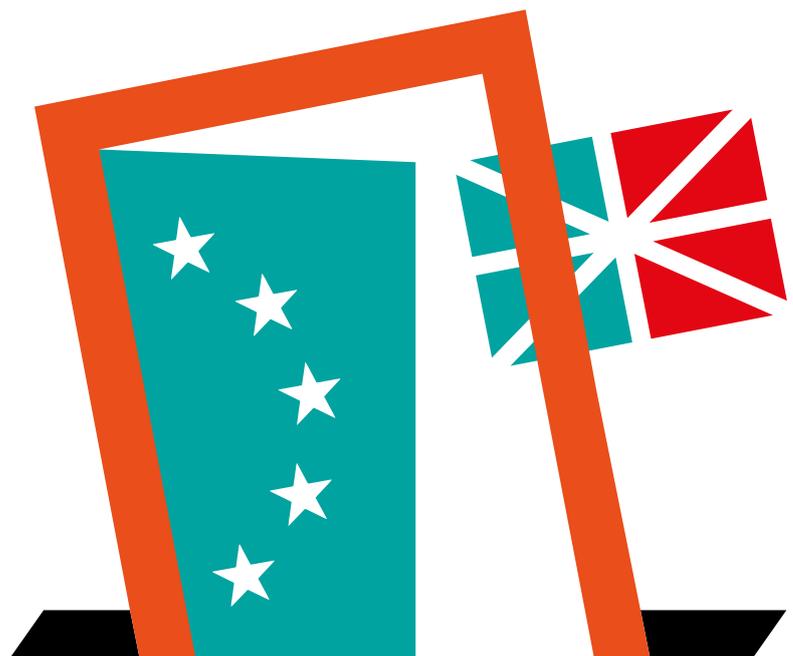


A series of background briefings on the policy
issues in the December 2019 UK General Election

Brexit Economics

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#GE2019Economists



Brexit Economics

CEP ELECTION ANALYSIS

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November 2019

- This briefing summarises CEP forecasts of the long-run effects of leaving the European Union on average incomes in the UK, as well as CEP research on how the Brexit vote has already affected the UK economy.
- All forms of Brexit are forecast to make the UK worse off economically than remaining in the EU.
- The Conservative Party's policy is for future UK-EU relations to be based on a free trade agreement. This option is estimated to reduce UK income per capita by up to 6.4%.
- Labour's preferred Brexit policy is hard to pin down, but it is likely to involve closer trade relations with the EU than Conservative policy. A soft Brexit that maintained a customs union with the EU is estimated to reduce UK income per capita by up to 4.9%.
- The vote to leave the EU has already reduced UK output, raised the cost of living and led to reductions in real wages and investment.
- UK GDP is estimated to be around 2% or £43 billion lower because of the vote to leave the EU.
- The depreciation of sterling caused by the referendum result increased consumer prices by around 2.9%, costing the average UK household £870 pounds per year.
- Real wages have stagnated since the referendum. Real wage growth has turned negative in sectors that need more imported inputs and are facing increased cost pressures due to the depreciation of sterling.
- From an economic perspective, the best policy would be to cancel Brexit. If Brexit goes ahead, policy should focus on prioritising a deep trade deal with the EU, putting services trade, labour and investment high on the negotiating agenda and mitigating the economic impact of Brexit on local areas and workers.

Introduction

Since the UK voted to leave the European Union in June 2016, Brexit has dominated UK politics and economic policy. Three and a half years after the referendum, the UK is yet to leave the EU, there is no certainty over if or when Brexit will take place, and the shape of future UK-EU relations is yet to be determined.

Building on methods from earlier work on international trade, researchers at the Centre for Economic Performance (CEP) started studying Brexit in 2014 (Ottaviano et al, 2014). In this briefing, we summarise the findings of CEP research on the economics of Brexit. We discuss two topics. First, how will Brexit affect the UK economy in the long run? Second, how has the referendum outcome affected the UK economy in the period since June 2016?

Long-run economic consequences

The CEP has developed a state-of-the-art model of international trade to analyse how Brexit will affect UK trade and living standards (Dhingra et al, 2016, 2017a). This model has been used to study how different options for UK-EU trade relations after Brexit would affect the UK economy by analysing how changes in trade barriers affect UK trade, output and income levels in the long run.

Leaving the EU will introduce new costs of trade between the UK and the EU that make it harder for UK firms to do business with the rest of Europe. But the extent to which trade barriers increase will depend on the nature of the post-Brexit relationship that the UK agrees with the EU.

Table 1 summarises the model's forecasts for four scenarios: (i) soft Brexit – in which the UK remains in the EU's single market, but not its customs union; (ii) Theresa May's deal – in which the UK leaves the single market, but maintains a customs union with the EU; (iii) Boris Johnson's deal – in which the UK leaves the single market and the customs union, and agrees a free trade agreement with the EU similar to the EU-Canada agreement; (iv) hard Brexit – in which future UK-EU relations are based on World Trade Organization (WTO) terms.

Table 1: Effect of Brexit on UK income per capita

	Change in UK income per capita (relative to remaining in the EU)	
	Percent	Pounds
Soft Brexit – Norway	-1.6%	-£500
May's deal – Customs union	-1.7%	-£500
Johnson's deal – Free trade agreement	-2.5%	-£800
Hard Brexit – WTO	-3.3%	-£1000

Source: CEP calculations. Pound values calculated at 2018 prices using data from the ONS and rounded to the nearest hundred pounds.

In each case, we report the predicted effect of Brexit on UK income per capita ten years after the deal is implemented relative to an alternative scenario in which the UK remains in the EU.¹ A number of important conclusions are immediately apparent.

