

Discussion Paper Series

IZA DP No. 18478

March 2026

The Impact of Brexit on UK Immigration and Labour Supply: Evidence from Synthetic Differences in Differences

Jonathan Portes

King's College London, UK in a Changing Europe
and IZA@LISER

John Springford

Centre for European Reform

The IZA Discussion Paper Series (ISSN: 2365-9793) ("Series") is the primary platform for disseminating research produced within the framework of the IZA@LISER Network, an unincorporated international network of labour economists coordinated by the Luxembourg Institute of Socio-Economic Research (LISER). The Series is operated by LISER, a Luxembourg public establishment (établissement public) registered with the Luxembourg Business Registers under number J57, with its registered office at 11, Porte des Sciences, 4366 Esch-sur-Alzette, Grand Duchy of Luxembourg.

Any opinions expressed in this Series are solely those of the author(s). LISER accepts no responsibility or liability for the content of the contributions published herein. LISER adheres to the European Code of Conduct for Research Integrity. Contributions published in this Series present preliminary work intended to foster academic debate. They may be revised, are not definitive, and should be cited accordingly. Copyright remains with the author(s) unless otherwise indicated.



The Impact of Brexit on UK Immigration and Labour Supply: Evidence from Synthetic Differences in Differences

Abstract

This paper estimates the causal impact of Brexit on migrant employment in the United Kingdom using a synthetic difference-in-differences (SDID) framework. We construct a counterfactual trajectory for the UK based on a weighted combination of comparable European economies and compare post-referendum outcomes to this benchmark. Rather than analysing migration flows, which are subject to substantial revision and comparability issues, we focus on employment stocks of foreign-born workers using administrative payroll data.

We find that Brexit led to a large compositional shift in migrant labour supply and a modest change in its overall size. Employment of EU-origin workers declined substantially relative to the counterfactual following the 2016 referendum and the subsequent end of free movement. However, this decline was more than offset by a sharp increase in employment among non-EU workers after the introduction of the post-Brexit immigration system in 2021. By 2024, total foreign-born employment is about 0.6% higher than in the absence of Brexit. Brexit did not reduce migrant labour supply as widely expected, but instead reconfigured its composition, and highlight the interaction between migration policy and labour demand.

JEL classification

J61, J21, F22, J23, C23

Keywords

immigration, employment, UK, Brexit, synthetic differences in differences

Corresponding author

Jonathan Portes

Jonathan.portes@kcl.ac.uk

1. Introduction

Immigration was central to the political debate surrounding the United Kingdom's decision to leave the European Union (Portes, 2016). Free movement of labour within the EU had become both economically significant and politically salient by the mid-2010s, and the prospect of ending free movement was one of the most prominent arguments advanced by advocates of Brexit. At the same time, a substantial empirical literature suggested that immigration to the UK had at most modest negative effects on native wages and employment, while generating broadly positive fiscal and growth impacts. The political salience of migration therefore stood in notable contrast to the economic evidence on its consequences.

Brexit represented the most significant change to the UK's migration regime in more than half a century. The end of free movement in January 2021 removed the automatic right of EU citizens to live and work in the UK and replaced it with a unified points-based immigration system applying to both EU and non-EU nationals. These changes were widely expected to reduce immigration overall. Most *ex ante* analyses predicted that the fall in EU migration resulting from the end of free movement would only be partially offset by increases in migration from outside the EU, implying slower growth in the UK labour force and a modest reduction in GDP relative to continued EU membership (Office of Budget Responsibility, 2018).

In practice, migration outcomes diverged sharply from these expectations. Migration from EU countries fell substantially after the referendum and remained well below its pre-referendum levels. At the same time, migration from outside the EU increased dramatically following the introduction of the post-Brexit immigration system in 2021. Meanwhile, the labour shortages which emerged in the aftermath of the pandemic increased demand for migrant labour both in the UK and in other advanced economies. As a result, net migration to the UK reached historically unprecedented levels in the early 2020s before falling again after subsequent policy tightening - and migration remains a central issue in British politics (Portes, 2026).

In this paper, we provide new evidence on the extent to which the dramatic and unexpected swings in migration flows reflect the impact of Brexit, with a particular emphasis on the labour market. Rather than analysing immigration statistics directly, because they are subject to substantial revisions and cross-country comparability issues, we focus on employment stocks of foreign-born workers. This allows us to examine directly the labour market consequences of migration. Our empirical strategy uses the synthetic difference-in-differences (SDID) estimator developed by Arkhangelsky et al. (2021) to estimate how the number of foreign-born workers in the UK labour market would have evolved in the absence of Brexit. We construct a counterfactual trajectory for the UK using a weighted combination of comparable European economies and compare post-Brexit trends in migrant employment to those observed in this synthetic control.

While much of the existing literature has focused on Brexit's impact on trade and macroeconomic performance, relatively little work has examined its effects on migration and labour supply. Moreover, most analyses of migration since Brexit have focused on migration flows or descriptive trends rather than estimating causal effects on labour-market outcomes.

This paper therefore contributes to the literature on the economic consequences of Brexit and to the broader literature on migration and labour markets in several ways. First, we provide new empirical evidence on how Brexit affected the employment of foreign-born workers in the UK labour market. Our results suggest that Brexit had a substantial effect on the composition of the

UK migrant workforce but a relatively modest effect on its overall size. Employment among EU-origin workers declined sharply relative to the counterfactual, reflecting both the referendum shock and the eventual termination of free movement. At the same time, employment among migrants from outside the EU increased significantly following the introduction of the new immigration system in 2021. The increase in non-EU employment more than offset the decline in EU-origin workers, implying that the overall number of foreign-born workers in the UK labour market modestly higher than the counterfactual trajectory. Brexit therefore appears to have increased rather than reduced the supply of migrant labour, but more than that transformed its composition.

Second, the paper applies the synthetic difference-in-differences approach developed by Arkhangelsky et al. (2021) to estimate how the number of foreign-born workers in the UK labour market would have evolved in the absence of Brexit. This approach allows us to construct a counterfactual trajectory for migrant employment using comparable European economies while accounting for common shocks affecting advanced economies during this period, including the COVID-19 pandemic and the subsequent recovery in labour demand. In doing so, the paper extends the growing literature that uses synthetic control methods to estimate the economic effects of Brexit, applying these techniques to migration and labour-market outcomes rather than macroeconomic aggregates.

