NiGEM Topical Feature

Revisiting the effect of Brexit

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- The United Kingdom has experienced slower economic growth following the global financial crisis and its exit from the European Union. Our estimates suggest that had the post-2010 trends been sustained, real income and private consumption per capita could have been 8-9 per cent and 11-12 per cent higher than current figures, respectively.
- The difference between pre-pandemic trends and the current outlook cannot be solely ascribed to Brexit, considering the substantial economic disruptions caused by the Covid-19 pandemic and the Russia-Ukraine conflict in the post-Brexit era. A model-based approach is required to help identify the effect of Brexit on UK economic performance amongst these other factors.
- As a point of departure, we revisit the impact of Brexit on the UK economy considering the EU-UK Trade and Cooperation Agreement (TCA). We have modelled several macroeconomic factors affecting the UK economy associated with the beginning of the TCA in 2021: a trade decline with the European Union and an associated reduction in the UK terms of trade, a reduction in productivity, and a permanent reduction in the willingness to invest in the United Kingdom. In addition, we assume agents in 2016 (i.e., once the referendum result was known) perfectly anticipated that these shocks would happen in 2021.
- These estimates suggest that Brexit had already reduced UK real GDP relative to the baseline by just under one per cent in 2020 as consumers and businesses adapted their expectations even before the TCA came into force. Our estimates further suggest that three years after the transition period, UK real GDP is some 2-3 per cent lower due to Brexit, compared to a scenario where the United Kingdom retained EU membership. This corresponds to a per capita income loss of approximately £850.
- Our estimates indicate that the negative impact of Brexit gradually escalates, reaching some 5-6 per cent of GDP or about £2,300 per capita by 2035. The reduction in real incomes resulting from the fall in the UK terms of trade associated with changes in trading relations with the European Union and the fall in productivity are the largest contributors to the estimated reduction in real GDP, with each accounting for over 2.5 percentage points.

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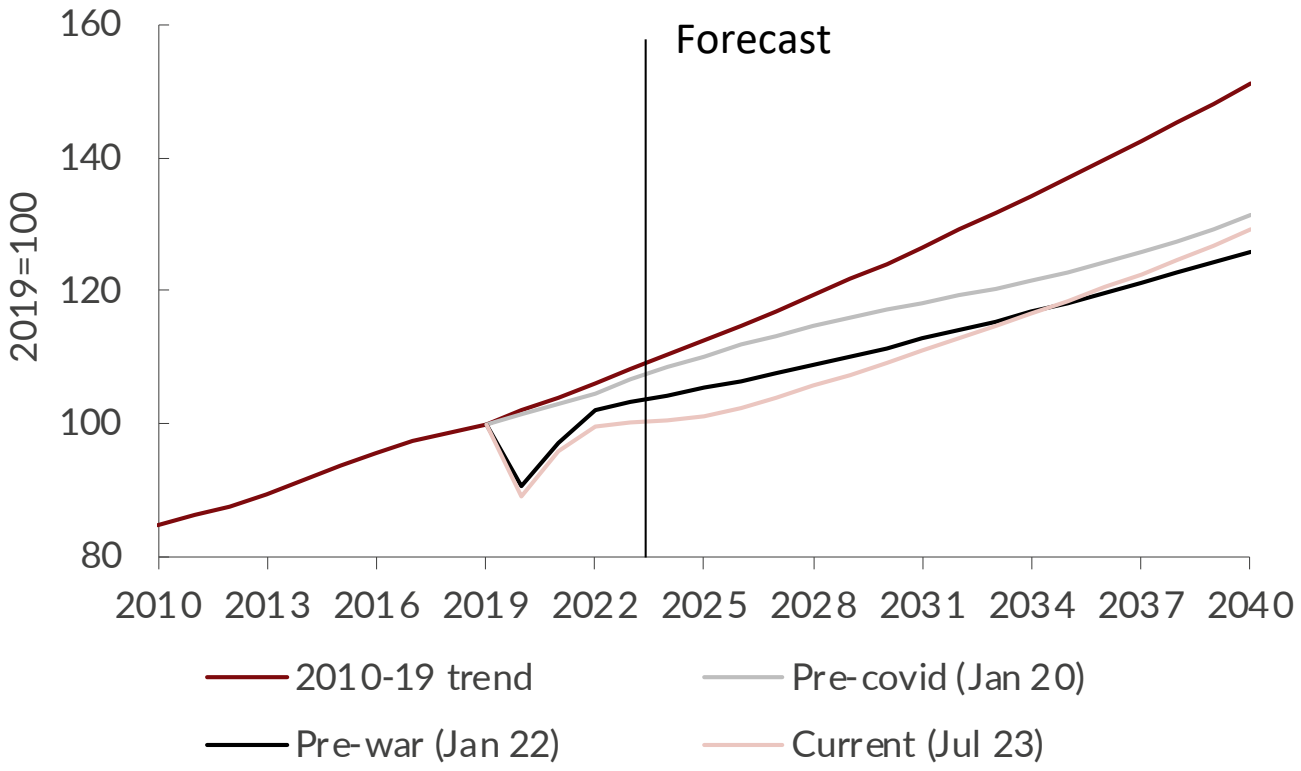
2 The authors would like to thank Jagjit Chadha, Paul Gretton and Barry Naisbitt for helpful comments. The views expressed in this Topical Feature are those of the authors on the basis of the simulation presented and should not be taken as representative of NIESR's view or position on Brexit. The analysis presented here is an illustration of how NiGEM can be used to explore Brexit under specific assumptions about the magnitudes of its effects on exogenous variables within NiGEM and the channels through which these affects would play out.