The economic consequences of Brexit are negative

Table 1 shows that in all cases Brexit makes the UK worse off economically than remaining in the EU. Higher trade barriers are costly because they raise the price of imported goods, reduce export opportunities for UK firms and limit the UK's ability to specialise in industries in which it has a comparative advantage.

The worst-case scenario is a Brexit on WTO terms, which is estimated to reduce income per capita by 3.3%. This is roughly double the cost of either a soft Brexit that keeps the UK in the single market or a deal that maintains a customs union with the EU. The more the UK distances itself from the EU's economic institutions and policies, the greater will be the increase in trade barriers and the higher will be the costs of Brexit.

The estimates in Table 1 do not account for the effects of Brexit on fiscal transfers between the UK and the EU, or for possible gains to the UK from striking new free trade agreements with countries outside the EU. But even under optimistic assumptions, these effects would be much smaller than the costs shown in Table 1. The UK is a net contributor to the EU budget, but fiscal savings from Brexit are likely to be at most 0.3% of UK income (Dhingra et al, 2017a).

In any Brexit scenario where the UK leaves the EU's customs union, it would be able to conduct an independent trade policy and seek new free trade agreements with non-EU countries. But the government estimates that such deals would increase UK output by at most 0.2% (HM Government, 2018). And even this may be an optimistic assumption given that smaller countries have less bargaining power in trade negotiations and the EU is a much larger economy than the UK.

Boris Johnson's Brexit deal

The Conservative Party is proposing that future trade relations with the EU should be based on a free trade agreement similar in scope to the EU-Canada deal. This would entail the UK leaving the single market and the customs union, while maintaining tariff-free and quota-free trade with the EU for all (or almost all) products.

Free trade agreements typically take many years to negotiate and it is highly unlikely that a well-designed agreement could be implemented before the December 2020 deadline set by the draft withdrawal agreement. The UK should seek to extend this deadline at the first opportunity.

Leaving the EU's customs union would require the introduction of customs checks at the UK-EU border. In addition, goods would have to satisfy 'rules of origin' requirements to qualify for tariff-free entry, and trade would be subject to the threat of anti-dumping duties and countervailing measures. Likewise, leaving the single market would lead to the introduction of new checks to ensure goods and services exports comply with the EU's legal standards, and

¹ For a complete description of the CEP trade model and the assumptions made, see Dhingra et al (2017a) for the soft and hard Brexit cases, Levell et al (2018) for May's deal and Bevington et al (2019) for Johnson's deal. The numbers reported in Table 1 for the soft and hard Brexit cases differ from those in Dhingra et al (2017a) because Table 1 reports income per capita effects, whereas Dhingra et al (2017a) reports consumption-equivalent welfare effects and also accounts for changes in fiscal transfers from the UK to the EU.

regulatory divergence will further increase trade costs if businesses need to split production lines for different markets.

We estimate that under a Brexit based on Conservative proposals, UK income per capita ten years after the deal was implemented would be 2.5% lower than in an alternative scenario where the UK remains in the EU (Bevington et al, 2019). The costs of Boris Johnson's Brexit are lower than for a WTO Brexit, but roughly 50% larger than for a soft Brexit or for Theresa May's deal. This reflects the fact that Johnson's deal envisions a future in which the UK is less integrated with the EU than under May's deal.

The draft withdrawal agreement negotiated by Johnson's government accords Northern Ireland a special status that means it effectively remains in the EU's single market and customs union. Since Northern Ireland only accounts for around 2% of UK GDP, these arrangements are unlikely to influence how Brexit affects the overall UK economy.

Although Johnson has said there will be no checks on goods moving between Northern Ireland and Britain, the withdrawal agreement will require the introduction of a customs border in the Irish Sea. This will break up the UK's own single market, impose substantial additional costs on Northern Irish firms in particular and, over time, reduce economic integration between Northern Ireland and the rest of the country.

Labour's Brexit policy

Labour's Brexit policy is ambiguous, but involves seeking a soft Brexit that keeps the UK in a customs union with the EU and perhaps also in the single market. Once negotiated the deal would be put to a referendum, though it is unclear whether Labour would campaign for or against its own deal.

To get an idea of the likely economic effects of Labour's policy, we have analysed two options that maintain relatively high levels of economic integration with the EU. We find that the costs of leaving the single market while remaining in the customs union (May's deal) are similar to the costs of leaving the customs union while remaining in the single market (the so-called Norway option). Under both alternatives, the UK is better off than under the Conservative Party's preferred option of a free trade agreement Brexit.

In this sense, Labour's Brexit policy is preferable to Conservative policy from an economic perspective. But seeking a deal that kept the UK in both the single market and the EU's customs union would further reduce the costs.

