architecture or the waste treatment.



Graph 3.4: 2017 composition of UK services exports, %

Includes architecture, waste treatment, leasing, and trade-related services.

Includes construction, maintenance, repair, and government services.

Source: UK balance of payments, the Pink Book: 2018, Office for National Statistics, July 2018, ons gov.uk; McKinsey analysis

Source: Tera et al., 2019, page 4.

Many diverse sectors can be observed. The three most relevant are the financial services, the travel sector and other business services like architecture or the waste treatment.

In the graph 3.5 it can be observed how the value of exports from the United Kingdom have nor grown faster than the G7 countries neither similarly during the Brexit transition. The path is similar just at the end of year 2018, which coincides with the deceleration of the annual growth of both. In the previous years to the Brexit transition, the United Kingdom had followed a similar path than the G7 countries.

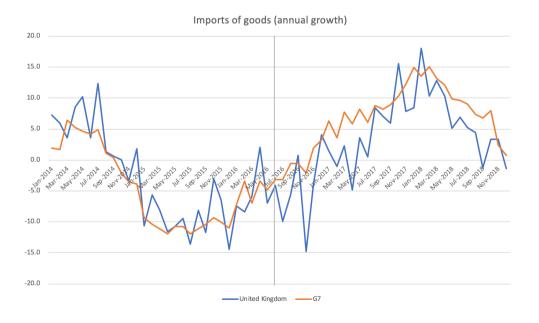
The growth of imports value into the United Kingdom has also been broadly slower than in the G7 countries as it is shown in the graph 3.6.

The output per worker has continued to be stagnant since the referendum date as it is observed in graph 3.7.

Worryingly, the gap between output per worker in the United Kingdom and in the OECD countries has widened since the referendum in global terms. The United Kingdom the country that lose as a decrease in the GDP implies a decrease in the economic activity. The higher loss was in 2016, when the referendum was hold.

Graph 3.5: Exports of goods (annual growth)

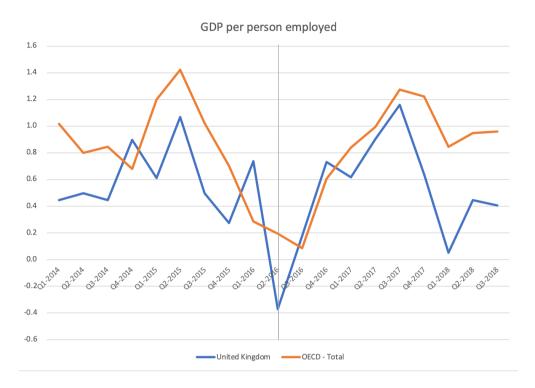
Source: The London School of Economics and Political Science, 2019.



Graph 3.6: Imports of goods (annual growth)

Source: The London School of Economics and Political Science, 2019.

Graph 3.7: GDP per person employed

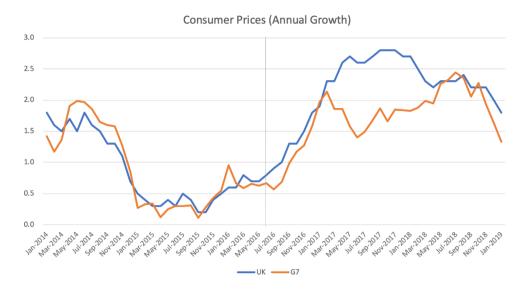


Source: The London School of Economics and Political Science, 2019.

Moreover, the purchasing power has gone down as consumer prices have risen and real wages have been reduced. Inflation rose sharply after the referendum and remained high till recently. In January 2019, it dropped below 2% for the first time since the referendum but is still at 1.8%. ¹³ In the graph 3.8 we can observe the evolution of the consumer prices in comparison to the G7 countries, the higher prices for the United Kingdom since the referendum are clear.

¹³ The London School of Economics and Political Science. (2019)

Graph 3.8: Consumer Prices (annual Growth)



Source: The London School of Economics and Political Science, 2019.

Summing up, the economy of the United Kingdom is expected to be pushed with the Brexit even harder than during the transition period and one of the main causes will be the difficulties to continue exporting and importing products due to, mainly, the custom tariffs. It has been showed that during the transition period the value of exports and imports of the United Kingdom has grown slower than in the G7 countries.

