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Voting with their Money: Brexit and Outward Investment by UK Firms

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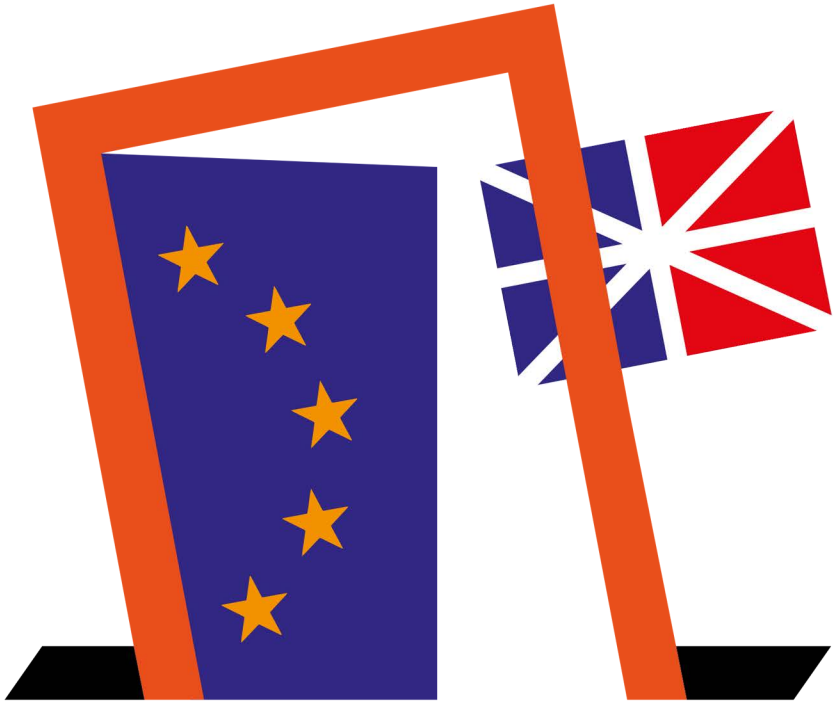

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CEP BREXIT ANALYSIS No. 13

Voting with their Money: Brexit and Outward Investment by UK Firms[1]

- Media reports suggest that some UK firms have started to move production abroad in anticipation of Brexit. This has generated fears that the UK is missing out on new investment and jobs.

- Using data on announcements of new foreign investment transactions, we provide the first systematic analysis of how the Brexit vote has affected outward investment by UK firms.

- The Brexit vote has led to a 12% increase in the number of new investments made by UK firms in European Union (EU) countries. We reach this conclusion by comparing the change in UK investments in the EU before and after the referendum with the change in investments made by a group of other developed economies.

- We estimate the increase in UK investment in the EU due to Brexit totals £8.3 billion over the period between the referendum and the end of the third quarter of 2018. To the extent that increased investment in the EU would otherwise have taken place domestically, this represents lost investment for the UK.

- The increase in UK investment in the EU comes entirely from higher investment by the services sector. We find no effect on foreign investment by UK manufacturing firms.

- The data shows no evidence of a 'Global Britain' effect. There has not been an increase in investment by UK firms in OECD countries outside the EU.

- Higher outward investment has been accompanied by lower investment into the UK from the EU. We find that the referendum reduced the number of new EU investments in the UK by 11%, amounting to £3.5 billion of lost investment.

- Although it is not possible to be certain about the reasons behind firms' investment decisions, our results are consistent with the idea that UK firms are offshoring production to the EU because they expect Brexit to increase barriers to trade and migration, making the UK a less attractive place to do business.

- In the event of a no-deal Brexit, more firms are likely to activate contingency plans for moving production abroad, accelerating the outflow of investment from the UK.

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Introduction

Foreign direct investment (FDI) has grown rapidly in recent decades. Through FDI, firms headquartered in the UK can own and operate subsidiaries throughout the world. FDI opportunities give firms a choice between investing in the UK and investing in other countries. And this leads to international competition to attract the jobs, investment and access to new technologies that FDI brings.

There are concerns that the UK's vote to leave the European Union (EU) in June 2016 may have led UK firms to redirect investment abroad. In particular, there is substantial anecdotal evidence that the threat of reduced access to the EU market after Brexit has pushed UK firms into setting up subsidiaries or acquiring companies in the remaining EU member states.

The UK Attractiveness Survey, which is published by professional services firm EY, reports evidence of an increase in UK outbound investment in 2017, with Germany and France being the main recipients (EY, 2018). Media reports have also documented that both large UK companies such as Barclays, HSBC and EasyJet, and smaller companies such as Crust & Crumb, a Northern Irish pizza maker, have invested in the EU in response to Brexit (The Guardian, 2017; France24, 2018; The Telegraph, 2018; The Journal, 2018).

In this briefing, we study whether the anecdotal evidence of increased EU investment by UK firms is representative of a systematic change in outward FDI. To do so, we analyse the impact of the June 2016 referendum on the number of new investments made by UK businesses in EU member states. Our methodology compares the change in UK investment in the EU following the referendum with the change in investment from other developed economies.