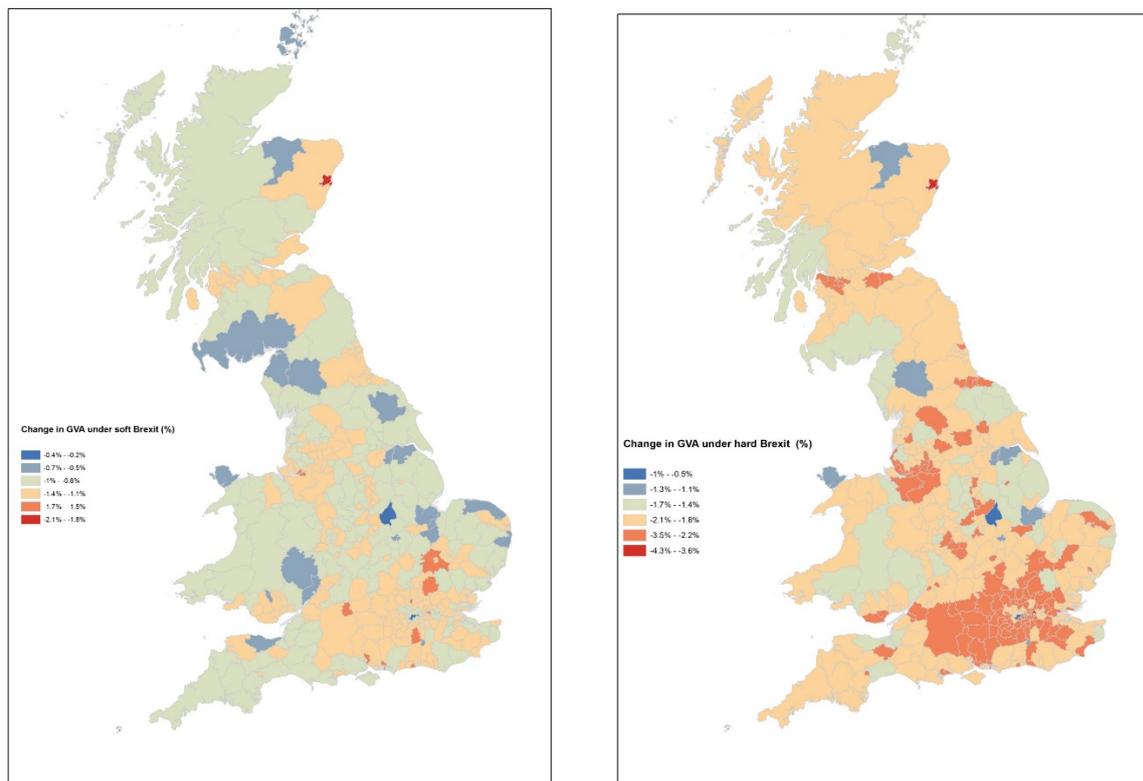
Other parties

The Liberal Democrats, the Scottish National Party, the Green Party and Plaid Cymru advocate cancelling Brexit and remaining in the EU. Since all the Brexit options under consideration would make the UK worse off than if it stays in the EU, remaining is the best policy in terms of Brexit's effect on average income per capita in the UK.

Regional effects of Brexit

Table 1 shows the economic impact of different Brexit scenarios for the aggregate UK economy. CEP analysis in Dhingra et al (2017b) studies the local effects of the increases in trade barriers associated with Brexit. Predictions of the local economic consequences of Brexit are important for both central and local government in understanding how different regions may be affected by Brexit and in designing appropriate policy responses.

Figure 1: Maps of percentage decreases in local authority gross value added under soft (left panel) and hard (right panel) Brexit scenarios



Source: CEP calculations based on Dhingra et al (2017b).

Predictions of the local impact of Brexit are presented in Figure 1 for two different scenarios: soft and hard Brexit. The predictions are computed by combining the sectoral impacts forecast by the CEP's trade model with local authority level data on variation in employment shares across sectors.

In line with the national estimates, the results predict that all local authorities experience an economic loss under both scenarios, and that losses are bigger in the hard Brexit scenario. On average, economic losses for local authorities, measured as reduced gross value added for the area, stand at 1.14% and 2.12% per annum under the soft and hard scenarios respectively.²

Local economies in the South of England will see bigger losses from Brexit

Figure 1 shows the gross value added impacts by local authority. Areas in the South of England, and urban areas, are predicted to be harder hit by Brexit under both scenarios. Three of the top ten worst hit local authorities are predicted to be in Greater London (City of London, Tower Hamlets and Islington) and nine of the top ten in the South East. Most of these areas have large employment shares in service sector industries such as financial intermediation, which are predicted to experience relatively greater losses.

While the North and the Midlands are estimated to fare less badly after Brexit, the CEP trade model does not build in channels for how areas will adjust in the long run. For example, while London was initially one of the worst hit areas during the 2007-08 global financial crisis, its

² The average local economic effect differs slightly from the national estimate of -1.6% (soft Brexit) and -3.3% (hard Brexit) because it provides changes in local output rather than real expenditures which is the focus of the national estimates.

skill composition and diversified local economy meant it displayed greater resilience and was able to bounce back more quickly.

Finally, areas where the vote to remain in the EU was higher are those that are predicted to be most negatively affected by Brexit, suggesting that areas voted in line with their relative economic interests. That said, it needs to be reiterated that all areas are predicted to face some form of economic loss, and recovery might be more difficult in areas that are poorer to begin with.

Productivity adjustments would increase the long-run costs of Brexit

The estimates reported in Table 1 and Figure 1 are calculated using a static trade model that does not allow for any dynamic effects of trade on productivity. Trade integration can raise productivity by promoting efficiency through increased competition, by stimulating innovation and by reducing the cost of intermediate goods.

For an alternative estimate of the economic costs of Brexit, we can draw on the body of empirical evidence on how trade affects income per capita. A central estimate from this work is that a 1% decline in trade reduces income per capita by around 0.5% (Feyrer, 2019). This estimate is designed to capture all channels through which trade affects income, including productivity changes, in addition to the mechanisms embedded in the CEP trade model. It may also partially capture the consequences of changes in foreign investment and immigration that are correlated with changes in trade policy.

Combining this estimate with the changes in UK trade calculated by our model gives the results shown in Table 2. The estimates in Table 2 are around two and a half times as large as the falls in income per capita shown in Table 1, which are obtained directly from the trade model. This suggests that the model does not incorporate all the channels through which trade affects productivity and living standards.

We conclude that although the exact magnitude of changes in income per capita in the four scenarios that we analyse is uncertain, all options are likely to reduce UK living standards and the costs could be substantial.

