

## HOW THE CIVIL SERVICE HAS MISLED US ON THE COSTS OF BREXIT AND THE CUSTOMS UNION

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At the heart of the political row over the ‘New Customs Partnership’ and the alternative, ‘Maximum (customs) Facilitation’, lie the actual costs of customs arrangements. Are these prohibitive, as the latest Civil Service Cross-Departmental analysis of Brexit asserts, or are they essentially trivial in modern practice because of the advances of computer technology, associated administrative practices and new WTO rules on discrimination? This is what we need to know.

Let us first take a look at what the Civil Service assumed in its latest report (Civil Service, 2018), which was at first leaked to BuzzFeed and later released to the public by the House of Commons Committee for Exiting the EU. The full report is still not publicly available: what we have is a set of some two dozen PowerPoint slides describing the Report, its assumptions and its findings in outline.

Needless to say, it would be desirable to see the whole thing, including its technical appendices, so that we can examine it with full care. As it stands, some detective work is necessary to work out how it obtained its results; it is really not in the public interest that we should have to do such detection - we should have the study in full. If in what follows we have some details wrong, then it is the fault of Civil Service officials for not properly revealing their methods.

Let us compare what we infer it assumed with what others have suggested these costs are.

### **The Civil Service Report on Brexit**

There is an intellectual history preceding this latest Civil Service Report (CS Report) released in January of 2018.

In modelling the effects of Brexit, the Treasury (and a number of other sympathetic organisations, including the LSE trade group, NIESR, OECD and the IMF) used data correlations among trade agreements, trade, FDI and productivity (HM Treasury, 2016) instead of using a Computable General Equilibrium model in which behaviour is based on causal economic theory. These correlations were defended on the grounds that they reflected the role of ‘gravity’ (ie, closeness and size influence the level of trade).

However, it is widely understood that correlations do not imply causation and that a CGE approach must be used to investigate the causal effects of Brexit. Such a model may have more or less ‘gravity effects’ in it; but it must be a causal and thus a CGE model. A causal CGE model writes down the decision behaviour of people and firms with respect to output, trade and

inputs, based on economic theory; it then computes how this behaviour interacts to give the results of changes in policy, such as Brexit.

In its recent work, the Civil Service says it has used a ‘large CGE model’. It is widely thought (and there has been no denial by Whitehall) that this is the ‘GTAP’ (Global Trade Analysis Project) model, developed over the last two decades at Purdue University, Indiana. GTAP has evolved as a part of an international project, designed to estimate the results of international trade agreements of all types, including TTP and TTIP. It is widely used by governments and international institutions that contribute substantial financial support to the project.

By using this CGE model, the Civil Service has abandoned the methods of the Treasury and its allies. They have implicitly, therefore, conceded that the wide-ranging criticisms of those methods are correct. However, intriguingly, the Civil Service’s (CS) new Report has come up with estimates of the effects of different Brexit scenarios that are not hugely different from those of the Treasury in 2016. Thus, the recent CS Report estimates the effects of the EEA, FTA and WTO scenarios by 2030 as reducing UK GDP respectively by 1.6%, 4.8% and 7.7%. This compares with the Treasury (2016)’s projected reductions on the same three scenarios respectively of 3.8%, 6.2% and 7.5%.

What is intriguing about these latest Civil Service estimates using GTAP is that they give so little weight to the liberalising effects of FTAs with the rest of the World. Thus, they include only a small positive contribution from an FTA with the US (0.2% of GDP) and an even smaller contribution from deregulation (0.1% of GDP) outside the EEA. They remark that a further 0.1-0.4% of GDP gains may be had from other FTAs with other (unspecified) countries (though these are not included in the headline figures above). However, for example, a study (CIE, 2017) of the Australian trade liberalisation programme in the thirty years since 1986, using the same GTAP, model came up with a gain to GDP of no less than 5.4%.

It also emerges from the CS Report that the losses from Brexit arise mainly from new trade barriers assumed to spring up on UK-EU trade. For example, under a WTO scenario, trade effects from actual tariffs and various Non-Tariff Barriers (NTBs) are shown to account for 6.8% of the total negative 7.7% impact on UK GDP. Impact of migration effects are assumed to contribute losses of about 1.2% of GDP under the WTO scenario, and about 0.2% under the FTA scenario. Some modest gain is projected from deregulation - about 0.1% of GDP in the FTA and WTO cases- plus the 0.2% from an FTA with the US.

However, our focus in this paper is not on migration and deregulation, but on the trade effects, and particularly those related to a customs union. The trade effect losses in the CS Report all come from the assumed new trade barriers on UK-EU trade.