Introduction

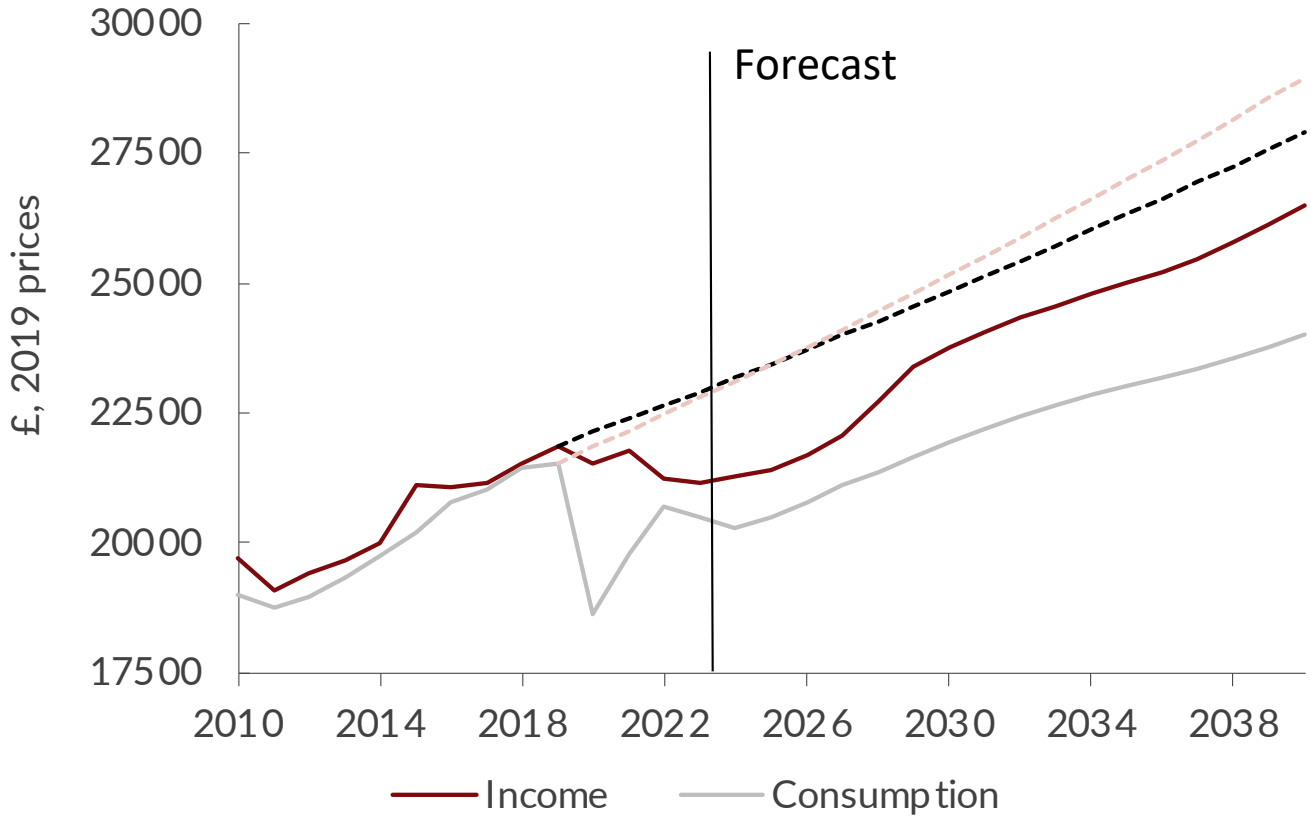
The decision to leave the European Union has significantly shaped the UK economic landscape since the 2016 referendum. Over the ensuing years, the United Kingdom has experienced an economic environment characterised by low growth and, since the Covid-19 pandemic, high inflation. As we approach the fourth anniversary of the official departure from the European Union, we are better able to assess its impact on the economy. NIESR projections suggest that UK GDP could have been substantially greater, had it not suffered from the major economic shocks of the financial crisis, Brexit, the Covid-19 pandemic and the Russian invasion of Ukraine (figure TF1). The average UK resident could have earned 8-9 per cent (around £1,700 annually) more and consumed 11-12 per cent (around £2,300 annually) more by 2023 if the 2010-19 trends for real income and private consumption had been maintained (figure TF2). However, the large gap between the pre-Covid trend in GDP and the most recent NIESR forecast cannot solely be attributed to Brexit, given the notable economic damage caused by the Covid-19 pandemic (Mortimer-Lee and Pabst, 2022) and Russia's war in Ukraine (Liadze et al., 2022) in the post-Brexit period. Therefore, a model-based approach is required to start the process of parsing the effects of Brexit and differentiating it from other shocks.

Figure TF1 GDP projections



Source: NiGEM database and NIESR forecasts.

Figure TF2 Income and consumption (per capita)



Source: NiGEM database and NIESR forecasts.

In this Topical Feature, we build on Hantzsche and Young (2019) and consider the final withdrawal agreement and the EU-UK Trade and Cooperation Agreement (TCA), which entered into force at the beginning of 2021. Our work should be thought of as an illustration of how NiGEM can be used to explore Brexit under specific assumptions about the magnitudes of its effects on exogenous variables within the model and the channels through which these affects would play out. There are other effects we could explore with NiGEM but also some effects we cannot.

We argue that the reduction in trade in goods and services between the United Kingdom and the European Union remains the most important channel through which the impact of Brexit will be visible over the long term. The TCA provides for the continuation of tariff- and quota-free trade in all goods, some provisions in services and cooperation in a wide range of areas between the United Kingdom and the European Union such as investment, competition, state aid, transportation, energy, data protection and social security. However, businesses – both exporters and importers – face higher trade costs, due to more stringent customs checks and forms to fill in, and higher non-tariff barriers, e.g., rules of origin requirements and regulatory barriers such as the loss of passporting in financial services because the United Kingdom is no longer part of the EU single market or customs union. Indeed, Clarke et al. (2023) highlighted that the primary challenges encountered by businesses in the context of the TCA revolve around issues of bureaucratic hurdles, shipping time delays, and intensified controls by customs and border authorities. These costs act to reduce the UK terms of trade, making UK households either continue to purchase imported goods at higher relative prices or switch to more expensive domestically produced goods, both of which make them poorer. Lower household real income in turn implies lower consumption and lower GDP.

Another critical channel to consider is the greater reluctance of business in the United Kingdom to invest resulting from the change in the business environment and the reduction in foreign portfolio and direct investment as investors and multinational companies find the United Kingdom potentially less attractive for investment as a non-EU country. We also retain the assumption of a decline in productivity. This is based on the premise that the reduction in effective competition resulting from an increase in barriers to trade, coupled with the departure of highly productive multinational companies, could result in an overall decrease in productivity in the United Kingdom over time.

We do not consider a fiscal channel as the impact of the reduction in the UK net contribution to the European Union is negligible. Similarly, we assume no decline in migration given the data shows that the fall in net migration from the European Union due to the loss of free movement of people has, so far, been offset by the rise in non-EU net migration since Brexit. Finally, we assume that households and businesses have forward-looking expectations and perfectly anticipated, once the result of the referendum was known, the effects of Brexit on trade, productivity, and investment that we assume took effect in 2021.