Table 2: Effect of Brexit on UK income per capita with productivity adjustment

	Change in UK income per capita (relative to remaining in the EU)	
	Percent	Pounds
Soft Brexit - Norway	-4.3%	-£1300
May's deal – Customs union	-4.9%	-£1500
Johnson's deal – Free trade agreement	-6.4%	-£2000
Hard Brexit – WTO	-8.1%	-£2500

Source: CEP calculations. Pound values calculated at 2018 prices using data from the ONS and rounded to the nearest hundred pounds.

Economic effects of the Brexit vote

The full economic impact of Brexit will not be known for many years. But three and a half years after the referendum, we can assess how the Brexit vote has affected the UK economy since June 2016.

The vote has already had economic effects because economic behaviour depends on what is happening now and on what people and businesses expect to happen in the future. The referendum changed expectations about the future of the UK's economic relations with the EU and the rest of the world. Not only is Brexit likely to make the UK less open to trade, investment and immigration with the EU, but it has also increased uncertainty.

The Decision Makers' Panel of firms interviewed by the Bank of England shows that Brexit uncertainty was high after the June 2016 vote. At that time, 38% of firms rated Brexit as one of the three main drivers of uncertainty. This number rose sharply to about 60% of firms after the Salzburg summit in September 2018 when the EU did not accept the UK's Brexit proposal, which increased the chance of a no-deal Brexit (Bloom et al, 2019).

The immediate economic impact of the Brexit vote was a depreciation of sterling. On the night of the referendum, as it became clear that the UK had voted to leave the EU, sterling suffered its biggest one-day loss since the 1970s. Between 23 and 27 June 2016, sterling declined by 11% against the US dollar and 8% against the euro, and it has stayed at around 10% below its pre-referendum value.

How should we analyse the economic effects of the Brexit vote? A couple of options can be ruled out immediately. It would be a mistake to assume that all changes since June 2016 are due to the referendum outcome. The economy is constantly changing for many reasons that have nothing to do with Brexit. We cannot simply compare today's outcomes with pre-referendum data and attribute the difference to Brexit. Likewise, it would be wrong to use pre-referendum forecasts that assumed a victory for the campaign to remain in the EU to measure what would have happened.

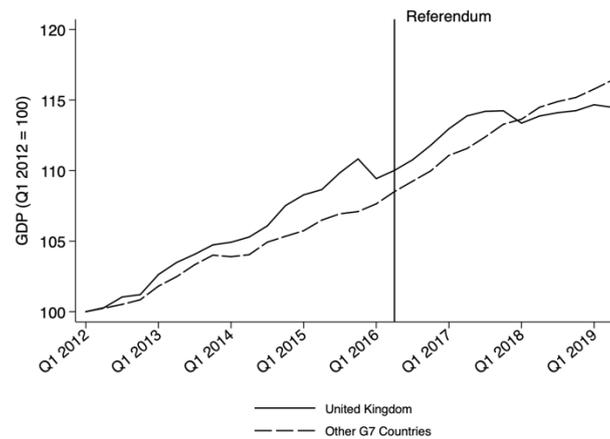
To overcome these challenges, we can compare the UK's economic outcomes since the Brexit vote with those of other similar economies that did not vote to leave the EU. We can also examine whether firms or sectors that are more exposed to the effects of Brexit, such as those that do business with the EU, have responded to the vote differently than less exposed parts of the economy. Researchers at CEP and elsewhere have used these approaches to study the effect of the Brexit vote on output, prices, trade, wages and investment.

Output

A broad indicator of economic performance is the growth rate of GDP. Figure 2 shows the UK's GDP growth from 2012 to 2019. While the UK started with a steeper growth trajectory, it has fallen behind other G7 countries since the referendum. This suggests that the Brexit vote has had a negative effect on the UK's economic growth.

Born et al (2019) reach a similar conclusion in their research comparing UK growth with a broader control group of countries. They estimate that by the end of 2018, UK GDP was between 1.7 and 2.5 percentage points lower than it would have been if the UK had voted to remain in the EU. In pound terms, this represents a GDP decline of between £1,300 and £2,000 per household.

Figure 2: GDP growth in the UK and other G7 countries, 2012-19



Source: CEP calculations, updated from De Lyon and Dhingra (2019). GDP values are deflated by country-specific GDP deflators. Other G7 countries include France, Germany, Italy, Japan and the United States.

Prices and the cost of living

A fall in the pound increases the cost of imports into the UK, which raises the cost of living. Consumer Price Index (CPI) inflation rose dramatically from 0.4% in June 2016 to 3% in January 2018. Breinlich et al (2019a) study whether this increase in inflation was caused by the Brexit depreciation.