In Table 1 on the following page we show how they are estimated. As the footnote to the Table explains, the GTAP model assumes a relationship between trade barriers (expressed in Tariff Equivalent Percentages) and their negative impact on GDP.

**Table 1: New UK-EU Trade Barriers under Brexit Scenarios According To CS Report**

<b>Tariff Equivalent Trade Barriers/Impact on GDP</b>	<b><u>EEA</u></b>	<b><u>FTA</u></b>	<b><u>WTO</u></b>
Tariffs (%)	-	-	4.5
<i>Effect on GDP (%)</i>	-	-	-1.0
NTBs (access) (%)*	0.5	4.1	5.0
<i>Effect on GDP (%)</i>	-0.1	-0.9	-1.1
NTBs (regulation) (%)*	1.8	12.1	15.3
<i>Effect on GDP (%)</i>	-0.4	-2.7	-3.4
NTBs (customs) (%)*	5.8	5.8	5.8
<i>Effect on GDP (%)</i>	-1.3	-1.3	-1.3
<b>Total Tariff Equivalent *</b>	<b>8.1%</b>	<b>22.0%</b>	<b>30.6%</b>
<b>Total EU-UK Trade Effect on UK GDP</b>	<b>-1.8%</b>	<b>-4.9%</b>	<b>-6.8%</b>
NB: Other Effects on GDP			
US FTA-%	+0.2	+0.2	+0.2
Deregulation-%	-	0.1	+0.1
<u>Migration controls-%</u>	-	-0.2	-1.2
All Effects on GDP	-1.6	-4.8	-7.7
Memo item: Other non-EU FTAs (% effect GDP)	0.1-0.4	0.1-0.4	0.1-0.4

\*Tariff Equivalent Per Cent: To obtain this from the percentage effects on GDP, we used the equivalent GTAP simulations reported by Ciuriak , et al, 2017; this work finds that a UK-EU reciprocal tariff equivalent of 4.5% produces approximately a 1% loss of GDP to the UK).

NTB=Non-Tariff Barrier

These numbers are truly on a massive scale. To illustrate just how massive, the empirically estimated size of EU trade barriers, including NTBs, against the rest of the world is 20% on both food and manufactures (Minford et al, 2015, chapter 4, and see for similar estimates of the implied NTB, Berden et al, 2009). Yet, apparently the UK starting from absolute regulative harmony with the EU; under WTO rules, would face trade barriers of no less than 30% - one and half times the size of those the EU has against the US and Japan! Furthermore, even if we have an FTA with the EU, we would face trade barriers slightly higher than those the EU levies against the rest of the world with which it has no FTA at all! It seems the implications of agreeing an FTA with the EU would bizarrely, be a war on trade. And, if we had no FTA with

the EU, it would be total war in which the UK would face significantly greater barriers than countries such as the US and Japan.

### **How Credible Are These Estimates of NTBs and Customs Costs from Brexit?**

Can we believe these massive estimates shown in Table 1?

#### *Customs Procedures*

Let us begin with pure border costs of customs procedures. Under WTO rules (WTO, 2018c), these are mandated to be ‘seamless’ and ‘computerised’, so that traffic goes through borders unchecked to the maximum extent possible; this has been motivated by the need to keep the costs of supply chains to a minimum since these are so integral to modern trade.

This WTO drive for seamlessness appears to have been highly successful among developed countries: in 2016 the median performer among such countries let 98% of customs traffic through unchecked and cleared the other 2% in one day or less (World Bank, 2016). For the EU-Swiss border Ambühl (2018) reports that 99% of goods are not inspected and the estimated cost to traders (including NTBs which are negligible as Switzerland largely conforms to EU Single Market regulations) is only 0.1% of traffic value.

For completeness sake, we acknowledge other estimates of such costs but these are dated and are high compared with the tiny estimates of modern practice, to which we should give the entire weight, given the fast progress of modern computer and surveillance technology. For example, an estimate of the border cost on the US-Canada border back in 2005 (13 years ago) was only 1.9% of value (OECD, 2005) whereas there is now no interruption of traffic flow with barcode recognition of transit traffic;. Ciuriak et al (2017) assume - based on such historical information - cost rates of 2.3%.

