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Brexit and Trade: Between Facts and Irrelevance

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Abstract

This paper examines four claims of Brexit supporters on the United Kingdom's post-exit arrangement regarding trade with the EU. It reviews the nature and importance of UK-EU trade links and the possible impact on the UK of leaving the EU customs union. It argues that the claims of pro-Brexit supporters on trade possibilities are based on incongruous arguments which are either logically inconsistent or ignore the extent of commitment required by trade agreements that tackle regulatory barriers, not just tariffs and border restrictions. We demonstrate that the "attractiveness" of the UK market will decline as the UK enters in progressively more agreements. We conclude by analysing the implications for the UK of "taking back control" of its trade policy.

Keywords: United Kingdom, European Union, trade, Brexit.

JEL-Codes: F13, F15, 052

Introduction

Ever since the June referendum in the UK on withdrawal from the European Union, there has been almost daily speculation, commentary and analysis on the post-exit arrangements that may apply to trade between the UK and the EU[1]. Brussels think tanks such as CEPS and Bruegel have also published several papers on Brexit.

The proponents of Brexit have made a number of claims purporting to show that in the field of trade, the UK will benefit from being able to set its own agenda and choose its own trade partners. The UK may indeed gain by not being a member of the EU. However, the mooted post-exit arrangements are fraught with serious drawbacks. The purpose of this paper is to analyse four of the Bexiters' main claims and show that they are either logically inconsistent or one-sided as they ignore significant negative effects.

Those claims are the following:
1. The EU accounts for less than 50% of the UK trade.
2. The UK has not much to lose by leaving the EU's customs union.
3. The UK has much to gain by concluding bilateral trade agreements by itself.
4. The UK will be able to pursue an open trade policy without being held back by the protectionist tendencies of other Member States.

The paper concludes with analysis of the consequences of the UK's attempt to "take back control" of its policies, including trade policy. Taking back control has been the emotionally powerful and, admittedly, successful slogan of the proponents of Brexit. We will argue, however, that since most trade agreements are not anymore about border restrictions but about domestic regulation and market access, taking back control will leave the UK exposed to the vagaries of Brussels-based regulation that has international reach.

Claim 1: The EU accounts for less than 50% of the UK trade

This is largely true. Eurostat data show that in 2015 only 44% of the UK exports went to other EU countries. Only Malta exported less than 50% of its exports to the rest of the EU [45%]. The EU average is 63%. On the import side, the EU was the origin of only 54% of the UK's total imports. Only Greece and the Netherlands had lower shares than the UK, with 53% and 46%, respectively. The top ten trade partners of the UK however were all EU Member States except for the US (14.5%), China (7%) and Switzerland (6%). Hence, the EU is the largest trade partner of the UK.

However, the headline trade data do not give the true picture of the extent of the UK's commercial links with non-EU countries. Through the EU, the UK also has access to third

[1] See, for example, the e-book on Brexit, which is a compilation of columns that have been published on "voxeu.org", the special page of the "Financial Times", which collects the various articles dealing with the prospective negotiations and consequences of Brexit, the page of the UK National Institute of Economic and Social Research addressing Brexit-related issues, the Centre for European Reform page on Britain & the EU or Open Europe's Britain & the EU.

countries with which the EU has signed trade agreements such as Mexico, Chile, Algeria, South-Africa, Singapore, South Korea, Turkey, and pretty soon with Vietnam and Canada. Since these countries account for a sizeable part (about 15-20%) of the UK's transactions with the rest of the world, it follows that in reality the UK already trades with those countries via the EU agreements. It means that preferential trade agreements cover about 60-65% of the UK's total trade. In other words, the UK is preparing to abandon arrangements that cover 60-65% of its trade in order to sign its own agreements with countries that account for the remaining 35-40% of its trade. It should be noted that these numbers do not include the EU current negotiations with countries such as Japan. Admittedly, Brexiters have also argued, without explaining how, that they will improve on existing bilateral agreements. It remains to be seen how that can be achieved.

The accuracy of the trade data has also been disputed because a large proportion of European trade with third countries passes through the ports of Rotterdam and Antwerp. The significant amount of pass-through trade may exaggerate the importance of the EU as either origin or destination of the UK's trade. It is always difficult to pin point the origin or destination of goods that go through large ports. Transhipments are routine, especially given the fact that traded products are carried by increasingly larger container ships which serve only the biggest ports. On this issue, the UK Office for National Statistics concluded that the size of pass-through may be about 4% of the UK's imports from and exports to the EU[2]].