Also, the other big cause will be the possible future limitations of people to move freely. During the transition period the output per worker has been stagnant since the referendum in the United Kingdom.

4. MICROECONOMIC EFFECTS

In this section I am going to analyse the effects of Brexit on the most important sectors of the United Kingdom.

Depending to the sectors and to the regions the effects are going to be different.

4.1 Education, culture and science sectors

The education, culture and science sectors are, by nature, international and mobile, so that the Brexit could affect them very hard.

Many other sectors depend on the success of these three due to their flow of ideas, creativity and talent. The economies affected will be mainly those from the European countries and the society as a whole. For instance, "the UK's higher education sector relies heavily on 31,000 non-British EU workers who currently contribute to its success" (British Council, 2019, page 1).

One possible negative effect of the Brexit could be the cease or the difficulty of movement of ideas, creativity and talent between the United Kingdom and the rest of European countries. So that a post-Brexit agreement for the education, culture, science and research sectors that does not inhibit their ease of movement and, moreover, that enhances and facilitates it, would be vital.

In addition, people and assets operating in these sectors could be negatively affected by possible people movements bans. The encouragement to continue collaborations and partnership is key in the development of all the countries involved.

Regarding education, in a no deal Brexit scenario, the United Kingdom will be out of EU-funded programmes such as Erasmus, Erasmus+ or Creative Europe. These kind of programmes provide high indirect financial contributions to the country in sectors like the real state. Also, they allow the easy flow of thousands of students that could be possible future workers of the United Kingdom so, they are possible future knowledge contributions to the country. The same thing happens the other way round, when British students or professors are in European countries. Consequently, it is highly

recommended, according to the House of Lords, that the United Kingdom continues and enhances participation in multilateral programmes.¹⁴

Furthermore, the intellectual property, qualifications and regulatory framework after the Brexit could change depending on the arrangements both parts signed. For instance, if the standards of recognition of professional qualifications between the United Kingdom and the remaining 27 European Union member states in the fields of education, culture, science and research changed, many people could lose their jobs and, also, people who would be willing to go to work to the United Kingdom may choose another country. British people who wanted to work in another European country would face difficulties in finding a job, something that it is not happening nowadays.

To conclude, the introduction of barriers on these sectors could disadvantage the United Kingdom and other European Union countries, bringing about 'lose-lose' scenarios. It is therefore critical that the EU-UK negotiations work to avoid the real and complex risks to the cultural, educational, scientific and research sectors, in the United Kingdom and in all other European countries. Deliberations between European Union and United Kingdom leaders should amplify the positive impact that shared programmes in these fields bring to communities in all countries, particularly to young people. ¹⁵

4.2 Aerospace industry

If the United Kingdom leaves the European Union the aerospace industry situation will change.

The first thing that would change is the air routes that have the United Kingdom as origin or destination. These air routes could be paralyzed as the airlines would be operating with a non-European country if there is not an agreement about the air traffic. In contrast, near countries like Spain or Ireland could be the alternatives, which would promote the economy of that countries.

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¹⁴ Ewelme, J. (2019)

¹⁵ Ewelme, J. (2019)

The explanation of this fact is that, nowadays, the United Kingdom is member of the European Aviation Safety Agency (EASA) and of the European Open Skies regime (ECAA). The EASA certifies the European aerospace products, regulates the European aviation and supervises the aviation authorities. And the ECAA is an agreement between the European Union and some external countries in order to achieve a single market in aviation services.

When the United Kingdom exits the European Union, its membership of both will cease. This will cause that, "unless permission" of new treaties with the United Kingdom, aviation to and from the United Kingdom may stop.

Consequently, if the membership of the EASA and the ECAA changes, commercial aerospace companies that sell products or have maintenance-repair-overhaul (MRO) operations in the European Union and in the United States markets will need to re-certify their product safety, airworthiness and ability to operate if they want to continue doing business there.

Moreover, the manufacturers of the aerospace industry that operate in the United Kingdom, if it finally leaves the European Union, will search for other countries in which to operate.