Our results show that the Leave vote has indeed led to a sharp rise in FDI projects undertaken by UK firms in other EU countries. We estimate that the cumulative effect, as of the end of the third quarter of 2018, was to increase the number of UK-EU FDI transactions by around 12% compared with if the UK had not voted for Brexit.

According to our analysis, the value of these additional investments was around £8.3 billion. While we cannot be sure if these funds would otherwise have been invested in the UK, the anecdotal evidence mentioned above suggests that the additional investment often occurred at the expense of UK operations.

In principle, the threat of a loss of market access after Brexit works both ways. That is, European firms might also worry about access to the UK market and increase their FDI investments accordingly.

But we find the opposite: new FDI projects in the UK by EU firms have actually declined as a result of the referendum, leading to a reduction in new EU investment by 11% or around £3.5 billion. This is consistent with work by Serwicka and Tamberi (2018), showing that the Brexit vote caused a general decline in FDI flows into the UK. It illustrates how being a smaller economy than the EU leaves the UK more exposed to the costs of economic disintegration.

Alternatively, if Brexit leads UK firms to expect a realignment of trade and investment away from the EU, then firms may increase their investment in non-EU countries. An increase in FDI outside of the EU would support the government's view that Brexit is good for 'Global Britain'. But we do not find any evidence of a Global Britain effect; our data suggest that the

referendum has not affected the number of new FDI projects undertaken by UK firms in non-EU OECD countries.

We complete our analysis by studying the sectoral composition of FDI outflows. We find that the increase in outward FDI to the EU is driven by the services sector. At the same time, we find no Brexit effect for manufacturing.

Prior to the referendum, economists argued that Brexit would reduce FDI flows into the UK (Dhingra et al, 2016; Bruno et al, 2016). Serwicka and Tamberi (2018) show that this has started to happen. By contrast, we provide the first evidence on how the Brexit vote has affected UK outward FDI. Because the data underlying our analysis are published with a lag of around three months, we can only capture effects up to and including the third quarter of 2018. Nevertheless, we already observe a significant increase in FDI outflows, showing that concerns that the Brexit vote has led to offshoring by UK firms should be taken seriously. In the event of a no-deal Brexit, more firms are likely to activate contingency plans for moving production abroad, accelerating the outflow of investment from the UK.

Our findings contribute to a growing body of evidence documenting the economic effects of Brexit. Although the full economic impact of Brexit will not be known for many years to come, we add to existing evidence showing that the Brexit vote has already affected the UK economy through lower real wages (Breinlich et al, 2017), slower GDP growth (Born et al, 2018) and fewer firms starting exporting to the EU (Crowley et al, 2019). The initial signs suggest that 'Project Fear' may turn out to have been 'Project Reality'.

An overview of UK outward FDI

A defining feature of globalisation over the past 40 years has been the rising importance of FDI. Undertaking FDI allows UK firms to set up subsidiaries and hire workers anywhere in the world. Firms offshore production for two main reasons (Antràs and Yeaple, 2014): to reduce costs by moving jobs to low wage countries such as China; or to avoid tariffs and other trade costs by locating production close to consumers. For example, the EU charges a 10% tariff on car imports from the United States, but if an American firm moves car production to an EU member state, then it does not face tariffs.

Investing abroad can increase the competitiveness of UK firms, making them more profitable and potentially allowing them to grow and expand in the UK. But outward FDI can also lead to lower employment and investment in the UK if firms offshore production that would otherwise have taken place domestically (Grossman and Rossi-Hansberg, 2008). This is particularly true if FDI occurs to avoid trade barriers, since in this case production capacity is at least partially duplicated. For destination countries, FDI brings high paying jobs, investment and access to new technologies. Consequently, governments often compete to attract FDI and to discourage domestic firms from moving abroad.[2]

The UK is one of the world's leading foreign investors. According to the latest UN World Investment Report (UNCTAD, 2018), it is the second biggest investor in developed economies after the United States. In 2015, the total stock of outward UK FDI globally was £1,012 billion, equivalent to around half of UK GDP, while the inward stock was £913 billion. The UK invests

[2] While it seems to have been unrelated to Brexit, the negative reaction by UK media and policy-makers to the recent decision by Dyson to relocate its headquarters to Singapore is an example of this.

predominantly in North America and Europe. In 2015, the stock of outward UK FDI in the EU was £439 billion, accounting for 43% of total UK outward FDI.

UK foreign direct investment in the EU

We are interested in whether UK outward FDI has been affected by the 2016 referendum. Brexit is yet to take place, but because firms are forward-looking, the decision to leave the EU could already have affected investment decisions. The form Brexit will take remains uncertain, but it is likely to lead to higher barriers to trade and migration between the UK and the EU. Higher trade barriers would make it more costly for UK-based firms to export to the EU. Consequently, there is an incentive for UK firms to invest in other EU countries as an insurance policy against Brexit making the UK a less attractive place to produce.