Hence, even when the distorting effect of pass-through trade is taken into account, the EU still remains by far the UK's largest trade partner.

Claim 2: The UK has not much to lose by leaving the EU's customs union

The EU's customs union is indispensable for internal free trade. If Member States were free to sign their own agreements with third countries and set their own tariff rates, then it would be necessary to monitor internal frontiers to prevent third-country products from entering through the low-tariff Member States. A free trade agreement between the UK and the EU will unbind the UK from the EU's common external tariff and enable it to negotiate and conclude bilateral trade deals. But Brexiters omit three consequences of this freedom.

First, there will have to be controls and formalities in bilateral trade. "Rules of origin" will have to be applied in order to determine which products should benefit from duty-free treatment. Rules of origin normally define the minimum value that has to be added to a product in order for that product to be considered as domestic and benefit from free circulation in a free trade area. But these rules are costly to comply with and costly to enforce. In April 2016, the "HM Treasury analysis on the long-term economic impact of EU membership and the alternatives" summarised the findings of several studies that estimated that rules of origin could add 3%-15% extra cost to normal trade costs[3].

[2] UK Office for National Statistics, UK Trade in Goods estimates and the 'Rotterdam Effect', 6 February 2015

[3] HM Government (April 2016), HM Treasury analysis: the long-term economic impact of EU membership and the alternatives, p. 163

Second, these rules of origin will also distort trade and investment decisions. This is particularly true in industries with long value-chains whereby companies import a large proportion of their components. The following example illustrates the distortionary effect of rules of origin.

Assume a company based in a partner country makes a product using three inputs, each of which costs as follows: A = 30; B = 30; C (labour) = 45. Inputs A & B are imported from third countries into the partner country; A is from a country subject to zero tariff and B is from a country that is subject to a 20% tariff. Therefore, the total cost to the company, after the tariff, is *111 [= 30 + 36 + 45]*. Further assume that this company is a price taker because it operates in a competitive market. If it sells its product at 111 it just breaks even. It also means that its added value is *40% [= 45/111]*, which is the proportion of labour in the value (price) of the product.

Let the rule of origin be as follows in this particular case: A product is "domestic" [i.e. it can be imported from the partner country duty free] if the value-added is at minimum 40%. If value-added is below 40%, products which are imported from the partner country incur a tariff of also 20%. In our particular case the product in question can indeed be considered as domestic.

Now assume that that company can import an improved component B at a higher cost of 40 instead of 30 and save 50% of the labour costs of assembling the final product. The imported component costs 40 + a tariff of 20%, which means that the total cost per unit is *100.5 [= 30 + 40 + 8 + 22.5]*. If the final consumer price remains 111, the company gains by making a profit of 10.5 per unit it sells. However, there is a problem. The value added [labour of 22.5 plus profit of 10.5] is now just *30% [= 33/111*]. Since the value-added is less than 40%, the product is no longer "domestic" and when it is imported from the partner country it attracts a tariff. Let the tariff rate on the complete product be also 20%. The minimum price that the company can charge to domestic consumers, after the tariff, is *121 [= 100.5 + 20%]*. As a consequence, the company cannot sell anything.

However, in a customs union that includes the two countries, the total cost of that product is only *100.5 [= 30 + 48 + 22.5]*. The company would have been able to make a profit of 10.5. But in our case the rules of origin that regulate trade within free trade areas force the company to move production inside the free trade area or find alternative inputs or locate in a country whose exports to the free trade area are not subject to tariffs. Rules of origin affect location decisions not according to real costs but according to how tariffs are levied.

Third, the Rotterdam-Antwerp effect mentioned earlier will come into play in a negative way. If, as Brexiters argue, the UK is less dependent on the EU because a significant proportion of its trade with the EU is accounted by transhipments that pass through major ports, it also means that in the future an equal amount of trade will be subject to customs formalities. The lower the dependence on the EU, the larger the transhipments but also the larger the amount of trade that will be subject to those formalities.