The search of other countries will be due to the fact that they would like to continue profiting from the free access to the European market. The explanation of this is that the adoption of tariff or non-tariff barriers will impact the transfer of component parts, delaying production times and increasing costs. A future prediction is the following:

"UK carriers taking delivery of planes made by European aircraft manufacturers could face a 2.6 per cent duty if the planes are delivered after Brexit. These additional costs will likely be passed through the supply chain to the customer and create additional margin pressure on the industry. One carrier estimated an additional \$130m in customs duty based on their current orders" (Deloitte, 2019).

Another cause for the reallocation of the companies is the possible inability of the employees to move freely between the countries of the European Union and the European Union sites. And also the talent shortage that is predicted to happen because talented people may choose other countries with more advantages.

In the case of the space sector, the United Kingdom companies could find themselves locked out of bidding for European Union funded space programs as the Galileo satellite navigation program. This program allows accuracy in the navigation devices from mobile phones to car navigation devices. So that it will need to negotiate a new security relationship with the European Union to stay in this kind of programs.

4.3 Automotive sector

Currently, the European Union and United Kingdom automotive industries are closely interwoven with highly complex supply chains stretching across Europe and production relying on just-in-time delivery.

The damage to the United Kingdom's automotive industry started on 2016 and remains up to today, as uncertainty about the future situation forces firms to delay large investment decisions. Looking to the future, the situation is foreseen to not improve in a no-deal scenario: tariffs after the Brexit will appear, the non-free movement of people will restrict the continuity of the production process as it is nowadays as workers of very well-knowns brands like Toyota could not have access to the United Kingdom as easy as it is now, quality laws in the products might appear...

"A House of Commons report published (...) considers that a 'no deal' scenario would be "hugely damning to the UK automotive sector", resulting in the introduction of a 10% tariff on cars and a 4.5% tariff on components, in accordance with the WTO's rules" (Speed, Williamson, Quinlan, 2018).

The present situation of the automotive sector in the United Kingdom after the Brexit was approved is that its "(...) production volume has fallen 9%, and production forecasts are 17% down (...)" (Winton, 2019).

According to 2018 data, "more than 8 out of 10 passenger cars made in the United Kingdom are exported and less than 4 out of 10 passenger cars made in the 27 other EU member states are exported" (European Automobile Manufacturers Association, 2019).

In the following table (table 4.1) we can observe the comparison of passenger car exports between the United Kingdom and the 27 other European Union members.

Table 4.2: Passenger car output

JK passenger car output ¹		EU27 passenger car output ²			
	2018	Share		2018	Share
Total production	1,519,440	100%	Total production	14,631,382	100%
Domestic market	281,832	18.5%	Domestic market	9,032,086	61.7%
For export	1,237,608	81.5%	For export	5,599,296	38.3%

Source: European Automobile Manufacturers Association, 2019.

From this table, it can be concluded that the United Kingdom will be strongly damaged by a no-deal scenario, because it exports 81.5% of its passenger cars produced. This production will not continue being sold under the same prices and conditions, for example the customs tariffs, and this will hit the British economy.

4.4 Financial sector

It is well known that the City of London is the second most important financial district in the world, just after the New York district, so that, after leaving the European Union, the negative effects on the sector would be remarkable globally. But especially to the United Kingdom.

The financial sector is one of the keys of the British economy and it contributes to a very relevant percentage of the gross domestic product. "In 2017, the financial services sector contributed £119 billion to the UK economy, 6.5% of total economic output" (Rhodes, 2018).

"In accordance with the year 2015 data, the profits from the financial sector rose up to 63 thousand millions of pounds, more than the sum of the United States, Switzerland and Luxembourg" (The City of London, 2016).

Moreover, during the year 2015, the United Kingdom was the leader of the financial services exports, with, according to Francisco Uría from KPMG, 97,000 million of pounds, again double the North American financial sector.

The United Kingdom has more than two hundred fifty foreign banks settled in London and seventeen per cent of the loans granted by the international banks are done in the United Kingdom.¹⁶

As we can observe, the importance of the United Kingdom in the financial sector in all the world is huge. The main investors are France, Switzerland and Canada (Banco Santander, 2019).