The remainder of the paper proceeds as follows. Section 2 provides institutional background on the evolution of the UK migration regime before and after Brexit. Section 3 reviews the related literature. Section 4 describes the data. Section 5 outlines the empirical strategy. Section 6 presents the results, and Section 7 discusses their interpretation and implications. Section 8 concludes.

2. Institutional Background

2.1 Migration and free movement before the referendum

In the decade preceding the Brexit referendum, migration to the UK was shaped largely by the EU's free-movement regime. Citizens of EU member states had the right to live and work in the UK without visas or work permits. This system allowed migration flows to respond flexibly to labour-market conditions, with relatively little direct intervention by the state.

EU migration rose substantially following the EU enlargements of 2004 and 2007. Workers from Central and Eastern Europe became an important component of the UK labour force, particularly in sectors such as hospitality, agriculture, construction and social care. At the same time, migration policy toward non-EU nationals became increasingly restrictive. Reforms introduced after 2010 tightened skill and salary requirements for non-EU work visas, resulting in a migration regime that was relatively open to EU workers but more constrained for migrants from the rest of the world.

By the mid-2010s, EU migration accounted for a large share of net migration to the UK. However, the peak in EU migration coincided with the referendum itself and would likely have declined even in the absence of Brexit, reflecting improving labour-market conditions in many source countries and narrowing wage differentials within Europe.

2.2 Brexit and the end of free movement

The political interpretation of the referendum result placed immigration policy at the centre of the UK's post-Brexit economic settlement. The UK government concluded that regaining "control" over migration required the termination of free movement and the introduction of a unified national immigration system.

Free movement formally ended at the conclusion of the Brexit transition period in January 2021. EU citizens arriving in the UK after that date became subject to the same immigration rules as non-EU nationals, while EU citizens already resident in the UK were granted the right to remain under the EU Settlement Scheme.

The broader economic framework for UK–EU relations was defined by the Trade and Cooperation Agreement (TCA), which came into force at the same time. The TCA preserved tariff-free trade in goods but introduced new non-tariff barriers and customs procedures. It contained very limited provisions relating to labour mobility, marking a decisive break with the pre-Brexit system of integrated European labour markets.

2.3 The post-Brexit immigration system

Alongside the end of free movement, the UK introduced a new points-based immigration system designed to regulate migration from all countries on the same basis. The system centres on the Skilled Worker visa route, which requires migrants to have a job offer from a sponsoring employer and to meet minimum skill and salary thresholds. Additional routes exist for students, family migration and humanitarian protection.

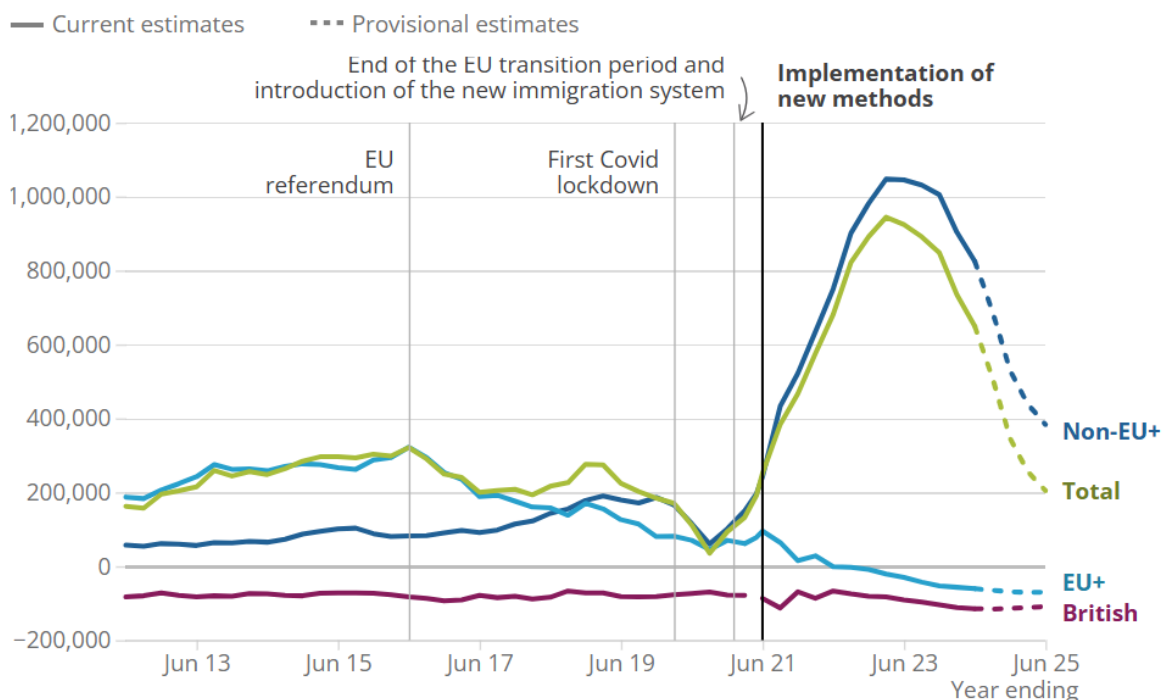
Although presented politically as a tightening of immigration control, the new system also involved significant liberalisation relative to the previous regime for non-EU workers. Skill thresholds were reduced, salary requirements were lowered for certain occupations, and new visa categories were created for sectors facing labour shortages. At the same time, the Graduate visa route allowed international students to remain in the UK and work after completing their studies. Taken together, these features made the system relatively liberal by international standards.

The introduction of the new regime coincided with major global shocks. The COVID-19 pandemic temporarily disrupted migration flows, while the subsequent economic recovery generated labour shortages in many advanced economies. The UK labour market experienced particularly strong demand for workers in sectors such as healthcare, social care and hospitality, creating incentives for employers to recruit from abroad. These developments interacted with the design of the new immigration system to produce a sharp increase in non-EU migration after 2021.

As a result, the post-Brexit period has been characterised not by a simple reduction in immigration but by a substantial shift in its composition. Migration from the EU declined sharply following the referendum and the end of free movement, while migration from outside the EU rose to historically unprecedented levels before declining again after policy tightening in the mid-2020s.

Figure 1, Long-term net migration. Source: Office for National Statistics, Long-term international migration, December 2025.