In addition, if, at present, UK traded goods pass through the major European ports because it is more efficient that they are transported first on very large vessels and then transhipped after they arrive in continental Europe, or that they are first sent to the big European ports before they are exported outside the EU, it follows that diverting that trade from those big ports and directly receiving goods from or sending goods to third countries will become more costly, regardless of customs formalities. Brexiters thus clearly underestimate the costs that businesses will have to incur if the UK leaves the EU customs union.

Claim 3: The UK has much to gain by concluding bilateral trade agreements

The statement that the EU's customs union prevents Member States from concluding individual trade agreements is true. The EU has exclusive competence in what Article 207 of the Treaty on the Functioning of the European Union defines as "the common commercial policy". But the implications which are typically drawn are far from being correct. Regardless of the UK's intentions, the ability of the UK to enter into many bilateral agreements with third countries will also depend on the willingness of other countries to remove their trade restrictions. Much has been written about whether the UK will be able to wield negotiating power and whether other countries will be interested to spend time negotiating with a country whose economy is only a seventh of the EU's size or whose consumers account for only an eighth of the EU's total. Although the UK does not have either the EU's attractiveness in terms of size or the EU's negotiating power, it cannot be excluded that some countries will still find it worthwhile to conclude trade agreements with the UK.

The nature of new trade agreements

However, the UK's eagerness to enter into bilateral arrangements with third countries may not be sufficient to actually secure such agreements. Trade agreements at present are hardly about tariffs and border restrictions. In most industrial countries, tariffs have long been lowered to the insignificant levels of a few percentage points. Now, trade agreements are "deep" in the sense that they are mainly about such things as domestic product standards, health and safety rules, regulation of establishment and investment and public procurement. A case in point is the recently concluded Comprehensive and Economic Trade Agreement (CETA) between Canada and the EU. It is 1600 pages not because it defines long lists of customs duties but because it covers mostly domestic regulations and procedures. It is a so-called "mixed" agreement because it deals with issues which do not fall within the exclusive trade competence of the EU. This is also the reason why its signing was held up by the Walloon parliament.

CETA as well as the EU-US Transatlantic Trade and Investment Partnership (TTIP) have been the focal point of media coverage. But these two agreements are far from being isolated examples. They belong to a trend which is revealed by the agreements mentioned in table 1 below. Custom duties are the least significant issue. For example, of the more than 1000 pages of the recently agreed EU-Singapore Free Trade Agreement, only 10 are devoted to the elimination of custom duties. The very limited importance and therefore the very limited space devoted to customs duties is reflected in all the main trade agreements that the EU has been negotiating in the past five years – finalised or ongoing. There is no exception. They all include chapters on investment, services, establishment, industry-specific regulation, intellectual property and competition policy among others. These issues are covered by agreements with both developed and developing countries, regardless of the geographic or cultural proximity of the countries. The so-called "free-trade agreements" now contain extensive chapters in addition to the provisions on duties. A case in point is the increasing importance of trade in services. In terms of value added, the UK trades more in services than in goods. The UK Trade Policy Observatory of the University of Sussex recently stressed how Brexit could deteriorate the UK's trade in services both with EU and non-EU partners.[4]

[4] See "Services trade in the UK: what is at stake?" of Ingo Borchert and "The UK Trade Landscape After Brexit" of Emily Lydgate, Jim Rollo and Rorden Wilkinson.

Table 1: Areas covered by trade agreements that the EU has recently concluded or that it is currently negotiating

	Transatlantic Trade and Investment Partnership (TTIP)	EU-Canada Comprehensive Economic and Trade Agreement (CETA)	EU-Singapore Free Trade Agreement	EU-South Korea Free Trade Agreement	EU-Japan Free Trade Agreement and Economic Partnership Agreement (EPA)	EU-Ukraine Deep and Comprehensive Free Trade Area (DCFTA)[5]	EU-Vietnam Free Trade Agreement
Market access for goods							
Custom duties (tariffs)	X	X	X	X	X	X	X
Trade in services and establishment							
Investment	X	X	X	X	X	X	X
Government procurement	X	X	X	X	X	X	X
E-commerce	X	X	X	X	X	X	X
Dispute settlement	X	X	X	X	X	X	X
Industry-specific regulation							
Technical barriers to trade (horizontal measures)	X	X	X	X	X	X	X
Specific sectoral agreements[6]	X	X	X	X	X	X	X
Other rules & modes of cooperation							
Intellectual property[7]	X	X	X	X	X	X	X
Competition policy	X	X	X	X	X	X	X
Trade remedies[8]	X	X	X	X	X	X	X
Sustainable development provisions	X	X	X	X	X	X	X