#### *Rules of Origin*

To these pure customs border costs we should add the costs of Rules of Origin border costs, whereby traffic must be checked for having content sufficient to define it as being covered by the FTA, not being ‘foreign’ and hence not liable to the MFN tariff. Here again, the WTO rules imply that any consignment must be categorised before reaching port, so that it does not delay arrival. Accordingly, we find recent estimates rate this as ‘trivial’ (e.g. Lee, 2017, on US-Canadian trade); Ciuriak et al (2017) estimate it at 1.8% based again on ‘recent evidence’, thus in fact not really up to date.

**If we take Ciuriak et al (2017) as the top of our range for the sum of customs and rules of origin border costs, then we have a range for all these customs costs in total of 0.1-4%, with the most recent estimates suggesting essentially zero costs. Against this, the CS Report assumes 5.8%.**

### *NTBs*

Then we come to the various NTBs the CS Report assumes will spring up upon Brexit. These come into two categories: ‘on immediate access’ and ‘on regulatory divergence’. Under the WTO scenario, these are assumed to be respectively 5% and 15.3%, a total of 20.3%. Even under the FTA scenario, the CS Report assumes a total of 16.2% and, under the ‘close’ EEA scenario, they are as high as 2.3%.

Here, we encounter a fundamental problem that appears not to have been taken seriously by the CS Report. **All these NTBs are illegal under WTO Rules that forbid any form of discrimination on standards between home and foreign products or between foreign products of different countries (see e.g. WTO, 2018a).** Thus, for example, if we have a standard that UK producers must meet on grounds of consumer safety then this must be applied at home and also to each exporter to the UK in an identical way; one cannot apply different standards. Nor can one apply different standards to the UK than one can to, say the USA. These rules apply as much to services (under the GATS, WTO, 2018b) as they do to goods.

Then, consider how UK producers will behave when selling to the EU market: they will adhere to its required standards. They will have done so up to Brexit and clearly they will continue to do so afterwards as it is plainly in their commercial interest. Thus, any ‘regulatory divergence’ will simply not apply to their behaviour; they will not diverge on these export products. It is certainly possible that they might diverge on products for other, non-EU markets. For example, Jaguar Land Rover configures their cars differently to meet the varying standards of the US and Chinese markets. However, they will be careful not to do so for EU markets, even to the extent of ‘behind the border’ standards. Thus, for example, suppose they must test EU products in a certain way; then they will do so. They might not do so for other products destined for other markets; but they would not risk the EU market for not following such standards.

**Up to Brexit, all such firms will be standard-compatible with the EU; and they will not change afterwards. Any change in EU treatment of their products after Brexit would therefore be illegal discrimination under WTO law.** This is true whether under ‘immediate access’ or under ‘regulatory divergence (i.e. of quite other products)’.

For the CS Report - a government-authored document - to assert that a foreign power will behave illegally raises difficult issues. Yes, it is possible the EU would behave illegally and then one has to ask what HMG would do in response. However, the default assumption is made that all friendly countries behave in accordance with international law. Surely if challenged, M. Barnier would vigorously deny that the EU would breach such law? Indeed the whole EU construct is erected on obedience to international Treaty law so that violation would set dangerous precedents for the authority of the EU Commission. It needs to be emphasised that after Brexit the only source of international law over commercial policy of the UK and the EU will be the WTO.

Some with long memories will object: did not the French decree that all VCRs should be cleared through the remote inland customs post of Poitiers in order to stop the Japanese imports they disliked in 1982? Indeed they did, but, rather like the derring-do of the Wild West, such actions today would be jumped on from a great height by the European Court of Justice.

Others will remind us of the way that some countries protect their industries by decreeing standards that cannot possibly be met by other countries and only happen to be met by their own producers. However, the WTO rules have become quite explicit in recent years. In order for the EU to use such methods to move against UK producers they would have to change not merely domestic producer standards but also those applicable to all other producers. This would be highly expensive to domestic producers and would meet strong opposition from foreign producers. It could also be challenged in the WTO as a transparently discriminatory protectionist manoeuvre aimed at the UK. As it happens, Dyson (that manufactures in Asia - not in the UK) won a court case recently against the EU Commission in which Dyson successfully argued that energy labelling regulations were based on tests that favoured German manufacturers.

In short, these NTBs, being illegal, should not be assumed at all. What appears to have happened in making these assumptions is that Civil Service departments have consulted various trade associations and asked them about their fears of what might happen upon Brexit. Of course, we know that the CBI and most trade associations are opposed to Brexit because it aims in principle to remove the protectionism that many UK producers enjoy from the EU. Therefore, it is not surprising that when encouraged to share their fears with HMG departments they have eagerly proffered their fears of worst case scenarios, regardless of their legality, a matter on which indeed they might not be well informed, having not hitherto been governed by WTO rules.