Long-term net migration of non-EU+, EU+, and British nationals in the UK, year ending (YE) June 2012 to YE June 2025



Source: Borders and Immigration data from the Home Office, Registration and Population Interactions Database from the Department for Work and Pensions, and International Passenger Survey from the Office for National Statistics

3. Related literature

This paper relates to three strands of literature: the economic effects of immigration on labour markets, the empirical literature examining the economic consequences of Brexit, and the methodological literature using synthetic control-type approaches to estimate the effects of large policy shocks.

3.1 Immigration and labour market outcomes

A large empirical literature examines the impact of immigration on labour markets in advanced economies. Early contributions focused on whether immigration depresses wages or employment among native workers, particularly those with lower skill levels. However, most empirical studies find relatively small average labour market effects. For the United Kingdom, Dustmann, Frattini and Preston (2013) find little evidence that immigration has had substantial negative effects on wages overall, although modest effects may exist at the bottom of the wage distribution. Similarly, Nickell and Salaheen (2015) find small negative wage effects in a limited set of low-skilled service occupations but little impact elsewhere.

More recent work emphasises that immigration affects labour markets through multiple channels beyond simple labour supply effects. Migrants may complement native workers, contribute to human capital accumulation and innovation, and facilitate improved matching between workers and firms. Migration may also influence sectoral composition and

occupational structures, particularly where migrants are concentrated in specific industries. As a result, most of the contemporary literature concludes that the aggregate economic effects of immigration are broadly neutral or positive, even though distributional effects may arise across sectors, regions or skill groups.

These findings are particularly relevant in the UK context prior to Brexit. Migration to the UK during the 2000s and 2010s was shaped largely by the EU free-movement regime, which allowed labour inflows to respond flexibly to labour market conditions. EU-origin migrants exhibited high employment rates and were widely distributed across sectors, particularly in hospitality, agriculture, construction and social care. At the same time, migration policy toward non-EU nationals became increasingly restrictive after 2010, especially for lower-skilled workers. This institutional structure meant that labour supply adjustments occurred largely through EU migration rather than through policy-managed migration channels.

3.2 Brexit, migration and labour markets

A second strand of literature examines the economic implications of Brexit. Much of the early work focused primarily on trade effects, reflecting the central role of trade barriers in most models of economic integration. Where migration effects were incorporated, they were typically treated as assumptions within broader macroeconomic frameworks rather than analysed directly.

Several *ex ante* studies predicted that ending free movement would reduce migration to the UK. For example, Hantzsche et al. (2018) and the UK government's own scenario analysis assumed that net migration would fall significantly following Brexit, slowing labour force growth and reducing GDP relative to continued EU membership. Similarly, Forte and Portes (2019) projected a substantial reduction in EU migration under a points-based immigration system, only partly offset by an increase in non-EU migration. These studies generally concluded that Brexit would reduce overall migration and therefore lower GDP, although the effects on GDP per capita were expected to be relatively small.

Subsequent work has examined how migration patterns evolved following the referendum. A number of studies document a sharp decline in EU migration after 2016, even before the formal end of free movement, consistent with the idea that expectations and policy uncertainty affect migration decisions. For example, Di Iasio and Wahba (2023) use a difference-in-differences approach to show that EU inflows to the UK fell significantly following the referendum relative to other European destinations. Other descriptive analyses highlight the growing importance of non-EU migration during this period, reflecting both substitution effects and changes in migration policy.

More recent research emphasises the scale of the compositional shift in UK migration following the introduction of the post-Brexit immigration system in 2021. The new points-based system removed preferential access for EU citizens while liberalising several routes for non-EU migrants, including skilled work visas, student migration and post-study work visas. Combined with strong labour demand in the post-pandemic recovery, these changes contributed to a large increase in non-EU migration and a historically unprecedented rise in overall net migration in the early 2020s.

While this literature documents substantial changes in migration patterns, relatively little work has attempted to quantify the causal impact of Brexit on labour market outcomes using cross-country counterfactual methods. In particular, distinguishing the effects of Brexit from other

contemporaneous shocks—including the COVID-19 pandemic, geopolitical crises and global labour shortages—poses significant empirical challenges.

3.3 Synthetic control approaches and identification

A related methodological literature uses synthetic control methods to estimate the causal effects of large policy shocks. The synthetic control method constructs a counterfactual trajectory for a treated unit by combining observations from a set of comparison units to match pre-treatment trends. This approach has been widely applied in macroeconomic settings where conventional difference-in-differences designs are difficult to implement.

Synthetic control methods have been used in several studies estimating the economic effects of Brexit on outcomes such as GDP, trade and investment. These studies typically construct a counterfactual UK by combining observations from similar advanced economies that match pre-referendum trends, and then examine divergence after the referendum. The resulting estimates generally suggest that UK economic performance diverged negatively from that of comparable economies following Brexit.

However, the synthetic control method relies heavily on achieving a close match between the treated unit and the synthetic control during the pre-treatment period. In settings with relatively short pre-treatment samples or with large common shocks affecting all units simultaneously, achieving such a match can be challenging.

This paper therefore applies the synthetic difference-in-differences (SDID) estimator proposed by Arkhangelsky et al. (2021). SDID combines elements of synthetic control and difference-in-differences by estimating both unit weights and time weights, improving the fit between treated and control units when the pre-treatment period is limited or when common shocks affect all units. These features are particularly relevant in the present context. The administrative data on migrant employment used in this paper begin only in 2014, leaving a relatively short pre-referendum period from which to construct a counterfactual. Moreover, migration trends in the late 2010s and early 2020s were strongly influenced by global shocks—notably the COVID-19 pandemic and the subsequent recovery in labour demand—that affected many advanced economies simultaneously.

By combining cross-sectional weighting with time weighting, the SDID framework allows us to control more effectively for these common shocks while still exploiting cross-country variation to identify the effects of Brexit.

3.4 Contribution

This paper contributes to the literature in two main ways. First, it focuses on the employment of foreign-born workers rather than migration flows. Migration flow statistics are subject to substantial revisions and cross-country comparability issues, whereas employment stocks provide a more direct measure of labour market outcomes.

Second, we apply the synthetic difference-in-differences approach to construct a counterfactual trajectory for the UK using a weighted combination of comparable European economies. This allows us to estimate how the employment of foreign-born workers in the UK labour market would have evolved in the absence of Brexit.

