By referendum on 23 June 2016, voters in the United Kingdom of Great Britain and Northern Ireland voted narrowly to leave the EU. The vote was called for party political reasons, as the ruling Conservative party was divided on the issue of continued EU membership, and the Government expected that a national pro-EU popular vote would silence those who wanted to leave. When the result turned out to be the opposite of what the Government expected, the Prime Minister resigned, despite an earlier pledge that he would abide by and implement the result. The new Prime Minister – who had voted to remain in the EU – repeated the pledge, even though the referendum had been an advisory, not a binding, one. The subsequent period has been spent in trying to achieve an agreement that minimises the adverse socio-economic consequences, to both sides, of a UK departure from the EU, prior to the declared leaving date of 29 March 2019.

This paper examines likely effects of Brexit on the transport industry. It starts by explaining the meaning of Brexit, the timetable for UK exit, and some of the possible reasons why the referendum vote turned out as it did. (There has been a surprising lack of research into this subject, and none was undertaken by the UK Government in the aftermath of the vote.) The paper then considers the possible trade and commercial alternatives that the UK has to EU membership. ‘Norway’ or ‘Canada’ (or Canada Plus) arrangements were part of the internal discussion in the UK in the period after the referendum (which had not included a question on alternatives). A UK Government insistence (‘red line’) that the UK would no longer be subject to the jurisdiction of the European Court of Justice, which interprets EU law, limited the options available to the UK. The possible consequences to the UK, if it leaves the EU without a mutually acceptable withdrawal agreement, are then considered.

Having set the background to this possible event, the paper then looks at how it may affect the transport industry. All modes of transport, other than inland waterway transport which has no direct connection between the UK and other EU countries, are examined. In each case new agreements will be needed to avoid serious disruption in the event of a ‘no-deal’ Brexit that removes the UK from the single market and customs union, with the UK then being regarded as a third country for trade and transport links.

The final part of the paper examines the likely effect of Brexit on the economies of the UK and the remainder of the EU (and hence transport demand). It finds that Ireland may be the most affected EU country, but that the economy of the remaining EU-27 as a whole will suffer as a result of Brexit. After Ireland, the UK economy will be hit hardest, and we may never know if that is a result that the ‘leave’ voters in 2016 expected or not.

Keywords: Brexit, EU, single market, customs union, EFTA, EEA, CETA, WTO, road transport, railway transport, air transport, ports, shipping.

1. WHAT IS BREXIT?

On 29 March 2017, the United Kingdom of Great Britain and Northern Ireland (UK) announced its intention to leave the EU and all its institutions, including the European Court of Justice (ECJ), European Civil Aviation Area (ECAA), European Agency for Railways (ERA), the European Aviation Safety Area (EASA), etc. – also the European Atomic Energy Community.

Under Article 50 of the 2007 Treaty of Lisbon, there is a two-year time period allowed to make a withdrawal agreement. Thus on 30 March 2019, the UK will no longer be an EU member, unless the European Council unanimously votes to extend this period.
The Withdrawal Agreement is then subject to ratification by the European Parliament and also (by qualified majority vote) the European Council\(^1\) (i.e. 16 countries representing more than 65% of the EU population).

2. WHEN IS BREXIT?

The UK Prime Minister has stated the intention to ask for an implementation period of around two years after withdrawal. There are suggestions that the Government would like this period to last until the end of 2021. The EU is believed to prefer 2020. Article 50 does not seem to allow for an implementation period. But the time allowed to make a withdrawal agreement can be extended if all 28 EU member states agree.

With no such agreement, the UK leaves at 23:00 UK time on 29 March 2019. The Government proposes to enshrine this in UK law. But if all agree, it could be 1 January 2021, 2022, or some other date.

3. WHY IS BREXIT??

The UK government decided to ask UK residents, in a referendum, whether they thought that Britain should remain in, or leave, the European Union. The referendum was held on 23 June 2016. England and Wales voted to leave, Scotland and Northern Ireland to remain. Overall 51.9% said the UK should leave the EU, and 48.2% said it should remain a member. Turnout was 72.2%, so 37.5% of the electorate voted to leave. Cities with a clear majority of ‘Remainers’ included Manchester, London and Brighton.

The referendum was advisory and does not bind Parliament. But the Conservative government declared that it would respect the result, as did the Labour opposition. Only the minority Liberal Democrat and Green parties do not agree with this decision made by the main parties. The decision to leave is now in parliamentary process.