Source: authors, based on information from the Directorate General for Trade of the European Commission[9]

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[5] As part of the Association Agreement
[6] e.g. pharmaceuticals or agri-food, i.e. sanitary and phytosanitary measure
[7] Including Geographical Indications
[8] e.g. anti-dumping practices
[9] Accessible here

Global regulatory competition and convergence

When trade agreements were mostly about reduction of tariffs, it made sense, within the logic of reciprocal liberalisation, to negotiate bilateral tariff reduction schedules. A country would reduce its customs duties in response to the reduction of the duties of another country.

When it comes to domestic regulation, the object of bilateral agreements is either mutual recognition or harmonisation of the rules enforced within the jurisdictions (i.e. territories) of the parties to the agreement. Mutual recognition can indeed be subject to a reciprocal arrangement and different reciprocal agreements can be agreed sequentially and all of them can co-exist. But harmonisation can proceed in a sequential manner only if trade partners one by one converge to the standard of one country, which in this case would be the UK. It is simply not possible to harmonise regulations with different partners in a way that all such agreements can co-exist. The only possibility for co-existence when a country, in this case the UK, is a partner in all agreement is if they are all harmonised to a single standard.

But how likely will it be that all potential partners will want to adopt UK rules? The answer is that it is very unlikely. In fact, recent research has shown that most countries in the global trade system are converging to EU standards and regulations. This has been aptly branded the “Brussels effect” [see Anu Bradford, The Brussels Effect, Northwestern University Law Review, 2012, vol. 107(1), pp. 1-67]. The reason is that the EU pursues an active regulatory policy and it has the largest single market in the world in terms of monetary size. No company can afford to be locked out of the EU market and therefore every company manufactures its products and tailors its services so that they comply with EU rules. Hence the belief that the UK will be able to sign many “deep” trade agreements is rather illusory. It can be noted nonetheless that because the UK is part of the EU until it formally leaves it, it will still share the same rules for a number of years, which in turn means that third countries, because of the Brussels effect, will not have to adapt to specific UK rules in the short term.

In the long run, the only solution for the UK in order to sign deep trade agreements with third countries is to cling on to EU rules. But it will then have lost, because of Brexit, all negotiating power to define new EU rules. And this outcome will frustrate Brexiters’ wish to regain the ability to frame their own rules.

Negotiating power

The “Brussels effect” is not the only hurdle for the UK. With the recent trend towards comprehensive agreements, negotiations require more time to come to fruition. As shown in table 2 below, the EU and Canada have finalised CETA after more than seven years. The negotiations for the EU-Japan Free Trade and Economic Partnership Agreement have already been through a staggering seventeen rounds of negotiations without the certainty of reaching a compromise any time soon. This does not auger well for the UK. First of all, the negotiations can easily extend beyond the mandate of the present government. A new government may have other priorities. This uncertainty may deter potential trade partners from entering into negotiations. Ironically, the EU in this matter benefits from its greater political inertia. The three main political groups in the European Parliament – the EPP, the S&D and ALDE – form a relatively stable majority.

Table 2: EU trade agreements that have recently been signed or are currently being negotiated

	Transatlantic Trade and Investment Partnership (TTIP)	EU-Canada Comprehensive Economic and Trade Agreement (CETA)	EU-Singapore Free Trade Agreement (EUSFTA)	EU-South Korea Free Trade Agreement	EU-Japan Free Trade Agreement and Economic Partnership Agreement (EPA)	EU-Ukraine Deep and Comprehensive Free Trade Area (DCFTA), as part of the Association Agreement	EU-Vietnam Free Trade Agreement
Current status	Being negotiated	Being ratified	Being ratified	Applies provisionally since 2011	Being negotiated	Applies provisionally since January 2016	Being ratified
Length of agreement[10]	At least 250 pages, plus appendixes and annexes	1600 pages	Above 1000 pages	1432 pages	Information not available	600 pages (Title IV of the Association Agreement + protocols)	Above 500 pages
Length of negotiations and number of rounds	15 rounds since July 2013	13 rounds from April 2009	From March 2010 to October 2014	7 rounds from May 2007 to October 2009	17 rounds from November 2012	From July 2008 to December 2011 with remaining provisions signed in June 2014	14 rounds from June 2012 to January 2016