Previous NIESR work on the impact of Brexit

In this section, we provide an overview of previous research conducted by NIESR on the possible consequences of Brexit for the short and long-term prospects of the UK economy. In the run up to the referendum, Baker et al. (2016) concentrated on the short-term effects, in particular the rise in uncertainty and the deterioration of expectations in financial markets. They introduced various shocks to the exchange rate, government yields, corporate and household lending spreads and the equity risk premium for the period of uncertainty following the referendum. On the exchange rate, they calibrated a shock to three-month options-implied sterling volatility equal to two-thirds of the shock in the fourth quarter of 2008. Furthermore, they assumed an increase in the risk premium on government bonds of 100 basis points, considering that UK government securities would likely be less favoured by investors after the referendum. They also calibrated a 50 basis points increase in household and corporate credit premia over a two-year window. Similarly, the cost of equity finance was also assumed to increase by 50 basis points with rising uncertainty after the referendum. Finally, they introduced a separate uncertainty variable derived from the principal component from stock market and exchange rate volatility indicators as well as survey data from industry and the economic policy uncertainty index. They calibrated the shock so that it would increase uncertainty to three times its level before the referendum, before decaying to zero over the following three years. Finally, they assumed that the monetary authority would wait for uncertainty to subside, judging that it would do so by 2018, and would then react in line with the Taylor rule.

The overall impact of these short-term shocks was a significant increase in consumer price inflation primarily caused by the substantial depreciation of sterling resulting from the widening of the risk premium. Real GDP was forecast to remain largely unaffected in 2016 since the drop in domestic demand would be offset by a slightly positive contribution from net trade. However, from 2017 onwards, domestic factors would dominate, with the level of GDP falling to around 3 per cent below the baseline forecast by 2020.

Ebell and Warren (2016) modelled the long-term impact of Brexit, which formed the basis of subsequent research on this topic by NIESR researchers. They considered three main scenarios: Norway, a bilateral trade agreement in goods and services as well as EEA benefits such as access to passporting; Switzerland, zero tariff trade in goods but not in services; and the WTO, no bilateral

trade agreement. For each scenario, they assumed a five per cent increase in average tariffs and a significant reduction in trade with the European Union based on the previous estimates of gravity equations for trade in goods by Baier et al (2008) and in services by Ceglowski (2006) and van der Marel and Shepherd (2013). The total reduction in trade was between 11 per cent and 29 per cent (table TF1). For FDI, they assumed a reduction of between 10 per cent and 24 per cent using gravity equations by Straathof et al. (2008), Bruno et al. (2016) and HM Treasury (2016) resulting from the direct impact of losing the free movement of capital within the European Union and the indirect impact of the United Kingdom being seen as a less attractive investment destination for non-EU countries. As a result of lower FDI inflows and an associated decline in portfolio investment, they assumed a decline of up to 3.5 per cent in private sector investment in the United Kingdom. On the fiscal channel, they assumed that the UK contribution to the EU budget would continue as it was in the Norway scenario, while in other scenarios the United Kingdom would save 0.3 per cent of GDP, which the government would use to increase spending.

In all three scenarios, they projected a fall in UK GDP of between 1.8 per cent and 3.2 per cent relative to the baseline forecast in which the United Kingdom remained in the European Union. These estimates are rather conservative compared to the estimates of 5.1 per cent by the OECD (2016) and 7.5 per cent by HM Treasury (2016), both of which used NiGEM to model the impact of Brexit. The main reason for this difference is that Ebell and Warren (2016) do not include a direct productivity shock, either a negative one from a reduction in openness or a positive one from a reduction in regulations. In their robustness analysis, they showed that assuming a 5 per cent fall in productivity resulted in an additional 5.1 per cent decline in GDP in the long run.

Table TF1 Estimates of the long-term economic impact of Brexit

	Norway (EEA)	Switzerland (FTA)	Island Nation (WTO)
Assumptions (%, unless otherwise stated)			
Decline in total trade	-11 to -16	-13 to -18	-21 to -29
Decline in EU trade	-23 to -39	-31 to -42	-50 to -72
Increase in tariffs	*5*	*5*	*5*
Decline in private sector investments	-1.5	-2.6	-3.5
Reduction in FDI	*-10*	*-17*	*-24*
Reduction in fiscal contribution to EU (% of GDP)	-	0.3	0.3
Results (% difference from the baseline)			
GDP	-1.8	-2.1	-3.2
Real wages	-2.7	-3.4	-5.5
Consumption	-2.9	-3.2	-4.7

Source: Ebell and Warren (2016). The results show the average of the optimistic and pessimistic estimates for each scenario by 2030.

Following the announcement of then Prime Minister May's proposed Brexit deal, which was the first outline of what the United Kingdom would look like after leaving the European Union, Hantzsche et al. (2018) published a comprehensive report on its long-term economic effects. In addition to the trade, FDI and fiscal channels focused on by Ebell and Warren (2016), they also introduced assumptions on productivity loss and migration for three different scenarios, depending on whether the deal included a comprehensive FTA and a backstop case where the United Kingdom remained in the single customs territory for a prolonged period. They assumed a

fall in productivity of between 1.0 per cent and 1.6 per cent, using estimates from the Office for Budget Responsibility (OBR), due to reduced competition, capital, and skilled migration, as well as weaker export demand from the European Union. They assumed a 50,000 to 100,000 decline in net migration based on Brexit making the United Kingdom a less attractive destination for EU-originating workers by revoking free movement for European citizens. Their estimates show that UK GDP and GDP per capita would be around four per cent and three per cent lower in 2030, respectively, than they would have been had the United Kingdom stayed in the European Union (table TF2).

Table TF2 Hantzsche et al. (2018) Brexit impact modelling

	Deal + Backstop	Deal + FTA	No-deal
Assumptions (%, unless otherwise stated)			
Decline in total EU trade	-30	-46	-56
Decline in FDI	-18	-21	-24
Reduction in fiscal contribution to EU (annual)	£4-5 bn	£4-5 bn	£8-10 bn
Decline in labour productivity	-1.0	-1.3	-1.6
Reduction in net migration (thousands)	-50	-50	-100
Results (% difference from the baseline)			
GDP	-2.8	-3.9	-5.5
GDP per head	-1.9	-3.0	-3.7

Source: Hantzsche et al. (2018).