We measure FDI activity through a count of greenfield and M&A (mergers & acquisitions) transactions. Greenfield activity is taken from the *Financial Times'* fDi Markets database and refers to investments that create new establishments or production facilities from scratch, for example, setting up a new factory. M&A transactions, by contrast, refer to the acquisition of existing facilities and come from Bureau van Dijk's Zephyr database. In both databases, we observe when a new FDI transaction is announced. This helps in identifying the timing of any changes in FDI behaviour.

Our analysis mostly focuses on the period from 2010 to 2018, during which we observe around 100,000 transactions in total.[3] We do not use data on the value of FDI (as opposed to counts) since expenditure is only available in a minority of cases and tends to be dominated by a small number of very large transactions, rendering it less informative. But we use the available information about transaction values to compute an estimate of the changes in aggregate FDI investment caused by the referendum result.

As a first step, we plot two key series in our dataset. Figure 1 compares the count of quarterly FDI transactions from the UK to the EU27 with the count of transactions from OECD countries to the EU27 from 2010 to 2018. Throughout this briefing 'OECD' refers to all OECD countries apart from the UK and other EU member states.[4]

As Figure 1 shows, the evolution of FDI into the EU27 prior to the referendum was similar for the UK and the OECD, with both series showing an upward trend until 2016. But while FDI from the OECD stagnated after 2016, FDI from the UK rose sharply in the second half of 2016 and the first half of 2017 before falling in lockstep with OECD FDI afterwards. These simple plots suggest the referendum was followed by an increase in UK outward FDI.

[3] Further details about the data can be found in the technical appendix to this briefing, which can be downloaded from http://cep.lse.ac.uk/BREXIT/.

[4] In Figure 1 and all subsequent figures, we show moving averages over the two preceding and the two subsequent quarters to smooth out volatility.

Figure 1: UK-EU27 FDI counts vs. Non-EU OECD-EU27 counts

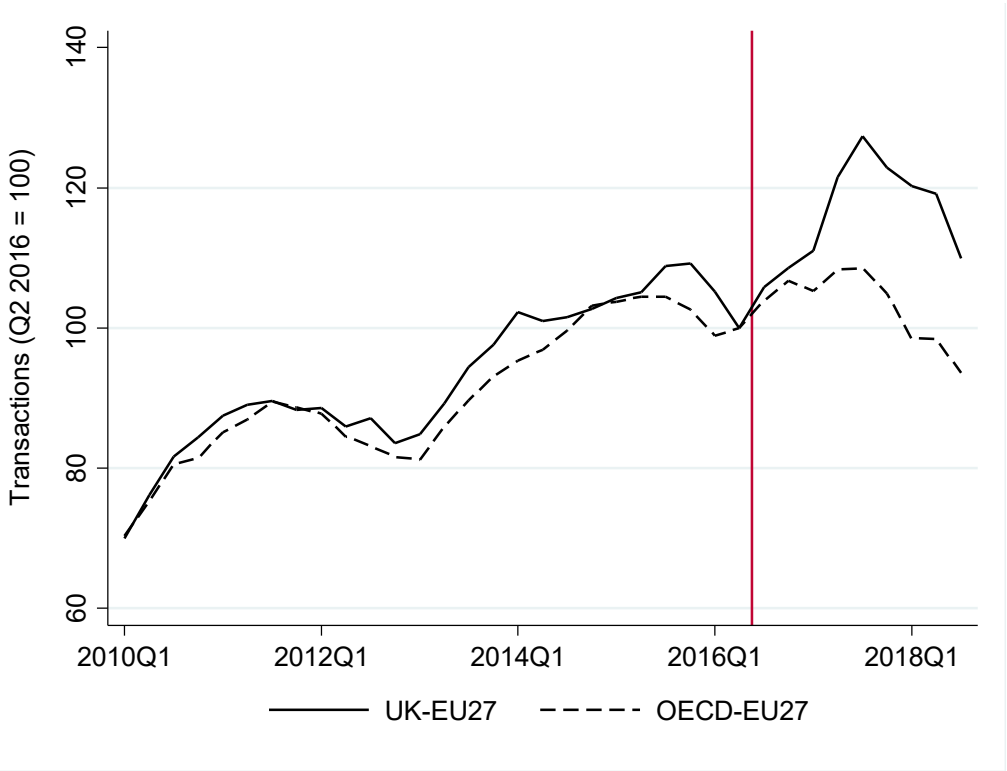

Figure 1 plots the count of FDI transactions from the UK to the EU27 (solid line) and the count of transactions from non-EU OECD countries to the EU27 excluding the UK (dashed line). The series are normalized to 100 in 2016Q2. The vertical line after 2016Q2 indicates the beginning of the post-referendum period. Source: fDi Markets and Zephyr. See the text and technical appendix for details.