Furthermore, there exists a big relationship between Fintech and the United Kingdom. Fintech is the Financial Technology which is a new financial industry that applies the technology to improve financial activities. It involves the new applications, processes, products or business models in the financial services industry.

The centre of the Fintech is concentrated in the United Kingdom, and more precisely, in London, as it is the Europe's Fintech capital. The freedom of movement of labour offered by membership to the European Union single market is crucial for it as well as the movement of services to other European Union markets. Consequently, if this two main points change with Brexit, something that it is foreseen to happen, it will have a disastrous effect on the Fintech industry inside the United Kingdom and on the financial services space as a whole.

Many big companies of financial services could change their location out of the United Kingdom and search other countries. This could be an opportunity to other European countries. Companies like JPMorgan, Goldman Sachs, HSBC and UBS have already started their contingency plans.¹⁷

In addition, London's position as Europe's Fintech centre with the Brexit is under threat and the two cities that could receive this position are Paris or Berlin as they both have their own thriving Fintech industries.

To sum up, it can be concluded that the Brexit would have negative effects on the British economy in relation to this sector and the current situation of the United Kingdom in finances would change dramatically.

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¹⁶ Uría, F. (2018)

¹⁷ Polo, A. (2017)

4.5 Food sector

The size of the food and beverages industries in the United Kingdom is tremendously high. Within the sector there are three main areas, the manufacturing and production industry, the retail part and, the catering and hospitality industry. It is the manufacturing and production industry the most relevant in the British economy.

Brexit would be deeply damaging for British export competitiveness, would put at risk hundreds of businesses and thousands of jobs.

The first thing that needs to be mentioned is that if the United Kingdom leaves the European Union, its exports will not be compliant with the European Union food safety regulations. These regulations include topics like animal health, hygiene or traceability. If there exists an agreement with the European Union during the transition process about safety regulations the United Kingdom would not face so many changes but, without an agreement, all the British exports related to food and beverages would have to face additional tests.

Moreover, if the Brexit finally happens and the United Kingdom is considered a third country trading partner it will be subject to WTO (World Trade Organization) tariffs. This is translated in an increase in costs and prices.

The weakness of the pound must be added to all this possible effects, but as a reality, as it has been already depreciated. The pound "(...) accumulates a severe depreciation (-18%) since June of 2016 (the month of the Brexit referendum)" (Ana de Castro, analyst, 2019). This fact will help the exports of the products as they will have cheaper prices.

But, what it is clear is that competitiveness would be hit. Two of the three largest export markets are in Europe, according to Paul Davies, head of F&D at BDO and author of the 2018 food and drink report *Moving towards a more productive*, *post-Brexit world*. Continuing exporting British products will not be as easy as it is currently.¹⁸

Food imports will be damaged too. "The UK is a net importer across most food commodities apart from beverages where the export of whiskey drives a trade surplus" (PricewaterhouseCoopers, 2019). A possible solution to the future imports problem could

¹⁸ Harper. (2019).

be switching to local supply and increase the local demand. But, it would result in higher prices. This option is not viable at all as the United Kingdom needs many foreign food products that they cannot produce in the country by its own.

Consumption patterns will change after the United Kingdom leaving from the European Union so, as consequence, the United Kingdom food industry will need to increase productivity, a big challenge.

That leads us to the other big issue related to the Brexit, labour supply. The British food and drink manufacturing industry depends on foreigners for almost a third of their workforce as Paul Davies argued (Davies, 2018). With the Brexit free movement of people possible restriction, foreigners may change of country. As a consequence, British manufacturers would search British workers to substitute them.

However, greater reliance on British workers could impact the wage costs as the availability of flexible and cheap migrant labour is linked to the agriculture sector. In the long term, this fact could prompt food and drink manufacturers to re-evaluate their business model.

"Adding it all up, a new Barclays Corporate Banking report, *Scale, Disruption and Brexit*, says failing to reach a Brexit deal could cost food retailers and their supply chain £9.3bn, with an average tariff of 27% for food and drink supply chains. With grocery margins typically around 3-5%, Barclays says the additional cost is likely to be passed on to consumers" (Harper, 2019).

Nevertheless, Brexit could be turned into an opportunity if companies demonstrated value to consumers and worked closely with grocers. For instance, by launching innovative products. This way, these enterprises could win market share.