Source: authors, based on information from the Directorate General for Trade of the European Commission[11]

[10] Some numbers are estimates

[11] Accessible here

The second effect of the trend towards deep agreements is that the costs of negotiations in terms of personnel have escalated. The UK will have to bear these costs alone and its negotiators will be on a very steep learning curve.

Size of the market

Another factor that will temper the UK's ability to conclude many bilateral arrangements is the fact that every trade deal makes the UK less attractive for potential new partner countries. Indeed, as the UK concludes an agreement and the products of the partner country in question gain access to the UK's market, there will be less opportunities for potential new entrants. To see why this is necessarily so, consider the following simple model in which "attractiveness" is defined by how much a foreign country can sell in the UK's market.

Assume the existence of a three-country global trade system, the UK and two other identical countries. Let domestic demand and supply for a certain product in the UK be defined by the equations showed below:

$$\mathrm{P} = a - \mathrm{bQ} \quad ; \quad \mathrm{P} = \mathrm{cQ}.$$

Q indicates quantity, P is price and *a, b* and *c* are parameters. For simplicity, let the supply lines, or export lines, of the other two countries be the same as $\mathrm{Q} = \frac{\mathrm{P}}{\mathrm{c}}$. [We do not examine the domestic demand in those two countries simply because we assume that the product in question is for export to the UK].

In a state of autarky, the market in the UK clears at price P^* and quantity Q^* :

$$P^* = \frac{ac}{b+c} \quad ; \quad Q^* = \frac{a}{b+c}.$$

Now assume free trade starts between the UK and the other two countries and that the exports of each of them to the UK are also given by equation $\mathrm{P} = \mathrm{cQ}$. Although demand continues to be represented by $\mathrm{P} = a - \mathrm{bQ}$, total supply is now $\mathrm{P} = \frac{\mathrm{cQ}}{3}$ [this is because to derive the total supply, the three individual supply lines have to be added horizontally and therefore the slope of the total supply line, given by parameter c, is three times flatter, c/3].

Under these conditions, the market clears at the price and quantity supplied:

$$P_1 = \frac{a\mathrm{c}}{3\mathrm{b}+\mathrm{c}} \quad ; \quad Q_1 = \frac{3a}{3\mathrm{b}+\mathrm{c}}$$

Indeed, as expected, P1 < P* and Q1 > Q*. Trade leads to lower prices and larger quantities.

Let the UK impose an MFN tariff, t, on both trade partners. The supply of each partner is given by the supply equation that incorporates the tariff, $\mathrm{P} = \frac{\mathrm{c(1+t)Q}}{2}$. Total supply is $\mathrm{P} = \frac{\mathrm{c(1+t)Q}}{3+t}$. The market now clears at price and quantity as indicated below:

$$P_2 = a\left[1 - \left(\frac{b}{b+\frac{c(1+t)}{a+t}}\right)\right] \quad ; \quad Q_2 = \frac{a}{b+\frac{c(1+t)}{a+t}}$$

If the UK forms a free trade area with one of the two countries but continues to levy an MFN tariff on imports from the other country, total supply is $\mathrm{P} = \frac{\mathrm{c}(1+\mathrm{t})\mathrm{Q}}{3+2t}$.
The market clearing price and the quantity are:

$$P_3 = a\left[1 - \left(\frac{b}{b+\frac{c(1+t)}{a+2t}}\right)\right] \quad ; \qquad Q_3 = \frac{a}{b+\frac{c(1+t)}{a+2t}}$$

We can now compare the outcomes of a free trade agreement, first, with one country and then with the other. For simplification we assume that there are no rules of origin and that when the UK forms free trade areas with both countries, that is equivalent to free trade.