Our results suggest that Brexit produced a large reallocation in the composition of migration—reducing EU-origin employment while increasing employment among migrants from outside the

EU—but had only a modest effect on the overall size of the foreign-born workforce. In this respect, the realised effects of Brexit differ from many ex ante predictions, which anticipated a substantial decline in total migration following the end of free movement.

4. Data

Our analysis focuses on the employment of migrant workers in the UK labour market. This approach allows us to examine directly the labour-market consequences of migration and avoids some of the measurement problems associated with flow statistics.

4.1 Outcome variables

The primary outcome variable is the number of migrant employees in the UK labour market. We analyse this separately for migrants originating from EU countries and from outside the EU, reflecting the distinct policy regimes that applied to these groups both before and after Brexit.

The distinction between EU and non-EU origin migrants is central to the analysis. Prior to Brexit, EU citizens had the right to live and work in the UK without visas under the EU's free-movement regime. By contrast, migration from outside the EU was governed by a managed immigration system with skill and salary thresholds. The end of free movement in January 2021 removed this institutional distinction, making it important to examine how employment trends for these two groups evolved both before and after the policy change.

Our baseline measure therefore tracks employment among (i) EU-origin employees and (ii) non-EU-origin employees in the UK workforce.

4.2 UK data

For the UK, we use administrative data on payrolled employment collected by HM Revenue and Customs (HMRC). These data are based on the Pay As You Earn (PAYE) system and record the number of employees receiving pay through employer payroll systems. The dataset provides counts of payrolled employments by nationality at the time of first registration for a National Insurance number.

Administrative payroll data offer several advantages relative to survey-based labour market datasets. First, they provide high-frequency information on employment with near-universal coverage of employees in the formal labour market. Second, they avoid many of the sampling and non-response issues that have affected survey-based sources such as the UK Labour Force Survey in recent years. Third, the administrative nature of the data ensures consistency over time, making them well suited for analysing structural changes in labour market participation.

The PAYE data record nationality at the time of registration, meaning that the individual moved to the UK as an adult. They therefore exclude foreign nationals who moved to the UK as children (who will be counted as of UK origin), and do not take account of subsequent naturalisation. They also exclude the self-employed. These limitations are unlikely to materially affect the trends analysed here, particularly when comparing relative changes over time across different migrant groups.

4.3 Cross-country comparison data

To construct a counterfactual trajectory for migrant employment in the absence of Brexit, we require comparable data for other European economies. For this purpose, we use data on

employment by country of birth from the European Labour Force Survey (EU-LFS), compiled and harmonised by Eurostat. As with the UK data, they do not take account of subsequent naturalisation; unlike the UK data, they will include those who moved as children, but this is unlikely to significantly affect relative trends.

The EU-LFS provides quarterly data on employment outcomes across EU and EEA countries using harmonised survey methods. While survey data inevitably involve sampling variability, the harmonised nature of the EU-LFS makes it the most suitable source for cross-country comparisons of labour market outcomes among migrants.

4.4 Sample construction

Our dataset covers the period from 2014 to 2024. The starting point of the sample reflects the availability of the administrative payroll data for the UK, which begin in mid-2014. This implies a relatively short pre-treatment period before the Brexit referendum in June 2016, a feature that influences the choice of empirical methodology discussed in the next section.

The donor pool used to construct the synthetic control consists of the EU-15 countries and other European Economic Area (EEA) economies. Restricting the comparison group to these countries ensures that the counterfactual reflects labour market dynamics in advanced European economies that were part of the EU's free-movement area during the pre-Brexit period. This approach avoids comparing the UK to countries with fundamentally different migration regimes; it is not feasible to estimate the impact of removing free movement for EU citizens on the UK labour market by comparing the UK with other countries (like the US or Australia) that never had free movement in the first place.

Within this donor pool, the synthetic difference-in-differences procedure selects a weighted combination of countries whose pre-referendum employment trends most closely match those of the UK. This weighted combination provides the counterfactual trajectory against which post-Brexit developments in the UK are compared.

4.5 Measurement considerations

Two additional measurement issues are worth noting. First, migration statistics in the UK underwent substantial revisions during the period analysed here, reflecting methodological changes by the Office for National Statistics and disruptions caused by the COVID-19 pandemic. Using administrative employment data rather than migration flows helps mitigate the impact of these revisions.

Second, the analysis focuses specifically on migrants who are active in the labour market. This approach differs from studies that examine overall population stocks or migration flows. By focusing on employment, we capture directly the labour supply implications of migration rather than broader demographic changes. It also means our analysis is somewhat less likely to be distorted by the impact of fluctuations in refugee or asylum numbers, which are largely unrelated to Brexit, either in the UK or in EU countries, since refugees typically do not move into employment for some time after initial arrival.

Taken together, these data provide a consistent measure of migrant employment in the UK and comparable European economies over the decade surrounding the Brexit referendum and the subsequent introduction of the post-Brexit immigration system.

5. Empirical strategy

Estimating the causal impact of Brexit on migration and labour market outcomes presents a number of empirical challenges. Migration trends in the late 2010s and early 2020s were affected not only by Brexit but also by a range of other shocks, including the COVID-19 pandemic, the post-pandemic recovery in labour demand, and changes in economic conditions in migrant source countries. Simple comparisons of pre- and post-Brexit trends in the UK therefore risk attributing changes driven by these broader factors to Brexit itself.

To address this problem, we construct a counterfactual estimate of how the number of foreign-born workers in the UK labour market would have evolved in the absence of Brexit. Our empirical strategy uses the synthetic difference-in-differences (SDID) estimator proposed by Arkhangelsky et al. (2021), which combines features of synthetic control and difference-in-differences approaches.

5.1 Synthetic difference-in-differences

The SDID approach constructs a counterfactual trajectory for the treated unit—in this case the United Kingdom—using a weighted combination of comparison units. The weights are chosen so that the weighted average of the control units minimises the difference to the treated unit during the pre-treatment period. The divergence between the observed trajectory of the treated unit and this synthetic control after the treatment date provides an estimate of the treatment effect.

The SDID estimator extends the synthetic control method by incorporating both unit weights and time weights. Unit weights determine the contribution of each country in the donor pool to the synthetic control. Time weights place greater emphasis on those periods in the pre-treatment sample that are most informative for predicting the post-treatment trajectory. This feature is particularly useful when the pre-treatment period is relatively short, as is the case in our data.

