Brexit: Why? How? And When?

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Abstract

The results of the June 2016 referendum in favour of the United Kingdom leaving the EU opened a period of huge economic and political uncertainties in the UK, and also in the EU. The paper starts with recalling the issues at stake with Brexit and the main steps of the process of the UK withdrawal from the EU initiated since June 2016. The paper then presents an assessment of the UK economy developments, before and since the June 2016 referendum. The paper then presents evaluations of the impact of Brexit announcement on the UK economy. The paper then focuses on UK external trade developments, before analysing possible models for the future UK-EU relationship. Last, the paper provides a survey of the studies released on the impact of Brexit, at short- and long-term horizons, under different scenarios, from a soft Brexit to a hard Brexit and to a no deal scenario.

Keywords: Brexit, UK economy, EU membership, Trade agreements.

1. Introduction

The results of the 23 June 2016 referendum in favour of the United Kingdom leaving the European Union opened a period of strong economic and political uncertainties in the UK, and also in the EU. The UK was expected to leave the EU on 29 March 2019, two years after the UK government officially notified its will to leave the EU. On 14 November 2018, the negotiators of the UK government and of the EU agreed on a withdrawal agreement and a draft political declaration on the future relationship between the UK and the EU27. Both texts were endorsed by the European Council, but were voted down by the UK Parliament. The UK Parliament voted down a new referendum on UK membership in the EU, which could have led the UK to vote in favour of remaining in the EU, a no deal exit, the agreement reached by the UK government and the EU-27, and new negotiations where the UK would remain in the customs union. On 11 April 2019, following a request from the UK government, the EU27 agreed to postpone the deadline for a no deal Brexit to 31 October. Consequently, the UK government had to organise European parliamentary elections on 24 May while negotiations between the government and political forces continue in the United Kingdom.

In section 2, the paper recalls the issues at stake and the main steps of the UK withdrawal process of the EU initiated since June 2016, first until November 2018, then until April 2019. Section 3 presents an assessment of the UK economy developments, before and since the June 2016 referendum. Section 4 presents evaluations of the impact of Brexit announcement on the UK economy. Section 5 focuses on UK external trade developments. Section 6 analyses possible models for the future UK-EU relationship. Section 7 provides a survey of the studies released on the impact of Brexit, at short- and long-term horizons, under different scenarios, from a soft Brexit to a hard Brexit and to a no deal scenario.

2. From 23 June 2016 until now: the difficult process of UK withdrawal from the EU

The results of the 23 June 2016 referendum in favour of the UK leaving the EU triggered a period of strong economic and political uncertainties in the UK. It also raised delicate issues for the EU: for the first time in the EU history, a member state (MS) was choosing to leave the EU. The EU-27 negotiated Brexit with the objective of avoiding that other MS may be tempted to follow the UK example, at a time when "populist" political parties have been gaining in strength in several MS, when euro-scepticism is strong in other MS (such as Poland, Hungary, the Czech Republic, Slovenia, and Slovakia), when the 2015 migration crisis has led to divisions among MS. Negotiations between the UK and the EU27 were necessarily difficult since the EU could not aim at reaching a favourable agreement for the UK, but, on the contrary, wished to show that leaving the EU necessarily entails substantial economic costs without significant gains from no longer contributing to the EU budget; that it does not allow to define an alternative economic strategy, since the country leaving the EU must choose between continuing to comply with EU rules or be isolated possibly with strong negative economic impacts.

The UK government officially notified the UK decision to leave the EU when triggering Article 50 of the Treaty on the European Union (TEU) on 29 March 2017. This opened a two-year window for negotiations, with the UK expected to leave the EU at midnight on 29 March 2019. Negotiations with the EU officially began in April 2017. On 14 November 2018, negotiators of both parties agreed on a withdrawal agreement and a draft political declaration on the future relations between the EU27 and the UK, which were approved by the EU Council but voted down by the UK Parliament.

The UK wanted to regain its national sovereignty, in particular to be no longer subject to the European Court of Justice (ECJ) rulings. It wanted to end free movement of labour from the EU; it wanted to get rid of EU standards and regulations ("*taking back control*"). It wanted to become a champion of globalization ("*A Global Britain*") and of free trade in the British great liberal tradition.

On the EU-27 side, the negotiations were led by Michel Barnier, negotiator in Chief appointed by the European Commission. All along the negotiations, the EU-27 succeeded to maintain a strong and united position in negotiations. This position hardly generated democratic debates, neither at the national nor at the EU level. Proponents of softer negotiating lines did not dare express themselves, neither in the European Council, nor in the European Parliament, fearing of being accused to break European unity.

The EU-27 refused to question the functioning of the EU to reach an agreement with the UK; it claimed that the four "freedoms" of movement (goods, services, capital and people) are indivisible; that the ECJ's role cannot be questioned; it refused the UK to do "cherry-picking", to choose the European programmes in which the UK participates. At the same time, EU-27 countries were tempted to take advantage of the situation to attract financial activities currently in the City, the Northern Ireland status (for the Republic of Ireland), Gibraltar (for Spain). The EU-27 MS showed a strong solidarity with the Republic of Ireland, even though there is no reciprocity from the Republic of Ireland with the rest of the EU as concerns taxation.

UK negotiators had the objective of allowing the UK to take back control, getting away from EU regulations while maintaining full access to the single market. They faced the intransigence

of the EU-27 which, *via* the Irish border issue, led Theresa May, the UK Prime Minister, to sign off an agreement implying, via the backstop, that the UK may have to apply EU regulations for an indefinite time period, albeit losing decision-making power in European bodies. The withdrawal agreement could not be approved both by remainers and hard brexiters.

Negotiations from the UK side

The UK joined the European Economic Community in 1973, and has always been opposed to transfers of national sovereignty, as well as to social Europe. In February 2016, the agreement for the UK in a reformed EU negotiated by David Cameron with the EU exempted the UK from moving towards an "ever closer union", gave the UK insurances on the maintenance of the subsidiarity principle, of UK sovereignty and gave the UK the possibility of temporarily restricting workers' immigration from EU Member States (see Mathieu and Sterdyniak, 2016). This agreement did not succeed to convince a majority of UK voters to remain in the EU.

The vote for Brexit is primarily due to political reasons, to the desire to regain national sovereignty, notably not to be subject to the decisions of European institutions or of the ECJ, to be able to control the inflows of EU workers (while the UK had been one of the only MS, with Ireland and Sweden, not to set restrictions on workers from the new member states after the EU enlargement of 2004). But the 2016 vote for Brexit paradoxically brought together the victims of globalisation (workers, farmers, fishermen, people living in regions hit by deindustrialisation), wanting more protection and supporters of a liberalization shock that the EU would prevent.

Since the referendum, the UK have been divided in three main positions, which cross the ranks of the Conservatives and Labour. Among *remainers*, supporters of the UK staying in the EU, some, like Tony Blair or Michael Heseltine still hope that, in view of the difficulties, the UK will remain in the EU, and they call for a new referendum on EU membership to be organised. Lord Kerr, who drafted Article 50, recalled that the decision to activate Article 50 can be reversed. *Remainers* are convinced that if a new referendum was organised, "remain" would get a majority of votes.[1] But it would be contrary to the British democratic tradition not to respect the popular vote.

For a majority of *remainers*, Brexit will happen and the point now is to minimise the economic costs. Some r*emainers*, especially among Labour, now advocate a soft Brexit, which would allow the UK to remain in the single market. But given the conditions set by the EU-27 (fulfilling the four freedoms - free movement of goods, services, capital and labour - and remaining under the authority of the ECJ), Brexit would finally result in depriving the UK of any voice in decisions it would have to apply.

Hard Brexiters are ready to leave the EU without a deal. The UK would no longer contribute to the EU budget (a net gain of about 0.5 percentage point of GDP per year) and would have a third country status under WTO rules. The UK would then be able to negotiate bilateral trade agreements with all its partners, especially with the US. Border controls would be reinstalled. Hard Brexiters are not in favour of a transition period, which would only postpone the day when

[1] In mid-April 2019, some polls suggested that the Remain vote would win by 52% against 38%, with 10% of undecided. See: https://whatukthinks.org/eu/questions/if-a-second-eu-referendum-were-held-today-how-would-you-vote/. But voting intentions are volatile.

the UK would "take back control", and would prevent negotiating trade agreements with non-EU countries. In the event of a hard Brexit, the risk is that multinational companies relocate their factories and headquarters in the EU-27; that a substantial share of euro area banking and financial activities leave London for Paris, Frankfurt, Amsterdam or Dublin. London could however play the card of tax competition (in particular by lowering the corporate income tax rate) and of a regulatory heaven, especially in the financial sector.

However, the UK can hardly get rid of international constraints (the COP21 agreements, the combat against tax optimization, the agreements on exchange of information on tax and banking matters, the Basel III agreements). The financial terms of UK withdrawal from the EU would be subject to a judicial settlement. For the more liberal ones, Brexit would allow the UK to strengthen its liberal model (see for example *Labour Leave, Leave means Leave, and Economists for Free Trade*, 2017). However, it is unlikely that the UK, already having a very liberal legislation, benefits from a significant growth shock induced by even more liberal reforms.

The UK government has had an intermediate position, which has evolved over time. Theresa May, as home secretary in David Cameron's government in 2016, called for the UK to remain in the EU. Since July 2016, as a prime minister, she has aimed to make Brexit a success: the UK should choose the open sea, become a champion of globalization ("A global Britain"), a champion of free trade, in the British liberal tradition. This strategy has some rationale: the UK runs a trade surplus vis-à-vis non-EU partners, primarily the US, and has maintained strong ties with the Commonwealth countries, while it runs a large trade deficit with the EU-27 (it however runs a surplus in services).

Theresa May took note of the EU-27 position that the UK would not be allowed to remain in the single market if it did not fulfil the four "fundamental freedoms." The UK wanted to take back control of its borders, to control inflows of workers from the EU, to be no longer be subject to the ECJ's rulings, and refused to commit to comply to standards on which it would have no say, in order to keep a free access to the European market. Theresa May proposed that a "specific and deep partnership" be established between the UK and the EU, in which the UK would keep privileged trade and financial relations with the EU by signing a free trade agreement.

Theresa May called for anticipated parliamentary elections on 8 June 2017, with a view to strengthen her majority in the UK Parliament. The polls suggested Conservatives would win, but Labour's attacks on austerity and the Conservatives' stance on cutting social assistance (especially for social care at home) reversed the trend. After the election, the Conservatives had only 316 seats. In order to have a majority in the Parliament, Theresa May needed to make an agreement with the DUP (*Democratic Unionist Party*), the Unionist Party in Northern Ireland, a party conservative in society matters, but opposed to fiscal austerity and to any compromise with the Republic of Ireland. Hence, Theresa May started Brexit negotiations with a weak majority.

In July 2016, Theresa May formed a government bringing together different positions on Brexit: on the one hand, hard Brexiters, among them Boris Johnson, Minister of Foreign Affairs, and David Davis, Minister responsible for negotiating the UK exit from the EU; and on the other

hand, ministers in favour of a compromise to limit the impact of Brexit on the UK economy, including Philip Hammond, the Chancellor of the Exchequer.

For those in favour of a compromise with the EU, it is of first importance to avoid a no deal Brexit, a "fall of the cliff" which would be detrimental to UK companies and jobs. This led Theresa May to request the EU-27 a transition period in the Florence speech of September 2017. This also responded the request of British business representatives (including the Confederation of British Industry, CBI).

On 15 November 2017, the UK Parliament passed a withdrawal bill, ending the implementation of EU law in the UK and entrusting the government with the task of transposing European laws and regulations into UK law (12,000 texts). However, the UK Parliament decided on 13 December 2017 that the agreement negotiated with the European Union would have to be approved by a vote of the Parliament.

Negotiations from the EU-27 side

On 29 April 2017, the European Council adopted its negotiating positions and appointed Michel Barnier as Chief negotiator. The UK government wanted to negotiate in priority the future partnership between the EU-27 and the UK, but the EU-27 imposed a sequencing of negotiations, with only three points being negotiated in the first place: the citizens' rights, the financial settlement, and the Irish border. The EU-27 adopted a tough position on each of these three points, refusing to discuss the future partnership until an agreement is reached on these three points, prohibiting any bilateral (between the UK and a EU-27 MS) discussion and any bilateral pre-agreement between the UK and a third country on their future trade relationships.

The EU-27 refused that the UK could remain in the single market and the customs union, albeit choosing which EU rules it would apply. The UK should not benefit from more favourable rules than other third countries, in particular the European economic area (EEA) members (Norway, Iceland, Liechtenstein) or Switzerland. EEA members currently embed all single market legislation (in particular free movement of persons) and contribute to the EU budget. In the EEA, financial institutions benefit from the EU passporting rights, but Switzerland does not.

In December 2017, Michel Barnier made it clear that lessons needed to be drawn from the UK' refusal to respect the four freedoms, from the UK's wish to regain trade sovereignty, and to stop being under the authority of the European Court of justice. No possibility of "cherry picking" was allowed. This rules out any possibility of participation in the single market and the customs union. The agreement with the United Kingdom will be a free trade agreement, on the model of the agreements signed with Canada, South Korea and Japan.

During the negotiations, negotiators from the EU-27 were not conciliatory on the Irish border (emphasizing that the absence of physical border was not compatible with the withdrawal of the UK from the customs union, asking Northern Ireland to remain in the single market as long as the UK does not provide a solution guaranteeing the internal market's integrity without a physical border), on the ECJ's role (which should be competent to interpret the withdrawal agreement), on the obligation of the UK to apply all EU rules and guarantee freedom of installation of people until the end of the transitional period, on the decision-making autonomy of the EU (refusing to establish negotiations bodies with the UK on single market issues).

In an article published on 2 August 2018[2], Michel Barnier refused any hard border between the two parts of Ireland, while indicating that a hard border is necessary to protect the EU (which would mean that the only acceptable agreement would imply that a border is created between Northern Ireland and the rest of the UK, an unacceptable solution for the UK). Michel Barnier refused that the EU "lose control of its borders and its laws", and that the UK could be responsible for applying EU customs rules and collecting VAT on behalf the EU, which was one of the proposals of the "Checkers" plan. Michel Barnier stressed that future cooperation with the UK cannot be based on the same degree of trust as between EU member states. Michel Barnier wanted the EU27 to be protected from any changes in UK legislation, and to restrict the agreement to a free trade agreement, with guarantee on British regulations and state aids, and with cooperation in customs and regulations.

The EU-27 countries have kept a tough, and easy to keep, stance: since the UK chooses to leave the EU, the UK should make proposals acceptable to the EU27, as concerns its withdrawal as well as the future relationship. The EU27 is in a strong position since trade with the EU is almost 5 times larger for the UK than trade with the UK is for the EU. The EU-27 should resist the temptation to "punish" a country leaving the EU. If negotiations failed, this would be costly for both parties. The sterling would depreciate as it did in 2016, which would however spread losses over the two parties. Setting regulatory and non-regulatory barriers would also hurt UK exports to the EU, especially as the EU27 ran a record current account surplus of 130 billion euros vis-à-vis the UK in 2016. Also, it would be costly to undermine existing industrial cooperation agreements (Airbus, armament, energy). The EU-27 could have chosen not to make proposals acceptable to the UK and resign themselves to a no-deal exit. This scenario may be feared for two reasons: trade would be disrupted by the reinstallation of customs barriers in harbours and in Ireland; this "hard Brexit" would encourage the UK to become a tax and regulatory haven and the EU would face the alternative, either to follow, or to take retaliation measures, i.e. two harmful solutions.