We now seek to analyse the impact of the Brexit vote more formally. To do this, we employ the 'synthetic control method' (SCM, see Abadie and Gardeazabal, 2003). SCM is a way to estimate how UK FDI to the EU would have evolved after 2016Q2 if the UK had *not* voted for Brexit. We use this method to construct a synthetic control series for UK FDI to the EU by weighting FDI transactions between other developed countries.[5]

By construction, the control series is designed to mimic the actual UK series as closely as possible prior to the referendum. But for subsequent quarters, the UK series is allowed to deviate from the control series, allowing us to attribute the difference between actual UK FDI and the synthetic control series to the Brexit referendum.

Put differently, SCM constructs a 'doppelganger' that can be interpreted as the expected trajectory of UK FDI if there had not been a Leave vote. If the referendum outcome had no discernible impact on UK FDI behaviour, then the doppelganger and the actual series should be similar, not only before but also after the referendum. We allow for this possibility and let the data tell us whether in fact there is a deviation between actual and synthetic FDI.

[5] The technical appendix provides further details on how we implement SCM. Born et al (2018) use SCM to estimate the effect of the Brexit vote on UK GDP.

Figure 2: UK-EU27 FDI counts (actual vs. synthetic control)

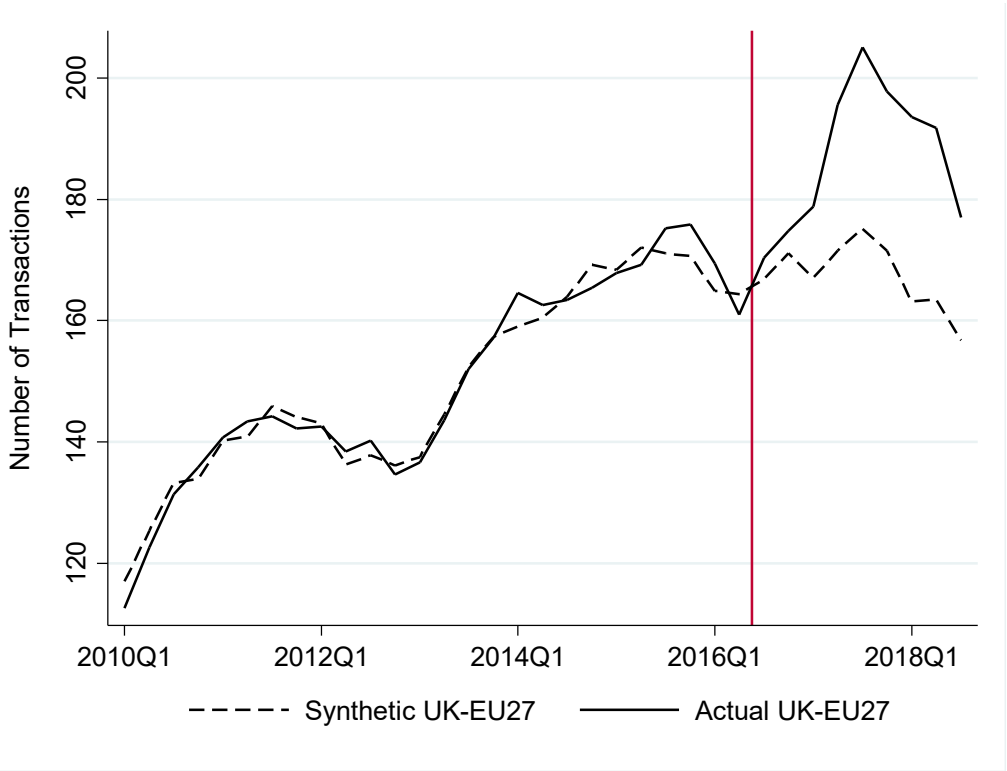

Figure 2 plots the actual count of FDI transactions from the UK to the EU27 (solid line) and the corresponding synthetic control series (dashed line). The vertical line after 2016Q2 indicates the beginning of the post-referendum period. Source: fDi Markets, Zephyr and authors' calculations. See the text and technical appendix for details.

The most important series that the SCM chooses to construct the doppelganger are FDI from Switzerland into the EU27 and from the United States into the EU27, which receive weights of 52% and 38%, respectively. That is, our approach shows that UK investment in the EU in the pre-referendum period can be almost exactly replicated by using a combination of these two bilateral flows (as well as a small number of additional flows with much lower weights). This makes intuitive sense as, like the UK, both Switzerland and the United States are advanced economies that have a close economic relationship with the EU and are important origin countries for FDI into the EU27.

Figure 2 shows the SCM results. The number of FDI transactions from the UK into the EU27 goes up substantially after 2016Q2 compared with the synthetic control, which remains at 2014 and 2015 levels.

To visualise further the impact of the referendum, in Figure 3 we plot the cumulative difference between the actual and synthetic FDI series. The figure shows that by 2018Q3, 181 greenfield and M&A transactions from the UK into the EU27 had taken place that would not have occurred in the absence of Brexit. For comparison, this increase is slightly more than the average number of quarterly FDI transactions prior to the referendum (see Figure 2) and represents a 12% increase over the level of the synthetic control.

