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I do not want my anonymised proposal form to be used for teaching purposes in the future

1. **Dissertation topic/Title**

**The Effects of the Brexit Referendum and the Trade and Cooperation Agreement on UK Services Trade.**

1. **Introduction/Motivation**

The European Union (EU) is the world’s biggest trading bloc. Jacques Delors, a pioneer of its creation, describes the vision of“a Europe built on competition that stimulates, cooperation that strengthens, and solidarity that unites.” EU membership permits members to 4 freedoms (4Fs): free movement of people, goods, services and capital, as well as shared peace, security and political support. In June 2016, the Brexit referendum resulted in a narrow majority favouring Britain’s exit from the EU. ~52% of United Kingdom (UK) voters favoured Brexit.

This paper intends to answer:

1. How has Brexit affected UK services trade?
2. Were the UK’s services trade partners affected differently?
3. Why? Does sector-specific data offer explanations?
4. Should EU or UK data be used for estimates?

*The UK economy is services based.* In 2023, service industries accounted for 84.8% of UK employment (Panjwani, House of Commons Library, 2023). Services total ~40 percent of the UK’s exports to the EU, half of which being financial or business services (Freeman et al. 2022).

*Trade openness differs.* Table 1 shows the vast difference in trade openness (Exports + Imports/GDP) of various EU members in 2010, despite all being bound to the same EU rules.

< Insert Table 1 Here >

*The EU is more important to the UK than the EU is to the UK*. Before Brexit, ~50% of UK goods trade was with the EU, while ~5% of total EU trade was with the UK (Kren and Lawless, 2024).

The *Great British Pound (GBP) has fallen* since the referendum.

< Insert Figure 1 here >

‘Leave’ voters sought political and economic independence from EU bureaucracy. David Cameron, UK Prime Minister in 2014: “Brussels has got too big, too bossy, too interfering.” The paper “Who voted for Brexit?” (Brecker, Fetzer and Novy, 2017) concludes that areas with deprivation of education and income were more likely to vote leave.

‘Remain’ voters valued the 4Fs and feared being “at the back of the queue” (Barack Obama, USA President in 2016) without EU assistance in trade negotiations. For much of the campaign ‘remain’ was expected to win.

After the referendum, there was uncertainty about the post-Brexit relationship between the UK and the EU, as it hadn’t been negotiated. It was expected to take 1 of 3 forms:

1. ‘Soft’: the UK remain a part of the EU Single Market (EUSM). The UK and the EU continue to allow each other generous market access.
2. ‘Hard’: the UK and the EU become distinct entities.
3. Bilateral partnership: what actually happened with the Trade and Cooperation Agreement (TCA).

Eventually, the TCA was signed on December 30th, 2020, and implemented on May 1st, 2021. The UK left the EU on December 31st, 2020. The UK prime minister, Boris Johnson, claimed: "We have taken back control of our laws and our destiny."

My word count for this section: 470

1. **Core references**

T Fetzer. (2019) “Did austerity cause Brexit?” *American Economic Review* Volume 109(11): 2018-1164 [705 citations]

E McGrattan, A Waddle. (2020) “The impact of Brexit on Foreign Investment and Production” *AEJ: Macroeconomics* Volume 12(1): 2017-0399 [109 citations]

B Born, G Müller, Moritz Schularick, Petr Sedláček. (2019) “The Costs of Economic Nationalism: Evidence from the Brexit Experiment” *The Economic Journal* Volume 129(623): 0013-0133 [287 citations]

J Steinberg. (2019) “Brexit and the macroeconomic impact of trade policy uncertainty” *Journal of International Economics* Volume 117: 0022-1996 [223 citations]

B Broadbent, F Di Pace, T Drechsel, R Harrison, S Tenreyro. (2024) “The Brexit Vote, Productivity Growth, and Macroeconomic Adjustments in the U.K.” *The Review of Economic Studies* Volume 91(4): 0034-6527 [34 citations]

1. **Existing Literature**

**Why did Brexit happen?**

Research about the demographic breakdown of the Brexit voter (Becker, et al. 2017) finds that areas with ‘low income, high unemployment and a historical dependence on manufacturing employment’ were more likely to vote Leave.

Other research (Fetzer 2019) correlates post-2008 austerity policies with support for the UK Independence Party (UKIP), which is used as a proxy for “Leave sentiment.”