Conversely, the EU-27 is unlikely to accept the UK to remain in the single market, choosing the EU rules it wants to apply. Two scenarios may then be considered. In the long term, the EU could tackle this issue, in creating a third circle for countries willing to be in a customs union with the EU, i.e. in the short term, the UK and EEA countries. Agreements on technical regulations and standards for goods and services would be negotiated within this framework. Thus, the "freedom of trade" question would be disentangled from political sovereignty issues. However, this raises two problems: these agreements would need to be negotiated in technical committees where public opinion, national parliaments as well as the European Parliament, could hardly express a voice. The definition of fields covered by the customs union is problematic, especially for issues such as: taxation, financial regulations, freedom of movement of persons and services.

In the short term, the EU should accept a "deep and special partnership" solution, which involves compromises on both sides. This solution could serve as a model for EU relationships with other countries. It would involve a customs union restricted to goods, standards harmonization committees, agreements for services, entitle the UK to restrict the movement of

[2] See : https://ec.europa.eu/commission/news/ambitious-partnership-uk-after-brexit-2018-aug-02_fr

persons, probably also an arbitration court (which would limit the powers of the ECJ), a commitment to avoid tax and regulatory competition. As can be seen, this would satisfy neither hard Brexiters nor the supporters of an autonomous and integrated European Union.

Several circles in Europe?

The UK withdrawal from the EU, the drifts in some Central European countries (Poland, Hungary), the reluctances of Denmark and Sweden can be a push towards a Union with several circles. The first circle would bring together euro area countries agreeing new transfers of sovereignty and to build a tax, fiscal, social and political union[3]. This could be an opportunity for democratic progresses: a euro zone parliament could be set up, the Eurozone Commission would be accountable to this parliament, which could censor it. A second circle would bring together EU countries that could not, or would not, participate in this close union. Finally, the third circle would include countries linked to the EU by a customs union and a deep free trade agreement: Norway, Iceland, Liechtenstein, Switzerland today, the UK tomorrow and others (Turkey, Morocco, Ukraine) later.

This project has two major advantages. It would allow European countries willing to move towards more integration, without being paralyzed by reluctant countries. It would provide a unified framework for EU partner countries which could benefit from the benefits of free trade without losing sovereignty (in political, taxation and social matters).

However, it raises many problems. The European Commission is opposed to it, because it would undermine the project of having all EU MS moving towards "an ever closer union." Non euro area MS are hostile to a development which would permanently marginalize them as a "second zone" member. The European institutions would be split between federally-operating euro-zone institutions and EU institutions continuing to operate in the mode of a Member States union, into a European Parliament and a Eurozone parliament, into euro area commissioners and EU commissioners, euro area and EU financial budgets and transfers, euro area and EU directives, etc. Many issues should be decided two or three times (at the levels of the euro area, the EU, the free trade area). The question of the composition and powers of the ECJ would arise. For each question, the relevant circle will have to be set out, which is not obvious, for many issues of regulatory, tax or social harmonization. For example, it will be necessary to decide whether the third circle should respect the free movement of persons (which the UK and Switzerland oppose); if the third circle is entitled to the European financial passporting rights (which supposes that member countries are subject to the rules of the European Banking Agency). It will be necessary to imagine a single market with several levels of requirements, which is hardly manageable. For each question and each circle, the issue of the modalities of the vote would be raised: unanimity, qualified majority, simple majority.

The members of the third circle would be in a difficult situation if they were forced to comply with regulations over which they would have no say. To avoid this, specific forums for deliberation and decision-making at this third circle level will have to be set up, especially for issues of free trade agreements with third countries or technical and health standards (Felbermayr *et al.,* 2019, advocate also the introduction of such a circle, which they suggest to call European Customs Association). But these agreements should be negotiated in technical committees where public opinion, national parliaments such as the European Parliament, would have little say.

The composition of the circles is a complicated issue. Not all euro area MS wish a close union, with the fiscal and social harmonization it would imply. This is particularly the case for the Netherlands, Ireland, Finland and the Baltic States. It would be necessary to imagine a first circle, 0, gathering within the euro area the MS accepting this close union and a circle,1, of MS refusing it. Compromises would need to be made so that circle 0 is not too small. Depending on the issues, the member country could choose its circle (0, 1, 2 or 3); this would rapidly be a

[3] This is what Emmanuel Macron advocated in his speech at the Sorbonne on September 26, 2017

union 'à la carte'. This is hardly compatible with a democratization of Europe since it would need practically one parliament per question.

Maintaining close cooperation with the UK in the areas of foreign policy, defense, security and the fight against terrorism would be necessary, but this cannot be done in the case of the third circle, if it includes Turkey, Morocco or Ukraine, whose strategic concerns differ from those of the EU.

Moreover, there is probably no agreement between the peoples of Europe, even those of euro area core countries, to move towards a federal Europe, with all the convergences and losses of democratic control it would imply. In the current situation, few people will accept that their budget, tax systems, reforms of their social systems are decided by a federal authority. Can we imagine, for example, merging the French pension system being merged with the (less generous and less sustainable) German one? But this evolution of Europe should be democratically accepted in every country.

The existence of this third circle would facilitate enlargement issues: The Balkan countries could enter the third circle before being admitted in second circle.

Difficult negotiations

On 8 December 2017, negotiators from the European Commission and the UK government finally signed a joint report on the progress made on the three initial points of the withdrawal agreement[4]. This report, submitted to the European Council of 14-15 December, allowed the opening of the second phase of the negotiations. However, strong ambiguities remained, particularly on the Irish issue.

The European Council accepted the UK demand of a transition period until 31 December 2020 (to coincide with the end of the current EU budget programming). So, from March 2019 to end 2020, the UK would have to comply with all the single market requirements (including the four freedoms and the role of the ECJ), without having voice in Brussels.

As regards citizens' rights, especially of the 3.5 million EU citizens living in the UK, all EU citizens, living in the UK by March 2019, will be able to obtain a settled status guaranteeing the same rights as British citizens in terms of employment, social rights and family reunification. This would be automatic for those who have resided in the UK for more than 5 years and, after 5 years of residence, for the others. Negotiations were difficult mainly on the EU-27 request to have the ECJ responsible of controlling the agreement's implementation to prevent the UK from tightening its regulation, which the UK could not accept. It has been agreed that, for eight years, UK courts will be able to consult the ECJ and that an independent UK authority will look after the rights of EU citizens in the UK.

The UK said it would honor its financial commitments, namely its share in EU spending in 2017-2020, investment expenditure already planned beyond 2020, its share of pensions of European civil servants. According to the OBR, the UK should pay 21.5 billion euros in 2019-20, its normal contribution to the EU budget and would remain debtor at the end of 2020, by about 23 billion euros net, that it should pay gradually (7.1 billion in 2021, 5.6 in 2022, 2.9 in 2023, 1.4 in 2024) while saving an annual 10 billion contribution to the EU budget.

Both parties agree to preserve the peace agreement in Ireland and to maintain the absence of a physical border, so as not to put barriers to trade and freedom of movement between the two parts of the island (30 000 people a day cross the border), which is difficult if the UK is no

[4] See: *Joint report from the negotiators of the EU and the UK government on progress during phase 1 of negotiations under Article 50 on the UK's orderly withdrawal from the EU,* 8 December 2017.

longer in the single market or in the customs union. The Republic of Ireland refuses any hard border, and threatens to veto any agreement that would raise barriers between the Republic of Ireland and Northern Ireland. The Republic of Ireland has requested a special status for Northern Ireland, which would keep Northern Ireland in the customs union. On the contrary, the UK government, under the pressure of the DUP, wishes to maintain the UK's integrity and refuses Northern Ireland to remain subject to derogations from EU regulations and that a border separates *in fine* Northern Ireland from the rest of the UK. The UK proposes to set up an invisible border, which will require great creativity (electronic control of vehicles at the border, ...). The two parties have agreed to postpone the task of reconciling irreconcilable requirements to future negotiations.

The EU-27 agreed the opening of negotiations on the transitional period and on the future partnership. These negotiations were completed in October 2018 with an agreement setting the terms of the withdrawal, the rules in the transition period and sketching, by a political declaration, the future Treaty establishing relations between the UK and the EU27. However, the EU-27 and the UK have both stated that: "nothing is agreed until everything is agreed", so that the agreements on the three initial points as well as on the transition period are conditional to an agreement on the future partnership.

On 6 July 2018, Theresa May hosted a Cabinet meeting at Chequers with a view to find a consensus within the government on UK proposals on the future relationship between the UK and the EU. The concessions made by the UK government since the start of the negotiations and the Chequers' proposals have led David Davis and Boris Johnson to resign on 8 July 2018.

On 12 July 2018, the UK government published a white paper on the future partnership (HM government, 2018a) which proposes a "*A principled and practical Brexit*". Brexit should "respect the outcome of the 2016 referendum and the decision of the United Kingdom to take control of its laws, its borders and its finances." A new relationship will be built between the UK and the EU, and it will be "deeper than the current relationship between the EU and any third country, taking into account the history and the current close links."

The UK proposes to establish a free trade area for goods. This would allow UK and EU-27 companies to maintain production chains and avoid border and customs controls. This free trade area would make it possible to "keep the promise" of maintaining the absence of a border between Northern Ireland and the Republic of Ireland. The UK would align with the relevant EU rules to allow free trade at the border; it would take part to the European agencies for chemicals, aviation safety and medicines. The White Paper proposes to apply EU customs rules to imports of goods entering the UK with EU's final destination and to collect VAT on these goods on behalf of the EU.

For services, the UK would regain its regulatory freedom, agreeing to lose European financial services passporting rights, while referring to provisions for mutual recognition of regulations that would preserve the benefits of integrated markets. The UK wishes to maintain cooperation in the fields of energy and transport. In return, it commits to maintain cooperative provisions in the field of competition regulation, labour laws and the environment. Freedom of movement would be maintained between the EU and the UK for short-duration stays (tourism, business), students, scientists, but the UK would be free to control workers' immigration. The UK wishes to continue to take part to European scientific co-operation programmes, with a financial

contribution. Finally, the UK will no longer participate in the Common Fisheries Policy (CFP), but proposes negotiations on the issue.

In institutional matters, the UK proposes an association agreement, with a regular dialogue between EU and UK Ministers in a Joint Committee. The UK recognizes the jurisdiction of the ECJ to interpret the rules of the EU, but disputes between the UK and the EU would be decided by the Joint Committee or by an independent arbitration panel.

For hard Brexiters, the Chequers plan made too many concessions to the EU. The UK would commit to fulfilling European standards and regulations, without having a say on them. It would not be allowed to conclude agreements with third countries. In September 2018, Boris Johnson accused Theresa May of having capitulated to the EU: “in this negotiation, the EU has so far won all the important rounds.” According to him, the Chequers plan makes all benefits of Brexit disappear.

The Chequers plan was rejected by the EU for three reasons. The EU denies the UK to be responsible for collecting customs on behalf the EU, which would undermine the EU autonomy. The EU denies that the UK may choose to stay in the single market for goods, but not for services and people; and that it participates to the programmes of its choice (the "cherry picking"). It denies that the jurisdiction of the ECJ is not recognized as concerns European programmes.

The 14 November agreement, the 22 November political declaration

The EU27 and the UK government negotiators finally agreed on 14 November 2018 on a draft withdrawal agreement (585 pages), and on 22 November n a political declaration (26 pages).

The withdrawal agreement corresponds to Article 50 TFEU. It is a precise international agreement. It comprises three protocols concerning Ireland, Cyprus and Gibraltar. It takes up the points already settled in December 2017: the rights of UK citizens in EU countries and the rights of EU citizens in the UK; the financial settlement. There is also the guarantee of intellectual property rights (including geographical indications). The withdrawal agreement has legal value; it must be enforced by UK courts under the authority of the ECJ with respect to EU laws. Disagreements on the interpretation of the agreement will be managed by a Joint Committee and, if necessary, by an arbitrary court. The latter will have to consult the ECJ for questions considered by one of the parties to be relevant to EU law. In July 2020, it could be decided to extend the transition period beyond 31 December 2020: this would require a UK financial contribution to the EU budget.

To avoid a physical border between Northern Ireland and the Republic of Ireland, a backstop clause will apply: The UK will remain in the Customs Union, if no other agreement is reached before the end of the transition period and for an indefinite period, until an agreement is reached. This agreement must be approved by the Joint Committee. The Customs Union will cover all goods except fisheries products (and aquaculture). The UK will not be allowed to implement a trade policy different from that of the Union. UK products will enter the single market freely, but the UK will align with EU rules on state aid, competition, labor law, social protection, the environment, climate change and taxation. In addition, Northern Ireland would continue to align with single market rules on VAT, excise duties, health rules ... Controls could be put in place

on products entering Northern Ireland from the rest of the UK (especially agricultural products), but these controls will be carried out by UK authorities.

Thus, caught in the Irish border "trap", the UK should give up for an indefinite time period an independent trade policy. It will have to align with EU regulations in many areas, this under the threat of resorting to the ECJ.

The joint political declaration of 22 November gives broad features of the future relationship between the UK and the EU27. On the one hand, it matches the objective of a strong, specific and balanced relationship. On the other hand, the UK makes a number of commitments reducing the risk of a tax and regulatory haven strategy.

Thus, article 2 states that both parties wish to maintain high standards for protecting workers and consumers' rights and the environment. Article 4 states on the one hand that the single market's integrity and the 4 freedoms will be preserved, on the other the hand that the UK may lead and autonomous trade policy and to may put an end to the free movement of people between the UK and the EU27.

The declaration states that the two parties will seek to cooperate, to share, to act in concertation; that the UK will be able to participate to EU programmes in terms of culture, education, science, innovation, etc. under conditions to be negotiated.

Article 17 announces the establishment of an "ambitious, wide-ranging and balanced economic Partnership". Articles 21 to 23 claim for the desire to create a free trade area for goods, through in-depth cooperation in customs and regulatory matters and provisions that will put all participants on an equal footing for open and fair competition. Customs duties will be avoided. Such cooperation in technical and health standards will allow British products to enter the single market freely. In this context, the declaration recalls the intention of the EU 27 and the United Kingdom to subsequently modify the Irish backstop by another device ensuring the absence of a physical border.

In terms of services and investment, the two parties are considering broad and ambitious trade liberalization agreements. Domestic regulatory autonomy will be preserved, but they should be transparent and compatible, as much as possible. Cooperation and mutual recognition agreements will be signed on services, in particular telecommunications, transport, business services and trade on internet. Freedom of capital and payments movement will be guaranteed. In financial matters, equivalence agreements will be negotiated; cooperation will be established in the area of regulation and supervision. Intellectual rights will be protected, in particular with regard to geographical indications. Agreements will be signed on air, sea and land transport, and energy. The two parties pledge to cooperate in the fight against climate change, on sustainable development, financial stability, and protectionism. Travel opportunities for tourist, scientific, business reasons will not be affected. An agreement on fisheries will have to be signed before 1 July 2020.

Provisions should cover public aid, standards competition, right to work, social protection, environment, climate change and taxation, to ensure open and fair competition between actors placed on a level playing field.

The text provides coordination bodies at the technical, ministerial and parliamentary levels. The agreement will be managed by a Joint Committee, which will decide about disagreements that

may arise. An arbitration process can be put in place. It will have to refer to the ECJ if it is a question of interpretation of the Union laws. Every six months, a high-level conference will review the agreement.

Trade negotiations will continue to ensure compatibility between the integrity of the single market and of the customs union and the development of an independent UK trade policy.

On the one hand, the text provides for a close and special partnership, as requested by the UK; on the other hand, the UK pays the price for it by committing to respect European rules; finally, there are still some problematic issues to be negotiated, such as fishing rights, autonomy of UK trade policy or exit of the Irish backstop. This remains a blind brexit.

Two points were hardly mentioned in the negotiations. Why this privileged partnership would not serve as a model for relations with other countries such as Norway or Switzerland? Does the commitment to fair competition impose some degree of tax harmonization, particularly with respect to CIT rates and modalities? Is the EU27 right to support the Irish Republic, without any counterpart on tax competition?

