

Off EU Go? Brexit, the UK Labour Market and Immigration*

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Abstract

Immigration remains a highly antagonistic issue and its purported effects in the labour market are still contestable. Against this background, the UK looks set to undertake a large overhaul of its immigration policy following the decision to leave the EU. To try to inform the debate, this study summarises the key patterns and changes in the UK labour market regarding immigration in the run-up to and the immediate aftermath of the Brexit vote. The paper then offers some ideas that could explain why immigration appears to have had little effect, either positive or negative, on the wage and employment outcomes of UK-born residents. It next outlines the current state of the labour market and the role of EU immigrants in it as the UK edges toward Brexit. The paper then considers where change may be seen most strongly following Brexit and discusses the many possible immigration policy options open to the government after the UK leaves the EU.

Policy points

- There is little evidence that immigration has had an effect, either positive or negative, on the employment or wages of UK-born workers.

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- Any restrictions on EU workers are likely to be on the flow rather than the stock, and the flows are much smaller. But sectors with high turnover and low pay may well feel the pinch more than others.
- A range of post-Brexit options are analysed and reviewed. The difficulty, as ever, is in determining what things to try to improve / leave alone and for whose benefit/detriment. The options for future immigration policy are many and varied and there are no easy answers as to what to do or what to prioritise.
- While there could be opportunities to reform immigration policy following Brexit, there is not much time to put a studied scheme in place. This is an area that is particularly vulnerable to reforms that may have unintended consequences.

I. Introduction

Immigration's effects on the labour market continue to be one of the most keenly contested areas of economics and in the wider public debate. Immigration to the United Kingdom (UK) has risen significantly over the past 20 years and was almost certainly a key driver underpinning the decision to leave the European Union (EU) following the result of the UK referendum in June 2016. Yet more than two years after one of the most significant votes and consequent changes of policy direction in recent history, are we any wiser as to the effects? The short answer is of course no, since Brexit has not yet happened, nor will it before 2021.¹ Intermediate negotiations do not appear to have yet produced any definitive plans beyond a broad statement of intent that immigration from the EU will not be subject to free movement. As such, few policies have yet emerged to elucidate what the labour market environment, the focus of this paper, is likely to look like after that time. What we can do instead is look at what has happened in the labour market in both the run-up to and the short period of time following the vote. Using this information, we then undertake some informed speculation as to likely areas of immigration policy that will help shape the labour market in years to come.

Section II gives some background to the key patterns and changes in the labour market and in (EU) immigration in the run-up to the Brexit vote in an effort to see whether the immigration damaged the economic prospects of UK-born workers, which, if so, could have helped explain the Brexit vote. Section III outlines the current state of the labour market and the role of EU immigrants in it, with a view to assessing what has happened following the vote and where change, if indeed sustained change in migrant numbers there

¹Assuming an exit deal is agreed on, which at the time of writing is not yet a given. In the event of No Deal, the government would have to think quickly about what to do about immigration from the EU after March 2019.

will be after Brexit, may be seen most strongly. Section IV considers some of the many possible labour-market-related immigration policy options open to the government after the UK leaves the EU. Section V concludes.

II. The way we were

Despite the largest collapse in GDP for 80 years, the Great Recession did not generate the major rises in unemployment, or falls in employment, in the UK that many commentators had expected. Instead, the adjustment to the large negative shock was primarily manifested in falling real wages – in the order of 10–15 per cent depending on which price deflator is used – unprecedented in modern British history and of similar magnitude across the wage distribution.² Arguably, the recession may have fed some of the resentment seen in public opinion polls over this period toward rising immigration.³ However, it is hard to see a connection between the timing of changes in unemployment and/or falling real wages and the pattern of immigration. As Table 1 and Figure 1 show, immigration to the UK had been growing from around 1995, primarily from outside the EU until the admission of the A10 accession countries in 2004, when Britain, Ireland and Sweden opened up their labour markets to migrants from the former central and eastern European Soviet bloc along with Cyprus and Malta. Immigration from the EU thereafter began rising, primarily from these countries, in tandem with continued rises in non-EU immigration.