**Pre-TCA literature**

The 3 potential deals: soft, hard, bilateral partnership, are explained in detail by Sampson (2017). Pre-TCA papers often use general equilibrium models (GEM) to compare the effects of these 3 scenarios to create a spread of the estimated welfare changes. GEMs rely on accurate assumptions to simulate the real world. It is particularly difficult to quantify the effect of non-tariff barriers, such as custom checks delays at borders, as numerical values.

After the referendum, firms had to assign probabilities to a. the likelihood of each scenario occurring and b. when, to calculate expected impacts on their businesses. Work by Steinberg (2019) attempts to determine whether uncertainty over the terms of the new deal reduced welfare. His paper uses a dynamic GEM which compares a stochastic case (agents make decisions based on probabilities of possible outcomes) with a deterministic case (agents have perfect foresight). He finds that the costs resulting from uncertainty are ‘tiny’ compared to the overall costs of Brexit: that trade flows with the EU will fall by 8.2% to 44%. The paper concludes by explaining the model’s flaws, particularly it’s exclusion of changes ‘concerning immigration and fiscal benefit transfers (FBT).’ FBTs are contributions which members make to the EU budget. Another motive for leaving was that the UK was a net contributor; it paid more money in than it took out.

Brexit is an example of economic nationalism (EN), when a country protects its own economic interests through protectionist policies. Motivated by an international trend of increased EN (e.g. US/China trade war), a paper by Born et al. (2019) aimed to investigate the cost of EN by using the Brexit referendum as a ‘natural macroeconomic experiment’. They argue that it was a natural experiment because it was 1. unexpected (Remain was expected to win) and 2. voting was determined by political rather than economic factors – a desire for national sovereignty rather than poor macroeconomic performance. By 2018, they found that the referendum alone had reduced GDP by between 1.7 and 2.5 percent, predominantly caused by agents reducing consumption and investment because of downgraded ‘expectations of future incomes’, rather than uncertainty of what the deal would be. Increased ‘uncertainty of future economic outcomes’ was found to account for just 20% of the observed effects, agreeing with the conclusion of Steinberg (2019).

A Foreign Direct Investment (FDI) is an overseas investment, where a domestic company buys or starts a company abroad. Brexit was expected to reform regulations around trade and FDI. A paper by McGrattan and Waddle (2020) aims to predict whether changes to FDI or trade regulations are more significant in changing welfare. They use a dynamic GEM to model several scenarios (where FDI and trade costs increase individually or together), comparing scenarios where the UK tightens restrictions unilaterally against if the EU retaliate. In their model, welfare losses are greater in scenarios where only FDI costs increase than in scenarios where only trade costs increase. When the UK unilaterally restricts both FDI and trade from EU nations, UK welfare falls by 2.41% and EU welfare falls by only 0.02%. When the EU retaliates with the same restrictions on the UK, both countries lose; UK welfare falls by 1.4% and EU welfare by 2.3%. The UK’s optimal response, when faced with EU retaliation, would be to reduce restrictions to non-EU nations – an idea expressed by politicians in the ‘leave’ camp. They predict that UK welfare would increase by 0.72% if favourable reductions applied to the United States and Canada, or 1.27% if the reductions were applied globally. The UK would ‘replace an old partner with a relatively low level of total factor productivity (TFP) with a new partner… with… a higher level of TFP.’ This represents another motive for Brexit.

< Insert Map 1 here >

After the referendum, a paradoxical phenomenon occurred where output in UK tradable sectors temporarily increased. A paper by Broadbent et al. (2024) offers an explanation: a temporary ‘sweet spot’ emerged for UK exporters. They assume the referendum result was perceived as a future reduction in productivity growth in the tradable sector. This caused the relative price of non-tradable output to lower (producing tradables were expected to become less efficient in the future, increasing their relative price now.) The relative price change incentivised a reallocation of resources into the tradable sector, to capitalise on the higher relative price, before Brexit and the expected productivity reductions happen. This mechanism can be used as a ‘key input’ for macroeconomic trade models. They predict long-run UK GDP to fall by 3.6% because of Brexit.

Dhingra et al. (2017) estimate welfare reductions between -1.34% (soft) and -2.66% (hard) 10 years after Brexit.

Estimates of Brexit’s effect on welfare are surprisingly varied, due to differences in GEM assumptions.

**Post-TCA literature**

The 1,256-page TCA was summarised by Fusacchia et al (2022), which ‘despite its length, … creates only a shallow trading relationship.’ To summarise:

* UK exempt from 4fs
* UK can apply their own tariffs, instead of the EU common external tariff.
* No tariffs and quotas between the UK and the EU.
* Customs disruptions: UK exports to the EU must meet EU standards.
* UK transport companies cannot provide services in the EU.
* UK financial institutions lose the ‘almost unlimited rights’ which they had.
* Ceasing of mutual recognition of professional qualifications.