Brexit deadlock in the UK Parliament

The withdrawal agreement and the political declaration endorsed by the EU-27 and the UK government were massively voted down by the UK Parliament on 15 January 2019 (432 votes against, 202 votes for). On 29 January, the UK Parliament voted two amendments: one refusing the No Deal, the other one asking Theresa May to reopen negotiations with the EU on the Irish border issue. The EU-27 immediately replied that this was not an option.

A majority of UK parliamentarians are opposed to the backstop. First of all, it would be likely to lead to a different treatment of Northern Ireland from the rest of the UK, which is particularly opposed by the Democratic Unionist Party (DUP), who is a member of the coalition allowing Theresa May's conservative government to have an absolute majority in parliament. In addition, for Brexiters, a backstop for an unlimited time period would prevent the UK to leave the customs union without consent of the EU, which could prevent the UK to sign trade agreements with third countries, to drift UK regulations away from EU regulations, and to undertake a deregulation policy.

UK parliamentarians are split into four main positions, the first one being itself split into two subgroups: the remainers, who want the UK to stay in the EU, some in a liberal EU, others in a more social EU; the hard Brexiters, ready to support a *No deal*; proponents of a negotiated Brexit who accept the November 2018 withdrawal agreement and finally those who want a renegotiation of the agreement. None of these positions has a majority in the Parliament, and each of them has a majority against it. The situation is blocked.

Theresa May, who had called to vote for remain in the June 2016 referendum, tries to respect democracy, both the 2016 referendum results, and the Conservative party manifesto in the June 2017 legislative elections: "Brexit means Brexit", the exit of the single market and of the Customs Union; "Taking back control" of borders and laws, the UK would no longer have to obey the rules defined by the European authorities and the ECJ; the UK could in particular control immigration from the EU. But what can Theresa May do, between her willingness to deliver the June 2016 referendum results, the EU position (as Michel Barnier wrote in

December 2016[5] [3]: "the single market, the four freedoms form a whole, "cherry picking" is not an option", which means that controlling workers' immigration from the EU involves leaving the single market) and a divided UK Parliament?

The *remainers* want to stay in the EU; they are calling for a second referendum, convinced that in view of the difficulties encountered in Brexit negotiations, this time, the "remain" vote will win. The problem is that it would be undemocratic to disregard the 26 June 2016 vote, to ask UK voters to vote again until they vote to remain in the EU. Besides, the wording of the question asked in the referendum raises an issue. Would it be "Should the UK leave the EU?" (which would not allow to decide on Brexit modalities)? Would it be "Do you approve of the November 2018 agreement?" (which would not allow to decide between staying and leaving without a deal). Moreover, it would be hardly promising for the EU if the UK finally remained reluctantly.

For some *remainers*, the UK should keep its specific place in the EU, continue to fight for a EU restricted to a large and open market, and oppose fiscal and social harmonisation. But this "missed" departure would probably translate in weaker British influence There is no guarantee that the UK will continue to benefit from a rebate on its contribution to the EU and that the agreement negotiated by David Cameron in February 2016 would remain valid, giving a new status to the UK in a reformed EU, giving guarantees to the UK on national sovereignty, European governance, liberal reforms for increased EU competitiveness and temporary restriction of workers' immigration from the EU. The UK would soon feel in an uncomfortable situation in the EU.

For *Labour remainers*, staying in the EU is a guarantee against British Liberals. The Labour Party considers that being in the EU ensures the UK maintains a certain level of social rights, insufficient but in any case higher than the Liberal proponents of a hard Brexit would push for. The British left could participate in the combat of progressive forces to change Europe. Nevertheless, there is a strong contradiction between current EU orientations and the UK Labour programme (economic stimulus, nationalisations in rail, water, energy and postal services sectors, development of employee ownership, rise in wages, rise in health expenditure, public investment and social housing construction, reconstruction of social rights, higher taxes on multinational companies and on the richest, rise in the CIT rate).

The *hard Brexiters* are ready to leave without a deal; so that the UK may negotiate its future relations with the EU on an equal basis, as did Canada or Japan. In the short-term, a no deal would probably not be as chaotic as feared by some a few months ago; (explicit or implicit) emergency agreements will reduce the impacts on people, trains, airplanes and goods movements, will ensure mutual recognitions of diplomas and qualifications, citizens' rights of UK residing in the EU and of EU citizens residing in the UK. But there is risk that a No Deal Brexit announces a *hard Brexit*, with a strategy of wage, tax, social and regulatory race to the bottom. The UK may be tempted to "choose the open sea", to negotiate trade agreements with third countries (such as Commonwealth countries), but the latter will not offset the losses on the single market. Foreign companies will be reluctant to invest in the UK if they cannot export freely to the EU27. The UK is already one of the countries where goods and labour markets are

[5] See: news/introductory-comments-michel-barnier-2016-dec-06_en

the least regulated; a new liberal shock would probably have a small impact. Finally, this strategy is not in line with the expectations of the popular classes who voted for Brexit. The economic impact of this strategy is difficult to predict: on the one hand, the Sterling could fall, which would reduce the loss of competitiveness; and tariff barriers on the other hand, the UK would probably choose to reduce tariffs for third countries to avoid having to increase strongly on goods from the EU, do not introduce acres, do not install of barriers Customs at the border with the Republic of Ireland, so that it is in the EU27 who back these decisions. The devaluation of the pound and lower tariffs on products from third countries could make European products become less competitive in the UK while UK products exported to the EU would suffer from tariffs and non-tariff barriers, but would benefit from the devaluation, so that the costs of the No Deal would be shared between the UE27 and the UK.

Finally, some in the Labour Party, propose that the UK leaves the EU, with a renegotiated agreement: The UK would remain in the single market; It should continue to accept free movement of workers and the ECJ's rulings; It should apply EU regulations and contribute to the EU budget, while it would have lost all power in Brussels. Others suggest that the UK remains in the Customs Union, which would imply giving up the ambition to choose the open sea.

The November 2018 agreement remains open; in the short term, the UK remains in the single market. In the medium term, the UK will have to choose between two strategies: either to abstract from European regulations, to sign trade agreements with third countries and to lose automatic access to the single market, or to apply European regulations in order to keep access to EU markets. This will be determined by future negotiations. It is difficult to understand the labour party's position and in particular Jeremy Corbyn's position, who voted against the November agreement, even if it leaves the United Kingdom the choice between leaving and staying in the single market and the Customs Union. The Labour party claims it would renegotiate a better deal with the EU than the one obtained by Theresa May. The Labour party claims that the UK could remain in the single market and regain its sovereignty in the areas of its choices, which the EU has explicitly denied since the beginning of the negotiations. While the EU refuses to re-open negotiations, the Labour party voted against the *soft brexit* plan negotiated by Theresa May, for domestic policy reasons: to provoke anticipated general elections. This is not the appropriate level in view of the challenges raised by Brexit. In the UK Parliament, a majority was against the agreement negotiated by Theresa May, but there was also a majority against a no deal Brexit, a majority against *Remain* and a majority against any other project compatible with the EU's position. Brexit places British democracy in a difficult situation.

The European Council of 21 March 2019 had placed the UK in face of an alternative. Either to accept the November 2018 agreement before 29 March. In this case, Brexit would take place before May 22 and this would open a transition period until the end of December 2020. This was a wise solution since it would open negotiations between the UK and the EU27 where the UK could define its position between staying in the Customs Union and the single market, engaging in a close partnership with the EU27 or keeping more freedom for trade agreements and regulation, while losing full access to the single market. Or to make another proposal by April 12, knowing that the EU27 refuses to reopen negotiations on the withdrawal agreement

and that the UK should hold the elections to the European Parliament on May 23-26.

On 27 March, British parliamentarians took the control of their agenda and voted on eight proposals that they had themselves developed, these votes were only indicative (table 1). All votes were rejected, very clearly for a no deal Brexit or for remaining in the EU (but the total of proponents of these two solutions is sufficiently large to block an exit with an agreement). The proposals to join the European Free Trade Association (EFTA) with a customs union (the Norwegian model presented as "common market 2.0") or without a customs union, gathered fewer votes. The proposal of a "permanent and comprehensive UK-wide customs union with the EU", close to the November 2018 agreement, came close to a majority (265 against 271). A Labour Party proposal added the participation of the UK in EU trade negotiations and regulatory alignment; It is compatible with the November 2018 agreement, which announces the opening of negotiations for a comprehensive partnership. Finally, 268 parliamentarians voted (against 295) that any agreement should be subject to a referendum (with the risk that the addition of *Remainers* and No Deal Brexiters leads to a refusal).

On 1 April, UK Parliamentarians did again vote on four of these proposals (table 1). They were rejected again, the « comprehensive and permanent customs union » proposal was rejected by 3 votes only.

Table 1. Results of indicative votes of British Parliament on 27 March and 1 April 2019

	For	Against
27 March		
No deal	160	400
No deal with trade agreements	139	422
Referendum on exit agreement	268	295
'Common market 2.0', EEA, EFTA, single market and customs union	189	283
EFTA without customs unions	65	377
Comprehensive and permanent customs union	265	271
Customs union and alignment with single market	237	307
Revoking Article 50	184	293
1 April		
Comprehensive and permanent customs union	273	276
'Common market 2.0', EEA, EFTA, single market and customs union	261	282
Referendum on Exit Agreement	280	292
Revoking Article 50	191	292

Source: UK Parliament.

On 29 March, Theresa May announced she would resign if the November agreement was approved by the Parliament, in order to get the votes of both those among the Conservatives, wanting her to resign and be replaced in the next phase of the negotiations, of *hard Brexiters* and of those who may hope to replace her with a more conciliatory soft *Brexiter*. The 29 March vote only concerned the withdrawal agreement, not the political declaration, which could have allowed to rally also Labour MPs accepting the withdrawal agreement but considering that the

political declaration was too binding in terms of the future relationship between the UK and the EU and should be renegotiated. But the withdrawal agreement, again, was rejected, by 286 votes to 344. There were only 5 Labour to support the agreement, while 37 conservatives and 10 members of the Democratic Unionist Party (DUP) voted against.

In early April, Theresa May suggested Jeremy Corbyn to start talks to agree on a compromise solution likely to get a majority in Parliament.

On 10 April, the European Council agreed postponing Brexit until 31 October 2019 at the latest, which meant the UK would have to organize elections for the European Parliament, if it was still a EU member by May 22. The Council refused to reopen negotiations on the withdrawal agreement, but recalled that the UK could still revoke Article 50. On this occasion, the consensus was breached between EU27 countries, some (like Germany, the Netherlands, or Poland) wishing to let the UK a chance to stay in the EU, and others (like France) preferring to bring the Brexit episode to a quick end.

On 22 May, Theresa May made a new proposal with 10 points: finding alternative arrangements based on technology for the Irish border; keeping Northern Ireland aligned; submitting the final treaty and a customs compromise to MPs vote; protecting workers' rights and environmental protection ; maintaining just-in time supply chains and "frictionless trade in goods with the EU as possible while outside the single market and ending free movement ; to change the political declaration ; to guarantee to MPs a vote on whether the final deal should be subject to a confirmatory referendum. She did not obtain the Labour party's support, and lost some support among the Tories, due to the referendum proposal and to the acceptation of EU27 regulations to maintain frictionless trade. On 24 May, she announced she would resign from the Conservative party leadership by 7 June and would consequently step down as Prime minister. This opened an election campaign in the Conservative party for a new leader and Prime Minister. He/she will have an impossible task, as no project has a majority in the Parliament, as the Labour party refuses any compromise, as the EU27 refuses to reopen negotiations and as 31 October is the next deadline. There is a huge risk that this painful situation continues and lead to a *No deal* by accident.

3. The UK economy: an assessment as compared to euro area economies

UK growth was relatively weak before 1980 as compared to countries which joined the euro area later (2.8% per year instead of 4.2% from 1968 to 1980); it was stronger from 1980 to 1998 (in annual average, 2.4% compared to 2.2%). The gap increased after the launch of the euro: from 1999 to 2007, GDP growth was 2.9% per year on average in the UK as compared to 2.4% in the euro area as a whole. The fall in GDP induced by the financial crisis was a bit stronger in the UK: 4.6% from 2008 to 2009 against 4.1% for the euro area. But UK GDP recovered more rapidly after the crisis. From 2010 to 2016, GDP grew by 2% per annum on average in the UK, against 1.1 % for the euro area.

Industrial production in the UK grew significantly less than in the euro area as a whole (table 2 and figure 1): in 2016, it was 8.7 % below its 1998 level, while euro area industrial production was 7.9% higher. But the euro area figure hides wide disparities between Northern-Central countries: Austria (+70%), Belgium (+59%), Germany (+30.6%) and Southern countries: Spain

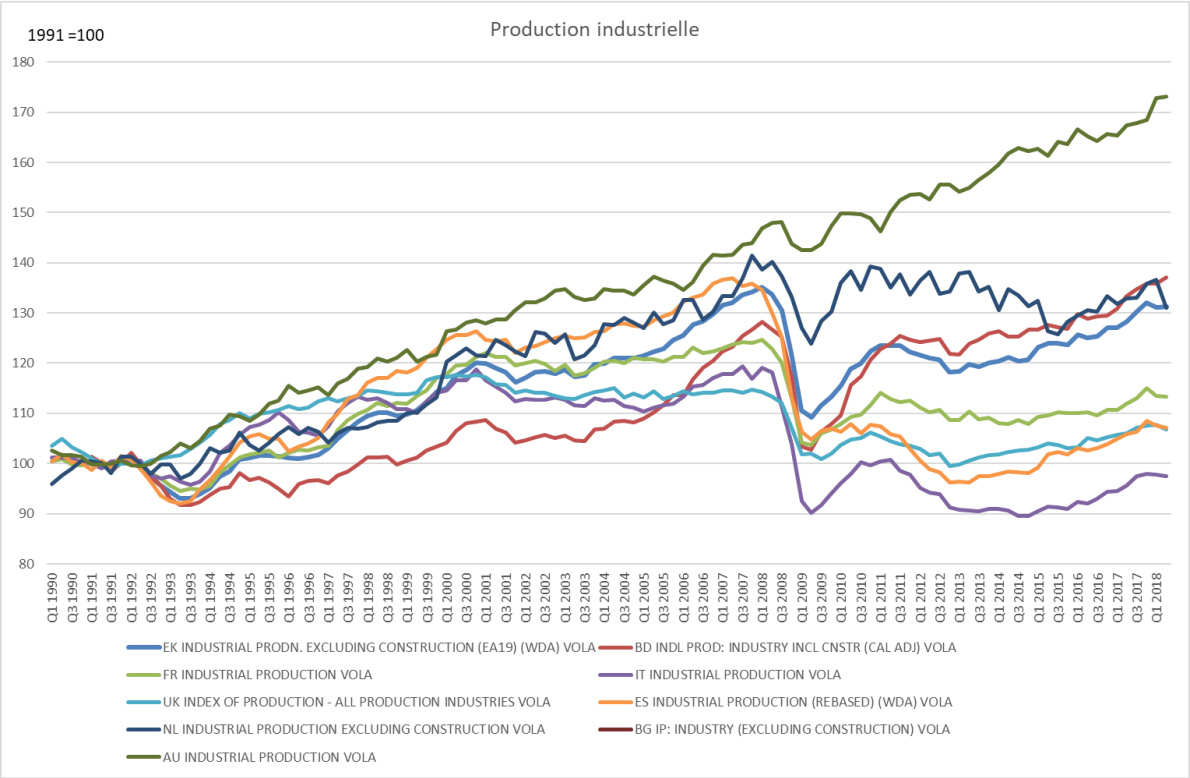
(-12.7%), Italy (-17.8%), Greece (-21,2%); UK industrial production developments were close to the French ones (-9.2%).