4. REASONS FOR THE VOTE?

The theme of the ‘Leave’ campaign was to ‘take back control’, but the motives of those who voted leave seem to be a mix of nationalism and feeling ‘left behind’ by economic policy. There has never been an official investigation, but reasons for voting to leave may include:

- Half-hearted UK government support for the EU over many years
- Government austerity programme and spending cuts since 2010
- Immigration increased the population, but public services did not keep up. Between 2010 and 2016, the population grew at 1.5% a year, but spending on the health service grew by only half as much and the service came under increasing pressure
- Many people saw immigration as the problem, not part of the solution, despite the fact that 12% of the UK health workers in 2016 were immigrants (5% being from the EU).

So there was a desire for a change in direction, as incomes and services were being squeezed. There was generally a poor understanding of the EU and a dismal referendum campaign in which the ‘Leave’ campaign emphasized how much the UK pays to Brussels (neglecting to mention the flow in the reverse direction, or the disadvantages of leaving). The ‘Remain’ campaign was on the defensive, and when economists spoke of the costs of leaving and the advantages of remaining, they were rubbish as ‘experts’ who should not be trusted.\(^2\)

5. WHAT ARE THE POSSIBLE ALTERNATIVES FOR THE UK?

As one example, the European Economic Area (EEA) countries – Norway, Iceland and Liechtenstein – pay to be in the customs union and single market, but have no say in the rules. There seems no advantage to UK in leaving membership to accept this less influential status.

The European Free Trade Area (EFTA) comprises the EEA countries plus Switzerland. Switzerland has 120 different agreements with the EU, but does not have full access to provide services in EU. Again, such status would less

---

\(^1\) A qualified majority vote of the European Council is one that has the support of at least 16 countries, representing more than 65% of the EU population.

\(^2\) The printed media took sides, while the BBC, which is supposed to be impartial, was criticized and even taken to court by the Royal Economic Society (of which I am a member), who were outraged that despite a clear overwhelming majority of economists saying we should remain, the BBC insisted that always one economist on each side should be interviewed, thus giving a false impression that economists were divided. There was a very low standard of debate on the BBC as a result of this policy in almost all their programming,
advantageous for the UK than membership, while such agreements would take years to conclude.

Another free trade area, the Comprehensive Economic and Trade Agreement (CETA), exists between Canada and the EU. Under this, most tariffs are abolished, but, as Canada is not in the single market, customs checks are still needed to apply rules of origin, while the free trade in services is again limited. CETA took eight years to complete.

Some countries – like Turkey, Andorra and San Marino – are in the EU customs union. They apply EU tariffs to their imports, but have no say in setting them. Again they are not in the single market, so non-tariff barriers apply.

Without any specific agreements, World Trade Organization (WTO) rules would apply. The EU would apply tariffs for imports from the UK, and vice versa. The tariffs would have to be the same as those applying to the rest of the world.

So if UK did not want to apply tariffs to imports from the EU, it could not apply them to anybody. Hong Kong and Singapore operate in this way, with no import duties, although there are some exceptions and non-tariff barriers.

6. WHAT HAPPENS NEXT?

Negotiations are continuing. But the UK government still shows no clear sign of knowing why we are leaving, what we can gain, or what we want, other than the ‘most frictionless trade possible’ between UK and EU (i.e. ‘soft’ Brexit) and greater control of immigration.

The EU view is that Britain cannot be outside yet keep all the benefits of membership. A CETA agreement is regarded as most likely. The UK has discussed the idea of a ‘CETA Plus’ to include services.

The UK government is weak, with a very small minority, and depends on support from the unionists of Northern Ireland. It remains possible that the government may collapse, or negotiations may fail. Or they may not. Nobody knows.

In October, the Federation of German Industries advised its members, as a precaution, to be prepared for a ‘very hard Brexit’, and others have been saying the same thing.

7. THE UK’S 12 PRINCIPLES

A The UK set out these 12 principles in February 2017, before the start of negotiations:

- The need for certainty and clarity
- Taking control of our own laws
- Strengthening the Union (that is the union of four countries that makes up the UK)
- Protecting our strong historic ties with Ireland and maintaining the Common Travel Area (between the UK and Ireland)
- Controlling immigration
- Securing rights for EU nationals in the UK and UK nationals in the EU
- Protecting workers’ rights
- Ensuring free trade with European markets
- Securing new trade agreements with other countries
- Ensuring the United Kingdom remains the best place for science and innovation
- Cooperating in the fight against crime and terrorism
- Delivering a smooth, orderly exit from the EU.