Although it will be seen an impact on consumer spending, food has historically been relatively insulated from such spending falls. As consumers, all along the history, have tried to maintain their food spending even in downturns moments.

4.6 Tourism

"If the United Kingdom experienced a recession in consumption, the tourism expense would probably be affected, as it is linked to the confidence and incomes of the consumers" (PricewaterhouseCoopers, 2019).

On the one hand, British people after the Brexit could opt to focus on internal destinations and not travel to European countries as their salaries may fall. The country that would suffer more is Spain as it is the most popular destination for British sun seekers. In 2018, 18.51 million of British came to Spain.¹⁹

On the other hand, the United Kingdom tourism industry is also concerned that European tourists could stay away. European people could prefer other European countries to travel to with the Brexit due to visas issues and rejection sentiments as a consequence of the exit of the European Union.

The first consequences related to this aspect have already been appreciated as last February it was announced that "(...) a sharp fall in European flight bookings for after March 29" (Copley and Wissenbach, 2019) has been noticed.

4.7 Telecommunication and technology sectors

Two important drivers of the British economy are the technology and telecommunication sectors and both will suffer with the Brexit.

The telecommunication sector would be damaged, as other sectors, by the foreseen changes in people movements and by the likely reallocation of the headquarters of some companies currently based in the United Kingdom. These firms would move to other member countries of the European Union in order to continue having the same advantages, like legislation.

Nevertheless, what it is remarkable about the telecommunication sector, is the fact that it is very intensive in capital. After the Brexit, "(...) we would probably attend a

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¹⁹ Statista. (2019).

capex reduction or deferment of its main companies (...)" (PWC, 2019). The capex (Capital Expenditure) "(...) are funds used by a company to acquire, upgrade, and maintain physical assets such as property, buildings, an industrial plant, technology, or equipment" (Investopedia, 2019).

This issue would result in an advantage to the other members of the European Union as they would receive this capital movement inflows.

Moreover, a deceleration in commerce could affect the British manufacturers' capacity of investing in productivity and innovation. So, as a consequence, it would impact in the long-run competitiveness of the technological companies in a moment where it is considered an advantage to be pioneer in the new manufacturer techniques and, in the new business models of the Industry 4.0.

Furthermore, it is predictable that in the moment when the United Kingdom will leave the European Union, the research and development and innovation centres will move to other member countries of the European Union. This would suppose to the United Kingdom a loss of talent and a loss of future competitiveness advantage on its products.

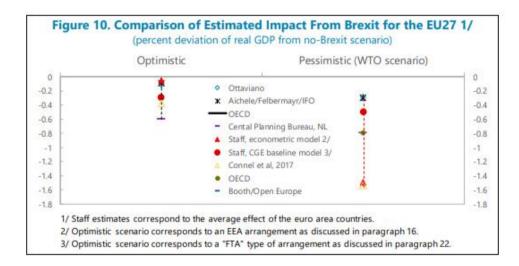
In order to confront this situation the United Kingdom is negotiating with the European Union to continue taking part of the innovation and development and innovation programs and funds. Something that seems to be very difficult out of the European Union.

From the sectors that have been analysed in this point the ones expected to suffer the most are the automotive sector, the financial sector and the education sector.

5. ECONOMIC EFFECTS OUTSIDE THE EUROPEAN UNION

After leaving the European Union, the United Kingdom will not have access to the free trade agreements for goods and services so its trade with the rest of the world will be affected.

Different researches provide different data to the Brexit effects, depending if the reaches have a positive or negative view. In the graph 5.1 it can be observed the estimated impact from Brexit for the EU27 in an optimistic and pessimistic point of view.



Graph 5.1: Comparison of estimated impact from Brexit for the EU27

Source: International Monetary Fund, 2018.

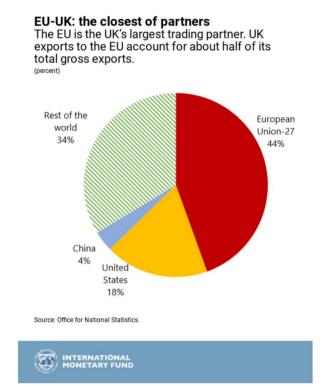
These European Union trade agreements facilitate the trade of the member countries with non-European countries thanks to agreements between countries in relation with topics like quality standards.