The impact of the first trade agreement on total supply within the UK is given by Difference 1 (D1) showed below:

$$D_1 = \mathrm{FTA1} - \mathrm{MFN\ trade} = \mathrm{Q3} - \mathrm{Q2} = \frac{ta}{3b + 2b + c + tc}$$

The impact of the second free trade agreement is given by Difference 2:

$$\mathrm{D2} = \mathrm{Free\ Trade} - \mathrm{FTA1} = \mathrm{Q1} - \mathrm{Q3} = \frac{tac}{(3b + 2tb + c + tc)(3b + c)}$$

It follows that D1 > D2 because $1 > \frac{\mathrm{c}}{3b+c}$.

This means that the first country gains more (sells more) than the second country. This proves that free trade agreements become progressively less attractive to potential new trade partners.

Claim 4: The UK will be able to pursue an open trade policy without being held back by the protectionist tendencies of other Member States

The UK is has built a reputation for its liberal stance and pro-market contributions to deliberations in Brussels on issues ranging from product safety to banking regulation to industrial subsidies. This does not necessarily mean, however, that outside the EU, the UK will show the same enthusiasm for liberal trade policy. In fact, recent press reports reveal that a vigorous debate has erupted within the cabinet of Prime Minister Theresa May on the industries and sectors that should be favoured in any post-EU trade deal [see, for example, Martin Sandbu, Why sector-by-sector Brexit will not work, FT, 1 November 2016. He writes "the news that the government has offered "assurances" to Nissan that its UK operations will not be hurt by Brexit – the details of which remain secret and not to be shared with the public – has now been followed by the predictable "me too" demands from other manufacturing sectors. It also gives the best hint of what the government hopes to achieve for post-Brexit relations between Britain and the EU… What is emerging is a sector-by-sector approach, where the government will aim to retain fully free trade for some but presumably not all sectors."[12]]. The debate within Prime Minister May's cabinet demonstrates the logical

[12] Page accessible here

incoherence between the free-trade-in-all-sectors discourse of Brexiters during the referendum campaign and the current more nuanced reality.

Bilateral deals lead to trade liberalisation only if the other country agrees to open up its economy. The other country will be willing to do it only if it gains preferential access into the UK market. Therefore, bilateral deals work because they discriminate against everybody else. This is not consistent with a policy of free trade. As shown in the previous section, bilateral trade deals become progressively less attractive. This means that potential trade partners will eventually be less willing to open up their economies because the UK market will progressively become less attractive after the first trade agreements, unless the UK unilaterally removes its remaining barriers and restrictions to foreign goods and services. But the UK may become less eager to remove them.

A person who has consistently advocated both exit from the EU and the pursuit of a policy of unilateral free trade is Prof Patrick Minford. His views and work can be accessed at the website of "Economists for Brexit"[13]]. But the arguments of Economists for Brexit are based on an outdated view of trade. They presume that trade, investment and establishment are mostly affected by border restrictions. But as explained earlier, most of these custom duties are very low. Most trade is affected by domestic regulation. But because Economists for Brexit also believe that the EU is over-regulated, they expect British industry and service sectors to flourish outside the EU. Although for sure some regulation in the EU is excessive, they are probably wrong to think that the EU is over-regulated across the board, that the UK will choose to discard all EU rules already incorporated in the domestic UK legislation and that UK companies will ignore the "Brussels effect". The "Brussels effect" is not the outcome of negotiated deals but the pulling power of the largest single market in the world. UK companies have already incurred the extra costs from regulation, even if such regulation is excessive. It will be irrational for them to abandon a market they already know and for which they have absorbed entry costs. In addition, as expressed in a recent paper of the UK Trade Policy Observatory of the University of Susses, the EU is actually very well advanced in terms of trade liberalisation in services.[14] By leaving the EU, the UK would face the risk of joining the much less liberalisation-enhancing WTO's General Agreement on Trade in Services (GATS).

More pro-liberal to more protectionist policy

However, an issue that has not yet been examined in the literature is whether a country such as the UK that has traditionally advocated a liberal policy as a Member of the EU could become more protectionist when it leaves the EU. The slowly emerging evidence from Mrs May's contacts with various industry leaders suggests that she is not an ideological free trader but a pragmatist who would rather protect selected industries. Of course, at this stage, the outcome of future negotiations is speculative.