8. THE EFFECT OF NO AGREEMENT

Nobody yet knows what effect any agreement might have.

Highlighted EU concerns have related to the EU budget and the rights of EU citizens in UK. These are now settled in principle. The Irish question is still open however. A new land border replacing the free movement now allowed across over 200 roads between the two parts of Ireland needs to be avoided. There are 142 identified activities that benefit from cross-border travel, with shared health, ambulance service and other agreements.

The UK has now promised no hard borders in Ireland or between Northern Ireland and the rest of the UK. It is not clear how this will work. These and many other issues need to be resolved by October 2018, so that the EU-27 can each have time to ratify the agreement by March 2019.

Perhaps implementation can be completed by 2022. Britain must have an election by June that year.

Besides Ireland, other tricky issues remain – e.g. UK and EU are reported to have agreed to share the existing EU food trade quotas that exist with third countries. But the USA, Brazil, Argentina, Canada, New Zealand, Uruguay and Thailand are objecting at the WTO. Dividing what is now a single quota may mean that they can export less to their favoured EU markets.

Also the EEA countries (Norway, Iceland, Liechtenstein) are not party to EU-UK discussions and need to be included in any agreement or have a separate agreement.
Whether there is agreement or not, transport supply and demand is likely to be affected.

9. ROAD TRANSPORT

The likely effects of Brexit on road transport include the following:

- There can be no more EU cabotage in UK, or vice versa
- If there are no reciprocal arrangements, EU-UK road transport could be at threat. There is a need for mutually agreed acceptance of documents, driving licences, etc.
- There will be new border controls at Channel ports, west coast ports (e.g. Liverpool) and between the UK and Ireland, as well as at the EU ports
- There will be a need for EU-Irish transport to transit UK
- Trucks crossing the internal EU borders now use a Community licence, but with Brexit trucks may need bilateral or ECMT permits to cross the UK border, and these are subject to quota
- TIR carnets for customs passage, normally restricted in number, may be needed
- Dover now handles 8,500 trucks/day, 8,000 of them to or from the EU. Many are fresh food. It takes 20 minutes to clear the non-EU trucks, so this would apply to 8,000 more trucks. Yet there is no space for more queuing. Some temporary parking areas are being developed.

Trucks entering the EU from Turkey queue for between 4 and 17 km to enter Bulgaria, and this takes up to 30 hours. Each driver requires an export declaration, invoices for the products they are carrying, insurance certificates and a transport permit for each EU nation they will drive through. UK could face a similar challenge for its exports to the EU.

- There could also be staff or vehicle shortages. 85% of cross-Channel trucks have EU-27 ownership, while 10% of UK truck drivers and 23% of UK warehouse staff are from the EU-27.

10. AIR TRANSPORT

The EU single aviation market is based on 35 separate EU legislative acts, and the UK would have to replace this legislation. Also, about 60% of UK air passengers land in the EU, but if there is no agreement, no UK airlines will be able to land in the EU. The UK will seek agreements, but Lufthansa, Air-France-KLM and others are reported to oppose concessions to the UK. If the UK leaves EASA, it will have to create and staff a new safety regulator.

It is of course likely that agreements will be reached, but maybe not on Day 1.

There are likely to be fewer flights and reduced activity by low cost airlines. Some observers suggest that fares could rise 15–30%. Lesser routes, such as Katowice-Doncaster, could be left unserved.

EasyJet plans to become EU-based, while RyanAir will become British-based, not EU, unless it restructures also. It is registered in Ireland, but most of its shareholders are British. To have EU rights, airlines need to be controlled, as well as based, in the EU. Air France says it will object to any relaxation of this rule.

The EU-US Open Skies agreement will cease to apply to the UK – as will agreements with 16 other non-EU countries. 85% of UK international air traffic is governed by EU-wide agreements which will need replacement.

Eurocontrol membership is not affected. It is a separate body from the EU.

11. POSSIBLE MITIGATION

Of course the adverse effects can be mitigated, by such things as:

- The UK could join the ECAA and EASA. But it would then have to follow EU rules, which are enforced by the ECJ. The UK says it will no longer be subject to ECJ rulings after Brexit, so this is problematic
- There could be new UK-EU and UK-USA open skies agreements
- There could be new bilateral agreements with the 16 other countries that have agreements with the EU.