Figure 3: Cumulative difference between the actual and synthetic UK-EU27 FDI transaction counts

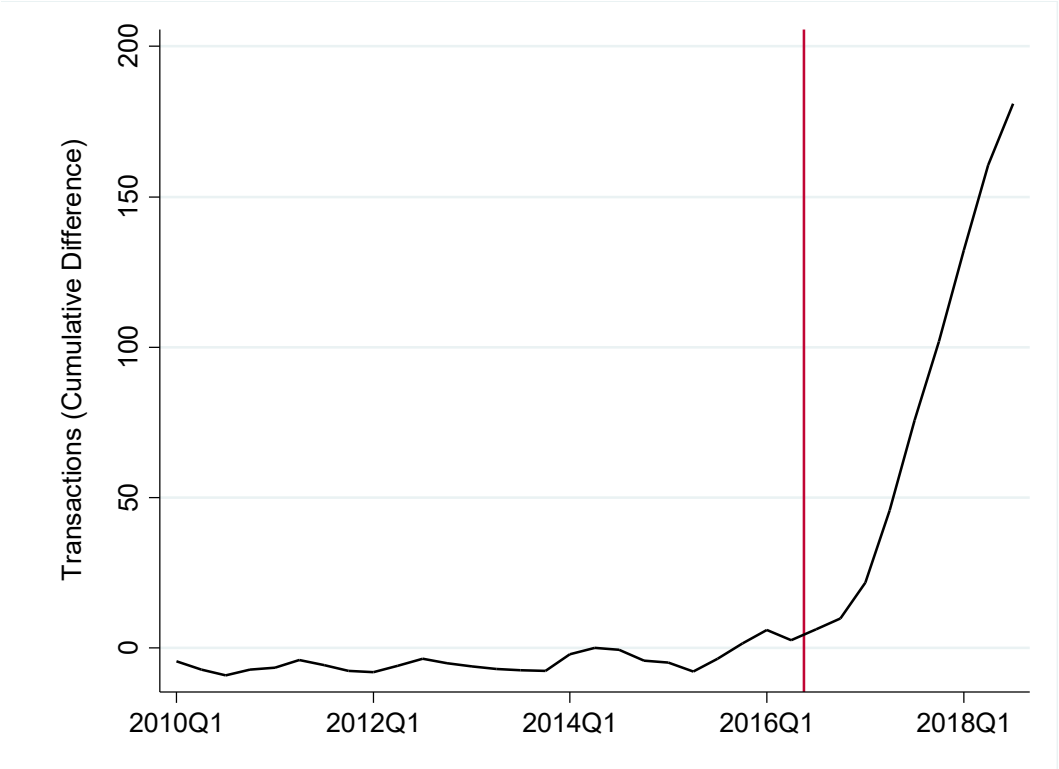

Figure 3 shows the cumulative difference between the actual count of FDI transactions from the UK to the EU27 and the synthetic control series (both are taken from Figure 2). The vertical line after 2016Q2 indicates the beginning of the post-referendum period. Source: Authors' calculations.

In other words, if the synthetic control is indeed a good proxy for what would have happened without the referendum, these results tell us that Brexit has increased UK-EU FDI transactions by around 12%. In terms of value, these additional FDI outflows from the UK to the EU27 are worth approximately £8.3 billion in total by 2018Q3.[6] Moreover, the persistence of the gap between the actual and synthetic series in Figure 2 shows that the referendum effect has not yet died away, meaning the increase in outward FDI due to Brexit is likely to grow further as more data becomes available.

As a note of caution, we stress that the £8.3 billion outflow can only be interpreted as 'lost investment' for the UK under the assumption that the investment transactions would have taken place in the UK, instead of the EU27, were it not for the Leave vote. While the anecdotal evidence discussed in the introduction suggests this was indeed often the case, it could also be that the referendum outcome simply triggered additional investment by UK firms in the EU. We therefore regard £8.3 billion as an upper bound on lost investment.

[6] This calculation uses data on the average values of greenfield and M&A transactions from fDi Markets and Zephyr, respectively. See the technical appendix for details.

UK investment outside the EU

As Figures 2 and 3 show, we find evidence that Brexit has increased FDI flows from the UK to the EU27. But is this increase specific to the EU as a destination, or do we observe similar changes in UK investment flows to other countries? If so, our results may simply show that UK firms have become more internationally oriented and outward looking since the referendum.

To evaluate this possibility, we construct a synthetic control for UK investment into non-EU OECD countries.[7] We present the results in Figure 4. Compared with the synthetic control doppelganger, we do not observe an increase in UK investment activity into non-EU OECD countries after the referendum. But as the figure shows, the fit of the synthetic control series prior to the referendum is poor, implying it is not a good control for UK-OECD FDI. We are therefore reluctant to interpret this figure other than concluding that there is no sign of a Global Britain effect. That is, UK investment in advanced economies outside of the EU has not experienced a post-referendum surge.