Formally, let (Y_{it}) denote the outcome variable—migrant employment—for country (i) in period (t) . The SDID estimator constructs weights (w_i) over control units and weights (λ_t) over time periods such that the weighted pre-treatment path of the donor pool approximates the pre-treatment path of the treated unit. The estimated treatment effect is then the difference between the observed outcome for the UK and the weighted counterfactual trajectory implied by these weights.

This approach allows us to control for unobserved factors that affect migration trends across advanced economies and would otherwise confound a simple comparison between the UK and other countries.

5.2 Donor pool and counterfactual construction

The donor pool used to construct the synthetic control consists of the EU-15 and EEA economies. Restricting the comparison group to these countries ensures that the counterfactual reflects labour market dynamics within the European free-movement area prior to Brexit. Countries that are major source economies for intra-EU migration are excluded from the donor pool to avoid conflating destination-country dynamics with source-country migration trends.

Within this donor pool, the SDID procedure selects a weighted combination of countries whose employment trends among foreign-born workers most closely resemble those observed in the UK before the Brexit referendum. The resulting weighted average of these countries provides the counterfactual path of migrant employment in the absence of Brexit.

The identifying assumption underlying this approach is that, conditional on matching pre-treatment trends, the evolution of migrant employment in the UK would have followed the same trajectory as that observed in the synthetic control in the absence of Brexit.

Table 1 shows country weights for the donor pool for each estimate. SDID, like SCM, can be problematic if it assigns an excessive weight to any one donor (see Springford, 2022). As can be seen, the procedure assigns a relatively broad distribution of donor weights, with no country assigned a weight of more than about 11%, suggesting that our estimates are unlikely to be significantly distorted by idiosyncratic developments in any one EU country.

Table 1: Country weights. Source: authors' calculations.

EU born	Weight	Non-EU born	Weight
Austria	0.104	Austria	0.063
Belgium	0.086	Belgium	0.052
Denmark	0.023	Denmark	0.077
Finland	0.090	Finland	0.053
France	0.030	France	0.078
Germany	0.112	Germany	0.000
Greece	0.006	Greece	0.071
Iceland	0.049	Iceland	0.065
Ireland	0.087	Ireland	0.035
Italy	0.073	Italy	0.076
Luxembourg	0.048	Luxembourg	0.056
Netherlands	0.052	Netherlands	0.075
Norway	0.034	Norway	0.046
Portugal	0.016	Portugal	0.060
Spain	0.057	Spain	0.054
Sweden	0.061	Sweden	0.046
Switzerland	0.071	Switzerland	0.090

5.3 Treatment timing

Brexit affected migration through multiple channels operating at different points in time. In particular, the referendum in June 2016 created immediate uncertainty about the future of free movement, while the formal policy change occurred in January 2021 with the introduction of the new immigration system.

For EU-origin migrants, we treat the referendum as the beginning of the treatment period. The referendum generated substantial uncertainty regarding the future rights of EU citizens in the UK and was accompanied by an immediate depreciation of sterling, both of which likely affected migration decisions. Previous research has documented that migration flows from EU countries began to decline shortly after the referendum despite the fact that free movement remained legally in force until 2021.

For non-EU migrants, the relevant institutional change occurred with the introduction of the post-Brexit immigration system in January 2021. Prior to that date, migration rules for non-EU nationals remained largely unchanged. The new points-based system both equalised the treatment of EU and non-EU migrants and liberalised several routes for work and study migration.

Accordingly, our baseline specification treats the third quarter of 2016 as the treatment date for EU-origin workers and the first quarter of 2021 as the treatment date for non-EU-origin workers. In practice, the results are robust to alternative assumptions regarding treatment timing.

5.4 Identification and interpretation

The SDID framework allows us to estimate how the number of foreign-born workers in the UK labour market would have evolved in the absence of Brexit. The estimated treatment effect therefore captures the divergence between the observed UK trajectory and the counterfactual trajectory implied by comparable European economies.

It is important to emphasise that this estimate captures the combined impact of Brexit and the policy responses associated with it. The end of free movement directly affected EU migration, while the introduction of the new immigration system and subsequent policy adjustments influenced non-EU migration. At the same time, Brexit interacted with other economic shocks—including the pandemic and the subsequent recovery—that affected migration patterns across advanced economies.

By comparing the UK to a synthetic control constructed from similar economies exposed to these common shocks, the SDID approach allows us to isolate the component of these changes that is specific to the UK's post-Brexit migration regime.

5.5 Robustness

We assess the robustness of the results in several ways. First, we vary the assumed treatment dates to examine whether the estimated effects depend on the timing of the policy intervention. Second, we examine the sensitivity of the estimates to the composition of the donor pool by re-estimating the model after randomly excluding subsets of countries. We report confidence intervals from these randomly constructed donor pools.

These robustness checks allow us to assess whether the estimated effects are driven by particular countries in the donor pool or by specific modelling choices.

6. Results

This section presents the estimated impact of Brexit on the employment of foreign-born workers in the UK labour market. We first examine the effects on EU-origin workers and non-EU-origin workers separately, reflecting the different policy regimes that applied to these groups. We then combine these estimates to assess the net impact of Brexit on the overall size of the migrant workforce.

6.1 EU-origin workers

Figure 2 compares the evolution of employment among EU-origin workers in the UK with the trajectory implied by the synthetic control constructed from comparable European economies. In the quarters soon before the referendum, the UK and the synthetic control follow similar