Later, Hantzsche (2019) updated the study by Ebell and Warren (2016), exploring alternative policy responses to a no-deal scenario. The analysis suggested that a combination of accommodative monetary and expansionary fiscal policies could mitigate the potential adverse short-term economic impacts of a no-deal scenario, provided wages did not immediately adjust to the temporary inflation shock. Nevertheless, such an approach would entail risks such as asset price inflation and increased public and private debt. Additionally, such temporary measures would not address the fundamental structural issues stemming from Brexit, especially changes in trade relations with the EU and investment conditions. Finally, Hantzsche and Young (2019) estimated that Prime Minister Johnson's deal would result in a 3.5 per cent smaller UK economy by 2030 compared to the baseline of continued EU membership. This decline would be primarily due to increased trade and migration barriers and a decrease in productivity growth.

Modelling Strategy

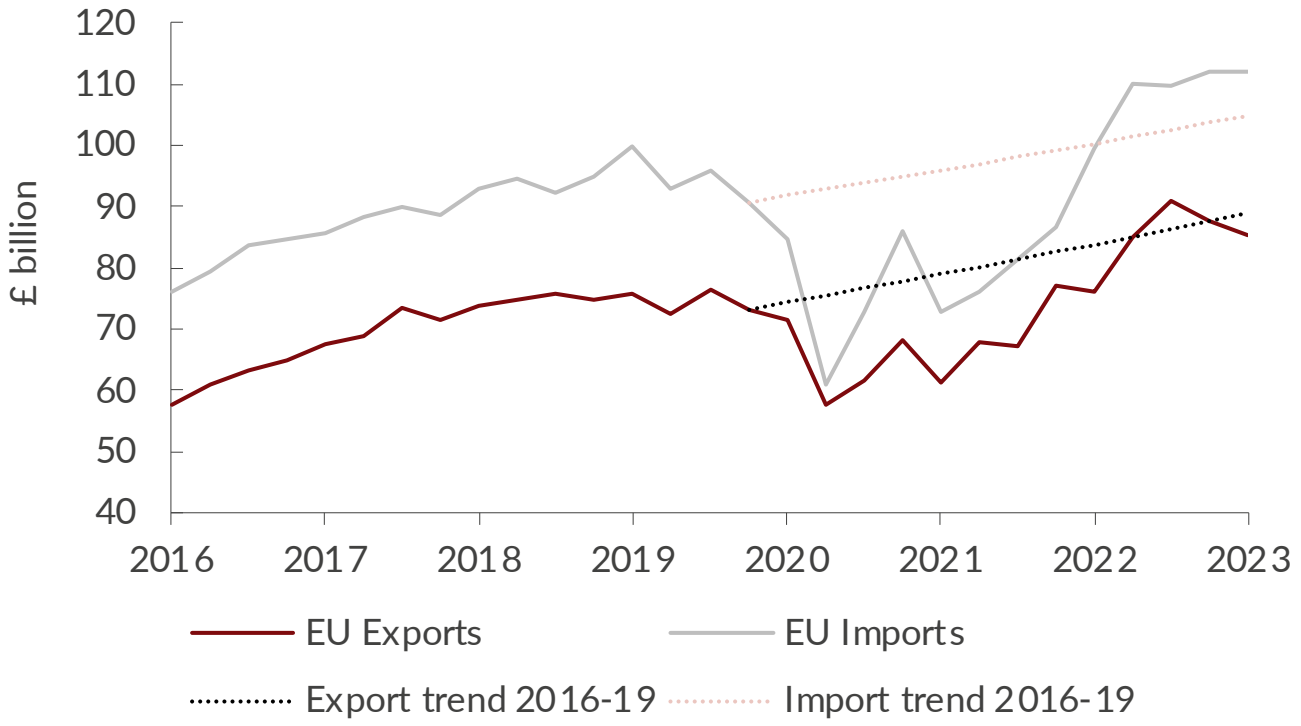
As discussed in previous work, the impact of Brexit depends on factors such as the importance of the United Kingdom's trade relations with other economies, especially those within Europe, changes in competitiveness, labour market dynamics, and fiscal and monetary policy responses. Following the previous work summarised above, we have focused on three main channels through which Brexit could have a longer-term impact on the UK economy: reduced trade with EU countries leading to a fall in the terms of trade and a reduction in real incomes, a reduction in the willingness to invest in the United Kingdom and a relative reduction in productivity.

First, we assume that Brexit will have a negative impact on trade between the United Kingdom and the European Union and lead to a fall in the UK terms of trade as exporters and importers

face higher costs of trading. The UK-EU Comprehensive Trade and Cooperation Agreement (TCA) provides for the continuation of tariff and quota-free trade in all goods, as well as provisions on trade in services. It also provides for cooperation between the United Kingdom and the European Union in a wide range of areas including investment, competition, state aid, transport, energy, data protection and social security. Despite this, there has still been a shock to UK trade coming from tariff frictions, rules of origin requirements and regulatory barriers such as the loss of passporting in financial services, given the United Kingdom is no longer part of the EU single market or customs union, all of which increase the costs of trading for both importers and exporters (Gretton and Vines, 2018). It is also reasonable to assume that the introduction of stricter border controls and the imposition of full customs requirements for exports and imports will incentivise EU firms to seek more favourable trading partners within the Union.