Table 2. Industrial Production Index

	UK	Euro Area	Germany	France	Italy
1990	100	100	100	100	100
1998	108,3	108,4	104,3	100,1	111,6
2007	108,4	126,5	132,2	102,6	110,1
2016	98,8	117,0	136,3	90,9	91,7

Source: EUROSTAT

Figure 1: Industrial Production index



Source: EUROSTAT, Thomson Reuters

By mid-2016, the unemployment rate was 4.8% in the UK as compared to 10.1% in the euro area. Since then, it continued to fall, to 4% in mid-2018 (8.1% in the euro area), its lowest level since 1974. From 1998 to 2016, employment rose by 16.5% in the UK compared to 13% for the euro area. Before the 2007 crisis, labour productivity had grown more rapidly in the UK than in the euro area (1.85% per year from 1988 to 1998 against 1.7%; 1.8% from 1998 to 2007 against 1.0%); it grew slightly less rapidly since then (0.2% from 2007 to 2016 against 0.45%).

Poverty rates declined in the UK in recent years unlike in Germany. In the UK, pensioner poverty rates declined in recent years (due to changes in public pensions indexation rules from 2010), while the in-work poverty slightly increased (table 3).

Table 3: Poverty rate and in-work poverty rate

	Poverty rate		In-work poverty rate	
	2004	2016	2005	2016
Euro area	15,4	17,4	7,3	9,5
UK	19,0	15,9	8,2	8,6
France	13,0	13,6	6,1	7,9
Germany	12,2	16,5	4,8	9,1

Source: Eurostat

Fiscal policy was more active after the 2007 crisis in the UK than in the euro area. The UK public deficit was 2.6 % of GDP in 2007 (0.7% for the euro area); it widened to 10.1% of GDP in 2009 (against 6.2% for the euro area); and then slowly declined to 1.8% in 2017 (1.0% in the euro area). In the second quarter of 2018, the UK public debt to GDP ratio was almost at the same level as the euro area debt (86.7% against 86.3% of GDP).

Inflation remained a little stronger in the UK than in the euro area. In terms of GDP prices: 2.2% from 2001 to 2010 (compared with 1.9%), and 1.6% from 2011 to 2016 (against 1.1%).

The financial crisis led the Bank of England to cut its base rate from 5.75% in July 2007 to 0.5% only in March 2009 until August 2016. The interest rate on 10-year government bonds, which stood at 4 % in 2010, fluctuated around 2 % from 2012 to 2016. Like the other major central banks, the Bank of England implemented an unconventional policy, which helped to keep interest rates low.

The British pound was at 1.46 euro in 2007. It fell sharply as a result of the financial crisis, down to 1.12 euros in 2010 (-23%, figure 2), as financial markets considered that the crisis would hit the UK more than the euro area. The pound rose to 1.38 euros in 2015 (+ 23%), as UK growth remained stronger than in the euro area, and was 1.30 euro in the first quarter of 2016.

The UK ran a small external surplus until the end of the 1990s (0.7% of GDP on average from 1991 to 1998 for the current account balance), but the deficit widened to around 4% of GDP on average over the 2007-2016 period, because of a stronger growth in the UK than in its European partners, but also because of exchange rate overvaluation linked to the financial role of the pound.

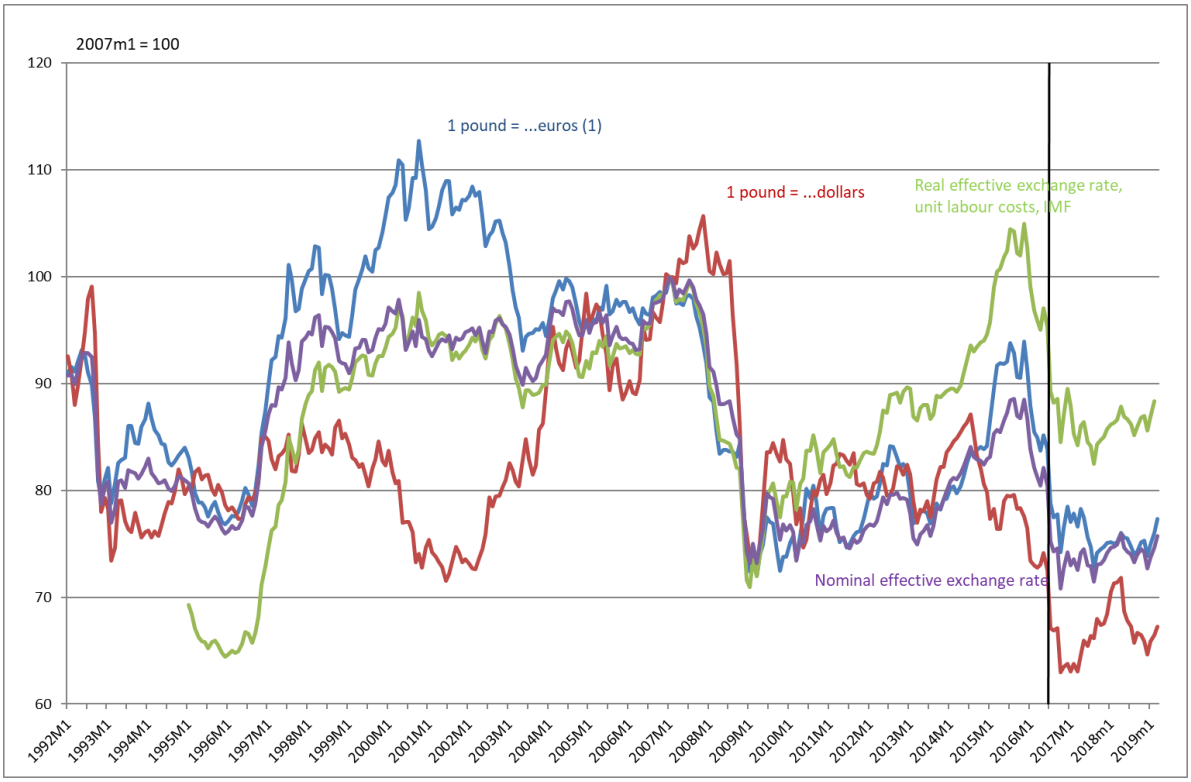
Brexit: what economic impact since June 2016?

Before the June 2016 referendum, the studies published by the UK government (HM Treasury, 2016) and international institutions (IMF, 2016; OECD–Kierzenkowski et al., 2016) warned that a vote in favour of Brexit would cause an immediate important negative shock on the UK economy, through a financial channel (rising interest rates, falling exchange rate, falling housing prices) and the investment channel: firms would strongly cut investment due to the uncertainty on the future trade relationship with the EU. The study published before the referendum by the UK Government (HM Treasury, 2016a) estimated negative impacts on UK GDP ranging from 3.6% to 6% of GDP, depending on the scenarios, in two years. The anticipation of trade barriers (tariffs, differences in standards, administrative formalities), both for intermediate products and finished products, would first encourage multinational companies

to delay their investment decisions in the UK, then to locate their new projects in the EU27. Similarly, firms located in the UK would delay or cancel their plans to expand their exporting capabilities, so that Brexit would hurt British exports (like also imports in the UK). In the long term, namely at the 2030 horizon, Brexit would induce a fall in the UK GDP level in the order of 6% (HM Treasury, 2016b) because of the loss of efficiency due to new trade barriers and productivity losses due to smaller openness of the UK economy. The anticipations of this lower GDP levels would be immediately reflected in lower household consumption. In May 2019, nearly 3 years after the vote, the impact on the UK economy looks smaller than announced by these studies – which predicted a recession UK, that has not occurred, but Brexit has not occurred either.

The referendum's results opened a period of high economic and financial uncertainties. But even if one does not give too much importance to financial markets reactions, as markets do not like uncertainty and are in any case very volatile, it should be noted that, while the London Stock Exchange lost 7% in the two days following the referendum, the fall was short-lived. In May 2019, the FTSE-All Share index is 18% higher than it was in May 2016, when the Euro Stoxx 50 index is 7% higher.

Figure 2: Sterling exchange rates



Sources: BoE, IMF, Thomson Reuters

The main direct effect of the June 2016 referendum results was a fall in the Sterling. In the first quarter of 2016, the pound was worth 1.29 euros. Following the June 2016 referendum result, the pound fell rapidly to 1.10 euros (October 2016) before stabilising at 1.17 (end 2016). The negotiations difficulties led the pound to reach a new low at 1.08 (April 2017), before stabilizing at 1.12 (October 2017), and then slightly increasing. In May 2019, the pound was (at 1.145 euros) 12% lower than before the referendum. But the pound was previously overvalued, as

evidenced by the UK current account deficit of 5% of GDP in 2015. Price competitiveness gains should offset some of the Brexit anticipation effects on investment and UK companies' exports. The pound's real effective exchange rate has returned to a level close to its average of the last twenty years (figure 2).

Following the referendum, the Bank of England cut its base rate from 0.5% to 0.25% in August 2016, before increasing it to 0.5% in November 2017, and to 0.75% in August 2018. This remains a very low level for a country with GDP growing by around 1.6% per year; with inflation at 1.9%; with an output gap close to 0. According to a Taylor rule, the key rate should currently be at around 3.5%.[6] Long-term public interest rates have remained low (1.9%). Markets expect the continuation of an expansionary monetary policy.

Fiscal policy remained as restrictive as announced in 2017 and 2018, but would come close to neutral from 2019. The Chancellor of the Exchequer has abandoned the objective of a balanced public budget in 2020 (i.e. 1.3 percent of GDP of less negative budgetary impulse), but maintained the goal to cut the corporate rate income tax from 19% currently to 17%.

The fall in the exchange rate after the referendum led inflation to accelerate. HICP (harmonized consumer price index, target of the monetary policy), reached 3.1% year-on-year in November 2017, before decelerating to 2.7% in August 2018 and 2.4% in September 2018, against 0.6% only in August 2016. Over the same periods, euro area HICP inflation accelerated respectively from 0.2% to 1.3%, then to 2% and 2.1%. The impact of the devaluation of the pound would be in the order of 1.2 percentage points on inflation from mid-2016 to mid-2017, and then from 0.3 from mid-2017 to mid-2018, 1.5 point on the price level. This rise in inflation, while nominal wages remained stable, reduced households' purchasing power. In addition, some social benefits were frozen in nominal terms, which was partially offset by increases in households' financial and housing wealth, continued job creation and a falling unemployment rate. Households' purchasing power did not increase in 2016 and in 2017 and grew only by 0.5% year-on-year in the first half of 2018. The household saving rate thus fell sharply, from 6.7% in 2016 to 4.3% in the first half of 2018,[7] which invalidates the idea that household consumption would have slowed down due to the anticipation of a decline in long-term growth.

4. The cost of Brexit announcement on GDP growth, empirical analyses

UK GDP growth slowed in 2017 and until mid-2018, due to less robust domestic demand (consumer expenditure slowed as a result of higher inflation and business investment stagnated), which represents a break from previous dynamism, that was only partly offset by foreign trade improvement: the impact of the devaluation was not visible on exports. From the second quarter of 2016 to the second quarter of 2018, UK GDP however increased by 3% compared with 4.5% for euro area GDP (table 4). But one should not forget that the UK economy started to recover from the 2008 crisis before other euro area economies. In the second quarter of 2016, GDP was 7.9% above its pre-crisis level in the UK, against 1.2% only in the euro area, where in some countries GDP had not yet recovered their pre-crisis levels. Moreover, the UK unemployment rate was only 4.8% in mid-2016 (and decreased to 3.7% in February

[6] According to the rule: $r = g + \pi + 0.5*(\pi - \pi^*) + 0.5*\text{outputgap}$, with $g=1.6$, $\pi = 1.9\%$, $\pi^* = 2\%$; outputgap = 0%

[7] Successive revisions lead to a rise in the savings rate in recent years, which suggests that the level of the savings rate in today's national accounts should be viewed with some caution.

2019) so that a slowdown was probably inevitable, making it difficult to distinguish the impact of the announcement of Brexit on the UK economy.

Several methods can be used to try to assess the impact of the vote for Brexit on UK growth. Here we present several of them, some of which are often quoted in the literature (in particular Born and al., 2018, Springford, 2018).

Growth performance comparisons

A first method compares UK with euro area growth. From mid-2005 to mid-2015, GDP grew more rapidly in the UK than in the euro area, by 0.5 percentage points per year (table 4). But GDP growth was similar in the UK and in the euro area from mid-2015 to mid-2016. Since the referendum, in two years, UK growth was 1.5 point less than the euro area (this is reduced to 0.8 point if one uses figures released until 2019-Q1). This method is obviously questionable, as it considers that the differences in growth are due to the announcement of Brexit without accounting for other shocks (economic policy measures, migration shocks). One may think that several euro area countries, mostly hit by the crisis, are still catching-up, when the UK economy is slowing down as it comes close to full employment.

Table 4. GDP growth, q2/q2, in %

	UK	Euro Area	France	Germany
2005/15*	1.3	0.8	1.0	1.5
2015/16	1.6	1,7	1.0	2.2
2016/17	1.8	2.5	2.3	2.2
2017/18	1.4	2.2	1.7	2.0
2019/18 **	1.4	0.7	0.9	0.2

*Annual average ** 3 quarters. Source: Eurostat

A second method is to compare UK GDP growth forecasts made before the referendum to effecitve growth. Hence, we can compare the *Consensus Forecasts* released in April 2016 until 2019, with observed growth (Table 5). In April 2016, forecasters were relatively optimistic for the UK, where trend growth was estimated at around 2% and rather pessimistic for the euro area, where growth was expected to be around 1.5%. In April 2019, *Consensus Forecasts* lowered UK GDP forecast for the years 2017-2019 by 2.0 percentage points; and by 0.4 percentage points per year for the longer term (2022-2026). For the euro area, the longer-term forecast hardly changes, but for the years 2016-2019, growth is revised upwards by 0.7 percentage point for the euro area[8] (including 0.5 percentage point for France and 0.4 percentage point for Germany). It is difficult to draw a conclusion as several effects played a role, a migration effect in Germany, the fiscal impulse effect before the presidential elections in France, and the end of a certain Europessimism for the whole area.

[8]Since the medium-term forecasts for Consensus Forecasts are available on an annual basis, half of the difference between projected and actual growth rates is used for 2016.

Table 5. GDP growth forecasts, %, by year

	UK		Euro area		France		Germany	
	April 2016	April 2019	April 2016	April 2019	April 2016	April 2019	April 2016	April 2019
2016	2.0	1.8	1.5	1.9	1.3	1.1	1.6	2.2
2017	2.2	1.7	1.6	2.5	1.5	2.3	1.5	2.2
2018	2.1	1.4	1.6	1.8	1.6	1.6	1.5	1.4
2019	2.0	1.3	1.5	1.1	1.6	1.3	1.3	0.8
2020	2.0	1.5	1.5	1.3	1.5	1.3	1.4	1.5
2022-26	2.1	1.7	1.4	1.3	1.3	1.4	1.2	1.2

Source: Consensus Forecasts (April 2016 and April 2019).

For the UK, *Consensus Forecasts* revisions are -1.4% for GDP in level for 2018, -0.7% for consumption, -3.5% for investment, +0.8% for industrial production, +1.5% for consumer prices, and -1.1 percentage point for the 10 year-interest rate.

Rather than comparing an average of forecasts, which aggregate different assumptions, one can focus on forecasts of a single institution. In July 2018, Mark Carney, Governor of the Bank of England, estimated the impact of the announcement of the Brexit on UK GDP to 1.75-2% in level for the first quarter 2018 (Carney, 2018). This evaluation resulted from 1 percentage point of the difference between GDP published by the ONS until the first quarter of 2018 and the forecasts made by the Bank of England just before the referendum; the rest from a stronger than expected growth in Europe and in the world.