However, as Figure 1 also shows, immigration from the EU and elsewhere rose in the run-up to the recession and kept rising through the recession and beyond. So it is hard to argue that (EU) immigration is associated with increased unemployment of UK-born workers, since it rose both while unemployment of the UK-born was rising *and* while unemployment of the UK-born was falling.

Likewise, there was a sustained fall in real wages, unprecedented in recent UK history, which began in 2010 (Figure 2) in a period of rising immigration, both total and EU. But average (median) real wages of the UK-born also grew in periods when immigration was rising. Again it is hard to argue that trends in EU immigration line up with changes in real wages.

Another way to get a sense of this apparent lack of association between immigration and wages or unemployment of native-born workers is to plot changes in wages or unemployment of natives against changes in immigration for a set of areas over time. This shows whether areas of the UK that had larger influxes of immigrants also had worse job and wage outcomes for the

²See Costa and Machin (2017) for more details on the extent of real wage falls over this period.

³For example, see the time series of concerns over immigration recorded by Ipsos MORI (<https://www.ipsos.com/ipsos-mori/en-uk/shifting-ground-attitudes-towards-immigration-and-brexite>).

Hatton (2016) concludes, on the basis of a cross-country cross-time study, that existing immigrant shares and higher welfare benefits rather than negative macroeconomic shocks appear to be more important for explaining rising anti-immigrant sentiments, though recessions do appear to raise anti-immigrant feelings.

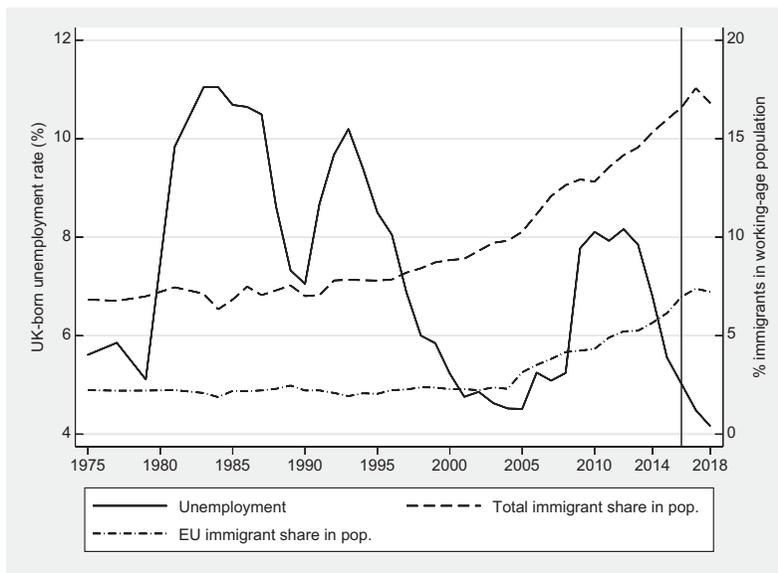
TABLE 1
Immigrants and the UK population

	<i>Total</i> <i>(millions)</i>	<i>UK-born</i> <i>(millions)</i>	<i>Immigrant</i> <i>(millions)</i>	<i>EU</i> <i>(millions)</i>	<i>Non-EU</i> <i>(millions)</i>	<i>Immigrant</i> <i>share</i>	<i>EU</i> <i>share</i>
<i>Total</i>							
1975	55.3	52.1	3.2	0.9	2.3	5.8%	1.6%
1995	57.2	53.3	3.8	1.1	2.7	6.7%	1.9%
2003	58.7	53.6	5.1	1.3	3.8	8.7%	2.1%
2016	64.7	55.6	9.1	3.6	5.5	14.0%	5.6%
2017	65.0	55.5	9.5	3.7	5.8	14.6%	5.6%
2018	65.5	56.3	9.2	3.6	5.6	14.1%	5.5%
<i>Working age</i>							
1975	33.6	31.2	2.5	0.7	1.8	7.3%	2.2%
1995	36.4	33.4	3.0	0.8	2.2	8.2%	2.2%
2003	38.0	34.0	4.0	0.9	3.1	10.5%	2.3%
2016	41.0	33.6	7.4	2.9	4.5	18.0%	7.1%
2017	41.1	33.4	7.7	3.0	4.8	18.8%	7.2%
2018	41.2	33.7	7.5	2.9	4.6	18.2%	7.0%

Note: Working-age population is aged 16–64.