Their GEM finds: UK services exports to the EU will fall by 4.9% and services imports from the EU by 15.4%.

Once enough ex-post data was available, economists could apply difference-in-differences (DiD) methods. Briefly, this means comparing the trade flows between the UK-ROW (control group) and the UK-EU (treatment group), to find the treatment effect. A recent publication by Kren and Lawless (2024), (only using goods data) adapts work by Freeman et al. (2022) by using a ‘hybrid dataset’. They differ in their choice of control group. Kren and Lawless (2024) use EU-ROW, arguing that UK-ROW – control group of Freeman et al. (2022) – trade would be more susceptible to spillover effects because the EU makes up a bigger proportion of UK trade than the reverse, thus violating a DiD assumption. They find that Brexit decreased UK goods imports from the EU by 24% and UK goods exports to the EU by 16%, with the hybrid dataset estimating bigger welfare losses than the estimates by Freeman et al. (2022).

**Contribution**

This paper aims to answer the questions stated in the introduction by analysing Brexit’s effect on services trade with the most recent data and testing whether the hybrid dataset method developed by Kren and Lawless (2024) is relevant to services.

My word count for this section: 1147

1. **Data (This section is only relevant for ‘empirical dissertations’)**
2. My primary dataset will be the Office of National Statistics (ONS) dataset ‘UK total trade: all countries, non-seasonally adjusted.’ It contains data for 242 countries or country groups, including the categories ‘Total EU27’ and ‘Total Extra EU27’.

Sheet 5 provides annual data for trade in services for 27 years, from 1997 to 2023. Sheet 5 has approximately 13,000 observations.

Sheet 6 provides the same data, but quarterly, for 34 quarters, from 2016Q1 to 2024Q2, enabling a detailed view when it is most needed. Sheet 6 has approximately 16,000 observations.

The TCA effect can be visualised clearly for imports (Figure 2), but not for exports (Figure 3.)

< Insert Figure 2 here >

< Insert Figure 3 here >

1. My secondary dataset will be the ONS dataset “UK trade in services: service type by partner country, non-seasonally adjusted” which has the benefit of having sector-specific breakdowns for 73 distinct service types, by partner, but is limited as it started in 2016Q1; the UK government changed how they categorise products in 2016Q1.
2. To test the conclusion of Kren and Lawless (2024) I will use the Eurostat dataset: ‘Total Services, detailed geographical breakdown’, annual, 2010 to 2022, and/or ‘International Trade in Services’, annual, 2010 to 2023.

The datasets are publicly available and can be found in the ONS or Eurostat websites.

1. **Methods**

**1**

My benchmark analysis will use my primary dataset to conduct a DiD analysis with: UK-ROW as the control group, UK-EU as the treatment group and two treatments: 1. Referendum: June 2016 2. TCA: December 2020. Fixed effects control for pre-treatment differences, satisfying the parallel trends assumption. Assuming no spillover effects between the treatments and UK-ROW trade, it will estimate a causal effect of the treatments on services trade.

I expect the Poisson Pseudo-maximum Likelihood (PPML) estimator to be appropriate due to zero trade flows and heteroskedasticity.

Robustness:

* Use the Ordinary Least Squares (OLS) estimator.
* Change the TCA date to May 2021 – when it came into force after a transition period.
* Vary fixed effects.
* Dynamic effects. Did the treatments affect trade at a constant rate or was there an initial shock?

Where:

* *T* represents services trade flows into (imports) or out of (exports) (the EU27/UK), to each partner country in period *t* (annual from 1997 to 2015, quarterly from 2016Q1 to present.)
* *Referendum* is a dummy equal to one for periods after the referendum (July 2016 onwards).
* *TCA* is a dummy equal to one for periods after the TCA (January 2021 onwards).

Both are interacted with a UK dummy.

* are partner-period fixed effects.
* are seasonal fixed effects.
* is the error term*.*

**2**

I hope to investigate whether certain service types were drivers of cross-country differences. I will consider assuming that 2016Q1 and Q2 can be seen as pre-treatment, despite the referendum happening at the (very) end of Q2, so I can test the parallel trends assumption and conduct another DiD analysis.

Alternatively, I could conduct a DiD with only the TCA as a treatment. This would assume that the referendum didn’t affect the trends of the treatment and control groups, which my primary DiD may confirm. However, my primary DiD could confirm this only at an aggregate, but not at a sector-specific level.