Figure 4: UK to Non-EU OECD FDI counts (actual vs. synthetic control)

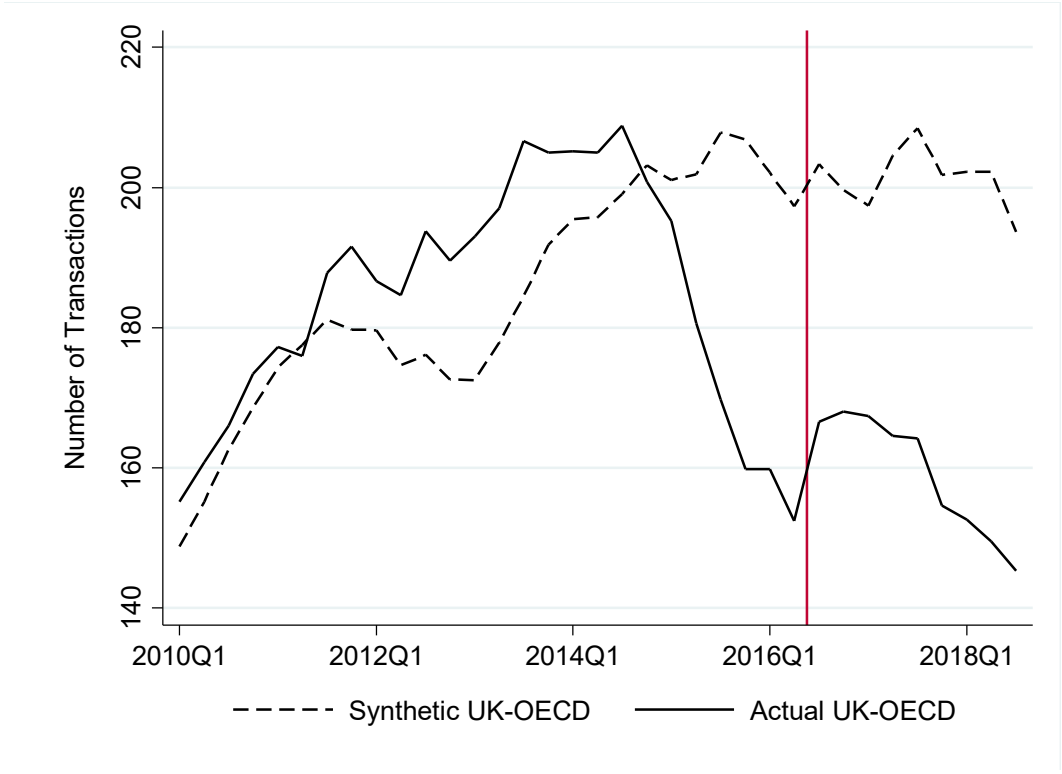

Figure 4 plots the actual count of FDI transactions from the UK to non-EU OECD countries (solid line) and the corresponding synthetic control series (dashed line). The vertical line after 2016Q2 indicates the beginning of the post-referendum period. Source: fDi Markets, Zephyr and authors' calculations. See the text and technical appendix for details.

[7] These countries are Australia, Canada, Switzerland, Chile, Israel, Iceland, Norway, Japan, Mexico, New Zealand, South Korea, Turkey and the United States.

EU investment in the UK

So far, we have analysed how Brexit has affected FDI by UK firms. But the threat of a loss of market access after Brexit could also have led to more investment by European firms in the UK. To see whether this has happened, we construct a synthetic control for FDI from the EU27 to the UK.

The results are displayed in Figure 5. Relative to the synthetic control, the number of new investments from the EU27 to the UK went down by around 11% after the referendum, amounting to £3.5 billion of lost investment. This finding is consistent with Serwicka and Tamberi (2018), who present evidence that the referendum led to a decline in total UK FDI inflows.

Our analysis shows that in contrast to the rise in UK investment flows to the EU27, there was a decrease in FDI activity in the opposite direction. This asymmetry highlights how the UK and the EU are differentially exposed to the effects of Brexit. Put simply, because the EU is a much bigger market than the UK, access to the EU27 is more important than access to the UK.

Figure 5: EU27-UK FDI counts (actual vs. synthetic control)