Source: Author's analysis of Labour Force Survey.

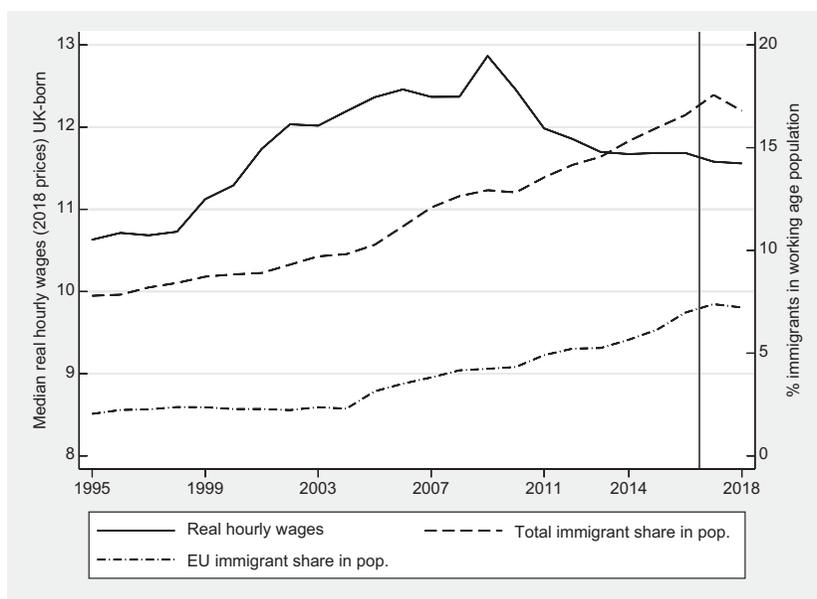
FIGURE 1
Immigration and unemployment of UK-born individuals



Note: Population used is of working age (16–64). The vertical solid line shows the timing of the Brexit vote.

Source: Author's analysis of Labour Force Survey.

FIGURE 2
EU immigration and real wages of UK-born individuals



Note: Real hourly wages is median hourly wage of UK-born employees deflated by the Retail Prices Index (RPI) deflator. Sample population is of working age. The vertical solid line shows the timing of the Brexit vote.

Source: Author's analysis of Labour Force Survey.

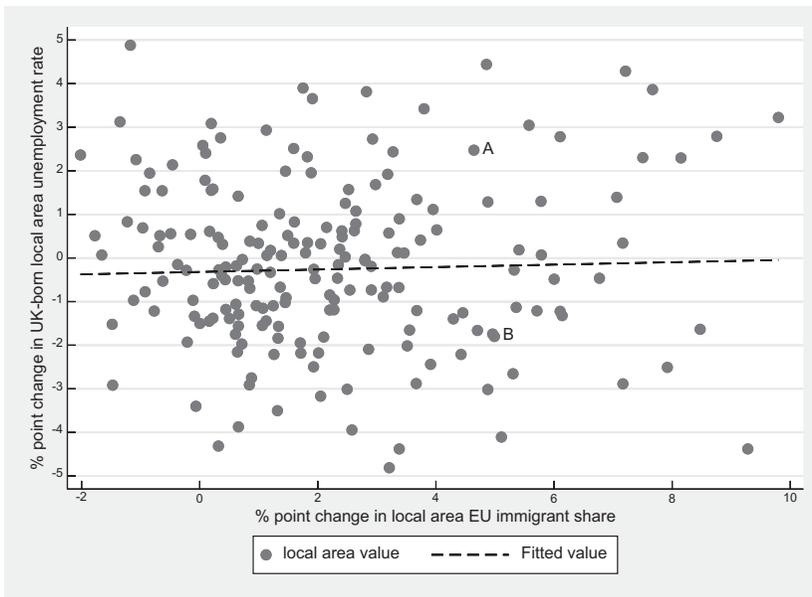
UK-born relative to other areas. Looking at changes over time also nets out other features of the local labour market that could also explain changes in unemployment and wages in those areas.