The Office for Budget Responsibility (OBR), an independent body responsible for producing UK budgetary forecasts, notes that the gap between its March 2016 growth forecast and the achievement for the mid-2016/2018 period was 1.4% (OBR, 2018). Comparing the OBR forecasts in March 2016 and November 2018, for 2018, UK GDP appears lower by 1.4%; households' consumption by 0.9%; firms' investment by 11.0%; public investment is unchanged; but housing investment is 10.5% higher; exports are slightly lower, by 0.2% (world demand is unchanged); imports are 2.9% lower. The price level is 1.7% higher with an exchange rate 0.4% lower and oil prices 66% higher.

A major weakness of this approach is to consider that the difference between the forecast and actual figures reflects mainly the impact of the June 2016 referendum. Certainly, the Bank of England and the OBR forecasts held the assumption that the vote would be in favour of staying in the European Union, but independently of the national accounts revisions, assumptions made by forecasters are not neutral.

Thus, in April 2016, our forecast for UK growth (OFCE, 2016) was 2.1% for 2016 and 1.7% for 2017. In our scenario the British people would vote to remain in the EU, but, unlike the OBR, we incorporated some slowdown due to the end of the business investment dynamism. In 2015, the corporate investment to GDP ratio had reached its pre-2008 crisis level, and we were expecting only a moderate increase in business investment (by 2% in 2016 and 3% in 2017) significantly less than the OBR (2.6% in 2016, 6% in 2017, 5.8% in 2018). Given the short-term horizon of our April 2016 forecast, we cannot do the same comparison exercise as with the OBR forecasts or medium-term Consensus Forecasts, for 2018. Nevertheless, in the common forecast year, 2017, the difference between our April 2016 forecast and actual figures in today's national accounts is nil (1.7%), while the difference is 0.3 percentage point in 2016

(1.8% growth in today's national accounts, against 2.1% in our forecast). If we assume that our forecast would have been extended for 2018 at the same pace as in 2017, the difference between forecast and observed GDP would be in total around 0.6% since 2016.

The estimates of a third approach have often been quoted in the recent period. This is the so-called *Doppelgänger* estimate. Born *et al.* (2019) construct a synthetic 'double' of the UK economy based on a weighting of OECD countries, so that the 'double' follows roughly the same evolution as the UK economy over the 1995-mid 2016 period. Empirically, the weightings appear to be 51% for the US, 17% for Italy, 14% for New Zealand, 11% for Hungary, 5% for Germany. In comparison with this double, UK growth was 2.4% lower at the end of 2018. Declines in consumption and investment were partly offset by lower imports. With a similar method, Springford (2019) estimates the loss of UK GDP at 2.5% by the end of 2018; the double includes the US for 50%, Germany for 28%, Luxembourg for 11%, Iceland for 10% and Greece for 2%. The method is however very fragile, as the countries of the 'double' may have been hit by specific shocks, such as a Trump expansionary policy for the United States.

We have attempted to estimate the *ex ante* impact of the Brexit announcement (Table 6), by making assumptions about shocks (exchange rate, interest rate, business and households' investment shock in response to increased uncertainty) and using the orders of magnitude generally given by models for elasticities (household consumption, foreign trade). We consider that Brexit expectations led to a 10% exchange rate depreciation shock and a negative shock on investment (-8% on business investment, see also Gornicka, 2018, -4.5% on household investment). The exchange rate depreciation has an inflationary impact which reduces households' consumption. On the other hand, it tends to reduce imports and boost exports. However, we assume that uncertainties about the future conditions of UK exports to the EU substantially reduce the impact of the devaluation (Crowley *et al.,* 2018). Developing sales in a foreign market requires investment (sales network, after-sales service) that a company does not undertake if it may fear that tariff or non-tariff barriers will arise in the near future. The negative impact on the GDP level in 2018, is estimated to be around -0.6%.

Table 6. Impacts of Brexit announcement on UK GDP, in percentage points of GDP

		In 2017	In 2018	2018 (level)
(1) Decrease in 10% of the pound exchange rate				
Exports		0.3	0.1	0.4
Imports		-0.8	-0.6	-1.4
Consumption		-0.8	-0.6	-1.4
Total (1)		*0.3*	*0.1*	*0.4*
(2) Investment				
Firms	-8%	-0.6	-0.3	-0.9
Housing	-4.5%	-0.0	-0.1	-0.1
Total (2)		*-0.6*	*-0.4*	*-1.0*
Total impact (1) + (2)		**-0.3**	**-0.3**	**-0.6**

Source: OFCE's estimates

Evaluations of the impact of the June 2016 referendum on the UK economy so far are necessarily fragile and questionable. The empirical approaches we have presented have many

fragilities. They all estimate the impact on UK GDP has been negative so far, in a range of 0.6% for our estimate to 2.5 % for Springford (2018).

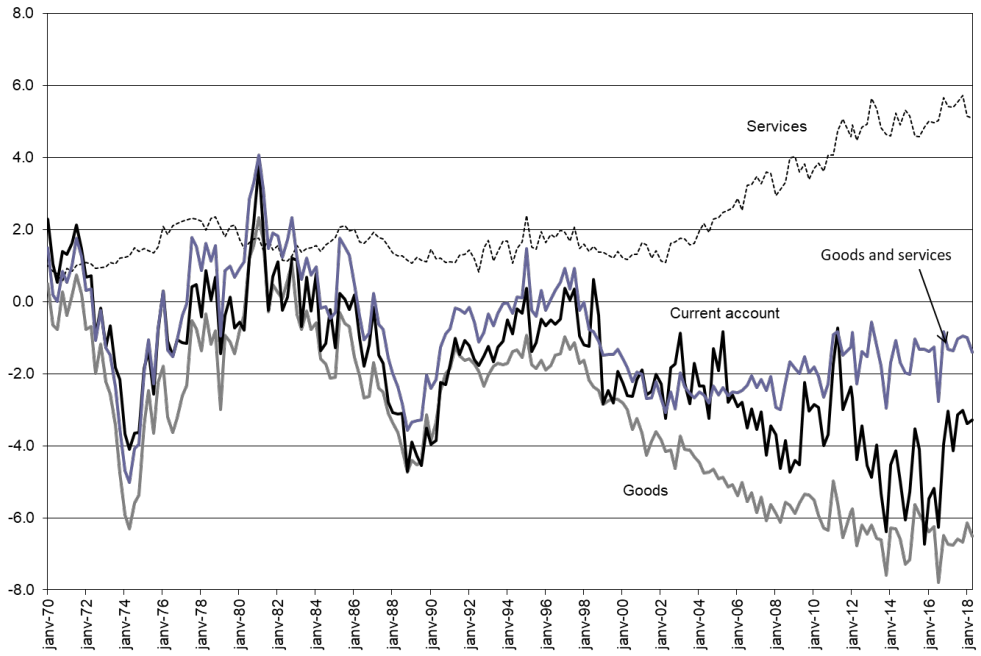
5. United Kingdom Foreign Trade: EU versus non-EU

In the debate on Brexit, several elements are often given regarding the future development of the trade in goods and service between the UK and the rest of the world, and regarding what UK exporters would gain from turning more to markets outside the EU. First of all, one should remember that the UK wants to remain open to the world, in the British tradition in favour of free trade, and assert themselves as leaders in globalization (a "Global Britain" strategy). It is often recalled in the debate that nearly half of British exports are sent to the EU, and hence it is vital for the UK to keep an easy access to EU markets. But it is also with the EU that the UK runs its largest trade deficit, while the UK bilateral trade balance is in surplus with areas more dynamic in terms of growth (US, Asia...). This section presents the main features of British foreign trade today, distinguishing trade to and outside the EU.

The UK trade structure

In 20 years, the UK current deficit increased to reach 5 percentage points of GDP in 2013, before returning to 3 percentage points of GDP by 2017 (figure 3). This current account deficit comes in part from a trade deficit (-1.3 per cent of GDP by 2017), with a strong deficit in trade in goods (-6.7 percentage points of GDP), partly offset by a surplus in trade in services (+ 5.5 percentage points of GDP), and a deficit of the income balance (-2.6 percentage points of GDP). In twenty years, the widening of the deficit of the balance of trade in goods was parallel to the rise in the surplus of trade in services.

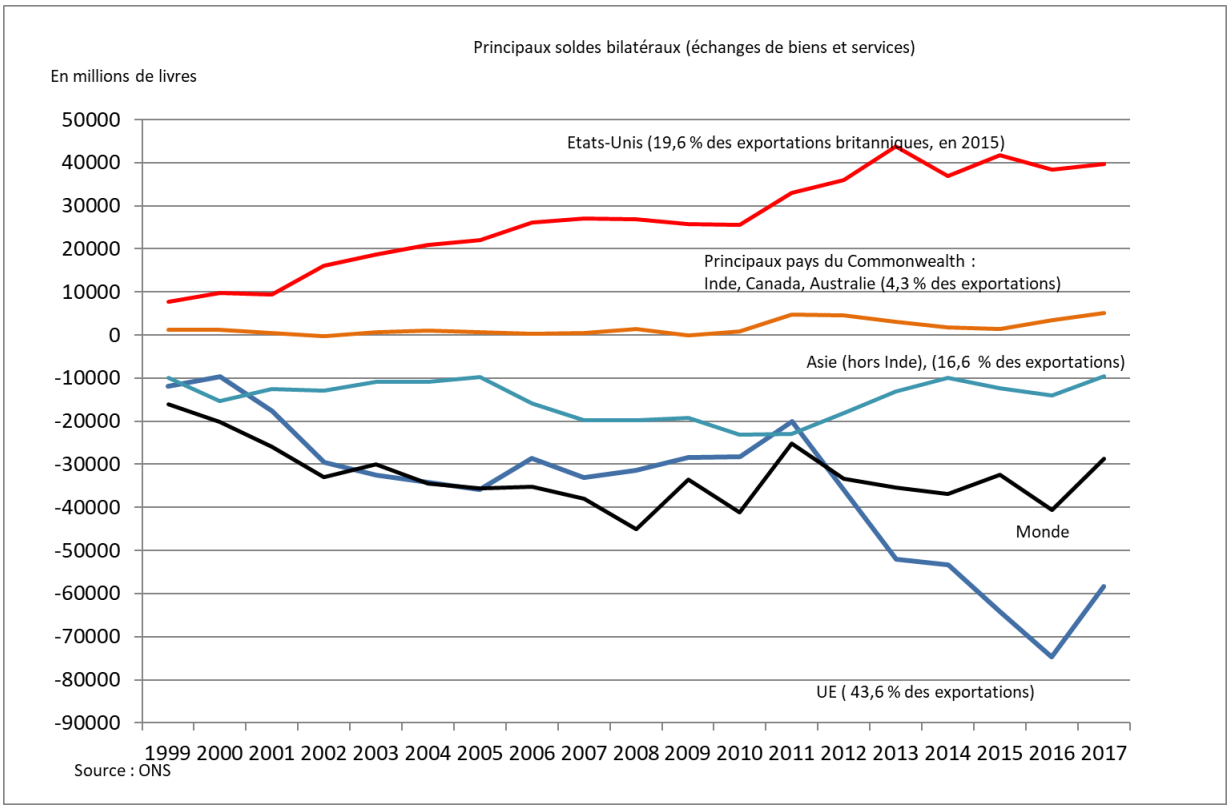
Figure 3: Evolution of the UK current account balance, in % of GDP



Source: ONS

For 20 years, UK trade balance developments differed according to geographic areas (figure 4): the UK surplus rose vis-à-vis the US (40 billion pounds in 2015, i.e. 2.2 percentage points of GDP and almost 20% of UK exports), while the deficit of goods and services widened with the EU (64 billion pounds in 2015, or 3.4 percentage points of GDP and 44 percent of UK exports), particularly from 2012, while the balance is slightly in surplus with Commonwealth countries (India, Canada, Australia) and slightly in deficit with Asian countries (outside India). In the 2016 referendum, Brexiters often put forward the temptation to choose the open sea, which could be understood in the light of bilateral balance developments.

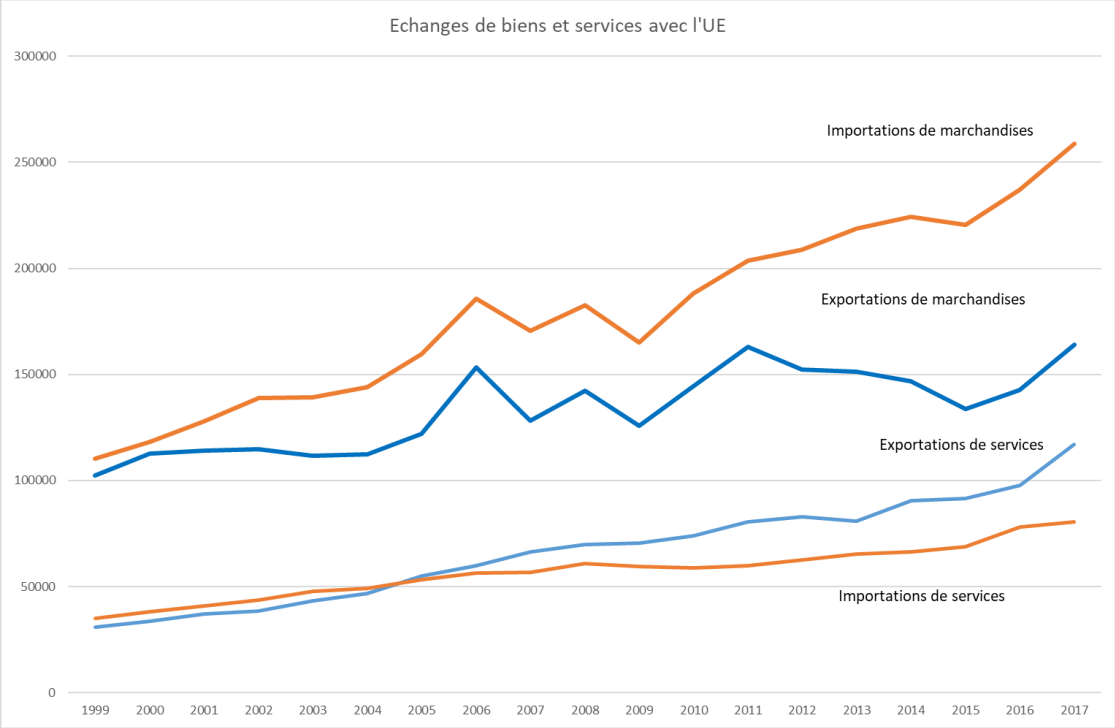
Figure 4: Evolution of goods and services balance since 1999



Source: ONS

The rise in the UK deficit vis-à-vis the EU from 2012 reflected the magnitude of the crisis in the euro area since 2010 and the exchange rate level of the pound in euros. UK exports of goods to the EU have barely increased since the mid-2000s, while exports of services rose, but not sufficiently to offset the deficit in goods (figure 5). In 2015, 44% of British exports went to the EU, 53% of imports came from the EU (table 7). Vis-à-vis the EU, the trade balance of goods was in deficit of 86 billion pounds in 2015, while the surplus in services was nearly 30 billion pounds.

Figure 5: UK Trade in goods and services with the EU (millions £)



Source: ONS

Table 7. UK Trade in goods and services in 2015

	Exports		Imports	
	Bns £	%	Bns £	%
EU	222	44%	291	53%
Rest of World	288	56%	258	47%
Total	510	100%	549	100%

Source: ONS

Trade in goods between the UK and its main EU partners

44% of UK exports of goods are sent to the EU, but the UK runs a trade deficit vis-à-vis the EU, which was close to 5 percentage points of GDP in 2015[9]. In 2015, exports goods accounted for 14.9% of UK GDP, 7.1% of which went to the EU, 1.5% to Germany, 0.9% to France and to the Netherlands, 0.8% to Ireland, 0.5% to Spain and 0.4% to Italy (table 8a). By contrast, goods exports to the UK accounted for 3% of GDP for Germany, 1.8% for Spain, 1.5% for France, and 1.3% for Italy, but 5.8% for Ireland and 6.4% for the Netherlands (table 8b).
The UK had a trade deficit of 5.2% of GDP in 2015 (table 8c), of which 4.9 % of GDP with the EU, 2% with Germany, 0.8% with the Netherlands, 0.3% with France, 0.4% with Italy, 0.2% with Spain and a small surplus with Ireland (0.3% of GDP). The UK was one of the only

[9] The following tables use the figures from the CHELEM database, a global trade balanced matrix constructed by CEPII, for which the last year of available data was 2016 when we extracted the data. The data are therefore not exactly comparable to those of ONS.

bilateral trade surpluses of France (0.4% of GDP); the surplus is large for Germany (1.7% of GDP) and the Netherlands (3% of GDP); the deficit is large for Ireland (2.5% of GDP).