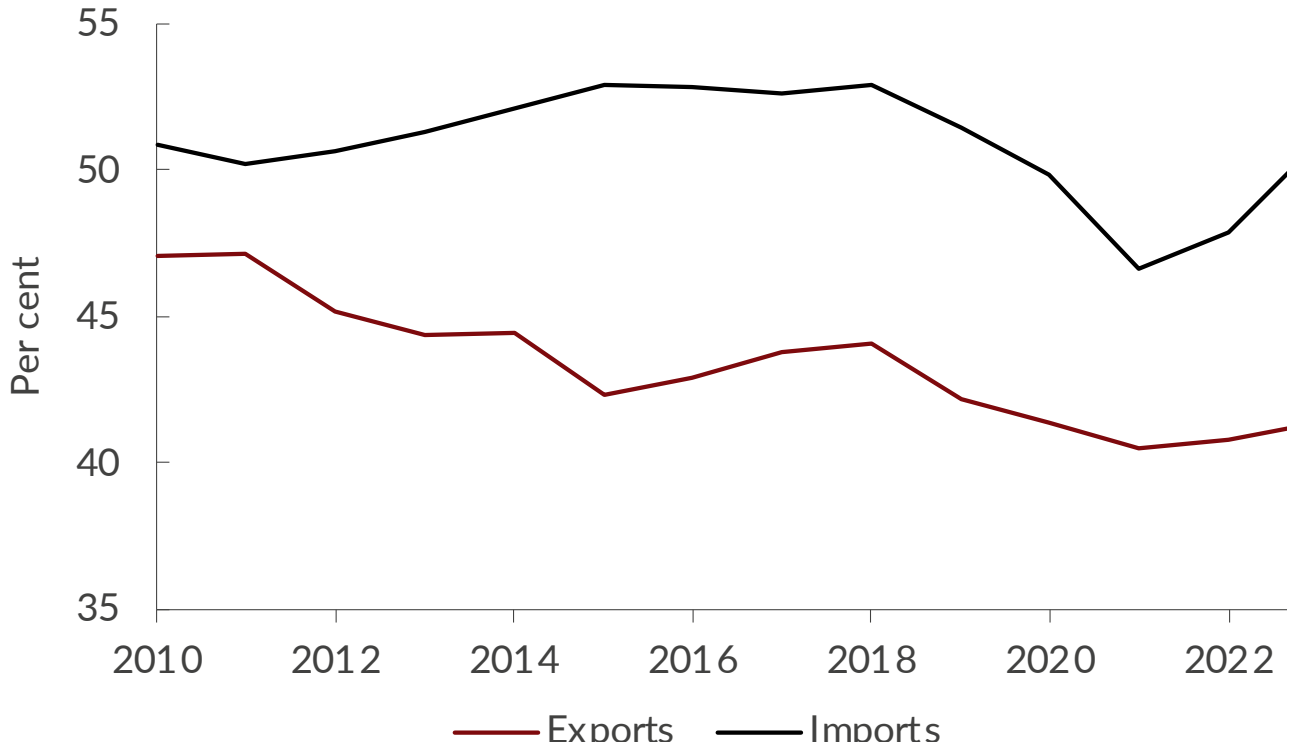
Previous work on the impact of Brexit on the UK economy assumed a sharp decline in trade with the European Union, based on gravity model estimates. However, bilateral trade data show that the initial sharp decline in trade with the United Kingdom has been largely reversed in the post-Brexit period. In fact, UK imports from the European Union have been above their short-term trend since 2016, while exports to the European Union are close to trend (figure TF3). From a longer-term perspective, the EU share of UK exports and imports has remained relatively stable, despite an initial sharp decline. In the first quarter of this year, the EU shares of UK exports and imports were 41.4 per cent and 50.9 per cent respectively (figure TF4).

Figure TF3 Trade in goods and services with the European Union



Source: ONS.

Figure TF4 Share of European Union in UK trade in goods and services



Source: ONS.

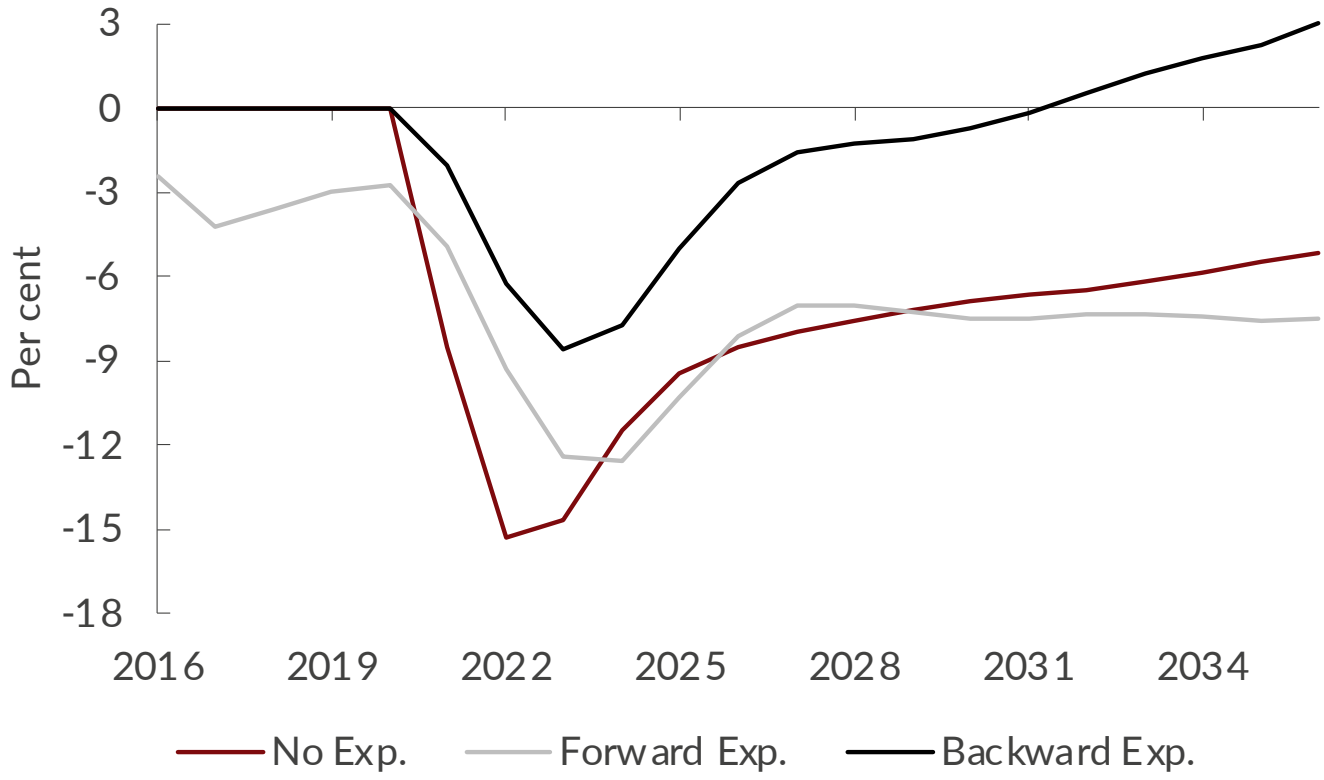
While it is still too early to fully assess the long-term impact of Brexit on trade, preliminary data suggest that the impact will be materially less than suggested by previous gravity estimates. A recent survey conducted by Dhingra and Sampson (2022) indicates that the expected long-term effects of Brexit have not yet materialised, and there has been minimal trade diversion away from the European Union thus far. Portes (2022) also suggests that although Brexit has had a significant impact on EU trade, the magnitude of the trade decline remains uncertain. In addition, OBR (2023) estimates that the volume of UK trade will be 15 per cent lower in the long term than in the alternative scenario of the United Kingdom remaining in the European Union. Given the share of the European Union in UK total trade, we project a 25 per cent reduction in UK-EU trade over 15 years. Within NiGEM, this implies a reduction in the terms of trade of around 1 per cent, which translates into a fall in real personal disposable income of around 2.5 per cent.