Figures 3–5 attempt to do this. In the figures, each dot represents an area. The areas correspond, broadly, to local authority administrative areas. The dotted line in Figure 3 summarises the relationship between changes in (EU) immigration into the area and changes in the unemployment rates of UK-born individuals living in that area over the period 2008–15.⁴ If immigration increased unemployment, we would expect a strong *upward*-sloping line: more immigrants would mean more unemployment for local workers. It is clear from the graph that there is no relationship between immigration and unemployment rates of those born in the UK.

⁴This period covers the Great Recession and subsequent recovery and also spans an interval when immigration was rising continually. The overall pattern does not change much if different start and end points are used – results available on request – though future work should examine changes in periods when immigration is falling.

FIGURE 3

Changes in unemployment rates of UK-born and EU immigration, 2008–15



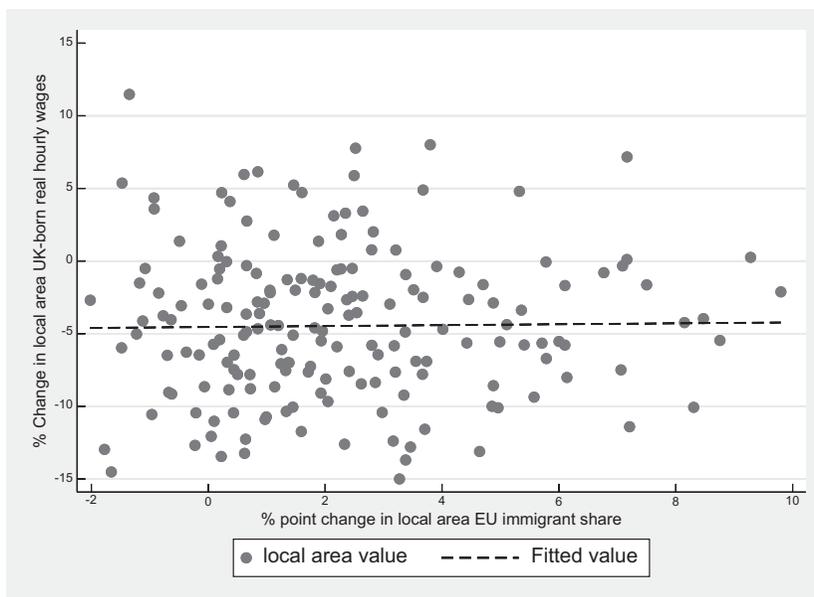
Note: Each dot represents a UK ‘local authority’. The dashed line is the predicted ‘best fit’ from a regression of the local area percentage point change in the unemployment rate of UK-born workers on the local-area-level percentage point change in share of EU immigrants. These are weighted by the sample population in each area.

Source: Author’s analysis of Labour Force Survey.

So why do some people think immigration has hurt jobs? Look at two areas – dots A and B in Figure 3. Both have had increases in the EU immigrant share of the local population of over 4 percentage points – well above the national average. In area A, unemployment for the UK-born has risen. So, in area A, it may feel as if immigrants are bad for jobs. But area B also had a large increase in immigration, while unemployment there has fallen. Therefore, just because immigration and unemployment both go up in an area does not mean that immigration is the reason for rising unemployment, since it is quite easy to find areas where immigration went up and unemployment fell. Something else must underlie the misfortunes of UK-born individuals living in areas with rising unemployment over this period.

Figure 4 provides the same analysis of the impact of EU immigration on pay. Again, there is no apparent link between changes in the average (median) real wages of UK-born individuals and changes in immigration. Average real hourly wages fell over this period in most areas (the majority of dots lie below zero on the y axis). However, real hourly wages of UK-born workers changed

FIGURE 4
Changes in wage rates of UK-born and EU immigration, 2008–15



Note: Each dot represents a UK 'local authority'. The figure uses median real hourly wages of UK-born workers based on the RPI deflator. The dashed line is the predicted 'best fit' from a regression of the local-authority-level percentage change in wages on the local-authority-level percentage point change in share of EU immigrants. These are weighted by the sample population in each area.

Source: Author's analysis of Labour Force Survey.