Table 8a: Trade in goods by 2015: exports of country i to ... (in % of GDP of each country/area)

Exporter Importer	Germany	France	Ireland	Italy	Spain	NL	UK
World	37.8	19.2	42.0	22.7	21.5	59.3	14.9
UE-28	22.8	11.9	22.5	13.1	14.6	45.6	**7.1**
Germany	0.0	3.0	3.2	2.9	2.5	13.2	**1.5**
France	3.3	0.0	1.9	2.5	3.4	4.1	**0.9**
Ireland	0.2	0.3	0.0	0.1	0.1	0.5	**0.8**
Italy	1.9	1.5	1.1	0.0	1.7	3.0	**0.4**
Spain	1.3	1.4	1.3	1.2	0.0	1.9	**0.5**
NL	2.6	0.8	1.8	0.5	0.7	0.0	**0.9**
UK	**3.0**	**1.5**	**5.8**	**1.3**	**1.8**	**6.4**	0.0
Others EU-28	10.5	3.5	7.4	4.6	4.5	16.5	1.9

Source: Chelem, author's calculations. Reading: French exports to the UK amount to 1.5 % of French GDP.

Table 8b: Trade in goods by 2015: imports of country i from… (in GDP %)

Importer Exporter	Germany	France	Ireland	Italy	Spain	NL	UK
World	29.0	23.2	26.1	20.3	24.8	54.4	**20.1**
UE-28	18.1	15.3	17.8	13.0	15.3	32.7	**12.0**
Germany	0.0	4.5	2.5	3.5	3.6	11.5	**3.5**
France	2.2	0.0	2.8	1.9	2.9	2.5	**1.2**
Ireland	0.3	0.2	0.0	0.2	0.3	0.7	**0.6**
Italy	1.6	1.9	0.5	0.0	1.8	1.3	**0.8**
Spain	0.9	1.6	0.5	1.1	0.0	1.1	**0.7**
NL	3.0	1.3	1.2	1.2	1.2	0.0	**1.7**
UK	**1.3**	**1.1**	**8.4**	**0.7**	**1.3**	**3.4**	0.0
Others EU-28	8.9	4.6	2.0	4.3	4.2	12.3	3.4

Source: Chelem, author's calculations. Reading: French imports from the UK amount to 1.1% of French GDP.

Table 8 c: Trade balance of goods, in % of GDP of each country/area

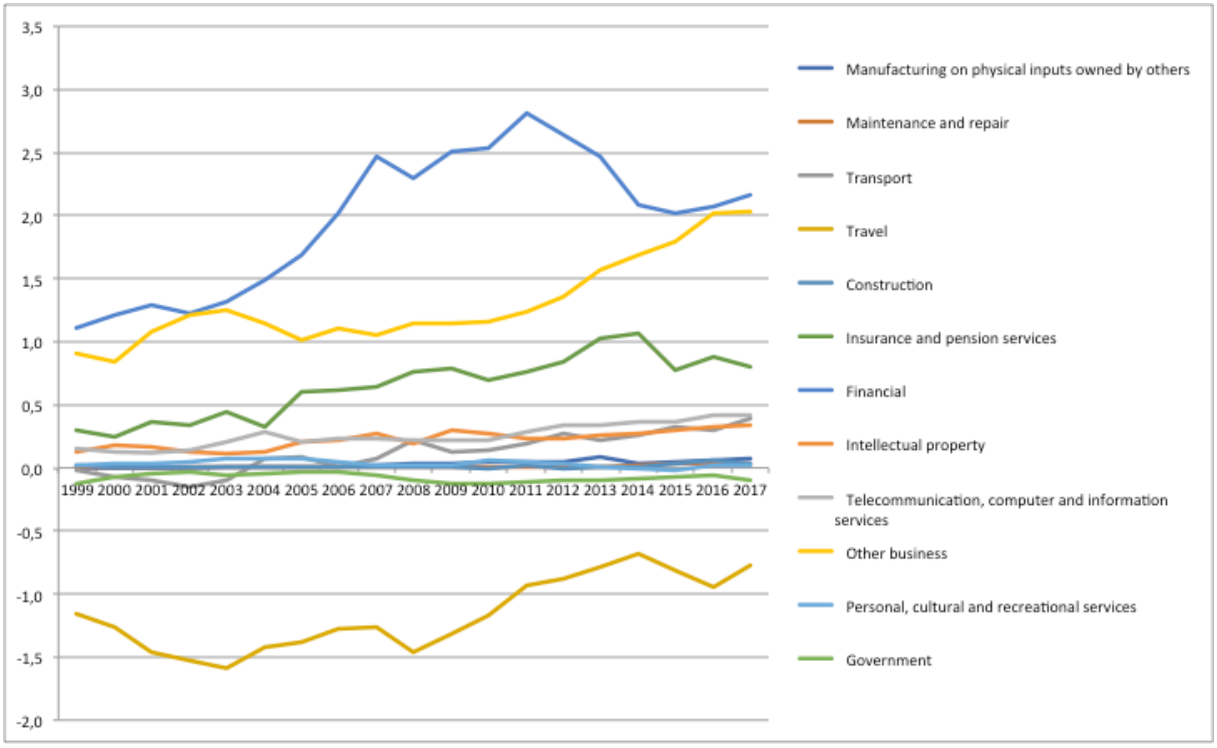
Exporter Importer	Germany	France	Ireland	Italy	Spain	NL	UK
World	8.8	-4.0	15.8	2.4	-3.3	4.9	**-5.2**
UE-28	4.7	-3.4	4.7	0.1	-0.7	12.9	**-4.9**
Germany	0.0	-1.5	0.7	-0.7	-1.1	1.7	**-2.0**
France	1.1	0.0	-0.8	0.6	0.5	1.6	**-0.3**
Ireland	-0.1	0.1	0.0	-0.1	-0.2	-0.2	**0.3**
Italy	0.4	-0.4	0.6	0.0	-0.1	1.7	**-0.4**
Spain	0.4	-0.2	0.8	0.1	0.0	0.8	**-0.2**
NL	-0.4	-0.5	0.6	-0.7	-0.5	0.0	**-0.8**
UK	**1.7**	**0.4**	**-2.5**	**0.6**	**0.5**	**3.0**	**0.0**
Others UE-28	1.6	-1.2	5.4	0.4	0.3	4.2	-1.5

Source: Chelem, author's calculations.

Trade in services

The British external balance tended to improve for most of the main categories of services over the last twenty years. Unlike trade in goods, there is no detailed breakdown of trade in services by country. Figure 6 shows the evolution of the balance of services by major type of product for 20 years. In 2017, financial services accounted for the first surplus (more than 2 percentage points of GDP), followed by other services to businesses (2 percentage points of GDP) while the tourism balance remained in deficit (-0.8 point of GDP). The UK has a major interest to keep access to the single market for services, but it is the agreement on goods which was put first in the negotiations due to the issue of the Irish border.

Figure 6: Evolution of the British external balance of trade in services (in percentage points of GDP)



Source: ONS

6. What model for the future UK-EU relationship?

As a EU member, the UK is part of the single market and consequently of the customs union (no tariffs for intra-EU trade, common extra-EU tariffs and trade agreements), the UK also complies with common EU standards and regulations; respects the four freedoms of movement (goods, services, capital and labour), recognizes the ECJ jurisprudence, contributes to the EU budget, and takes part to decision-making in the Union.

rexit opens a wide range of scenarios. However, the UK cannot remain in the single market if it wants to control workers' inflows from the EU in the UK and to be no longer be subject to ECJ's rulings. The UK also wants to be able to change its regulations and agree bilateral trade agreements with third countries. The closest scenario to remaining an EU member would be

one where the UK became a member of the European economic area (EEA), such as Norway. In intermediate scenarios, the EU would sign a free trade agreement with the UK, an even deeper agreement than the one signed with Canada.

In case of no deal, the default scenario would be implementing the rules of the World Trade Organization (WTO), which would restrict EU markets' access of British goods and services, but would give to UK a maximum of freedom to change its regulations and sign agreements with third countries.

Theresa May had said, already in her Lancaster House speech in January 2017, that none of the existing models on the shelf could be suitable for the UK and that a specific model needed to be found, taking into account the forty years of ties with EU countries since the UK joined the EU. But the EU cannot grant a too privileged status to the UK in comparison with EEA countries. The EU cannot either "reward" MS for leaving the EU.

EFTA and EEA

The European Economic Area (EEA) brings together with EU countries, three countries (Norway, Iceland and Liechtenstein), which are EFTA (European Free Trade Association) members. Switzerland is a member of EFTA, but not of the EEA. EEA countries guarantee the four "freedoms" (although Liechtenstein has been allowed to keep a quota system for immigration). They ensure free trade of industrial goods. The agreement does not cover raw agricultural products and fishery products; these countries do not participate in the Common Agricultural Policy (CAP) or the Common Fisheries Policy (CFP). They are not members of the customs union and may have specific tariffs with third countries. Their financial institutions benefit from the European passport. They contribute to EU budgets, in particular to cohesion policy (0.14% of GDP for Norway). They automatically apply European directives, single market legislation, environmental, social policy and consumer protections, and only have an advisory role. In case of conflict, an EFTA Court of Justice has jurisdiction, but it cannot depart from the judgments of the ECJ.

Switzerland refused to join the EEA by referendum in 1992. Switzerland is linked to the EU by a set of bilateral agreements, signed in 1999 and 2004, amendments are submitted to a popular referendum. The EU wants these agreements to be renegotiated to form a coherent whole. In 2014, on the contrary, a popular referendum restricted the EU citizens' freedom to settle in Switzerland. In return, the EU blocked Swiss participation in European programmes (such as Erasmus). A framework agreement could not be signed because Switzerland refused its implementation to be controlled by the ECJ. Switzerland contributes sporadically to the European budget (less than 0.1% of its GDP). It takes part in the single market for goods, but its participation in the services market is limited. Swiss financial institutions do not have the passporting rights in the EEA

The scenario for UK membership in EFTA, or extended even to a full customs union, is not credible. The UK should continue to ensure freedom of installation for workers, to recognize the ECJ's authority, to apply European directives, to contribute to the European budget, without having any voice in the matter. The UK would not be free to conclude trade agreements with third countries. On the other hand, the European institutions refuse to give more powers to an EFTA redesigned as a third circle of member countries of the customs union and the single market, with a deliberative voice for directives concerning the single market, with an

autonomous Court of Justice, but not having to respect the freedom of installation of persons, nor to be part of a project of political integration.

A customs union

Turkey is in a Customs Union with the EU. But it is an asymetric relationship as Turkey must align its trade polices with EU trade policy. Turkey is a rule-taker (Felbermayr *et al.*, 2019).

The customs union could be limited to goods. But the EU-27 refuses that the UK remain in the customs union if it no longer respects the "four freedoms", if it does not recognize the jurisprudence of the ECJ, if it does not comply with standards in terms of labour law and services, which according to the EU-27 would allow the UK to do unfair competition. The question of health and industrial standards remains: either the UK should meet standards decided unilaterally by the EU, or the EU should commit to negotiating with the UK (and other partner countries), which is problematic. In addition, being in the Customs Union would prevent the UK from concluding trade agreements with third countries. However, the UK has been evolving towards a customs union, at least temporarily, which would put the question of a border in Ireland on hold.

The WTO regime

In the absence of agreement, WTO rules would apply, implying the introduction of tariffs. Under WTO rules, countries must apply the so-called most-favored-nation (MFN) clause, that is to say, apply to imports from each country the lowest customs tariff they have put in place towards a country, except for the least developed countries or for countries with which they have signed free trade agreements. The UK should then renegotiate all its trade agreements – not only with the EU, but also with third countries. Given the MFN rule, neither the EU nor the UK would significantly increase their tariffs. However, the EU should apply the MFN tariffs to UK exports. The same rule would apply to the UK, who could also, as an alternative, unilaterally opt for lower tariffs, but these lower tariffs should apply to all its other trading partners. The result may be an asymmetric situation with no barriers for EU-27 exports to the UK and strong barriers for UK exports to the EU27.

The UK may however be tempted to play the card of tax haven and regulation; but it would be expected to continue to meet its international commitments, particularly in terms of banking regulation, fight against climate change, fight against tax evasion.

A Canada ++ Free Trade Agreement?

The median solution is a free trade agreement with a still open content, knowing that the minimum reference would be the trade agreement signed by the EU with Canada. This agreement would probably include a customs union for goods, limited agreements for services, including financial services (free access to EU markets being conditional to complying with EU regulations), mutual recognition of diplomas and qualifications, respect for protected geographical indications (PGIs), probably also participation in some European programmes or agencies, committees for harmonization and mutual recognition of standards, an arbitration court, perhaps a certain commitment to avoid tax and regulatory competition. The UK would not have to contribute to the EU budget; it would have to respect people's freedom of movement. It would be allowed to negotiate bilateral agreements with third countries, but a rule of origin would probably have to be introduced, which is costly.

As noted by Emerson *et al.* (2017), the agreements signed by the EU with Ukraine, Georgia and Moldova go further than the one with Canada. Moreover, these agreements contain only 3

of the 4 freedoms, as the EU did not wish to open its labour markets to the workers of these countries. But these countries unilaterally agree to apply EU regulations, while in the agreement with Canada both parties must symmetrically ensure that their regulations are equivalent. For the UK, the question remains today: could it change its standards or should it follow the evolutions of European standards?

Table 9: Main agreements that could be considered with the EU

	EEA	Customs union	FTA	WTO
Free trade with the EU	Yes, for industrial goods and services. No, for raw agricultural products and fisheries	Yes, for goods No, for services	Depending on the extent of the agreement	MFN rules
Custom union with the EU	No	Yes	No	No
Free movements for workers	Yes	No	No	No
Contribution to the EU budget	Yes	No	No	No
Autonomous trade policy	Yes, in principle.	No	Yes	Yes
Regulations	Set by the EU	Set by the EU	Negotiated	No
Conflicts resolution	EFTA Court of justice, then ECJ	No	Bilateral mechanisms	WTO mechanisms

The tariff and non-tariff barriers issue

In the absence of a customs and/or a single market agreement, the issue of tariff and non-tariff barriers would arise.

Tariff barriers

After Brexit, tariffs would at maximum be the MFN tariffs currently applied by the EU (and the UK) to third countries. These tariffs are currently very low on average. According to estimates by Dhingra *et al.* (2017), also used by the IMF study (2018a), customs tariffs for trade in goods between the UK and no EU countries are currently 3% on average. They range from 0% for mining products, 2.5% for chemicals and electrical equipment, 6% for transport equipment and 10% for textiles.