Second, similar to Hantzsche et al. (2018), we assume that Brexit will have a significant long-run impact on productivity in the United Kingdom. There are several channels through which this could work. First, rising costs of trading with the European Union may reduce the incentives for high-productivity multinationals to invest in the United Kingdom, leading to a decline in the UK capital stock. There is already evidence that more than 440 firms in the banking and finance sector left the United Kingdom just one year after it left the European Union (Hamre and Wright, 2021). Second, leaving the European Union and losing new access to the EU pool of skilled workers may reduce overall labour productivity in the United Kingdom. Finally, higher barriers to trade and FDI can stifle competition and reduce opportunities for firms to exploit economies of scale, leading to lower efficiency, limited access to foreign technology, and reduced opportunities for innovation (Ahn et al., 2019). Therefore, we consider a direct negative shock to productivity in addition to the trade shock. On the other hand, there may be some productivity gains due to the potential benefits of deregulation in certain sectors and selective migration policies that favour high-skilled over low-skilled workers (Hantzsche et al., 2018).

Previous NIESR work by Hantzsche et al. (2018) and Hantzsche and Young (2019) assumed a relatively smaller fall in productivity. A recent study by Fingleton et al. (2023) found that Brexit would reduce productivity by 0.6 per cent in the short term and 0.9 per cent in the long term across all UK regions. However, we have based our assumptions on the OBR's (2020) extensive review of the literature, which suggests that a four per cent decline in productivity in the long run is plausible. In its analysis, OBR took the average of estimates of the impact of Brexit on long-term productivity under a typical free trade agreement. OBR (2020) found that a third of this long-term effect has already occurred, so we considered an immediate decline of 1.4 per cent in labour-enhancing technical progress in the first two years relative to the baseline. The decline in productivity in our simulation relative to the baseline gradually reaches 4 per cent over 15 years.

Finally, we consider a permanent reduction in the willingness to invest among UK firms. As we have discussed, the short-term impact of Brexit on investment results from increasing uncertainty following the referendum. These effects are regarded as having already materialised. However, we consider that Brexit has fundamentally changed the business environment by reducing the attractiveness of the United Kingdom as an investment destination, lowering inward foreign investment, and changing the expectations of businesses, which affects their investment decisions. The combination of these factors reduced investment demand, resulting in a significant investment gap in the UK economy.[3] In our modelling, we assume a similar shock to business investment as in Hantzsche (2019). Figure TF5 shows that the effect of our assumed shock on business investment varies between 9 per cent and 15 per cent under different assumptions about expectations.

Figure TF5 Response of business investment

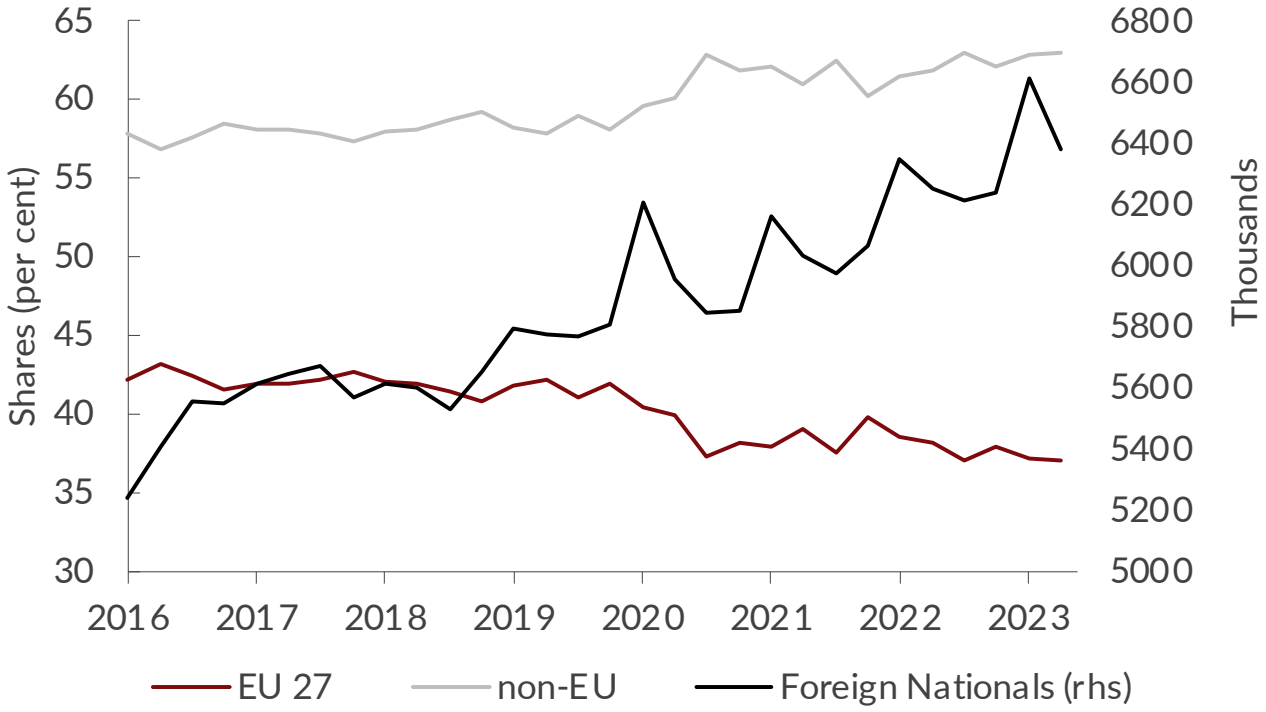


Source: NiGEM simulations.

3 Within NiGEM, this is modelled as a permanent increase in the investment risk premium in the United Kingdom, which leads to lower investment at a given interest rate.

Another channel that has been considered in previous work is migration. Hantzsche et al. (2018) assumed that net migration in the United Kingdom would fall by up to 100,000 as a result of leaving the European Union. However, recent international migration data show that net migration has increased since the United Kingdom left the European Union due to the government's post-Brexit migration regime. Figure TF6 shows that the composition of migration into the United Kingdom has changed, as lower EU migration has been offset by the increase in net migration from non-EU countries since Brexit. It appears that the post-Brexit migration system has effectively maintained stable net migration flows, particularly thanks to the substantial rise in the number of skilled worker visas granted to non-EU nationals (Portes, 2022). Therefore, we do not account for any possible fall in migration in our modelling. Similarly, we have omitted the reduction in the UK net fiscal contribution to the European Union. This decision is based on Hantzsche (2019), which suggests that this shock does not have a substantial impact on GDP. Table TF3 summarises our assumptions.