But new agreements may take years, and fewer flights and higher prices for the UK may be inevitable.

12. RAIL TRANSPORT

The Community of European Railway and Infrastructure Companies (CER) says that if there are no arrangements for continued cooperation, conditions could be challenging:

- Access is needed for British operators in the EU, and vice-versa
- There needs to be continued free movement of people
• There needs to be continued harmonised development of the Single European Railway Area under the technical pillar of the Fourth Railway Package
• There needs to be a common travel area and seamless borders for rail freight between Ireland and the rest of the EU
• There is a need for UK to continue to contribute to EU research and innovation programmes
• 20% of the UK railway workforce are citizens of the EU-27 – up to 40% in some parts of the railway industry.

Eurotunnel has been hopeful that the effect will be neutral. But now it is also getting worried:

“Any kind of disruption to fluid movement [of goods through the tunnel] is going to cause a blockage which will paralyse all of the supplier countries in Europe” (November 2017)

13. PORTS

4.2 million trucks/year enter UK through the Dover or Folkestone area, by ferry or the Channel Tunnel – see Figure 1. The UK has few customs officials at these ports, and few trained customs officials elsewhere. More customs officers will also be needed on the EU side. It takes two years to train a French customs officer.

There is no space for new traffic lanes or warehouses in Dover or Folkestone. As Britain has about 50 ports, there might be scope to disperse the imports and exports among these. The EU ports may have similar problems, although Calais is said to have space.

14. SHIPPING

Shipping accounts for 95% of British international trade. Of the UK’s lift-on, lift-off (LO-LO) traffic, 31% is to or from the EU, while for roll-on roll-off (RO-RO) traffic, the figure is 78%.

Shipping is governed by International Maritime Organisation (IMO) rules, rather than EU rules, so it will be able to continue. But there will be an end to cabotage – EU-27 ships will not be able to operate domestically in the UK, and vice-versa.

There may be a re-routing of some Channel ferries to avoid bottlenecks at Dover or Folkestone. Depending on the new customs regime, there may be a return to the days of ‘booze cruises’, to quench thirst and buy supplies at duty-free prices on the ferries. But with these arrangements the import quantities would be restricted as compared with today.

One factor which has not yet had much attention is that Gibraltar bunker fuel is widely used, as it is tax free. But 35% of this is stored in...
Spain, and this link may be severed or subject to duty.

If the UK leaves the single market, as expected, then it will be more complicated for UK to use Rotterdam or other EU ports for third-country trade. Such trade – in both directions – is commonplace now.

The UK shipping industry, like the railway industry, fears a loss of skilled EU workers, and the extra costs that may result.

15. THE DEMAND SIDE

Trade

UK exports to the EU-27 are 7.5% of UK GDP. EU-27 exports to the UK are 2.5% of EU-27 GDP. Thus in general the effect of Brexit will be greater on the UK side. The UK imports 7% of its fuel from the EU but over 75% of its food.

After the referendum the pound fell by 13% against the euro, and 20% against the US dollar. This is likely to lead to fewer UK imports in future as domestic production (and possibly exports) will become more competitive due to this exchange rate shift.

But the introduction of tariffs and borders is likely to outweigh this effect. These factors will cause UK exports to fall. The EU tariffs average 10.9% for agriculture, 10% for cars, and 3.9% for other goods. The UK’s four main exports to the EU are cars and car parts, consumer goods, health care products and technology. Adding the costs of non-tariff barriers, the average price of these main exports to EU customers will rise by 10.4%.

Calculations for Germany suggest that their exports to the UK will fall by 33% (with a hard Brexit) or by 9% (with a soft Brexit). But the effect is worse for the UK. Their exports to Germany would fall by 50% (hard Brexit) or 24% (soft).

Under the WTO rules, which would apply in the absence of a trade agreement, the UK would also have to apply duties on imports from the EU-27 (unless it abolished import duties for all third countries). And with its loss of EU-wide trade agreements, the UK may face higher tariffs elsewhere. 65 international trade deals could lapse.

Cross-border ‘just-in-time’ trade will also be in jeopardy, because of tariffs and/or border delays. This affects both parties. For example Zeebrugge reports that 45% of its traffic is to or from the UK. Much of this traffic may be at risk.