According to OBR estimates (OBR, 2018), the MFN customs rates (weighted by the trade structure) would be 3.3% for UK exports to the EU and 4.4% for UK imports. from the EU. Emerson *et al.* (2017), estimate that average tariffs for UK exports to the EU are 3.8%, but point out that these tariffs range from 0 (for pharmaceuticals products) to 9% (cars), 12% (clothes) 45% (cereals) and 50% (meat). According to IFS estimates (IFS, 2018), average customs duties implemented between the UK and the EU would be around 2.2% for UK exports, but would be significantly higher for food products (22%), textile-clothing (8%), agricultural products (7%). Depending on the sectors, the impact of customs duties would therefore be very heterogeneous. As concerns agriculture (30% of food consumption in the UK is imported), this could raise consumer prices, but could also raise domestic production (when it is currently more expensive than imports from the EU). According to Clarke et al. (2017), tariffs introduction could raise

consumer prices by 1% in the UK. Conversely, according to the IFS (IFS, 2018), if the UK no longer applied any import duties, this would reduce UK consumer prices by 1%.

Table 10: Customs rates between the UK and non-EU countries

	Imports	Exports
Agriculture, hunting, forestry and fishing	1.07	4.02
Mining and mining products	0	0
Food, beverage and tobacco	6.19	2.08
Textiles, leathers, shoes, etc.	10.7	8.73
Wood, wood products and cork	2.74	3.16
Pulp, Paper, Printing and Publishing	0.07	0.06
Charbon, Coal, refined petroleum and nuclear combustibles	2.51	3.36
Chemicals and Chemicals	2.47	1.89
Rubber and plastic products	5.25	5.28
Other non-ferrous minerals	4.8	3.49
Base metals and manufactured	1.47	1.0
Machines,	2.34	2.0
Electrical and Optical Equipment	1.83	1.7
Transport equipment t	5.55	6.26
Other manufactured articles, recycling	1.44	1.76
Weighted average	2.94	2.86

Source : Dhingra *et al*., 2017.

Table 11. MFN customs rate between UK and EU member states

	Imports	Exports
Agriculture, hunting, forestry and fishing	5.9	5.6
Mining and mining products	0	0
Food, beverage and tobacco	7.3	5.0
Textiles, leathers, shoes, etc.	9.6	9.7
Wood, wood products and cork	2.4	3.6
Pulp, Paper, Printing and Publishing	0.0	0.1
Charbon, Coal, refined petroleum and nuclear combustibles	2.7	2.8
Chemicals and Chemicals	2.7	2.2
Rubber and plastic products	5.4	5.1
Other non-ferrous minerals	3.8	3.3
Base metals and manufactured	2.1	1.9
Machines,	2.1	2.1
Electrical and Optical Equipment	2.0	1.6
Transport equipment t	8.1	7,2
Other manufactured articles, recycling	1,7	1,7
Weighted average	4,4	3,3

Source : OBR (2018).

Non-tariff barriers

Non-tariff barriers are inherently more difficult to assess. They will exist as soon as the UK leaves the single market due to administrative costs, tax issues, customs formalities, check of products origin. They will increase if EU and UK standards deviate. In the OBR overview (2018), these non-tariff barriers are on average estimated to be equivalent of a 10% tariff barrier for a WTO regime (in a range of 6.5% to 12.9%); 6.5% following a free trade agreement (in the

range of 5.9% to 7%); 3.4% in an EEA-type agreement (in a range of 2.8% to 4%). The IFS (2018) considers respectively 11%, 7% and 4%. Besides, the IMF (2018b) considers equivalents of 20% (WTO regime) and 10% (free trade agreement).

The soft Brexit scenario

At the end of April 2019, perhaps the most likely scenario, although far from being ensured, was that the 14 December withdrawal agreement would be voted by the UK Parliament. In this scenario, the UK leaves the EU before October 2019, but a transitional period is planned until the end of December 2020. The transition period could be prolonged. The political declaration on future economic relations between the UK and the EU27 is rather vague. It is a *Blind Brexit.* Similarly, negotiations on future economic relationships could last for long and hence the divorce would be very gradual.

The UK remains in the customs union, at least until the end of 2020, and relations between the UK and the EU27 are governed by a trade agreement whose content remains to be clarified. The EU27 will make concessions to giving UK goods access to the EU market provided that the UK commits to comply with technical and health standards, intellectual property rules, rules for appellations of origin, for example. Similarly, the UK will commit to financial and banking standards so that its financial institutions benefit from equivalence. It is the project of a "deep and special partnership". This does not preclude that once the UK has left the customs union it will have to renegotiate bilateral agreements with third countries. Countries having signed a free trade agreement with the EU (South Korea, Mexico, Canada, Japan, Singapore) will not necessarily have the conciliatory position of merely duplicating the agreement with the EU.

The UK plans to sign free trade agreements with non-EU countries, including the US, China, India, Australia, New Zealand, the members of the Asian Trans-Pacific Partnership. The Association of Southeast Asian Nations (ASEAN), but it will take several years. Trade with these countries is relatively limited for both UK geographical and industrial specialization reasons. It is very unlikely that the UK would unilaterally decide to abolish all its tariffs, as this should apply to all countries and would hurt domestic agriculture.

In this scenario, there would still be obstacles to UK-EU relations, be it for the financial sector or for other trades (goods, services), but they would be limited. And the date of entry into force is not known.

Currently, UK standards are in line with the single market rules. The UK (and the EU27) will have to choose between three positions: the UK continues to comply unilaterally with these standards; the evolution of standards is negotiated between the UK and the EU27; the UK can unilaterally change its standards (which means they may no longer be compatible with EU27 standards). The UK withdrawal act of the EU has transferred all European rules into UK law. The government proclaimed that it would maintain all the rules for goods needed for trade with the EU, which remains ambiguous. Will UK follow all changes in EU regulations?

With regard to immigration[10], the UK would apply to immigration applicants from the EEA and Switzerland the same criteria as those currently applied to people coming from third countries. This means that it would only allow people with high qualifications, those likely to

[10] Based on the recommendations of the MAC report (2018).

earn a high salary (unless there is a lack of manpower in a given sector). EU immigration could be reduced by half, or 85,000 per year, which would reduce labour force by 0.3% in 2030.

In the short run, the agreement would signal the end of uncertainty. It would put an end to the fears of a No deal exit, but also to the hopes that Brexit will not finally take place, so that its immediate macroeconomic impact will probably be limited. The rebound of the pound would be limited because of the UK current account deficit and of the fears about the City's position; its impact on exports will be hampered by the trade barriers created by the transition from the single market to a free trade agreement; the resumption of investment in the UK will remain constrained by the weakness in UK governance that negotiations have shown. There would therefore be no significant rebound in GDP.

In the long run, one cannot rule out an adverse effect on the UK economy. This is at least what Computable General Equilibrium (CGEC) models describe. These models consider that a free trade agreement would limit trade in relation to single market membership; that this reduction would lead to efficiency losses, which would result in GDP losses. Some studies add dynamic effects: lower economic openness would reduce the incentive to innovate, the ability to import technological innovations, and hence labor productivity gains. This tends to increase the static effects (in the order of 2.5% of GDP) to reach 5.9% in the CPB study (Rojas-Romagosa, 2016). However, the size of trade barriers is difficult to predict accurately during the transition period.

This scenario faces three problems: it is incompatible with the wishes of many Brexiters since the UK will have to make many commitments in fields where it will not have any more say; it dismisses the scenario where the UK would become a regulatory and tax haven. It assumes that cooperation will remain durably unchanged between the UK and the EU27, so that standards and regulations remain the same in the UK and the EU, either because the UK implements EU27 decisions or because changes are decided in common (but why would the EU give this specific power to the UK?). Conversely, it assumes that the UK does not sign trade agreements with third countries and does not soften its standards, which would lead EU countries to introduce border controls (and especially at the Irish border). Due to political uncertainties in the UK, it is unclear whether the agreement will be ratified by the UK Parliament. It can be rejected by a heterogeneous majority (Remainers, hard Brexiters, the DUP (Democratic Unionist party). A possible scenario is therefore a No deal by accident, caused by the UK Parliament's refusal to ratify the negotiated agreement.

The *No deal* scenario

Leaving the EU without a deal would be a huge break. It could have happened at the end of March 2019, but the prospect has since then been postponed until the end of October. This shows that both the UK government and the EU institutions do all everything needed to avoid this scenario. We should distinguish the short-term effect from the long-term effect.

In the short-term, some are considering a sudden and chaotic exit. Overnight, UK citizens living in the EU27 would be deprived of all their rights, as well as EU citizens living in the UK. Airlines companies would lose their flight rights; UK lorries would no longer be allowed on continental Europe roads; diplomas, driving licenses, technical and food standards, would lose mutual recognition. Trade between the UK and the EU27 would be more or less paralyzed by customs formalities, it would harm companies operating just-in-time processes. According to

some estimates, a 2-minute check for each lorry would increase waiting time at customs checks in Dover or Calais by 5 hours. All long-term contracts between UK and EU companies should be renegotiated (if tariffs are introduced). Judgments in courts would no longer benefit from reciprocal recognition. The UK would refuse to pay the sums it promised to pay to honour its previous financial commitments, so that the dispute would be brought before international tribunals. UK residents in the EU and EU citizens residing in the UK would be in a legal vacuum. Such a chaotic Brexit would induce a strong negative output shock in the fourth quarter of 2019. But such a scenario is unlikely, as it would be harmful for both parties. At minimum, it may be assumed that there would be some sort of agreement for a no deal Brexit in order to limit the disruptive effects. This agreement would be more or less permanent. Contrary to what some fear, there is no reason why shortages (medicines, agricultural products) would occur in the UK as neither the UK nor the EU have any reason to introduce barriers on EU exports to the UK. As concerns the Irish border, the UK will not introduce a hard border. So the question is: will the Republic of Ireland take the responsibility of this introduction?

In the medium term, the UK would only benefit from the minimum terms of WTO agreements, both for its relations with the EU27 and with countries covered by agreements with the EU (such as Canada or Korea), which implies that tariffs and non-tariff barriers will be introduced between the UK and the EU27. But the UK would be able to sign free-trade trade agreements with non-EU countries. However, given the geographical distances and specialization of the UK economy, these agreements would hardly be likely to increase significantly British exports. The UK would inevitably suffer from lower exports to the EU; at the same time, imports would be reduced, which would have a favorable effect if domestic production could replace them, but harmful effects in terms of price increases, a reduction in the variety of products offered to consumers and for intermediate consumption. With regard to imports from the EU, the UK could choose between two strategies: introducing trade barriers in response (which seems unlikely) or increasing openness (abolishing tariffs and limiting non-tariff barriers) which would limit the inflationary effects and disruption in production chains. But the absence of tariffs would also have to apply to third countries. The EU27 could choose between an openness strategy (not increasing tariffs on some imported goods from the UK, avoiding to raise non-tariff barriers) and a retaliatory strategy, which could lead the UK to accentuate its response. But the pound could fall. The UK could seek to attract international investment through direct tax cuts (IS rates). The new tariffs could be recycled with a reduction in VAT or indirect taxes, which would reduce the inflationary effect.

7. The impact of Brexit according to macroeconomic studies.[11]

Economic reasons were not the main reason behind the Brexit vote. Nevertheless, it the economists' job to evaluate the economic consequences of Brexit, even if this task is difficult for two reasons: first, nobody knows (even in May 2019) what Brexit will look like (soft or hard Brexit, with or without a deal, with or without a regulatory policy shock, with nil or MFN tariffs, with FTA agreement with non-EU countries); second, there remain strong uncertainties on several economic channels such as labour and capital flexibility, as well as the impact of trade openness and FDI on productivity.

[11] We will analyze here mainly the most recent studies. For a presentation of studies published before the 2016 referendum, see: Busch and Matthes, 2016; CBI, 2016; Mathieu, 2016, Sampson (2017).

Most studies focus on the long-term impacts of Brexit. Their analysis is done in three steps. In a first phase, they use a gravity model to estimate the fall in trade that would result from the UK exit of the single market[12], accounting for tariff barriers, non-tariff barriers and, in some studies, for gains from eventual free trade agreements with third countries. In a second phase, they use a CGE model to evaluate the efficiency losses induced by these barriers, the reduction in trade, the decrease in the size of production (loss of economies of scale), the smaller intensity of exchanges. These losses of efficiency would result in losses of GDP or welfare. In a third phase, some studies add dynamic effects: lower economic openness (in terms of trade or FDI) would reduce innovation incentives, ability to import technological innovations, hence the UK economy productivity growth, not just the level, but even the GDP growth rate.

In gravity models, the question of "trade diversion" is often poorly taken in account. If trade decreases between the UK and the EU27, trade may increase between EU27 countries and with non-EU countries. From a European global perspective, in each market, the impact of tariffs and non-tariff barriers should be analyzed precisely: for instance, on the UK market, French products will only lose competitiveness with UK domestic products, which means a small price elasticity.

In general, the static effects obtained with a CGE model are relatively small since these models assume full employment and a high degree of capital and labour mobility between economic sectors (see, for example, Felbermayr *et al.*, 2018 b). In the case of Brexit, however, it may be argued that estimates are overvalued to the extent that they imply total symmetry (losses from leaving the single market are valued from gains in joining the single market), forgetting hysteresis effects; they do not consider UK willingness to "chose the open sea", especially with the United States, China and the Commonwealth countries. The dynamic effects are often very strong, but they have little empirical basis: the slowdown in productivity gains in developed countries assumes a strong impact of economic openness on productivity gains which is hardly credible.

Other studies use macroeconomic models, where production is demand-driven. Barriers to trade decrease exports and imports volume; so the impact on output is uncertain as UK imports from the EU are larger than UK exports; but the increase in imports prices may induce a fall in UK households' incomes and it takes time for UK producers to build production capacity to replace imports. The results depend on exchange rate developments: a weaker Sterling improves British competitiveness but reduces households' real incomes.

Most studies expect that Brexit will reduce FDI in the UK by 14% to 28%, but the GDP impact would be small, except for studies assuming that FDI have an impact on productivity growth.

Before the referendum, the UK Government (HM Treasury, 2016) published an evaluation of the impact of Brexit on British economy. According to the study, using a gravity model, a relation between economy openness and labor productivity and the NiGEM model of the NIESR, a WTO scenario would reduce UK GDP by 7.5% after 15 years (by 6.2% with a negotiated agreement like Canada, by 3.8% if the UK joined the EEA like Norway). The study incorporates some modest positive effects of deregulation and of trade agreements with third countries, in particular with the United States, and assumes that the UK will implement a

[12] With the difficulty to distingue single market effects from single currency effects.

relatively restrictive immigration policy after Brexit. The magnitude of the output fall results from the assumption that the decline in international trade and foreign direct investment (FDI) would result in a sharp drop in labour productivity.

Similarly, before the June 2016 referendum, the OECD (Kierzenkowski *et al*., 2016) released estimates using a CGE trade model with 57 sectors and the NiGEM model. It postulates that UK withdrawal from the EU would induce a fall in productivity (as a result of reduced competition), a decline in the ability to import technical innovations, a reduction in the quality of firms' governance, a slowdown in the goods market reforms, inducing a slowdown of technical progress. Immigration restrictions would reduce the quantity and skills diversity of workers. In the long run, in the central scenario, Brexit would cost 5.1% of UK GDP (between 2.7 and 7.7%). Many of the channels mentioned by the OECD are debatable. The UK economy would suffer from a contraction of its foreign trade which would be detrimental to domestic productivity in the long run. But, despite its openness, UK productivity is already low. Brexit would sharply reduce FDI entering the UK, which would hurt UK productivity growth; but it has not increased in recent years despite the high level of FDI inflows. On the other hand, there is a strong temptation for the UK to continue to attract FDI through tax and regulatory competition. According to the OECD, the UK would be better off staying in the EU, participating in deepening the single market and benefiting from the free trade agreements the EU should sign with the rest of the world in the coming years, which would allow a GDP growth for all EU countries. But one can question the credibility of this last statement, given the risk that these trade agreements are not signed (in particular the TTIP) and the problems they raise in terms of economic and social cohesion (contributing to winners and losers in signatory countries). The OECD does not ask the question of principle: should a country abandon its political sovereignty to benefit from the possible positive effects of trade liberalization?