The European Union is the most important customer of the United Kingdom. The United Kingdom exports 44% of its total exports to the European Union as it can be shown in the figure 5.2. However, the other 54% comes from outside the European Union. China, with a 4% and the United States with an 18% have both an important role. The rest of the exports, a 34%, are allocated in countries of the rest of the world.

For this reason the United Kingdom will have to negotiate with every country that it wants to trade all the terms needed to elaborate goods and services purchases and sales. This process may be very long and in the course of it all the countries involved could be

damaged. But the one that will be more damaged will be the United Kingdom due to the decrease of its competitiveness.

Graph 5.2: EU-UK: the closest of partners



Source: International Monetary Fund Blog, 2018.

However, with the countries outside the European Union, according to the International Monetary Fund, the trading relations will remain unchanged.²⁰

Nevertheless, profits from this situation can be obtained too.

As we have explained before, some companies will decide to move to other countries in the case the Brexit finally happens. The countries where these enterprises will move to will obtain profits as companies create country wealth. During this Brexit transition countries like the United States are negotiating in order to try to attract them.

Moreover, people who currently live in the United Kingdom could move from the United Kingdom after the Brexit. Due to this fact, the countries that will receive these people will experiment indirect incomes from them in sectors like the real-estate for

²⁰ Chen, J. (2018)

instance. If non-European countries offer them good living conditions they will consider to move there.

Tourism will be also an important issue. People could change their holiday destinations and decide not to go to the United Kingdom due to the passport issues that may appear. So, the non-European Union countries will be facing a kind of touristic race in order to attract them.

Summing up, countries from outside the European Union are waiting to see what finally happens with the Brexit issue because they know that a huge movement of capital and labour is willing to happen. Profits, as well as losses, are going to be shared among European and non-European countries so the countries are awaiting to welcome the possible incomes.

4. CONCLUSIONS

Along these pages many future and present macro and microeconomic effects of Brexit in a no deal scenario to the United Kingdom and to the European Union have been analysed, even though there is a high degree of uncertainty around it.

An analysis through the economic sectors that most damaged will be after Brexit has been done. Hence, a big highlight has been set in population and trade as are considered the two most damaged sectors and the two sectors that will affect the other ones. A little reference to the deal scenario exit has been also mentioned.

Moreover, the political background of Brexit has been explained as well as the possible effects to the rest of the world.

The general conclusion to which I have arrived is that it is yet not clear what the United Kingdom will do, exit under a deal or a no deal scenario, but the possible future losses under a no deal scenario will be higher for individuals and markets than under a deal scenario.

The general objective of giving clarity to the Brexit uncertainty with figures has been achieved as I have been able to identify the macroeconomic effects that have already happened, for instance the devaluation of the pound during the transition process.

A specific conclusion to which I have arrived after researching and explaining the effects of Brexit sector by sector is that the European Union and the United Kingdom leaders should continue to cooperate over the relation between both parts on intellectual issues and regulations to capitalise on creativity, ideas, talent... If not, the economies of both parts would be damaged and some countries as the United States or China could benefit from it and their economies would increase thanks to the attraction of the companies.

From my point of view, and after having been reading and researching about the topic during many months, I truly believe that it is advisory that the United Kingdom leaves the European Union under a deal. I think that the effects of a no-deal scenario are very harmful for markets and individuals as is explained in these pages.

The results obtained in the project are useful in economics and education as they give clarity to the Brexit issue. The project shows the effects that have been already

noticed and the future predictions so that, businesses could read it to have information to know how this international economic situation will affect their business strategies. For university students and professors is useful as it gives a wide vision of the Brexit situation and of its macro and microeconomic effects.

The main limitation I have had to face during the project elaboration has been the huge amount of information available on the Internet which in many cases was contradictory due to the high uncertainty that surrounds Brexit. In relation to this, another limitation that I have found has been the difficulty to find some specific data due to the lack of certain figures from reliable sources of this topic.

Nevertheless, the objectives set at the beginning of the project have been achieved but limited due to the uncertainty that surrounds Brexit.

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