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Abstract

We analyse the impact of the Brexit announcement shock on UK exports of commercial services, using a synthetic control method (SCM) to create a counterfactual based upon other countries’ exports. Our analysis shows that UK export performance in this critical sector has been below the counterfactual since the referendum by over 7 per cent. This indicates that policy uncertainty is affecting exports even in sectors which are not normally subject to tariffs by the EU.

JEL Codes: F02, F13, F15
Keywords: Anticipation, policy uncertainty, Brexit, synthetic control method.

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1 Introduction and Literature Review

The Brexit vote of 23 June 2016 represented a major economic shock: betting before the poll had been about 4 to 1 in favour of a ‘remain’ victory, and when it became apparent that ‘leave’ was heading for a decisive, if narrow win, the exchange rate markets – the first to react to news, went into freefall. Within hours, sterling was around 12 per cent down against the dollar and 8 per cent down against the euro.

It is worth noting that, despite the sharp exchange rate movements, as of autumn 2018 the United Kingdom has not yet faced any formal trade barriers with the European Union. Despite this, evidence from goods traders has indicated a substantial negative effect upon the value of UK merchandise exports, particularly when measured in dollars or euros, rather than in sterling. Crowley et al. (2018) show reduced participation in trade by UK firms, despite the fall in sterling. A survey by the UK Trade Observatory in September 2018 reported that a third of British manufacturing exporters had already lost business due to Brexit. And a Synthetic Control Method (SCM) comparison of UK bilateral goods exports (Douch et al. 2018) showed a clear shortfall in exports to both the EU and non-EU countries compared to what we would have predicted with no Brexit vote. All of these studies confirm the importance to trade of the uncertainty following the Brexit vote, and hence underline Handley & Limão’s (2017) finding of the importance of policy shocks in trade.

One drawback of the above studies is that they only covered trade in goods. Yet the United Kingdom is unusual in the degree to which it is, in fact, a services exporter. In 2014, citing Douch et al. (2016), we find that services accounted for just over 37 per cent of UK exports, dominated by ‘other business services’ and financial services. Indeed, this services trade differs in a number of critical ways from goods exports. First of all, they are less dominated by exports to the European Union, although when countries closely linked to the Single Market, such as Switzerland and Norway are included, ‘Europe’ did still account for 52 per cent of services exports in 2014 (against 57 per cent for goods). To some extent this reflects the lower effect of distances upon services
than upon goods trade. It is also worth mentioning that services trade is less subject to tariff barriers than goods trade, although non-tariff barriers, such as licensing and passporting, can be seen as potential worries by UK services providers in the aftermath of the Brexit vote.

In this short study, we wish to examine the effects of the Brexit vote upon the UK’s services exports. Although we have less data available than for studies of manufacturing trade (Douch et al. 2018), we are able to construct a SCM ‘doppelganger’ for British exports of commercial services. In line with the study of goods exports, we show that, to date, the policy uncertainty is weighing heavily upon British services exporters.

2 Data and Research Methodology

We follow the SCM methodology, as laid out by Abadie & Gardeazabal (2003), Abadie et al. (2010) and Saia (2017). Other recent studies – e.g. Born et al. (2017), Douch et al. (2018), Kren (2017) – have applied the methodology to aspects of the Brexit vote. The logic of this is that the Brexit vote is seen as a ‘treatment’ affecting the UK economy far more than its neighbours, and acting from an identifiable date (June 2016) as a largely unanticipated shock. The SCM method treats the referendum date as the treatment date. Before that date, the method constructs the best possible fit – or ‘doppelganger’ – to a UK variable (in our case, services exports), in terms of a weighted average of other series (other countries’ services exports). After the treatment date, the series for the UK is assumed to be subject to a treatment (policy uncertainty from Brexit) which may or may not lead it to diverge from the doppelganger.

As with other difference-in-differences techniques, SCM is designed to take account of common, but unobservable shocks affecting all series. However, as Kren (2017) explains, under certain conditions, the SCM will perform better, due to the flexibility of weighting the various series differently.

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1 Although recent work by Eaton & S.Kortum (2018) shows clearly that gravity is still a major factor in services trade.

2 Indeed, the UK government is not seeking the same degree of Single Market access for services as for goods.
For this study, we use monthly data on commercial services exports (in dollars) for 21 countries including the UK\textsuperscript{3} from 2008 onwards. Total commercial services are exports of total services minus government services. Because we are controlling for one year of lagged exchange rates our fitting period starts in January 2009. The latest available data are for March 2018. As well as services exports, we use exchange rates and GDP (both current and lagged) and a lagged moving average of exports as confounding variables. It is important to control for observable shocks, including the exchange rate shock at the time of the Brexit vote, as in Douch et al. (2018). By including the lagged variables, we are also allowing for sticky reaction to the exchange rate shock.

For standard errors and confidence intervals, we are using the subsampling method of Politis & Romano (1994), as adopted by Saia (2017) and Douch et al. (2018). This consists of running a random sampling method 500 times (indexed $c$, choosing those different potential weightings which are deemed ‘acceptable’ subject to thresholds).