The study by CPB (Rojas-Romagosa, 2016), done with a CGE model, evaluates that a WTO regime would induce a GDP loss of 4.1% for the UK (0.8% for the EU27). The author multiplies this effect by approximately two to integrate an "empirical relationship between opening to trade and productivity"; and so the loss would be 8.7% (1.5% for the EU27). A free trade agreement would induce a loss of 3.4% (0.6 % for the EU27) in static, which becomes 5.9% in dynamics (1.1% for the UE27).

Dhingra *et al.* (2017) estimates a 2.7% of GDP loss in the long-term with a CGE model in the case of the WTO regime. A simple econometric relationship between productivity, trade and FDI, leads the authors to increase the loss up to 13.3%.

Vandenbussche et al. (2017) use a World-Input-Output-Database to extend the traditional gravity model by including sector-level input-output linkages in production. They assume that with a soft Brexit tariffs will remain nil, non-tariff barriers will be of 2.77% (in tariff equivalent); With a Hard Brexit, tariffs will be the MFN ones and non-tariff barriers will be 8.31%. They do not take in account FDI, migration, productivity effects, or trade diversion. They do not incorporate a macroeconomic equilibrium.

The IMF (2018, b) adds effects from higher trade barriers, lower migration and reduced inward FDI and incorporates adverse effects from a FDI decline on innovation and on firms' governance. So, the IMF estimates the GDP fall at 3.1 % in a FTA scenario, at 6.2% in a WTO scenario.

Table 12: Impact of Brexit on UK GDP (in 2030, GDP percentage points)

	Free Trade Agreement	WTO regime
Felbermayr *et al.* (2017)	-0.6	-1.4/-1.1**
Felbermayr *et al*. (2018, a)*	-1.8	-3.2/-2.2**
Felbermayr *et al.* (2018, b)*	-0.9	-2.8/-1.4**
IMF (2018 a)	-2.5	-4.0
Vandenbussche *et al.* (2017)	-1.2	-4.5
OECD (2016)		-5.1
NIESR (2018)	-3.9	-5.5
IMF (2018 b)	-3.1	-6.2
HM Treasury (2016 a)	-6.2	-7.5
CPB-dynamic	-3.4/-5.9	-4.1/-8.7
HM government (2018 b)	-6.7	-9.3
Dhingra *et al.* (2017)	-1.3/-6.3	-2.7/-13.3

**On real consumption; ** Global Britain scenario

NIESR (Hantszche *et al*., 2018) used the NiGEM macroeconomic model to evaluate the impact of Brexit. In case of No Deal exit, EU/UK trade would decrease by 56% in the medium term (half immediately). Migration flows would fall from 200 000 to 100 000 a year. FDI would be reduced by 24%. The pound will fall by 13.5%. Total factor productivity would decrease by 1.4% in the long-term. UK potential growth is currently 1.9% per annum (1.4% productivity and 0.4% employment); it would fall to 1.3% (1.2% of productivity and 0.1% of employment). The GDP loss would be 5.5 percent in 10 years. In the case of a deal with a comprehensible FTA, the loss would be 3.9 percent in 10 years.

The HM government (2018 b) evaluates the increases in trade costs (tariffs and non-tariffs barriers, NTB), the impact of migration policy and introduces them in a macroeconomic model. It analyses four scenarios; the first one corresponds to the HM government (2018 a) paper; an exit with a comprehensible agreement (free trade for goods, no tariffs, customs agreement, frictionless trade outside the customs union and the single market, restriction to migration, which may be inacceptable for the EU-27); for UK-EU trade, the tariff is nil ; NTB barriers are 0.5 per cent for goods, 6 per cent for services; the second corresponds to an EEA-type agreement (with automatic implantation of EU legislation and no restriction to migration, which does not deliver the Government objectives), the tariff is nil ; the NTB barriers is 5 per cent for goods, 2 per cent for services; the third to an average FTA agreement (zero tariffs but non-tariffs barriers of 8 per cent for goods; 8.5 per cent for services) ; the fourth to a No Deal (MFN tariffs and NTB barriers of 10.5 per cent for goods ; 11 per cent for services). Immigration barriers reduce GDP by 1.8%. The flexibility of regulatory policy increases GDP by an illustrative 0.1 per cent. Relatively to a base scenario, the GDP loss in the long term would be respectively -2.5, -1.4, -6.7 and -9.3. Due to the fall in GDP, public sector borrowing increases by 2.4 percentage points of GDP in the No Deal scenario. Exchange rate developments are not discussed.

The Bank of England (2018) uses a gravity model to evaluate the impact of Brexit on total trade and FDI, then introduces an impact of trade openness and FDI on productivity. It takes into account a decrease in the UK exchange rate, an increase in uncertainty. It presents six scenarios. In an Economic Partnership scenario which corresponds to the Political Declaration, the GDP

level relatively to a trend scenario[13] increases by 1.75% in a close partnership, decreases by 0.75% in a less close partnership. Inflation remains near 2%; the Sterling appreciates by 5% (close partnership), by 2% (less close partnership). In a Disruptive No Deal Brexit, GDP falls by 3%, the Sterling depreciates by 15%, house prices fall by 14%, inflation accelerates to 4.25%, the Bank rate up to 1.75. In a Disorderly No Deal Brexit, GDP falls by 8%, Sterling depreciates by 25%, house prices fall by 30%, the inflation rate increases up to 6.5%, the Bank rate up to 5.5%. The Bank of England estimated that UK banks will be able to support such a shock because it is smaller than the last stress tests. In a scenario of transition to WTO, the GDP impact will range between -2.5% (prepared transition) and -5.5% (unprepared transition), with Sterling depreciating by 8%.

The Impact on EU27

Some studies give estimates of the impact of Brexit for the EU27. The impact is always large for trade but low in the case of gravity plus CGE models. For instance, in Mayer *et al* (2018), the single market doubles trade in goods between MS, but increases their GDP by 4.4% only. If the UK/EU27 relationship was managed according to WTO rules, Felbermayr *et al.* (2018, b) find that UK manufacturing exports to the EU27 would fall by 32% while EU27 manufacturing exports to the UK would fall by 31%. In the long-term, the loss in real consumption would be relatively small: 2.76% for the UK, 0.78% for the EU27, Ireland being the most affected country, 8,16%. More openness from the UK towards non-EU countries ("A Global Britain") would significantly reduce the cost for the UK and slightly increase the costs for EU27 MS. A deep and comprehensive free trade agreement copied on that of the EU with Korea would substantially limit the negative impact of Brexit.

Table 13 a: The impact of Brexit on Real Consumption (in %)

	Hard Brexit	*Global Britain*	*FTA*
UK	-2.76	-1.43	-0.93
EU27	-0.78	-0.83	-0.20
Germany	-0.72	-0.80	-0.20
France	-0.52	-0.54	-0.10
Italy	-0.40	-0.43	-0.09
Spain	-0.39	-0.42	-0.13
Belgium	-1.40	-1.46	-0.29
Netherlands	-1.64	-1.71	-0.37
Ireland	-8.16	-8.22	-3.08

Source: Felbermayr *et al.* (2018, b)

[13] According to the BoE, the November 2018 trend scenario is 3% lower than the May 2016 trend scenario.

Table 13b: Impact of Brexit on Total Value Added (in %)

	Hard Brexit
UK	-4.47
EU27	-1.54
Germany	-1.76
France	-1.25
Italy	-1.23
Spain	-0.91
Belgium	-2.35
Netherlands	-2.59
Ireland	-5.74

Source: Vandenbussche *et al.* (2017)

The CEPII produced similar estimates (Vicard, 2017). In case of a trade agreement, long-term GDP losses would be 1.8% for the UK, 0.3% for the EU27. In a relationship governed by WTO rules, the loss would be 2.5% for the UK, 0.5% for the EU27. Losses would be very uneven among EU27 MS, the losses for Ireland being virtually equal to those of the UK. The study does not take in account the future UK trade policy: it assumes that the UK will apply the MFN tariff while UK may prefer to apply lower tariffs.

INSEE recently published a study (Cornuet et al., 2019) where the short-term impact of a hard Brexit on French GDP is evaluated at -0.6% (due to tariffs barriers), at -1.1% (when non-tariffs barriers are also considered). But this study does not take in account the exchange rate response, and assumes that the UK will raise its tariffs barriers at the current MFN level, while the UK government plans to cut most tariffs. The most questionable point is that INSEE estimates the decline in imports from different countries to the UK using very high price elasticities, evaluated at micro level, without accounting for the fact that European competitors' prices of a given country would also increase and that buyers would turn to domestic or third countries productions.

According to the IMF (2018, a), the output loss would be 2.5% for the UK with an FTA agreement, 4% in the No Deal case. For the EU, the loss would be 0.8% or 1.5% of GDP, but Ireland would be particularly hit, followed by the Netherlands, Denmark and Belgium. However, Ireland could recover some of the foreign direct investment (FDI) which are now in the UK.

Table 14. Long-term effect of a No deal Brexit on EU-27 and UK GDP (in percentage points of GDP)

	EU27	UK
IMF (2019)	-0.3	-3.0
Open Europe (2018)	-0.35	-2.2
Dhingra *et al.* (2017)	-0.35	-2.65
Vicard (2017)	-0.5	-2.5
Felbermayr *et al.* (2018, b)	-0.78	-2,76
IMF (2018, a)	-1.5	-4.0
Vandenbussche *et al.* (2017)	-1,54	-4,47
CPB (2016)	-0.8/-1.5	-4.1/-8.7

For hard Brexiters (Labour Leave, Leave Means Leave, and Economists for Free Trade, 2017), a net break could increase GDP by 7%. Leaving the EU would allow the UK to engage in a liberalization shock - the European rules would be abolished for energy, finance, industrial and agricultural standards, medical and agronomic research - and in a strategy of opening of its borders, possibly unilaterally, according to the theory according to which tariff or non-tariff trade barriers, harms mainly the country establishing them. Unskilled workers' immigration would be strictly controlled, prompting British companies to upgrade production processes. The UK would leave the CAP, which would allow to lower food prices, and leave the CFP (Common Fisheries Policy), which would restore its control of its territorial waters. The money saved from contributions to the EU budget would be reinvested to cut taxes and help the productive sector. Finally, the competitiveness of the British economy would be maintained by the fall in the Sterling exchange rate. GDP would be 7% higher due for 4 points of borders' opening, for 2 points of deregulation, for 0.2 point of halting unskilled immigration, for 0.6 point of ending contributions to the EU budget. It would benefit the poorest, currently victims of competition from migrant workers, of high housing prices (due to immigration) and food products prices (because of the CAP).

This assessment is questionable. It forgets that the pound depreciation would raise prices in the UK, that rules and norms have their justifications, many of them enshrined in international treaties that the UK should continue to comply with. The government has already committed "to maintain high levels of environmental regulation, climate change, social protection, employment and consumer protection; we will not let standards drop below current levels." The CIT rate is already 19%; it could fall further down to 12.5%. The UK is already one of the less regulated OECD countries. According to the OECD, the UK market product regulation index is at 1.08 against 0.92 for the Netherlands, 1.37 for the EU, 1.47 for France; the index for labour market regulation is 1.59 (against 1.17 for the United States, but 2.82 for France, 2.84 for Germany, 2.94 for the Netherlands); the gain to new deregulations could only be small. On the other hand, a sharp cup in taxation would imply a similar fall in public and social spending, which is not in the current Conservative Party programme, and would hurt the poorest.

According to Booth and Shankar (Open Europe, 2018) using a CGE model, the long-term impact of a *No deal* would be only 0.17% per year for 13 years, so 2.2% of GDP by 2030, which would be reduced to 0.5% if the UK embarks on unilateral trade liberalization with third countries. The authors suggest offsetting this loss by various measures (boosting houses construction, reforming corporate taxation, impulsing R&D, increasing female employment, maintaining an open immigration system, and especially developing artificial intelligence).

The short term impact

It is difficult to assess the short-term impact of a *No deal* exit. If the UK Parliament does not ratify the 14 November agreement, a *No deal*, which would occur on 31 October 2019 would weigh heavily on the economic outlook for 2020. It would probably mean probably the pound would fall, a fall in business investment and stockpiling for precautionary reasons at households and firms' level. The biggest risk, which is difficult to assess, is a disruption of production chains, but firms probably will take measures to avoid it. Conversely, there is no risk of a financial crisis, as the UK has kept its monetary power and as the UK banking system is strong enough (see Bank of England, 2018). The Bank of England announced only that it will act so

"to bring inflation sustainably back to the 2% while supporting job and activity". The UK government could pursue an expansionary fiscal policy (the budget deficit planned for 2019 being only 1.5% of GDP). The effect on stock prices like on business investment will depend on the ability of the Government to define a new growth strategy for the UK.

Developments since 2016 make unlikely developments such as those presented by Standard & Poor's where a *No Deal* would cause heavy falls in housing prices (-15%) and equity prices (-14.5%), which would induce a decline in households' consumption (-7% after 2 years), i.e. a fall in GDP by -2.6% in 2019, and -5.6% in 2020. Similarly, the scenarios (stress tests) by Mark Carney of a fall by about 35% of house prices and of a financial crisis like in 2008 seem exaggerated.

According to the NIESR October forecast (Hantzsche *et al.,* 2018), after a No Deal the pound would fall again by 10%. The government would recycle half of the net contributions of the UK in public spending (i.e. 0.25 point of GDP). The induced decline in GDP would be 1.6% in 2019, 2.9% in 2020. This decrease results in 2019 for 1 percentage point of GDP from investment, 0.6 point from consumption, with a small positive trade effect.

According to the IMF (2019) forecasts, a No Deal scenario would induce, after 2 years, a negative effect of about 3.5% of UK GDP, 0.5% of EU27 GDP. The IMF assumes that UK exports to EU27 will be subject to MFN rules, while the UK will set tariffs unilaterally to zero for 87% of its imports, non-tariff barriers will be increased to an additional 14 percent (in tariff equivalent terms), financial conditions will be slightly tightened (+20 basis points for the UK corporate bonds spread).

According to the Stability Programme for 2019-2022 presented by France in April 2019, the short-term impact a *No Deal* exit on the French economy would be small (-0.2% of GDP): UK will exempt from custom tariffs 87% of UK imports from the EU27; customs tariffs on UK goods (which account for 0.8% of French GDP) would be around 7% on average, which means that their impact on French agents' incomes would be below 0.1%; for the same reason, the impact of longer waiting times at the UK/French border on production chains will be small. Given markets reaction to the June 2016 referendum results, the study rules out a strong impact on risk premiums or share prices. The study does neither take in account the impact of uncertainty nor the impact of UK GDP.

A moderate estimate can lead to assume that the depreciation of the pound could be of around 10% (the same order of magnitude as in 2016), temporary agreements would limit supply chains disruptions, so that the foreign trade contribution could be slightly positive (in the order of 0.2 points of GDP in 2019); economic policy would be slightly expansionary (in the order of 0.2 points of GDP); the inflationary effect of the depreciation would be in the order of 1.5%, which would induce consumption to fall by around 0.8 percentage point of GDP; finally, a 5% drop in companies' investment (i.e. 0.5% of GDP) would be limited by a well-managed *No Deal*. In these conditions, the negative impact on output would be limited to 1.2% of GDP in 2019. But this is only one of the possible scenarios.

Generally, the shock to the EU27 will be about 20% of the shock to the UK (i.e. for a shock of 1.2% of GDP in the UK, 0.25% of EU GDP) knowing that the EU has little choice, and will have to apply tariffs on UK products in case of no free trade agreement (otherwise, all third countries could ask the same regime).

Initially, the perspective of Brexit could look like it could weaken the EU, showing that a country could leave the EU. But the EU-27 showed unity in the negotiations. It became clear that it was almost impossible and very costly to leave the EU. The EU is more or less like a golden cage, from which it is difficult, if not impossible, to get out.

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