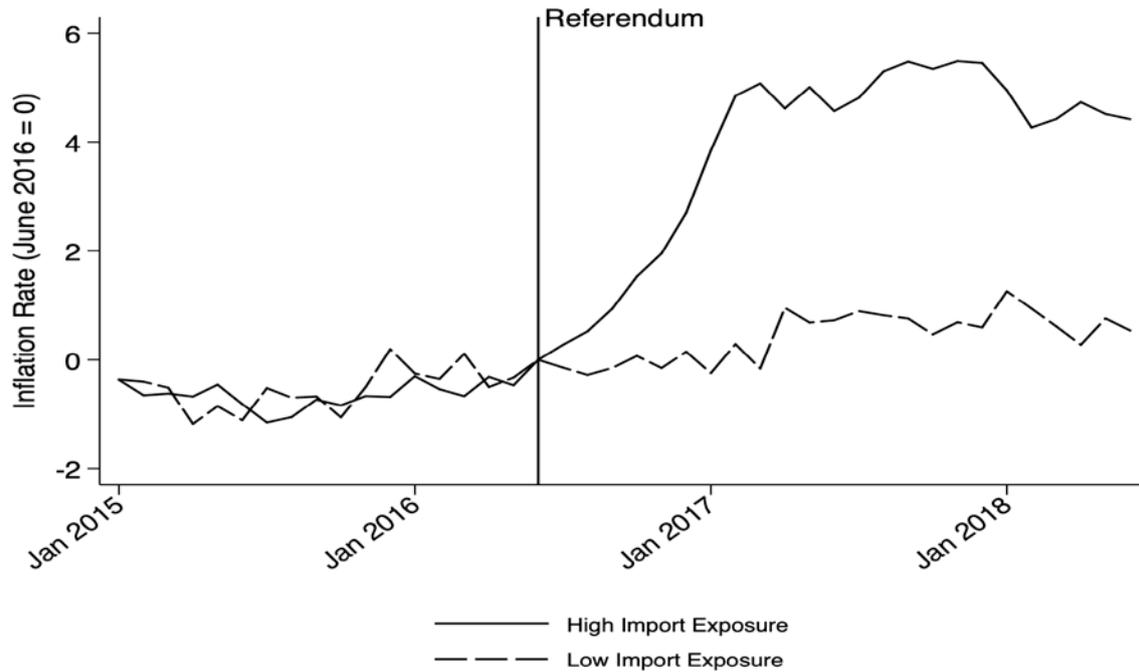
If the sterling depreciation is responsible for higher inflation, we would expect product groups where consumers buy more imported goods, such as food and clothing, to have experienced bigger price rises than groups less sensitive to import costs, such as restaurants and hotels. And this is exactly what we find in the data.

Figure 3 shows inflation before and after the referendum for two groups of products: the top half of products and the bottom half in terms of import exposure. Following the referendum there was a rapid increase in inflation for the high import exposure group, while the rise in inflation was much slower for the low import exposure group.

After disentangling the effect of higher import costs from other factors that affect prices, Breinlich et al estimate that the Brexit vote increased consumer prices by 2.9 percentage points in the two years following the referendum. Although the effect of the depreciation on inflation has now died out, its impact on the level of prices is persistent and represents an £870 pound per year increase in the cost of living for the average UK household. It would be wise to view the precise magnitude of this effect with some caution, but the cost is undoubtedly substantial.

Breinlich et al also show that the increase in the cost of living has been evenly shared across households with different income levels. But households in Northern Ireland and Wales have experienced bigger increases in the cost of living due to the Brexit depreciation than the average UK household because they spend more on imported goods.

Figure 3: Import shares and inflation, 2015-18



Source: CEP calculations based on Breinlich et al (2019a). Inflation for both groups is calculated over the previous twelve months and normalised to zero in June 2016.

Trade

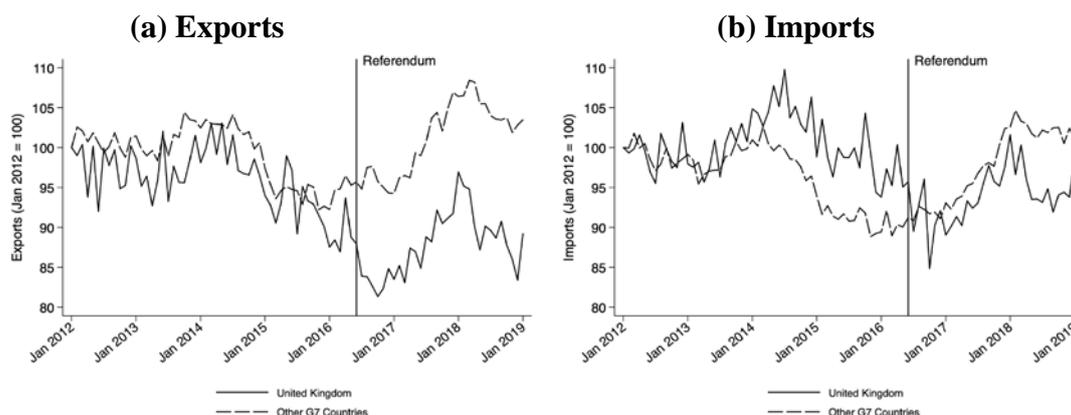
By making UK exports cheaper, the depreciation of sterling following the referendum could, in principle, give UK firms a competitive advantage in foreign markets leading to higher exports. But real export growth has not increased since the depreciation, compared with other G7 countries, as Figure 4a shows.

One explanation for the lack of export growth is that the likelihood of future increases in trade barriers between the UK and the EU has made firms reluctant to invest in increasing their export capacity. Crowley et al (2018) find that following the referendum, UK firms were less likely to start exporting to the EU and that existing exporters were more likely to stop exporting. Importantly, they show that these impacts are greater for firms that would face higher tariffs in the event of a no-deal Brexit.

For firms with global supply chains, currency depreciations also raise import costs, mitigating the competitive advantage of the depreciation for exporting (Amiti et al, 2017). The growth in real imports into the UK has been broadly similar to that in other G7 countries, as Figure 4b shows. The nominal value of imports has risen, but this is largely because of a rise in import prices due to the sterling depreciation.

These findings of low real export growth and rising import prices are reaffirmed when comparing sectors of the economy that buy and sell more from countries whose currencies gained more against the pound. Because imports and exports differ in their source and destination countries, sectors trading in different world markets faced a different sterling depreciation.