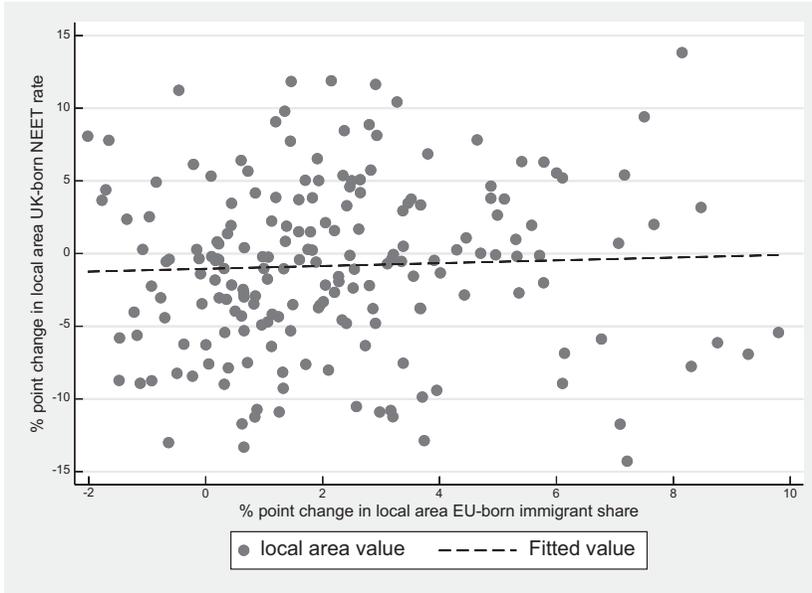
at much the same rate in areas with large changes in EU immigration as in areas where the change in EU immigration was low.

These findings do not change much if the group thought to be most vulnerable from immigration – low-skilled UK-born workers – is used instead of all UK-born workers. Figure 5 looks at the change in the NEET rate ('not in education, employment or training') for low-skilled UK-born people, defined as those who left school at the minimum leaving age or younger. There is again little association between EU immigration and their job prospects.

Of course, it would be unwise to draw strong conclusions about immigration's effects from looking at aggregate trends. Many other factors in addition to immigration influence changes in wages and employment and it is important to try to control for these influences to isolate immigration's effects. However, these graphs effectively summarise the rather large body of academic economic literature that has analysed the issue of immigration's effects on the employment and wages of 'natives' in the UK, which has concluded that, on average, immigration has had very little effect – either positive or negative – on

FIGURE 5

Changes in NEET ('not in education, employment or training') rates for less-skilled UK-born and EU immigration, 2008–15



Note: Each dot represents a UK 'local authority'. The dashed line is the predicted 'best fit' from a regression of the area-level percentage point change in NEET rates for the UK-born less-skilled on the area-level percentage point change in share of EU immigrants. These are weighted by the sample population in each area.

Source: Author's analysis of Labour Force Survey.

the wages and employment conditions of UK-born individuals.⁵ Neither does this average appear to mask large effects for more vulnerable economic groups. Some studies⁶ find small negative effects on wages and employment of UK-born people at the lower end of the wage distribution. But it is important to note that these estimated negative effects are very small. Dustmann, Frattini and Preston's (2013) estimates show each 1 point increase in the immigrant–native working-age population ratio led to somewhere between a 0.1 per cent and a 0.5 per cent decrease in native wages at the bottom decile and a 0.6 per cent *increase* in wages at the median. Nickell and Saleheen (2015) find that a 10 percentage point rise in the migration ratio leads to somewhere between around a 0.2 per cent and a 1.9 per cent reduction in wages for native and immigrant workers combined in the semi/unskilled service sector. To put this

⁵See Manacorda, Manning and Wadsworth (2011) or Lemos and Portes (2014).

⁶For example, Dustmann, Frattini and Preston (2013) and Nickell and Saleheen (2015).

in context, the actual UK migrant ratio grew from 0.07 to 0.15 between 1995 and 2017, a rise of 8 percentage points over a 22-year period. So *at most*, according to these estimates, wages at the bottom will have fallen by 4 per cent over a 22-year period or by 0.18 per cent a year.