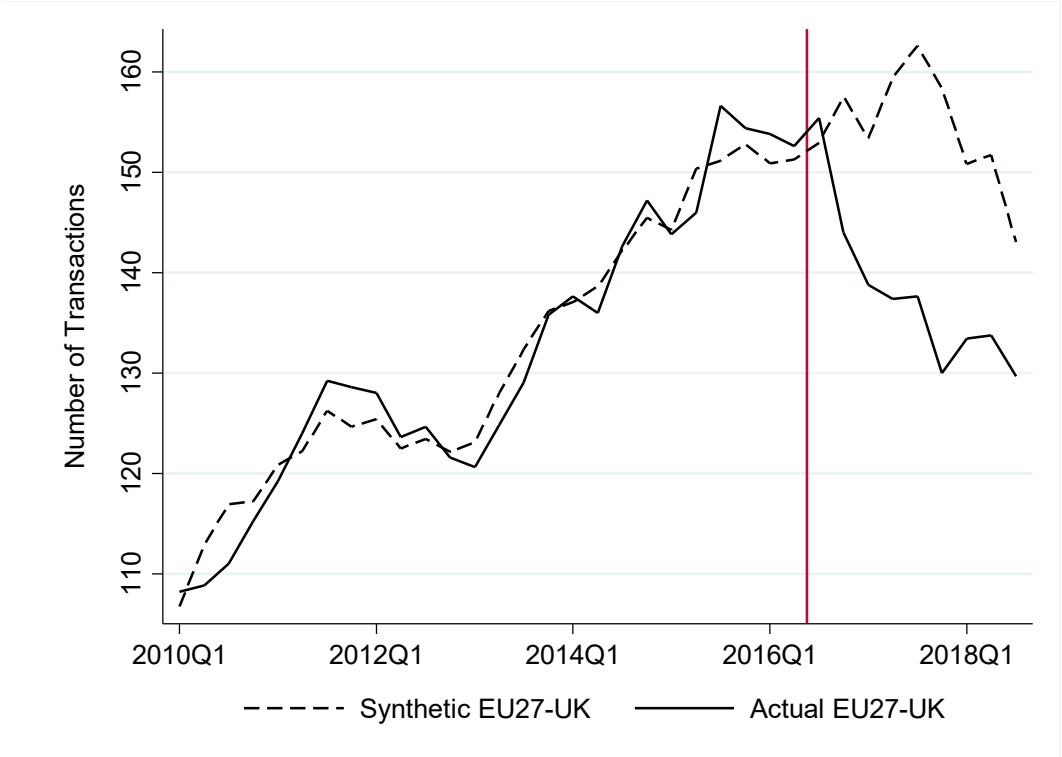

Figure 5 plots the actual count of FDI transactions from the EU27 to the UK (solid line) and the corresponding synthetic control series (dashed line). The vertical line after 2016Q2 indicates the beginning of the post-referendum period. Source: fDi Markets, Zephyr and authors' calculations. See the text and technical appendix for details.

Services versus manufacturing

Finally, we return to considering FDI from the UK to the EU27 and ask whether the increase in outward FDI shown in Figure 2 occurred in all sectors. We split the sample between transactions occurring in the manufacturing and services sectors, and construct a separate synthetic control series for each sector.

We present the results in Figures 6a and 6b. While we observe no difference between actual FDI and the synthetic control for the manufacturing sector, we find a sizeable increase in outward FDI for the services sector. This finding suggests that the aggregate effect in Figure 2 is entirely driven by services. It is consistent with the notion that it may be easier to set up new foreign affiliates in services industries rather than in manufacturing. Alternatively, it could mean that firms expect Brexit to increase trade barriers by more for services than for manufacturing, perhaps because the UK government has prioritised the interests of manufacturing over services in the Brexit negotiations by focusing on reducing customs frictions, while ruling out membership of the EU's single market.[8]

Figure 6a: UK-EU27 FDI counts for manufacturing (actual vs. synthetic control)