To estimate the net effect across our sample of ‘acceptable’ matches, we sum all UK services exports over the period of pre- and post-treatment, using the following formula where $\chi$ represents the net gain or loss, and $Serv_{t,c,i}$ is country $i$’s services exports.

$$\hat{\chi}_{Jan2009-Mar2018} = \frac{1}{500} \sum_{c=1}^{500} \left[ \frac{\sum_{t=Jan2009}^{Mar2018} \left( Serv_{t}(T) - \sum_{i=1}^{X_{NT,c}} \alpha_{i,c} Serv_{t,c,i}(NT) \right)}{\sum_{t=Jan2009}^{Mar2018} \left( \sum_{i=1}^{X_{NT,c}} \alpha_{i,c} Serv_{t,c,i}(NT) \right)} \right],$$  \hspace{1cm} (1)

where $Serv_{t}(T)$ is the sum of UK services exports over the period, whereas

$$\sum_{i=1}^{X_{NT,c}} \alpha_{i,c} Serv_{t,c,i}(NT),$$

is the corresponding sum of counterfactual units. The weights, $\alpha_{i,c}$, sum to 1. $T$ represents the treated units, and $NT$ the pool of untreated countries. The sampling

\textsuperscript{3}Austria, Belgium, Brazil, Czechia, Germany, Denmark, Spain, Finland, France, UK, Greece, Hungary, Italy, Japan, Lithuania, Luxembourg, Malta, Poland, Portugal, Slovakia and the USA
procedure also generates standard errors due to the selection of weights, as in Politis & Romano (1994).

3 Results

Table 1 shows the average deviation (in percentage terms) of the actuals from the counterfactuals before and after the referendum. What is noticeable is the relatively constant shortfall of between 7.5 and 8 per cent throughout the post-referendum period. The monthly plot for the synthetic versus actual series is shown in figure 1 below. The main issue is a stalling of trade values for 2016 and most of 2017, whereas global trade in services was growing. Note that we have controlled for both current and one year lagged exchange rate.

Table 1: Aggregate percentage exports difference between UK actual vs counterfactual

<table>
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<tr>
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<th>Pre-referendum</th>
<th>Post-referendum</th>
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<tbody>
<tr>
<td>% difference actual</td>
<td>1.628</td>
<td>-7.731</td>
</tr>
<tr>
<td>vs synthetic</td>
<td>(0.041)</td>
<td>(0.171)</td>
</tr>
<tr>
<td>% difference actual</td>
<td>-7.838</td>
<td>-7.696</td>
</tr>
<tr>
<td>vs synthetic</td>
<td>(0.188)</td>
<td>(0.167)</td>
</tr>
</tbody>
</table>

Figure 1: UK commercial services exports
4 Robustness checks

In order to check the robustness of our methodology we carry out two placebo tests. In the first, we analyse a placebo in time, based upon an alternative referendum date of June 2014 (Table 2). UK services exports before the fake referendum date were slightly but significantly above the doppelganger, but afterwards they were slightly but significantly below. This implies that, in fact, even earlier than the Brexit vote, there was a growing tendency for underperformance by UK services exporters, but that this is far less than when the real Brexit date is used as the shock.

Table 2: Placebo test in time: false Brexit at June 2014

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<td></td>
<td>1.781 (0.065)</td>
<td>-2.757 (0.72)</td>
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In Table 3 we carry out a falsification test (as in Acemoglu et al. 2016 and Abadie et al. 2010) based upon alternative countries (France and Germany) voting to leave. This shows that, although significant, the effect for France was about 1/3 of that for the UK. Hence, the UK treatment is far stronger than that for France. In the case of Germany, the results show a strong and significant overperformance of commercial services exports after the UK referendum. Tentatively, this might possibly indicate business switching from London to Frankfurt, though it is too early to tell.

Table 3: Falsification test: aggregate percentage exports difference between France and Germany actual vs counterfactual

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>France</td>
<td>0.340 (0.112)</td>
<td>-2.473 (0.242)</td>
</tr>
<tr>
<td>Germany</td>
<td>0.592 (0.129)</td>
<td>5.813 (0.255)</td>
</tr>
</tbody>
</table>
5 Conclusion

This short study shows that the policy uncertainty following the Brexit referendum (c.f. Handley & Limão 2017) has significantly dented British commercial services exports. This is potentially worrying given that performance in goods exports (Douch et al. (2018)) is even worse. A slight caveat is that services exports were already tending to underperform before the referendum, although it seems to have made things much worse. We do not have sufficient data here to distinguish between exports to EU and non-EU countries, which would be worth doing. We suggest that this study shows that the UK should not be complacent about its position as a leading services exporter in the aftermath of Brexit.

References


**URL:** [https://ideas.repec.org/a/aea/aecrev/v107y2017i9p2731-83.html](https://ideas.repec.org/a/aea/aecrev/v107y2017i9p2731-83.html)