How to explain these findings? It seems clear that the simple textbook theory that a rising supply of labour (more immigrants) will put lots of downward pressure on wages and employment cannot explain what we have seen in the UK. Something else must be going on related to immigration that must be shifting out the labour demand curve to offset any shift in labour supply. One idea may be that, on average, immigrants complement domestic labour rather than directly substituting for domestic labour. If so, then a job can be done effectively by combining existing labour with immigrant labour (skilled immigrants train domestic trainees, for example). More productive sectors generate more demand elsewhere in the economy. Another idea is that there is no fixed amount of work to be done (the ‘lump of output’ fallacy), so that more immigrants (or more of any group of individuals) do not compete for a fixed stock of jobs but instead demand more food, clothing, housing and the like and so provide more employment for everyone.⁷ Equally, immigrants may specialise in new sectors, which can grow alongside existing sectors and not displace anyone. Immigrants may also work in sectors where their skill set is higher than required (occupational downgrading), again raising productivity of the sector and generating demand and employment for others elsewhere.

In truth, there is likely to be no single explanation, nor should we expect one. Much like the effects of the minimum wage in the UK, which appear to have been spread across productivity, hours and prices, there is probably a little of many things going on when it comes to immigration’s labour market effects, which may well vary across sectors and occupations.

III. The way we live now

If the recession did little to change the upward trend in immigration, it seems that the Brexit vote did. As Table 1 shows, the total number of EU migrants rose in the immediate aftermath of the vote, but it began to fall back around 2017 quarter 1 and has done so up to the time of writing. Interestingly, so did the numbers of non-EU migrants.⁸

Figure 6 shows that after the vote, changes in the population of EU nationals are the result of a fall in inflows and an increase in outflows.⁹ This appears

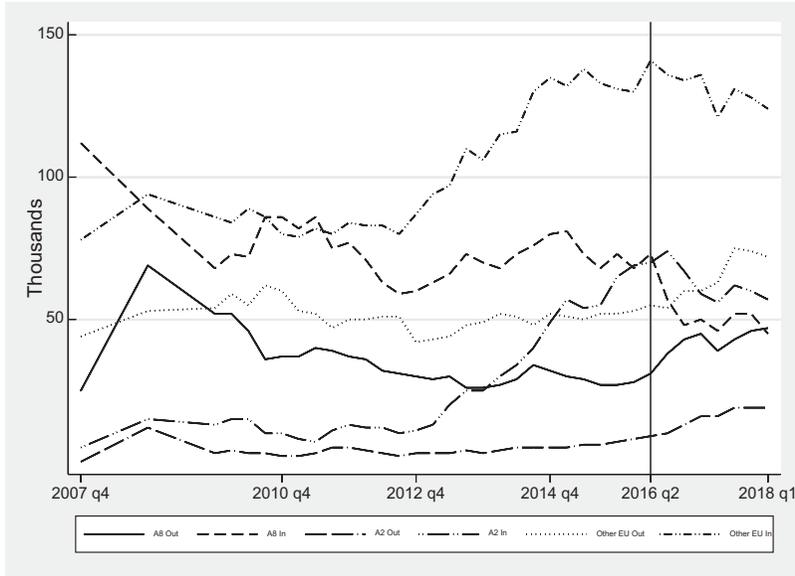
⁷For this to generate an outward shift of the (labour) demand curve rather than a movement along it, immigration must shift consumption patterns or productive potential in some way.

⁸Population growth since 2016 is therefore driven mostly by changes among the UK-born of non-working age.