Figure 4: Real exports and imports in the UK and other G7 countries, 2012-19



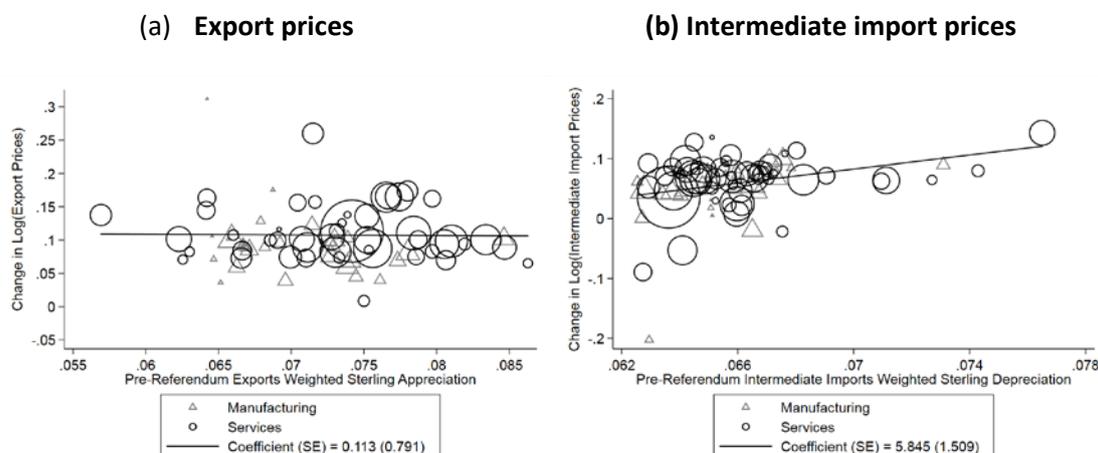
Source: Updated CEP calculations from De Lyon and Dhingra (2019). Trade values deflated by country-specific producer price indices (PPIs). Other G7 countries include France, Germany, Italy, Japan and the United States.

Comparing sectors that are in the top and bottom 20% of export-weighted depreciations, Figure 5a shows little evidence of any systematic differences in post-referendum responses across sectors in export prices. The same is true for export values or volumes, suggesting that the depreciation has not increased export opportunities for UK businesses (Costa et al, 2019).

The main action turns out to have been on the cost side, due to differences in how much intermediate imports from different countries have been affected by differences in depreciation across countries. Sectors that rely more on imports of intermediate goods and services that businesses use have been badly hit by increased costs from the referendum-induced sterling depreciation. Sectors with higher intermediate import-weighted depreciations saw their intermediate import price index rise by more, as Figure 5b shows.

Overall, the cost side of imports has dominated the potential revenue gains from exports brought by the depreciation. Businesses have absorbed some of the increased costs of imports by lowering worker wages and investment in training, to which we turn next.

Figure 5: Post-pre referendum changes in trade prices by sector depreciations



Source: Updated CEP calculations from Costa et al (2019). Size of the markers is proportional to the Labour Force Survey weights of the sectors.

Wages and employment

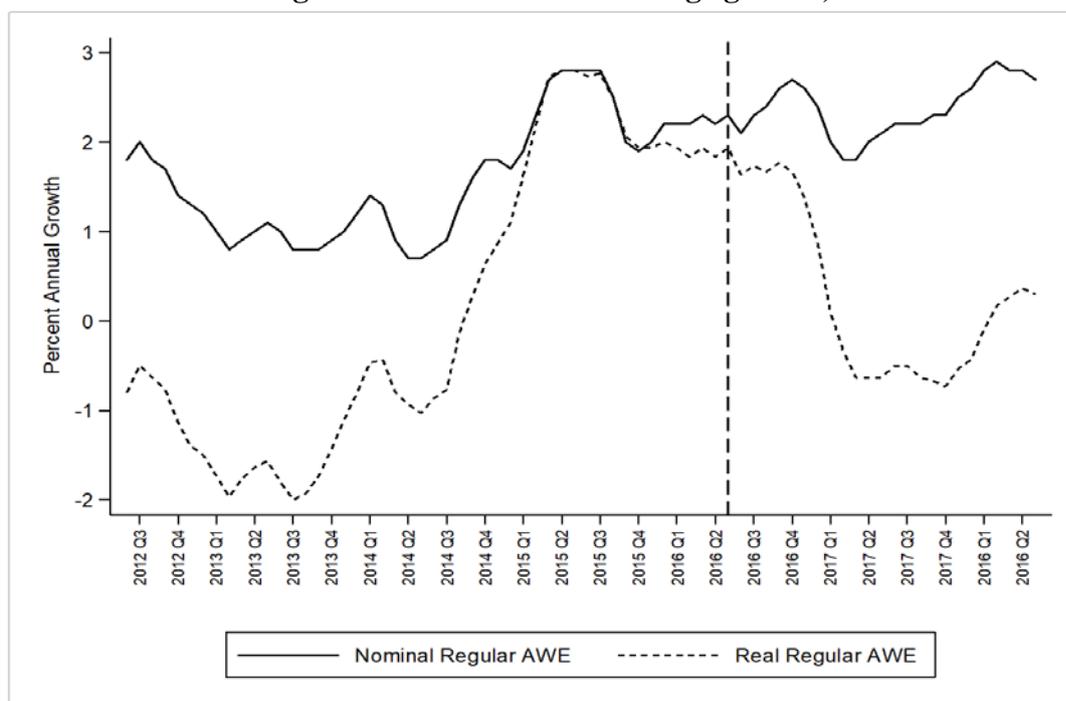
The increase in inflation due to the Brexit depreciation has not been accompanied by faster income growth. As Figure 6 shows, higher inflation has led to a decline in the real value of wages and a fall in living standards. Real wages dropped from a pre-referendum annual growth rate of 1.1% to less than 0.1% after the referendum. Nominal wage growth changed little in the immediate aftermath of the Brexit vote. Over time, however, nominal wage growth in some sectors was affected by the sterling depreciation as cost pressures rose for businesses in sectors that need more intermediate inputs from abroad.