If it seems inappropriate to make strong assumptions to run a DiD on the secondary dataset, it can aid my qualitative explanatory analysis by unpacking the service types traded by difference UK trading partners.

**3**

I will run the same DiD as explained in **1** with Eurostat data to test the result found in Kren and Lawless (2024.)

My word count for this section: 377

1. **Structure of the Dissertation (This section is only relevant for literature surveys)**
2. **Literature Cited in this Proposal**

Website. Panjwani, House of Commons Library, Service industries: key economic indicators, 2023

T Fetzer. (2019) “Did austerity cause Brexit?” *American Economic Review* Volume 109(11): 2018-1164 [705 citations]

E McGrattan, A Waddle. (2020) “The impact of Brexit on Foreign Investment and Production” *AEJ: Macroeconomics* Volume 12(1): 2017-0399 [109 citations]

B Born, G Müller, Moritz Schularick, Petr Sedláček. (2019) “The Costs of Economic Nationalism: Evidence from the Brexit Experiment” *The Economic Journal* Volume 129(623): 0013-0133 [287 citations]

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B Broadbent, F Di Pace, T Drechsel, R Harrison, S Tenreyro. (2024) “The Brexit Vote, Productivity Growth, and Macroeconomic Adjustments in the U.K.” *The Review of Economic Studies* Volume 91(4): 0034-6527 [34 citations]

J Kren, M Lawless. (2024) “How has Brexit changed EU-UK trade flows?” *European Economic Review* Volume 161: 104634 / 0014-2921 [20 citations]

T Sampson. (2017) “Brexit: The Economics of International Disintegration.” *Journal of Economic Perspectives* 31(4): 0895-3309 (print) / 1944-7965 (online) [465 citations]

S Dhingra, H Huang, G Ottaviano, JP Pessoa, T Sampson, JV Reenen. (2017) “The costs and benefits of leaving the EU: trade effects.” *Economic Policy* 32(92): 0266-4658 [497 citations]

I Fusacchia, L Salvatici, L Alan Winters. (2022) “The consequences of the Trade and Cooperation Agreement for the UK’s international trade” *Oxford Review of Economic Policy* Volume 38 (1): 0266-903X [28 citations]

1. **Check-List**

*Please confirm (by ticking the box) that you have considered/action the following:*

I have completed all sections relevant to my proposal as instructed.

I have not bothered reading the instructions.

I have read through my completed proposal form *several times* and used a spell and grammar check (set to British English).

I am aware of the ‘style’ of writing adopted for an academic article in economics and have attempted to emulate this. I know the difference to writing styles in journalism, diary, or fiction.

I have left Section V blank because I am writing an ‘analytical literature review’, a ‘theoretical dissertation’ or a ‘policy analysis’ type dissertation.

I have entered the word counts for my written work in Sections II, IV and VI.

I have checked that my references conform to the style/standards in the economics literature.

I have added the Google Scholar citation count for my core references in Section III.

I did not fill in Section VII because I am planning an empirical dissertation.

I have appropriately referenced work by others in my introduction and literature review sections. I am aware of the University regulations regarding plagiarism and academic misconduct (see section on ECON3001 Moodle page).

I am aware that I will need to obtain ethical approval for any data I plan to collect from human subjects (applies to students conducting **original surveys or lab experiments only**).

I am aware that a table covering further details of the literature I review (posted in the below Appendix) is a *useful addition but not a substitute* for my discussion in Section IV.

I do not give my consent for this work to be used anonymously for teaching purposes to help future cohorts of dissertation students.

**Appendix/Space for Inclusion of Figures, Tables, etc.**

**Table 1** Trade Openness Index (Imports+Exports)/GDP, 2010, select EU countries

|  |  |
| --- | --- |
| **Country** | **Trade (% of GDP)** |
| **Austria** | 99.02 |
| **Belgium** | 150 |
| **France** | 54.87 |
| **Germany** | 79.87 |
| **Italy** | 52.01 |
| **Luxembourg** | 293.67 |
| **Malta** | 301.84 |
| **Slovakia** | 153.45 |
| **Spain** | 52.93 |
| **United Kingdom** | 59.27 |

Source: ‘Multiple Sources compiled by World Bank (2024)’ – processed by Our World in Data

**Figure 1**

A graph showing a line graph

Description automatically generated with medium confidence

Source: raw data downloaded from www.macrotrends.net

A graph with lines and numbers

Description automatically generated

**Figure 2**

A graph with blue and orange lines

Description automatically generated

**Figure 3**