However, at the level of analysis at which the CS Report operates, we cannot reasonably assume such behaviour, except possibly accidentally and in the short term. To assume, as in this Report, that it persists until 2030 is surely beyond credibility.

There is more. What possible sense can it make that two close neighbours who are determined to have friendly relations in many other spheres such as defence, security, foreign policy, data, and the mutual treatment of nationals, should effectively go to war on trade? It surely makes no sense, whatever trade deal is or is not achieved. Thus, even if there is no trade deal and tariffs are therefore mutually imposed by normal WTO practice, resort to NTBs of the sort assumed here, both illegal and unfriendly as they are, would seem to be ruled out.

### *The Credible Situation*

In summary, Table 2, on the following page, shows the trade barriers and consequent impact on the UK's GDP under credible assumptions. Compared to Table 1, it is very simple.

**Table 2: New UK-EU Trade Barriers and GTAP Effects Under Brexit Scenarios Revised  
 According to Credible Assumptions**

<b><u>Tariff Equivalent Trade Barriers/Impact on GDP</u></b>	<b><u>EEA</u></b>	<b><u>FTA</u></b>	<b><u>WTO</u></b>
Tariffs (%)	-	-	4.5
<i>Effect on GDP (%)</i>	-	-	-1.0
NTBs (access) (%)*	-	-	-
<i>Effect on GDP (%)</i>	-	-	-
NTBs (regulation) (%)*	-	-	-
<i>Effect on GDP (%)</i>	-	-	-
NTBs (customs) (%)*	-	-	-
<i>Effect on GDP (%)</i>	-	-	-
<b>Total Tariff Equivalent *</b>	-	-	<b>4.5</b>
<b>Total EU-UK Trade Effect on UK GDP</b>	-	-	<b>-1.0</b>

### **The Effect of FTAs on UK GDP Under the GTAP Model**

We now come to the issue of whether the CS Report has used the GTAP model correctly to assess the effect of the UK pursuing general FTAs with the Rest of the world. As mentioned earlier, the GTAP model has been used widely to evaluate bold schemes for trade liberalisation, with results generally suggesting these have markedly positive effects on the GDP of the liberalising country or countries. Why is it that the CS Report now finds that the GTAP produces rather trivial gains to GDP - of some 0.3-0.6% - when the UK embarks on similar liberalisation with a wide range of countries, including the USA?

Ciuriak, et al (2015, p11, bottom) find there is a gain to the UK of about 0.8% of GDP, assuming that the UK eliminates the 4% weighted import tariffs that it inherits from the EU. It may be that the discrepancy between this percentage and the range of percentages found by the CS Report is due to the CS Report not estimating the effect of a unilateral free trade liberalisation as Ciuriak does.

Unilateral free trade should be considered to be a minimum estimate of the gains from general liberalisation because, in a wide application of FTAs, other countries will require free access in the two protected sectors where they export, food and manufactures. Thus, the UK is likely to open these markets to major world producers of these goods, driving UK prices in these markets to world prices. This will bring gains from free trade through lower prices and greater competition, and so higher productivity.

In addition, however, there will be greater reciprocal access for UK producers in many industries from greater access to foreign markets, which is not included as part of the Ciuriak unilateral trade liberalisation calculation; in the GTAP model this brings gains to UK GDP. Hence, 0.8% should be considered the minimum GTAP estimate of the gain to UK GDP from FTAs implemented worldwide, given 4% tariff elimination. Therefore, the CS Report using GTAP should also obtain this estimate.

Matters do not end there. As discussed above, the actual EU protection of both food and manufactures inclusive of NTBs is estimated at 20%. In principle, liberalising UK trade via FTAs would eliminate *all* of this, yielding a gain to GDP of five times that estimated by Ciuriak et al (because Ciuriak assumed trade barriers of only 4%) and so 4% of GDP. Notice that this number is rather in line with the GTAP finding of 5.4% for Australian trade liberalisation over the past thirty years.

In sum, not only has the CS Report assumed excessive EU trade barriers after Brexit but it has also assumed general FTA liberalisation of only a fifth of what the UK could achieve. When these two assumptions are corrected, the CS Report's results are changed substantially.

Suppose we add 0.6% into the CS Report for FTA liberalisation and suppose also we leave aside the migration and regulation effects which we have not discussed in detail, we get its projected changes in GDP due to the trade effects of Brexit as -1.2%, -4.3% and -6.2% respectively for the EEA, FTA and WTO scenarios respectively. When we correct the CS assumptions for both the exaggerated EU trade barriers and the understated FTA liberalisation gains, these figures all become strongly positive: +4%, +4% and +3% respectively, i.e. the 4% gain from free trade with all non-EU countries minus in the WTO case only the loss from the UK-EU tariffs of 1%.