But, in principle, past conduct cannot be a guarantee that future strategy will follow the same line. When both the UK and the other Member States engage in negotiations in Brussels, it is

[13] Website accessible here

[14] See "Services trade in the UK: what is at stake?" of Ingo Borchert, November 2016

reasonable to presume that they do what negotiators often do: overstate their positions and exaggerate the costs from any concessions so as to get the other side to back down first.

To see how exit from the EU may lead the UK to change its pro-liberal attitude, let us consider the possibility that if the UK would reveal its true position, while it is an EU Member State, it would not prefer completely free trade, but some limited restriction on international transactions. Since, however, the other Member States would then push for more restrictions, the UK pretends that it favours completely free trade. The matrix below indicates possible pay-offs. Although both sides would gain more by stating their true positions, the dominant strategy is for both sides to exaggerate their true preferences. Hence, the hitherto pro-market position of the UK in Brussels does not necessarily imply that a unilaterally decided policy in Westminster will be equally liberal. The Nash equilibrium is indicated by the pay-offs in the shaded box. The total pay-off is 4 [2+2]. Both sides would be better off and the total pay-off would be higher [6 = 3+3], if they both revealed their true preferences.

Table 3: Pay-offs of stating true policy preferences and of exaggerating them

		Other Member States	
		True position [for small trade restrictions]	**Exaggerated position** [for higher trade restrictions]
UK	**True position** [for small trade restrictions]	3,3	1, 4
	Exaggerated position [for free trade]	4,1	2,2

The "Brussels mitigating effect"

A fact of life of policy formulation in Brussels is that decision-making procedures are complex and adopted legislation is always the result of compromises between different Member States and different EU institutions. The compromises that enable the legislative machinery to function are presumed to lead to negative outcomes. This is not necessarily so. The involvement of EU institutions may in fact temper protectionist tendencies in individual Member States. The following example illustrates well what may be called the "Brussels mitigating effect".

Assume that there are three similar countries each with 100 voters who cast their ballots to choose among three different policies, X, Y and Z. Let policies X and Y be the same in all countries. Policies X and Y are nation-wide and generate benefits for the whole country. The first number after each policy in table 4 below indicates the direct benefits to citizens who vote in favour of that policy and the second number indicates the nation-wide benefits. Nation-wide benefits are twice as large as the direct benefits. In each country there is, in addition, a sectoral lobby in favour of policy Zi. The subscript "i" indicates the country.

The chosen policy in each political system is the one that commands the most votes and each citizens casts a vote in favour of the policy that creates the most direct effects. As indicated in the table below, before integration each country chooses a sectoral policy. However, after integration, in the EU of 300 voters, policies are chosen in common and the policy that is adopted by all three countries acting together is policy X. It is shown by the shaded box. This is because policy X commands the most votes across all countries and also generates the most benefits. Common decision-making prevents national policies from being determined by dominant local interests.

Table 4: The "mitigating effect" of centralised decision making

Policies/issues	Member States			EU
	A [100]	B [100]	C [100]	A+B+C [300]
Economy-wide policy X	X = 40/80	X = 40/80	X = 40/80	**X = 120/240 [40%]**
Economy-wide policy Y	Y = 15/30	Y = 15/30	Y = 15/30	Y = 45/90 [15%]
Sectoral policies Z1, Z2, Z3	**Z1 = 45/45**	**Z2 = 45/45**	**Z3 = 45/45**	Zi = 45/135 [15%, 15%, 15%]

Conversely, after exit from the EU, the UK political system may become dominated by strong local interests. Instead of choosing X that will generate 80 of nation-wide benefits, it may choose Z with only 45 of benefits.

According to press reports, industrial leaders are vying for influence in Downing Street[15] . It is impossible to know at this stage whether the lobbying outcome will be a wise balance of competing interests.