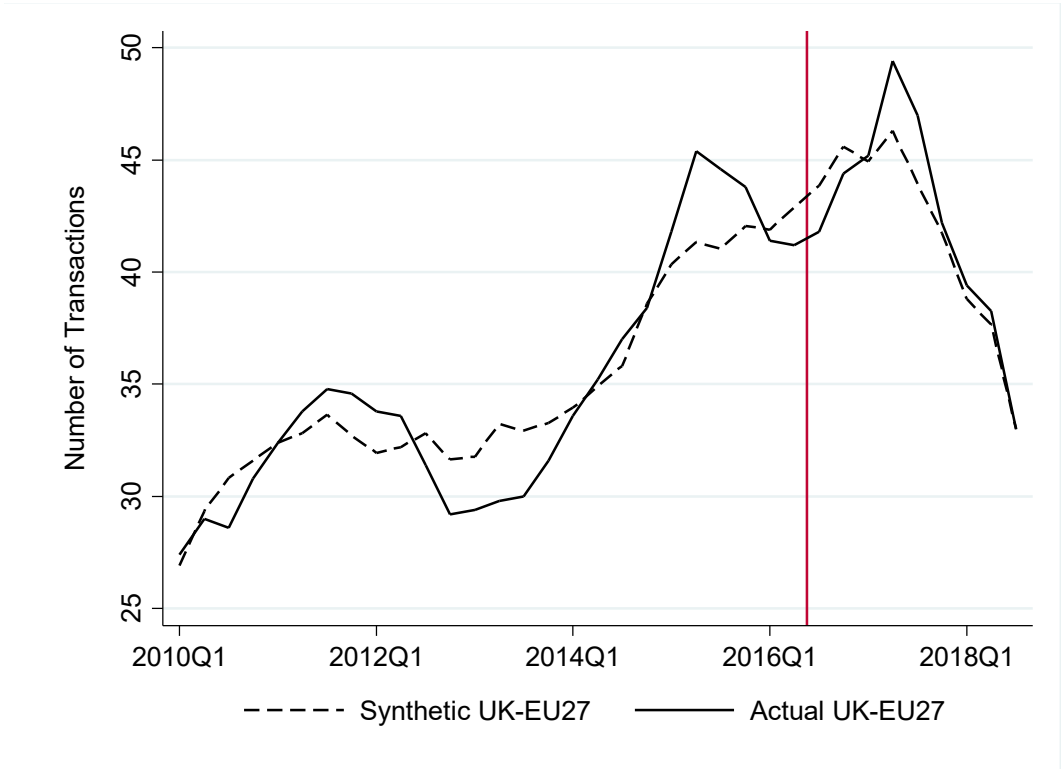

Figure 6a plots the actual count of FDI transactions in the manufacturing sector from the UK to the EU27 (solid line) and the corresponding synthetic control series (dashed line). The vertical line after 2016Q2 indicates the beginning of the post-referendum period. Source: fDi Markets, Zephyr and authors' calculations. See the text and technical appendix for details.

[8] In the technical appendix, we also investigate whether the increase in FDI transactions by UK firms in the EU27 was driven by M&A activity or greenfield investment. We find that both played a role, with greenfield transactions increasing by 20% due to the referendum and M&As increasing by 10%.

Figure 6b: UK-EU27 FDI counts for services (actual vs. synthetic control)

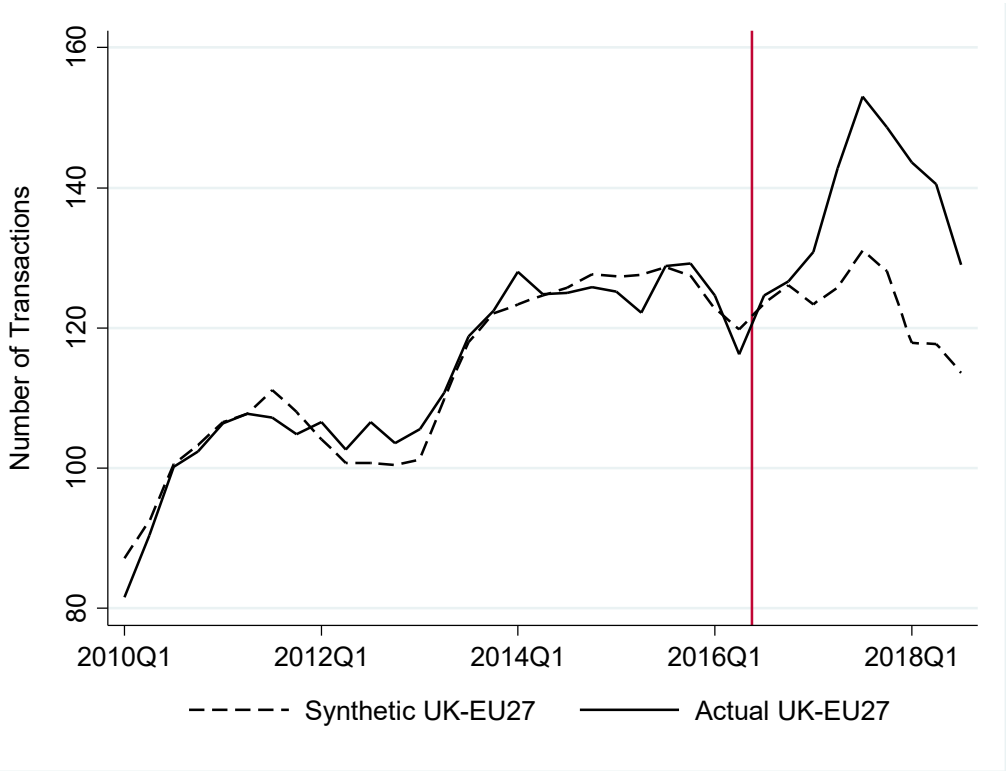

Figure 6b plots the actual count of FDI transactions in the services sector from the UK to the EU27 (solid line) and the corresponding synthetic control series (dashed line). The vertical line after 2016Q2 indicates the beginning of the post-referendum period. Source: fDi Markets, Zephyr and authors' calculations. See the text and technical appendix for details.

Conclusions

We show that the Brexit referendum has led to a substantial increase in the number of foreign direct investment transactions undertaken by UK firms in EU27 countries. The increase is entirely concentrated in the services sector, with no discernible effect for manufacturing. Higher UK FDI to the EU has not been accompanied by increased UK FDI outside of the EU, nor by an increase in EU firms investing in the UK.

Our data do not allow us to make definitive statements about why UK firms have increased FDI in the EU or how this change has affected domestic jobs and investment. But our findings are consistent with the idea that Brexit will make the UK a less attractive location to do business and that this is causing some firms to offshore production to EU countries.

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