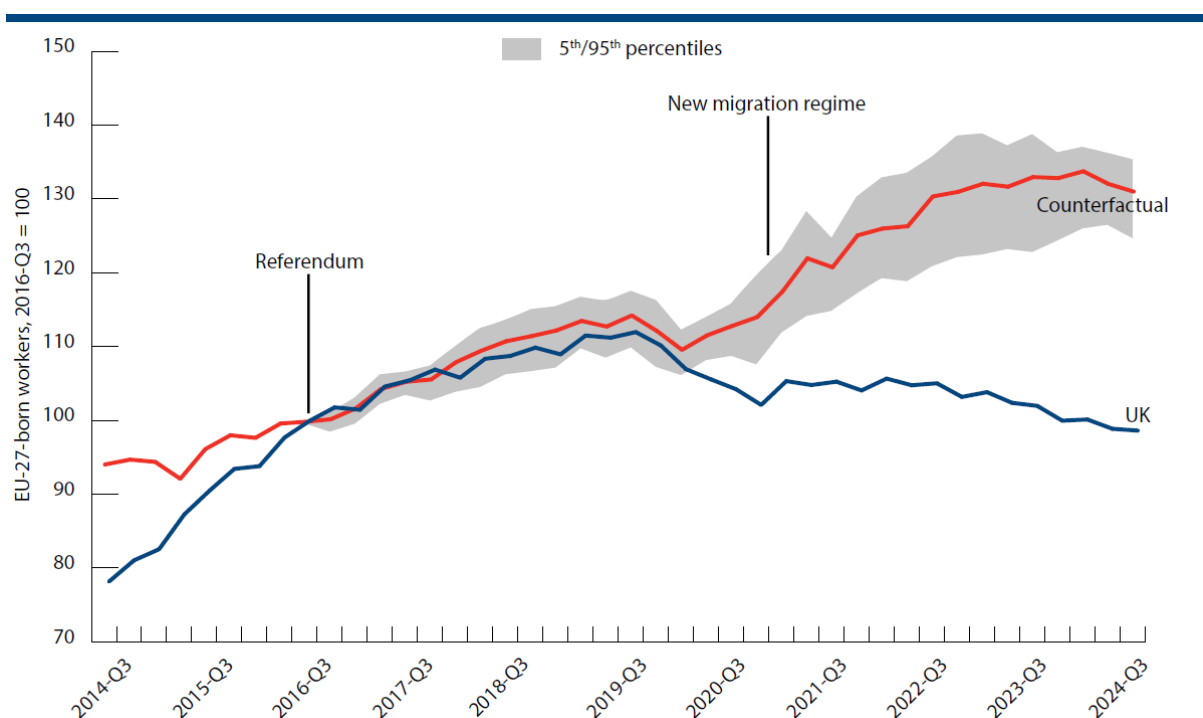
trends, indicating that the weighting procedure reproduces the pre-treatment path of EU migrant employment fairly successfully.

Following the referendum in 2016, however, the trajectories diverge substantially. While employment among EU-origin workers in the synthetic control continues to grow, employment in the UK flattens and eventually declines relative to the counterfactual. By 2024, the number of EU-origin workers in the UK labour market is substantially lower than would be predicted based on the pre-referendum trend and the experience of comparable European economies.

Quantitatively, our estimates suggest that Brexit reduced the number of EU-origin employees in the UK by roughly 750,000–800,000 by 2024. This represents a decline equivalent to roughly 2–2.5 per cent of total UK employment. The magnitude of this effect reflects both the gradual decline in EU migration following the referendum and the eventual termination of free movement in 2021.

The timing of the estimated effect is also informative. Most of the divergence between the UK and the counterfactual occurs between 2016 and 2023, suggesting that migration decisions responded both to the referendum itself and to the subsequent institutional changes associated with Brexit.

Figure 2, EU27-born workers, UK vs counterfactual. Source: authors' calculations using Eurostat and HMRC data



6.2 Non-EU workers

Figure 2 presents the corresponding analysis for workers originating from outside the EU. In contrast to the results for EU migrants, employment among non-EU workers rises sharply relative to the counterfactual after the introduction of the post-Brexit immigration system in 2021.

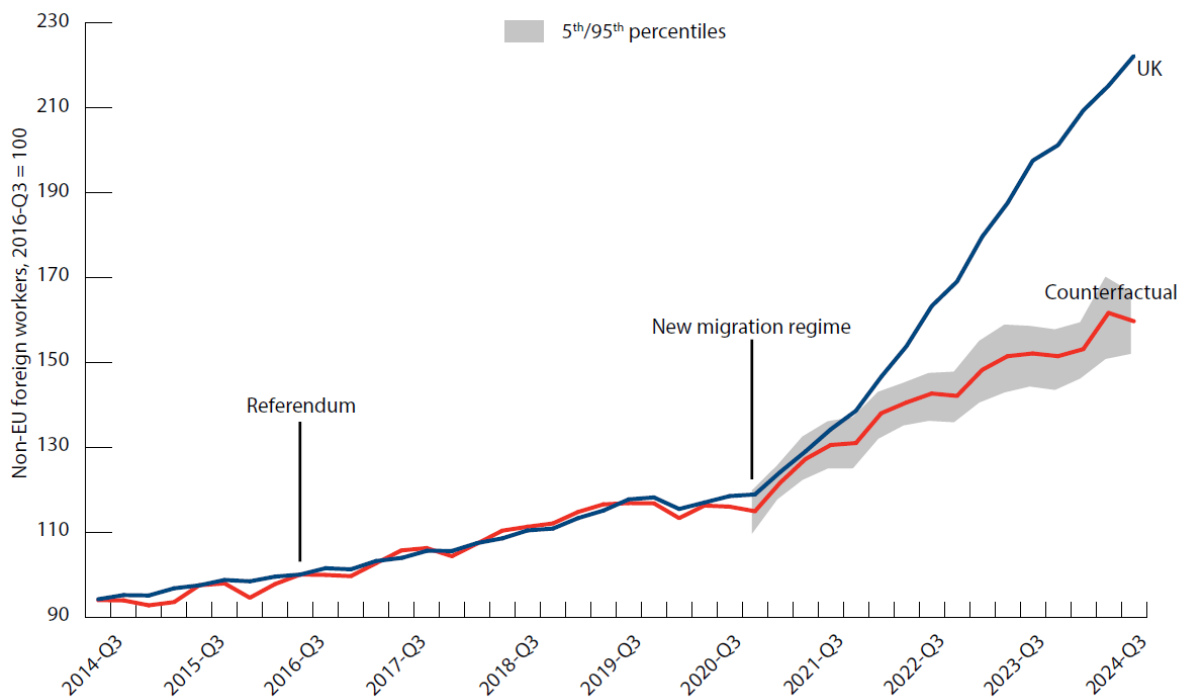
While the synthetic control suggests a steady increase in non-EU migrant employment across European economies during this period, the increase in the UK is significantly larger. By 2024,

the number of non-EU workers in the UK labour market exceeds the counterfactual estimate by approximately one million employees.