The consequences of "taking back control"

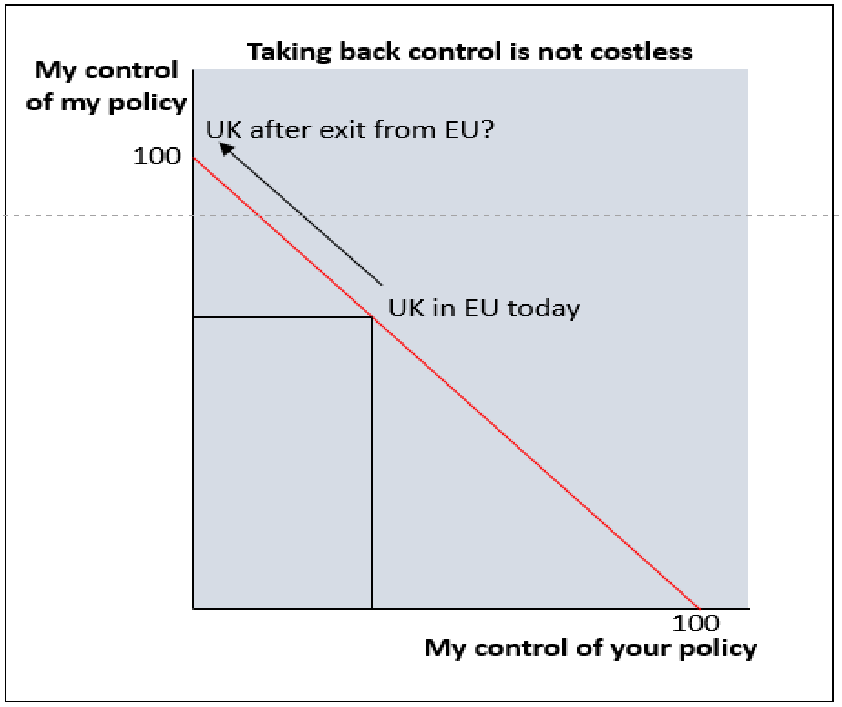
Most recent trade agreements are "mixed" partly because they deal with issues that fall also within the competences of Member States and partly because they are "deep" agreements addressing problems caused by discordant domestic regulations. As explained previously, the EU benefits from the "Brussels effect" whereby international rules converge to standards set by the EU. What is likely to happen when the UK takes back control?

Assume that control over a policy can be measured on a scale from 0 [= no control] to 100 [= complete control]. Further assume that countries agree to comply with the following reciprocal rule: "I control as much of your policy as you control of mine". For example, if I get

[15] See the Brexit page on the FT's internet site and in particular the article of 31 October 2016 "Queueing up behind Nissan"

to control 10 (out of 100) of your policy, you also get to control 10 (out of 100) of my policy. This implies that if you control 10 of my policy, then I control only 90 of mine and vice versa. This leads to two extremes: i) If I control 100 of my policy, then I control zero of your policy; ii) if I control zero of my policy, then I control 100 of your policy. It follows that, by wishing to take back control of its own policies, the UK will lose influence over other (EU) countries' policies. In short, the UK loses leverage both at the EU level and at the global level. This is illustrated in the diagram below.

Graph 1: The policy control trade-off



This loss of influence over others' policies is bound to be costly, even if it is difficult to quantify the benefits and costs for the UK from regaining policy independence. Conversely, it may be worthwhile to give up some control over one's own policy in order to benefit from shaping the policies of others. There can be no guarantee that complete policy independence is an optimum outcome in an inter-dependent world.

It is apt to conclude this section with an observation by Martin Sandbu. He notes that the emerging preference of the UK government to favour certain industries will mean that any trade agreement between the UK and the EU will result in some control being ceded back to the EU. He writes that "Brexit was sold to a majority of the electorate with the slogan "Take back control". A sector-by-sector approach to Brexit would amount to: "Take back control, except in sectors that we care particularly about, where we will give up the control we used to have as EU members (as well as anything else the EU negotiates in return for sectoral market access)." Good luck defending that to the public."[16]

[16] Martin Sandbu, "Why sector-by-sector Brexit will not work", Financial Times, 1 November 2016

Conclusions

This paper has addressed four claims concerning the trade options of the UK after it leaves the EU. It has argued that all of those claims contain either logical inconsistencies or ignore inherently serious drawbacks. Exiting from the EU's customs union will free the UK to conclude its own trade agreements. However, this freedom is not costless. Companies trading with the EU will have to comply with rules of origin. In fact, given the "Brussels effect", UK companies may also choose to comply with EU regulations after the UK's formal withdrawal.

More significantly, it is plain wrong to believe that a sequence of trade agreements will be equally attractive to all potential trade partners.

The paper has also argued that in an inter-dependent world, taking back control of own policies will be tantamount to losing control over others' policies. This is not necessarily the optimum outcome for the UK.

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