CEP research by Costa et al (2019) sheds more light on the causes of this real wage stagnation. After the referendum, workers in sectors that saw bigger increases in the price of their intermediate imports experienced slower wage growth and reductions in job-related education and training. Comparing sectors in the top and bottom halves of the intermediate import-weighted depreciations, real wages in the top half of sectors were growing at 1.3% annually before the referendum and this dropped to -0.6% after the referendum.

The slowdown is 1.4 percentage points lower than the exposed sectors in the bottom half, which saw a fall in their annual real wage growth from 1% to 0.4% after the referendum. While wages had been growing in the pre-referendum period, real wages have stagnated since then and this effect is more pronounced in sectors that have been hardest hit by rising costs from the sterling depreciation, as Figure 7 shows.

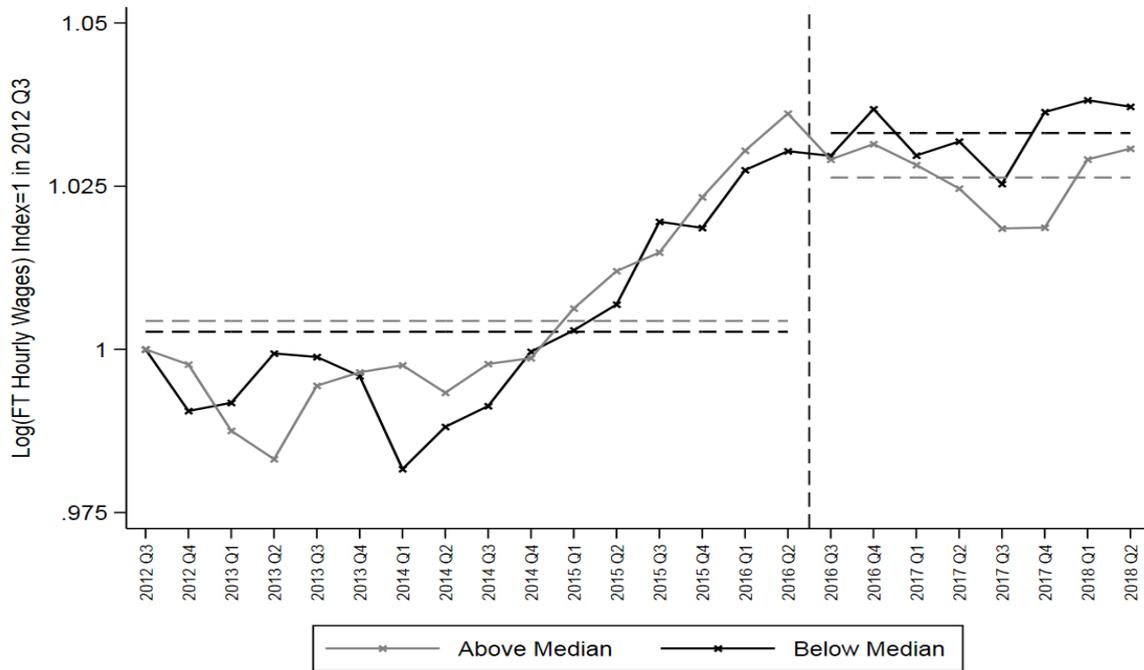
Employment rates continue to be high, although this may be masking the rise in low wage and alternative work arrangements (Costa and Machin, 2019). Rising import costs have not translated into job losses or reductions in hours worked, except paid overtime hours, which have seen reductions since the referendum. Overall, the drop in training opportunities and anaemic wage growth at a time of high employment rates raises serious alarm about a deepening of the productivity slowdown that has plagued the UK economy for years.

Figure 6: Nominal and real wage growth, 2012-18



Source: Office for National Statistics. Wage growth is the percentage change year on year in the three month average of Average Weekly Earnings - Regular Pay. Real AWE is Nominal AWE deflated by CPI. The dashed vertical line shows the date of the referendum (June 2016).

Figure 7: Real wage stagnation in sectors with above and below median intermediate import-weighted sterling depreciation, 2012-2018



Source: CEP calculations based on Costa et al (2019). The dashed horizontal lines are the pre and post referendum means for below and above median sector groupings and the dashed vertical line shows the date of the referendum (June 2016).

Investment

Uncertainty makes businesses less willing to invest in risky new projects. Bloom et al (2019) use data from the Bank of England’s Decision Makers Panel to study the firm-level effects of Brexit uncertainty. They find that firms that report experiencing higher Brexit-related uncertainty have had lower investment and productivity growth since the referendum. They estimate that anticipation of Brexit reduced business investment in the UK by 11% in the three years following the referendum. But they cannot tell whether this reduction is primarily due to increased uncertainty or the expectation of a future reduction in openness.

Bloom et al’s findings are consistent with aggregate evidence of weak investment growth since the referendum. In 2018, business investment declined for four consecutive quarters and recorded its lowest annual growth rate since the financial crisis a decade earlier. Investment today increases productivity tomorrow, so declining investment is another worrying sign for future growth prospects.

The Brexit vote has also started to affect investment flows into and out of the UK. Reduced openness makes the UK a less desirable investment destination because it increases the costs of using the UK as a base for serving EU markets. CEP research by Breinlich et al (2019b) shows that the vote to leave led to a 17% increase in new investment projects by UK firms in the EU by March 2019, but did not affect UK investment outside the EU.

Looking at flows in the opposite direction, Breinlich et al find that the referendum reduced new investment projects by EU firms in the UK by 9% over the same period. Together these estimates suggest that Brexit is making the UK a less attractive place to do business.

Final words

There is a broad consensus among economists that leaving the EU will, in the long run, reduce UK living standards (Chadha et al, 2016; Van Reenen, 2016; Sampson, 2017). But the magnitude of the economic costs will depend on what form Brexit takes.