Figure TF6 Stock of foreign nationals in the United Kingdom



Source: ONS.

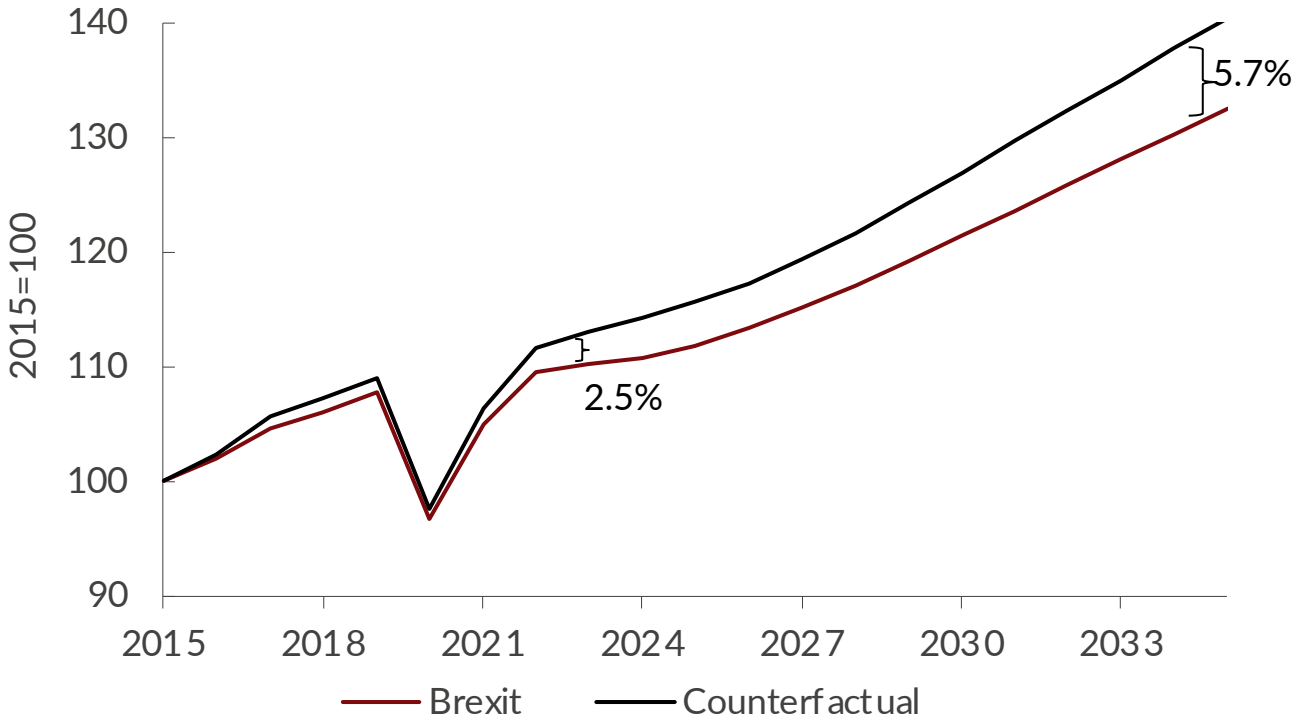
Table TF3 Brexit macroeconomic channels

Channel	Assumption	Rationale
Reduction in trade	25 per cent reduction in trade with EU over 15 years	Bilateral trade data with the EU
Decline in productivity	Technical progress shock of around -1.4 per cent in the first two years falling to around -4 per cent after 15 years.	OBR (2020)
Reduction in the willingness to invest	110 basis points permanent increase in the investment risk premium	Hantzsche (2019)
EU budget contributions	Not modelled due to small impact	Hantzsche (2019)
Migration	Not modelled due to no significant change	Migration data

Scenario Results and Discussion

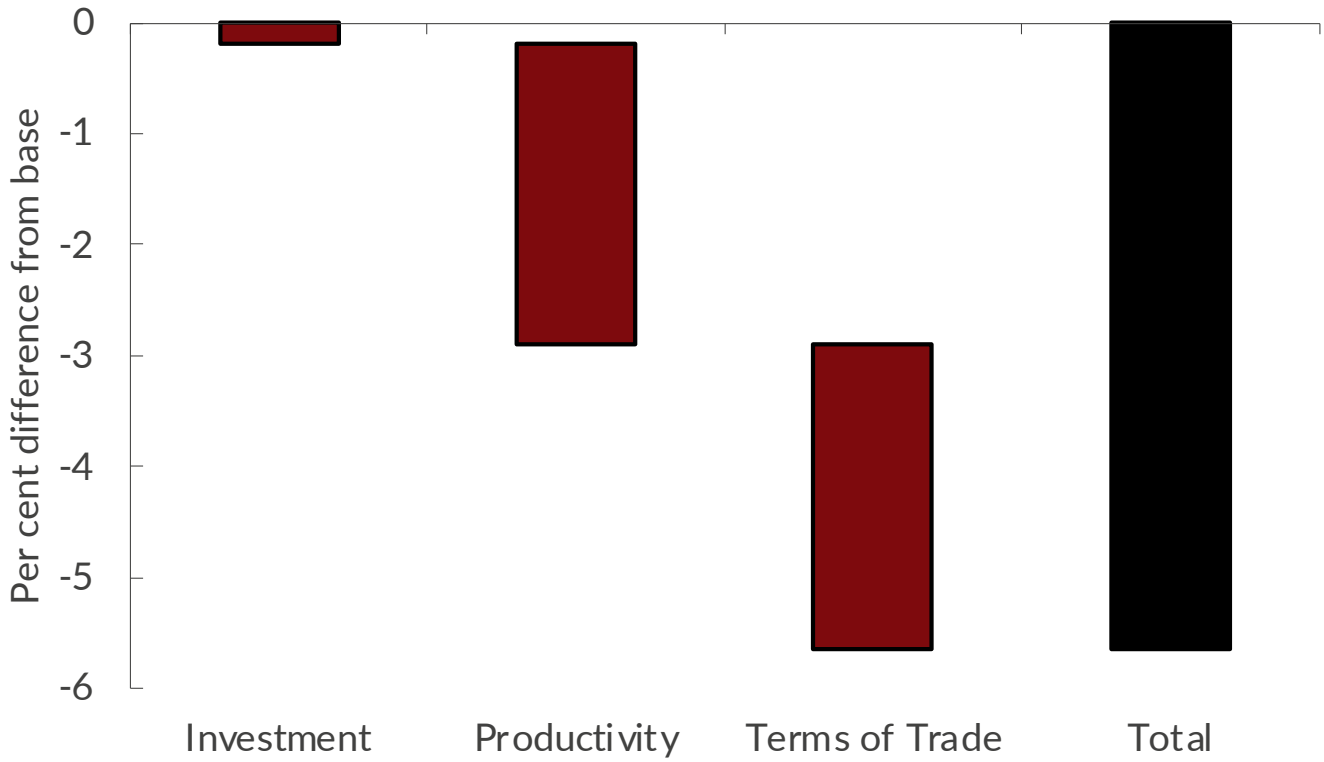
Figure TF7 illustrates the trajectory of real GDP under current conditions (i.e., the forecast reported in our Summer UK Economic Outlook) against a counterfactual scenario where the United Kingdom retained its EU membership. Our analysis suggests that three years after the end of the transition period UK real GDP is now 2-3 per cent lower than it would have been had the United Kingdom retained its EU membership. This corresponds to a reduction of around £850 per capita as of 2023. The negative effect of Brexit on output shows a gradual escalation, reaching 5-6 per cent or around £2,300 per head by 2035. This protracted decline is mainly driven by the fall in real income resulting from both the reduction in the terms of trade associated with the declining trade with the European Union and the fall in productivity, both of which manifest themselves over a longer period. In fact, the fall in the terms of trade associated with the reduction in trade with the European Union and productivity both contribute more than 2.5 per cent to the estimated reduction in real GDP. The initial strong negative impact of lower investment as people are less willing to invest in the UK is reduced over time, and this shock only directly reduces GDP in 2035 by 0.2 per cent (figure TF8), though investment does respond endogenously to the trade and productivity shocks.