This divergence reflects the operation of the new immigration system introduced in 2021. The post-Brexit points-based system removed the preferential access previously granted to EU nationals while simultaneously liberalising several routes for non-EU migrants, particularly in skilled work, health and social care, and international education. The introduction of these new routes coincided with strong labour demand in the post-pandemic recovery, generating a substantial increase in non-EU migration relative to comparable European economies.

The profile of the estimated effect differs from that observed for EU workers. Whereas the impact on EU-origin employment stabilises after the early 2020s, the increase in non-EU employment continues to grow throughout the period analysed. This pattern suggests that the policy changes associated with Brexit initially created a sustained increase in the inflow of non-EU workers, although subsequent tightening of visa rules may reduce this effect in later years.

Figure 3, non-EU born workers, UK vs counterfactual. Source; authors' calculations using Eurostat and HMRC data.



6.3 Net impact on the migrant workforce

Combining these two sets of estimates provides an assessment of the overall effect of Brexit on the size of the foreign-born workforce in the UK.

The decline in employment among EU-origin workers is more than offset by the increase in employment among workers from outside the EU. While Brexit significantly reduced EU labour supply relative to the counterfactual, the expansion of non-EU migration more than compensated for this decline.

Our baseline estimates suggest that, by 2024, the number of foreign-born workers in the UK labour market is approximately 200,000 higher than it would have been in the absence of Brexit.

This represents a relatively small change—around 0.6 per cent of the total workforce—compared with the much larger compositional shifts between EU and non-EU migrants.

These findings imply that Brexit did not substantially reduce the overall number of migrant workers in the UK labour market. Instead, its primary effect was to transform the composition of migration, replacing a regime dominated by EU free movement with a system characterised by managed migration from the rest of the world.

6.4 Interpretation

Two broader conclusions emerge from these results.

First, the impact of Brexit on migration was largely compositional rather than quantitative. The end of free movement reduced EU migration significantly, but this decline was offset by increased migration from outside the EU under the new immigration system.

Second, the results highlight the importance of labour demand in shaping migration outcomes. The liberalisation of non-EU migration routes occurred during a period of strong labour demand following the COVID-19 pandemic, particularly in sectors such as health and social care. This combination of policy change and labour market conditions produced a much larger increase in non-EU migration than anticipated in most ex ante analyses.

Taken together, these findings suggest that the economic effects of Brexit on the UK labour market through migration have been more limited either than many early predictions (of large decreases) implied or current political discourse (referring to large increases) asserts. Rather than substantially reducing or increasing immigration, Brexit primarily altered its institutional structure and geographic composition.

7. Discussion: mechanisms and interpretation

The results above show that Brexit had a substantial effect on the composition of the UK migrant workforce but a relatively modest impact on its overall size. This section discusses the mechanisms underlying these patterns and situates them within the broader evolution of UK migration policy and labour market conditions since the referendum.

7.1 The decline in EU-origin workers

The reduction in EU-origin employment following the referendum reflects several overlapping mechanisms. The most direct channel is the end of free movement. Prior to Brexit, EU citizens had the right to live and work in the UK without visas or work permits, allowing labour migration to respond flexibly to labour market conditions. The termination of this regime in 2021 represented a fundamental institutional break in the UK migration system.

However, the decline in EU migration began well before the formal policy change. As documented in previous work, EU migration to the UK started to fall soon after the referendum despite the continued legal existence of free movement. This pattern is consistent with the idea that migration decisions respond not only to formal policy changes but also to expectations, perceived political attitudes and exchange rate movements. The sharp depreciation of sterling following the referendum reduced the relative attractiveness of working in the UK, while uncertainty about future residence rights may have discouraged potential migrants from EU countries.

Structural economic developments also played a role. Migration from Central and Eastern Europe had already begun to slow prior to the referendum as labour markets in source countries strengthened and wage differentials with the UK narrowed. In this sense, some decline in EU migration would likely have occurred even in the absence of Brexit, although the magnitude of the observed decline is substantially larger than would be predicted by these factors alone.

The pandemic may also have reinforced this trend. EU migrants were disproportionately employed in sectors such as hospitality, retail and tourism that were heavily affected by pandemic restrictions. As a result, a significant number of EU workers left the UK labour market during 2020–21, with many not returning when restrictions were lifted.

7.2 The rise in non-EU migration

The increase in non-EU employment is largely explained by the design of the post-Brexit immigration system and the economic environment in which it was introduced.

Although the end of free movement was often framed politically as a tightening of migration policy, the post-Brexit system simultaneously involved significant liberalisation of migration routes for non-EU nationals. Skill thresholds for work visas were reduced, salary thresholds were lowered for some occupations, and several new migration routes were introduced, including the Graduate visa for international students and expanded eligibility for health and care workers. Taken together, these changes made the system relatively open by the standards of advanced economies outside the EU free movement area.

These policy changes coincided with a period of exceptionally strong labour demand. The reopening of the economy after the COVID-19 pandemic generated labour shortages in many sectors, particularly health and social care. The fall in EU labour supply further intensified these shortages, creating incentives for employers to recruit workers from outside Europe.

As a result, non-EU migration increased rapidly after 2021. The composition of migration also changed significantly, with large increases in migrants from countries such as India and Nigeria. These migrants entered the UK labour market through a variety of channels, including skilled work visas, the health and care visa route, student visas and post-study work visas. In addition, dependants of migrants arriving through these routes contributed substantially to the growth of the non-EU migrant workforce.

Importantly, the increase in non-EU migration reflects both policy choices and broader economic dynamics. While Brexit created the institutional framework for the new migration system, the scale of migration flows ultimately depended on labour demand, employer behaviour and global migration patterns.

7.3 Substitution between EU and non-EU labour

Taken together, the results suggest that Brexit induced a process of substitution between EU and non-EU sources of labour supply.

Under the free movement regime, EU migration functioned as a flexible adjustment mechanism for the UK labour market. Employers in sectors such as hospitality, agriculture and social care were able to recruit workers from across the EU with minimal administrative barriers. When this source of labour supply was removed, employers increasingly turned to alternative migration channels.

The post-Brexit immigration system enabled this substitution by expanding access to non-EU labour in several sectors. In particular, the health and care visa route allowed employers in the care sector to recruit workers internationally at relatively low salary thresholds, leading to very large increases in migration into these occupations. At the same time, the expansion of international student migration and the reintroduction of post-study work visas increased the number of graduates entering the labour market.