Our analysis finds that Conservative proposals for future UK-EU relations to be based on a free trade agreement would result in around a 50% higher drop in income per capita than a soft Brexit. Remaining in the EU would be the best economic policy, while leaving on WTO terms would be the most costly alternative.

It is too soon to evaluate the accuracy of these forecasts and as time passes, new evidence will continue to provide fresh information on the response of the economy to Brexit. But even before Brexit has happened, evidence on post-referendum trends in output, prices, trade, wages and investment shows that the UK is paying an economic price for its decision to leave the EU.

The economic evidence points to three priority areas for policy action.

First, substantial losses are expected from increased trade barriers with the EU, even if the UK pursues a policy of seeking new trade agreements outside the EU. The best economic policy would be to remain in the EU. But even if Brexit goes ahead, the government should prioritise trade deals with its largest trade and investment partners, which means putting the EU first before looking for deals with the United States or any other countries.

Second, the UK's comparative advantage is primarily in services. The services sector is already experiencing slower wage growth from the rise in import costs. The importance of minimising barriers to services trade and investment should be a priority in any negotiation. Staying in the single market would maximise market access. No bespoke trade deal, including the EU-Canada trade deal, has been able to deliver the levels of market access available for services through single market membership (Dhingra and Datta, 2017).

Third, the effects of any Brexit deal on local economies need to be closely monitored, as emphasized by the spatial discussions of social mobility and left-behind places in Elliot Major and Machin (2019) and Overman (2019). Immediate losses to local economies could paint a deceptive picture of which places get left behind because recovery from economic shocks depends on the capacity to adapt to change, which is often lower in poorer areas. Fiscal transfers and public support would be necessary for lower income families and regions that are already starting to feel the pain of reduced real earnings and for individuals, especially the young, who are seeing their future earning potential decline as a result of reduced economic activity and fewer opportunities for investments in skills.

Further reading

Amiti, M, O Itskhoki and J Konings (2014) 'Importers, Exporters and Exchange Rate Disconnect', *American Economic Review* 104(7): 1942-78.

Bevington, M, H Huang, A Menon, J Portes, J Rutter and T Sampson (2019) 'The Economic Impact of Boris Johnson's Brexit Proposals', CEP Brexit Analysis No. 16.

Bloom, N, P Bunn, S Chen, P Mizen, P Smietanka and G Thwaites (2019) 'The Impact of Brexit on UK Firms', NBER Working Paper No. 26218.

- Born, B, G Müller, M Schularick and P Sedláček (2019) 'The Costs of Economic Nationalism: Evidence from the Brexit Experiment', *Economic Journal* 129(623): 2722-44.
- Breinlich, H, E Leromain, D Novy and T Sampson (2019a) 'Exchange Rates and Consumer Prices: Evidence from Brexit', CEP mimeo.
- Breinlich, H, E Leromain, D Novy and T Sampson (2019a) 'Voting with their Money: Brexit and Outward Investment by UK Firms', CEP Discussion Paper No. 1637 (<http://cep.lse.ac.uk/pubs/download/brexit13.pdf>).
- Chadha, J, P Johnson and J Van Reenen (2016) 'Leaving the EU would almost certainly damage our economic prospects', Brexit joint statement issued on 20 June 2016 (http://cep.lse.ac.uk/textonly/new2014/BREXIT/Brexit_JointStatement.pdf).
- Costa, R, S Dhingra and S Machin (2019) 'Trade and Worker Deskilling', CEP Discussion Paper No. 1622 (<http://cep.lse.ac.uk/pubs/download/dp1622.pdf>).
- Costa, R, and S Machin (2019) 'The Labour Market', CEP Election Analysis 46.
- Crowley, M, O Exton and L Han (2018) 'Renegotiation of Trade Agreements and Firm Exporting Decisions: Evidence from the Impact of Brexit on UK Exports', Working Paper.
- De Lyon, J, and S Dhingra (2019) 'Economic Performance since the EU Referendum', CEP Brexit Analysis No. 14.
- Dhingra, S, and N Datta (2017) 'How Not to Do Trade Deals', *London Review of Books* 39(18): 31-32.
- Dhingra, S, G Ottaviano, T Sampson and J Van Reenen (2016) 'The Consequences of Brexit for UK Trade and Living Standards', CEP Brexit Analysis No. 2.
- Dhingra, S, H Huang, G Ottaviano, J Pessoa, T Sampson and J Van Reenen (2017a) 'The Costs and Benefits of Leaving the EU: Trade Effects', *Economic Policy*, 32(92): , 651-705.
- Dhingra, S, H Overman and SJ Machin (2017b) 'Local Economic Effects of Brexit', *National Institute Economic Review* 242(1): R24-36.
- Elliot Major, L, and S Machin (2019) 'Social Mobility', CEP Election Analysis 45.
- Feyrer, J (2019) 'Trade and Income – Exploiting Time Series in Geography', *American Economic Journal: Applied Economics* 11(4): 1-35
- HM Government (2018) 'EU Exit: Long term Economic Analysis'.
- Levell, P, A Menon, J Portes and T Sampson (2019) 'The Economic Consequences of the Brexit Deal', CEP Brexit Analysis No. 12.
- Ottaviano, G, J Pessoa, T Sampson and J Van Reenen (2014) 'Brexit or Fixit? The Trade and Welfare Effects of Leaving the European Union'.
- Overman, H (2019) 'People, Places and Politics', CEP Election Analysis 47.

Sampson, T (2017) 'Brexit: The Economics of International Disintegration', *Journal of Economic Perspectives* 31(4): 163-84.

Van Reenen, J (2016) 'Brexit's Long-Run Effects on the U.K. Economy', *Brookings Papers on Economic Activity* 367-83.

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