Figure TF7 Real GDP impact of Brexit



Source: NiGEM simulations.

Figure TF8 Impact of macroeconomic channels on GDP in 2035



Source: NiGEM simulations.

Table TF4 summarises the impact of Brexit on key macroeconomic aggregates. The impact is most pronounced on business investment, where a significant difference of -12.4 per cent from the baseline is observed by 2023. This phenomenon is mainly due to the permanent reduction in the willingness of businesses to invest in the United Kingdom (modelled in NiGEM as a rise in the investment risk premium), which primarily affects business investment. Labour productivity, measured as output per hour worked, experiences a significant decline of 2.4 per cent by 2023. Given the reduction in the terms of trade associated with the increase in the costs of trading for both importers and exporters, real income and consumption levels are also affected, with differences of -3.5 per cent and -5.8 per cent, respectively, in 2023 compared to the baseline forecast. Looking ahead to 2035, business investment continues to be hit hard, with a -7.6 per cent difference, while labour productivity remains 5.5 per cent lower than in the baseline scenario. Our estimates show that, given the permanent effect on the UK terms of trade, income, and consumption levels in 2035 will be 5.2 per cent and 8.2 per cent lower, respectively, than they would have been under the baseline scenario.

Table TF4 Brexit impact on macroeconomic variables (per cent difference from base)

	2016	2020	2021	2022	2023	2024	2025	2030	2035
GDP	-0.4	-0.9	-1.2	-1.8	-2.5	-3.0	-3.2	-4.4	-5.7
Labour productivity	0.0	-0.7	-1.3	-1.9	-2.4	-2.7	-2.9	-4.2	-5.5
Business investments	-2.4	-2.8	-4.9	-9.3	-12.4	-12.5	-10.3	-7.5	-7.6
Income	-1.4	-2.4	-2.1	-2.7	-3.5	-3.8	-3.8	-4.4	-5.2
Consumption	-1.6	-4.8	-4.9	-5.3	-5.8	-6.2	-6.4	-7.3	-8.2

Source: NiGEM simulations

Overall, our estimates suggest that the negative impact of Brexit on GDP is larger by 2030, at 4.4 per cent, than the pessimistic scenario of 3.2 per cent in Ebell and Warren (2016). Moreover, this negative impact continues to increase to 5.7 per cent by 2035 in our estimates. This is mainly due to their neglect of the productivity channel. In fact, when they include a negative productivity shock in their robustness analysis, they obtain a GDP decline of 7.8 per cent. This is in line with other research, such as OECD (2016) and HM Treasury (2016), both of which use the NiGEM model in their analyses. However, all these studies assumed that Brexit would lead to a significant decline in bilateral trade with the European Union, partly because these studies did not consider that the bilateral trade agreement would partially offset the trade decline due to loss of the single market.

Our estimates of the GDP impact are also greater than those presented in the free trade agreement scenario by Hantzsche et al. (2018), who found a Brexit-related GDP impact of -3.9 per cent in 2030, a figure more closely aligned with our own estimates. Although they consider a free trade deal, they still assume a significant decline in trade (around 46 per cent in 15 years), of which we do not find evidence in recent UK-EU bilateral trade statistics. However, their assumption of a 1.3 per cent decline in productivity is smaller than our assumption of 4 per cent based on OBR estimates. We believe that the OBR's (2020) finding that 1.4 per cent of the productivity decline has already been observed justifies our higher productivity decline assumption. Finally, they assume a significant fall in net migration inflows, which we have not observed in international migrant flows data since the TCA came into force.

Conclusion

Overall, it is certain that Brexit has had a significant impact on the UK economy. The exercise presented in this Topical Feature is an illustration of how NiGEM can be used to explore Brexit under specific assumptions about the magnitudes of its effects on exogenous variables within the model and the channels through which these affects would play out. More specifically, we present NiGEM projections for the effects of Brexit under the assumptions used in previous NIESR work based on the literature and our own observations of different transmission channels. Our results suggest that although there has been no significant trade diversion from the European Union and no notable decline in net migration flows, both of which are an essential part of being part of the single market, Brexit has still led to a 2.5 per cent reduction in UK GDP in 2023 relative to a baseline scenario in which the United Kingdom stayed within the European Union. Moreover, this negative impact is expected to increase over time to some 5 to 6 per cent by 2035, as the increased costs of trading and associated reductions in the terms of trade and productivity persist. Overall, we expect that it will take fifteen years for the trade and productivity decline to fully materialise following Brexit.

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