16. INCOME AND GROWTH

UK living standards are falling, and GDP growth is becoming Europe’s slowest. The official forecasts of UK GDP in 2030 are lower by 5%-6% because of Brexit. There will be an effect on EU-27 also. An overall GDP reduction of 1.5% in the EU-27 is forecast for a hard Brexit – in Belgium 2.35%. Ireland will be the worst hit, the forecast range of 3.4% to 9.4% reduction in Irish GDP being worse than that for the UK.

There will be fewer personal movements even if a visa-free regime is retained. This is already happening. Two-thirds of UK-EU air traffic is made up of UK-based passengers, and as incomes are squeezed, demand is softening.

There is also lower UK investment due to the uncertainty and depressed demand. Low investment means low take-up of new or changed opportunities. 40% of British businesses have reported that they are investing less because of Brexit fears.

17. BREXIT’S LONG-TERM IMPACT

Deutsche Bank has said it fears a hard Brexit could cause a world financial crisis. It says Brexit has ‘introduced a major risk to economic activity, the financial architecture of Europe and perhaps more concerning, the geo-politics and security of the region’.

It seems likely that there will be an increase in UK protectionism, and lower trade with the EU. One recent estimate by the UK’s National Institute of Economic and Social Research foresees a drop of 59% in UK exports to the EU-27.

For the UK, the overall effect is likely to lead to a diminishing importance of the UK economy and its place in the world.

The EU will also change – Britain has been a leader in developing the EU policies of openness, competition, and the single market.

The UK could try to compete with the EU through becoming a low wage, low tax economy with light regulation.

Many British citizens are applying for EU citizenship where they can. There are likely to be more UK applicants for Polish citizenship (I will be one, if Polish law allows).

But this is largely supposition. Nobody can yet be sure, as the final agreement – if any – has not been reached.
18. THE EFFECT OF BREXIT ON TRANSPORT

Brexit seems now likely, but nobody yet knows if it will be hard or soft – or chaotic. But after the initial shock, it is likely that there will be a gradual improvement in travel and transport conditions.

Both demand and supply will be lower under most assumptions. The EU and its eastern and southern neighbour countries may increase supply within the EU-27 to compensate for the lower British contribution.

Transport vehicles (including ships and aircraft) can be moved elsewhere, and relocated in the UK or the EU-27 as appropriate. But with lower demand, this might slow down new purchases and thus reduce the rate of modernisation.

Infrastructure investments are more at risk – e.g. the proposed third runway for Heathrow, or investments in some smaller airports – due to the lower demand. But there may be a new need to invest in border controls and perhaps the smaller Channel ports. There is likely to be a growth in the number and size of inland ports, customs arrangements permitting.

There will be a return of customs brokers, and higher transport costs because of the slower cross-border journeys and lower investment. But intra-EU-26 journeys will not be affected by the border issues. In the short term, there may be more road and air competition in the smaller EU, due to surplus vehicles, vessels and aircraft.

19. RECENT DEVELOPMENTS (NOVEMBER AND DECEMBER 2017)

The Dutch Parliament is now telling us “What was long considered impossible is suddenly thinkable: a chaos scenario in which the UK abruptly leaves the EU on 29 March 2019 without an exit agreement, a transition period or a framework for future relations. The Netherlands must be ready for this. Government services such as customs and inspection agencies must be prepared. Roadmaps must be ready for several economic sectors, notably transport, agriculture and fisheries.”

So now we have the third option: not hard, not soft: the EU should prepare for a ‘chaotic and disorderly’ Brexit.

The idea that part of the UK (Northern Ireland) could mirror the single market has been put forward in the Joint EU-UK Report to the December EU Summit. This is to avoid the border splitting Ireland. But there was also a last-minute promise not to split Northern Ireland from the rest of the UK. This would move the effective UK-EU border somewhere else, probably the Irish Sea. But that would not be acceptable to Northern Ireland, which is in the UK but would be cut off from the rest of the country by such a border. The solution was not made clear in the report, and it might mean that there would be no border between Ireland and the UK at all.

That might imply a soft Brexit. But the report repeated that UK will leave the single market and the customs union. The discussions will be ongoing on 2018.

20. CLOSING THOUGHT

“If misinformation drove support for Brexit, then leaving the EU will do nothing to mitigate voters’ discontent.”

(UK in a Changing Europe)