This pattern highlights an important feature of modern migration systems: migration flows respond not only to policy constraints but also to labour demand. Removing one migration channel does not necessarily reduce overall migration if alternative channels remain available.

7.4 Migration policy and economic constraints

The results also illustrate the broader political economy of migration policy after Brexit. The referendum was widely interpreted as a mandate to reduce immigration, yet the policies implemented after Brexit did not ultimately lead to a sustained decline in migrant employment. Instead, the UK transitioned from a system dominated by EU free movement to one characterised by managed migration from the rest of the world.

This outcome reflects the constraints facing governments in designing migration policy. On the one hand, political pressures often favour tighter migration controls. On the other hand, employers and public services rely heavily on migrant labour, particularly in sectors facing structural labour shortages.

In the UK case, the post-Brexit immigration system attempted to reconcile these pressures by replacing free movement with a managed system based on skill and salary thresholds. However, as subsequent experience has shown, the scale of migration under such a system depends critically on how those thresholds are set and on the economic conditions facing employers. A system that appears restrictive in political rhetoric may still generate substantial migration flows if eligibility criteria are relatively liberal and labour demand is strong.

7.5 Implications

Two broader implications emerge from this analysis.

First, the primary effect of Brexit on migration has been to reshape the composition of migrant labour supply rather than to reduce its overall scale. The UK labour market has shifted from reliance on EU free movement to a system characterised by migration from a wider range of global source countries.

Second, the experience of the post-Brexit period highlights the importance of institutional design in shaping migration outcomes. Migration policy determines the channels through which migrants enter the labour market, but the volume of migration ultimately depends on the interaction between policy rules and economic demand.

These considerations suggest that the long-run impact of Brexit on migration will depend less on the formal end of free movement than on the evolution of the UK's post-Brexit immigration regime and the economic forces shaping labour demand.

8. Conclusion

This paper examines how Brexit affected the employment of foreign-born workers in the UK labour market. Using a synthetic difference-in-differences framework, we estimate how migrant

employment in the UK would have evolved in the absence of Brexit by constructing a counterfactual trajectory based on comparable European economies.

Our results indicate that Brexit had a substantial impact on the composition of migration but a relatively modest effect on the overall size of the migrant workforce. Employment among EU-origin workers fell sharply relative to the counterfactual, reflecting both the referendum shock and the eventual termination of free movement. At the same time, employment among migrants from outside the EU increased significantly following the introduction of the post-Brexit immigration system in 2021. The expansion of non-EU migration more than offset the decline in EU-origin workers, leaving the overall number of foreign-born workers in the UK labour market modestly higher than the counterfactual.

These findings differ in important respects from many ex ante predictions of the impact of Brexit on migration. Most early analyses assumed that the end of free movement would lead to a reduction in overall migration and therefore slower labour force growth. In practice, while EU migration declined substantially, the new immigration system facilitated a large increase in migration from outside Europe. The result was not a large reduction in migrant labour supply but rather a shift from EU-dominated migration to a system characterised by managed migration from a broader set of countries.

The results highlight two broader points about migration policy. First, migration outcomes depend not only on formal policy restrictions but also on labour market conditions. The expansion of non-EU migration after 2021 occurred during a period of strong labour demand following the pandemic, particularly in sectors such as health and social care. Second, replacing a system of free movement with a managed migration regime does not necessarily reduce migration; rather, it changes the mechanisms through which migration responds to economic demand.

More broadly, the experience of the post-Brexit period illustrates the difficulty of reconciling political pressures to restrict migration with economic pressures arising from labour shortages and demographic change. The UK has moved from a system in which labour migration from the EU responded largely automatically to market conditions to one in which migration flows depend on policy decisions regarding visa eligibility and thresholds. Yet the underlying economic drivers of migration remain largely unchanged.

Future research could examine the sectoral and distributional implications of these changes in greater detail. In particular, the shift from EU to non-EU migration may have implications for skill composition, regional labour markets and the functioning of sectors that have historically relied heavily on migrant labour. Understanding these adjustments will be important for assessing the longer-term economic consequences of the UK's post-Brexit migration regime.

References

- Arkhangelsky, D., Athey, S., Hirshberg, D., Imbens, G., & Wager, S. (2021). Synthetic difference-in-differences. *American Economic Review*, 111(12), 4088–4118.
- Campo, F., Forte, G., & Portes, J. (2024). The impact of migration on productivity: Evidence from the United Kingdom. *The B.E. Journal of Economic Analysis & Policy*, 24(2), 537–564.

- Di Iasio, V., & Wahba, J. (2023).
Expecting Brexit and UK migration: Should I go? *European Economic Review*, 157, 104484.
- Dustmann, C., Frattini, T., & Preston, I. (2013).
The effect of immigration along the distribution of wages. *Review of Economic Studies*, 80(1), 145–173.
- Hantzsche, A., Kara, A., & Young, G. (2018).
The economic effects of the UK government's proposed Brexit deal. *The World Economy*, 42(1), 5–20.
- HM Revenue & Customs (2025).
Payrolled employments by nationality. London: HMRC.
- Home Office (2020).
Impact assessment for the Immigration and Social Security Co-ordination (EU Withdrawal) Bill. London: Home Office.
- Migration Advisory Committee (2018).
EEA migration in the UK: Final report. London: Migration Advisory Committee.
- Nickell, S., & Salaheen, J. (2015).
The impact of immigration on occupational wages: Evidence from Britain. *Bank of England Staff Working Paper No. 574*.
- Office for Budget Responsibility (2018).
Brexit and the UK economy. London: OBR.
- Portes, J. (2016).
Immigration and the Brexit vote. *National Institute Economic Review*, 238, R13–R19.
- Portes, J. (2022).
Immigration and the UK economy after Brexit. *Oxford Review of Economic Policy*, 38(1), 82–96.
- Portes, J. (2024).
Unintended consequences: The changing composition of immigration to the United Kingdom after Brexit. *National Institute Economic Review*, 268, 63–78.
- Portes, J. (2026).
Control without credibility: Immigration to the UK since the Brexit referendum. IZA Discussion Paper.
- Portes, J., & Springford, J. (2023).
The impact of the post-Brexit migration system on the UK labour market. *Contemporary Social Science*, 18(2), 132–149.
- Springford, J. (2022).
What can we know about the cost of Brexit so far? London: Centre for European Reform.