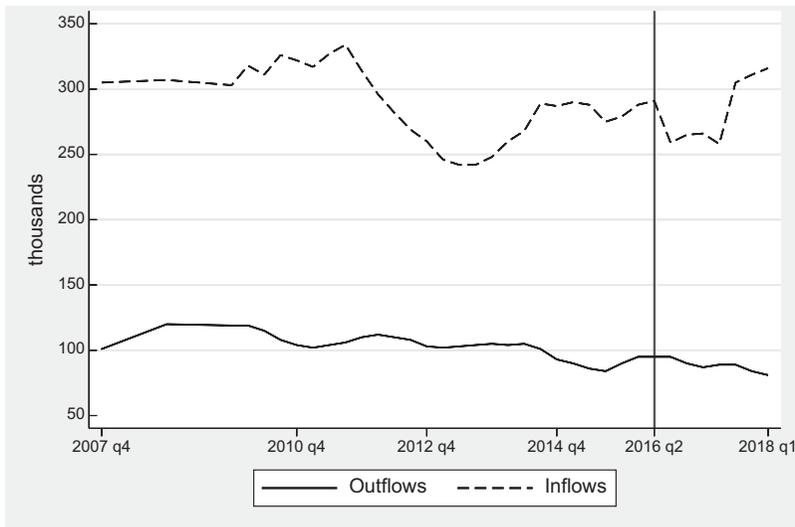
⁹Note that inflows still exceed outflows in the period after Brexit according to the LTIMs data graphed in Figure 6, suggesting that the number of immigrants in the UK continues to rise. This is in contrast to

FIGURE 6
Migrant inflows and outflows

EU inflows and outflows



Non-EU inflows and outflows



Note: A2 = Bulgaria and Romania. A8 = Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. Other EU = all other EU member countries except A2 and A8. The vertical solid line shows the timing of the Brexit vote.

Source: Author's analysis of LTIMS (2018).

to hold when the EU flows are split by area of origin. Inflows have fallen and outflows risen after the Brexit vote for A8, A2 and other EU citizens alike.¹⁰ Of course, it is hard to attribute these changes solely to the Brexit vote. Free movement ensures that individuals can leave or decide to go elsewhere if economic and/or political conditions shift in favour of migration to other countries. The UK has almost certainly experienced relative decline in favourability on both aspects – relative economic stagnation relative to much of the EU and political distancing from the EU – since 2016. The recovery of the other larger economies of Europe such as Spain, France and Germany over this period could provide alternative destinations for immigrants from the rest of the EU in an environment where future policy toward EU immigration in the UK is likely to harden. The depreciation of sterling against the euro and other European currencies reduces the attractiveness of a given hourly wage to a prospective migrant from Europe. But it is hard to think that the Brexit vote in tandem with these other developments had nothing to contribute to these changes in flows, particularly when the flows from outside the EU may be moving in the opposite direction. As Figure 6 also shows, inflows from outside the EU rose and outflows fell after Brexit.

Of the 3.6 million or so EU migrants currently resident in the UK, most (around 2.5 million) are employed, some 7 per cent of the total UK employed population. Compared with the UK-born population, EU migrants are much more likely to be employed. Since 66 per cent of all EU migrants are in work compared with 47 per cent of the UK-born, EU migrants are more likely to be current net contributors to fiscal revenues.¹¹ Some 5 per cent of the unemployed are from the EU and some 6 per cent (around 200,000) of all students over the age of 16 are from the EU (Figure 7). Around 3 per cent of children (some 450,000) are EU migrants. EU migrants form less than 3 per cent of all individuals above state pensionable age.

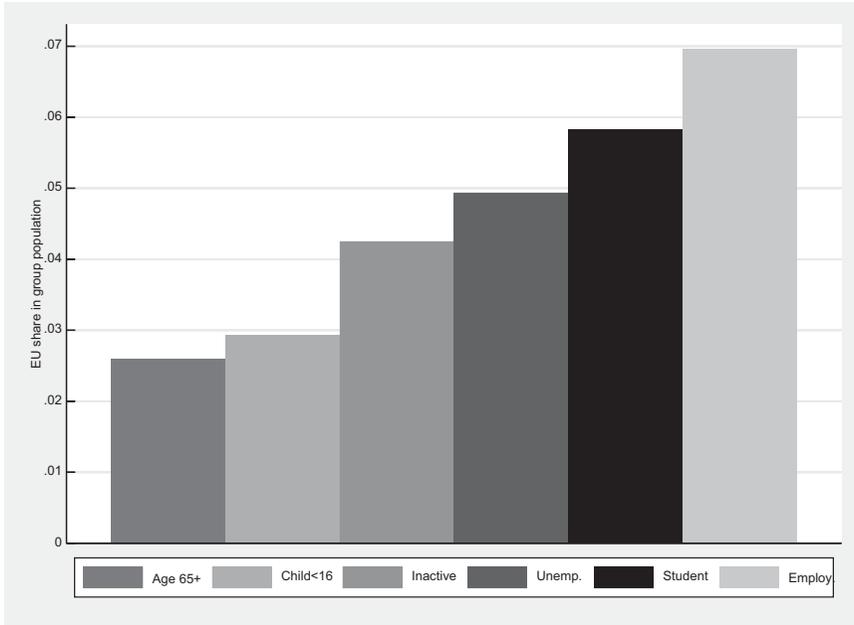
What this means going forward is that if the majority of EU residents are in work and the share of work accounted for by EU migrants is the largest of the shares across other states, then any fall in the numbers of EU immigrants, unless