### **The Corrected CS Report Under GTAP Compared With a CGE Approach Validated by UK Trade Facts**

So far, we have treated the GTAP model as the correct one for the CS report to use. We have shown, if the correct policy assumptions are used, it generates substantial gains for UK GDP, contrary to the CS Report.

However, the GTAP model may well not fit the UK trade facts. It is untested on them. We know, for example, that it embodies equations for many sectors and many countries, all of which contribute to the UK result. Given its dependence on so many detailed assumptions, it may not give as accurate a result for the UK, compared to a model constructed to match the UK's situation in world markets.

It is therefore important to see if we could get a better estimate from a model that *does* match UK trade facts. This would give us some perspective on the results from GTAP.

Minford and Xu (2017) carried out a test on the UK trade facts, by indirect inference, of two CGE models, constructed to be tractable with four sectors (primary, manufacturing, traded

services and non-traded) and four country groups (the UK, NAFTA, the rest of the EU and the rest of the world). UK trade facts were represented by four regressions relating UK trade and other economic behaviour to other elements in the UK and other economies; these constituted the ‘auxiliary model’ whose role is to describe the data behaviour.

The two CGE models were first a classical model in which UK intermediate outputs were all sold in perfectly competitive markets around the world; and a ‘gravity model’ in which this was replaced by imperfect competition and a link added between trade (implicitly via FDI) to productivity, these both being key elements in the original Treasury et al (2016) theoretical formulations. The test was checked for its power by Monte Carlo experiment and found to reject any model with parameters more than 3% generally false virtually all of the time. This test rejected the gravity model but accepted the classical model, which can accordingly be considered a close fit to UK trade and economic behaviour.

What has this model got to say about the effects of Brexit? Assuming that only half the EU protection is eliminated, the cautious assumption we made for Brexit trade policy, it finds that the gains are 4% of GDP. It also finds (Minford, 2018) that the EU trade barriers have no effects on the UK economy because it is already subject to world prices after Brexit and FTA liberalisation; any EU trade barriers have to be absorbed by EU producers wishing to sell anything in the UK market, and any UK trade barriers have to be absorbed by EU consumers because UK producers cannot deviate from selling at world prices, given the intense competition they face at home. Hence the overall gains from Brexit remain at 4% of GDP.

The implications of this exercise for the accuracy of the GTAP results with regard to the UK economy are that the CS Report with corrected assumptions based on GTAP has a slight tendency to underestimate Brexit gains but qualitatively points to the right orders of magnitude.

## **Conclusions**

The CS Report has been totally misleading about the effects of Brexit, even though the Civil Service has now used a broadly credible methodology that qualitatively can provide estimates for UK effects of a reasonable order of magnitude. The problems of the CS Report lie in its use of quite incredible and indefensibly negative assumptions about EU customs and border costs and also in its substantial underestimate of the trade barrier reductions from general FTA liberalisation.

When these problems are remedied, we find, according to GTAP, Brexit brings substantial long term gains in GDP from trade channels. This qualitative conclusion is in line with the results from a smaller World Trade Model developed in Cardiff that has been rigorously tested against UK trade facts and found to match them rather closely. From all this, it follows that a Brexit in which the UK is free to pursue FTAs with the rest of the world and so outside the EU Customs Union brings big gains to the UK economy; staying in the EU Customs Union would therefore be a costly option for the UK, denying it gains approximating 3-4% of GDP.

The CS report also makes pessimistic assumptions about migration and deregulation, on which we have not commented here as the focus in this paper has been on the trade effects of Brexit and Customs Union. Let us note in passing that these estimates too understate the potential gains from Brexit. Minford (2017) shows that the control of unskilled migration in prospect after Brexit will produce a gain from eliminating a distorting 20% wage subsidy to unskilled EU immigrants; it also argues from previous as well as recent research on growth that there will be a 2% gain to UK growth from better regulation.

The key conclusions of this paper are first, that a Customs Union with the EU would be highly costly to the UK according to the estimates of the CS Report appropriately corrected as well as those from our own CGE modelling; it must therefore be avoided. Second, that Customs administration should act to ensure maximum facilitation as mandated by WTO Rules and that this naturally would embrace sensible cooperation with other customs authorities to smooth the passage of traffic through our own and neighbouring ports. There is no requirement for an unprecedented, undeveloped, and untested New Customs Partnership.

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