the estimates from the Labour Force Survey, which suggest that immigrant numbers have fallen since 2017 quarter 1. According to the Labour Force Survey, therefore, the government's target of getting net migration down to the 'tens of thousands' has already been met, while according to the LTIMS data the government is way off target. While it is conceivable that sampling variation and differences in definitions of migrants across the surveys could account for this difference, it does pose something of a dilemma for policymakers. An investigation of the reasons for diverging information from different government official statistics on immigration is long overdue.

¹⁰The 2004 and 2007 Accession countries respectively are A8 (= Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia) and A2 (= Bulgaria and Romania).

¹¹This essentially drives the findings of Dustmann and Frattini (2014), which indicate that EU migrants are net fiscal contributors, unlike the UK-born population. See HM Revenue and Customs (2017) for a disaggregation by EU countries of tax receipts versus tax credit payments and Department for Work and Pensions (2017) for an assessment of welfare payments.

FIGURE 7
EU migrants across the UK population, 2018



Source: Author's analysis of Labour Force Survey.

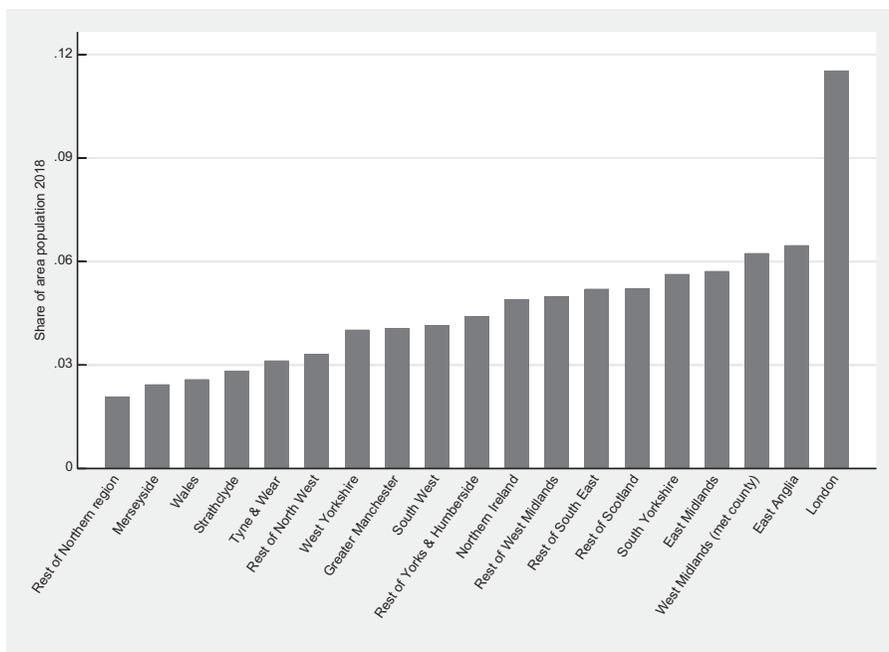
targeted, is likely to affect the world of work more than the education sector (nurseries, schools and colleges) or welfare services (pensions and welfare benefits) directly.¹²

The distribution of EU workers in employment is far from even. Some 48 per cent of EU inhabitants live in London and the South-East. As Figure 8 shows, the EU migrant share of the area population is also much higher in London than elsewhere in the UK (at around 12 per cent compared with the UK average elsewhere of 4.5 per cent). A simple correlation indicates that there are fewer (EU) immigrants in Brexit-voting areas (correlation coefficient = -0.30). It is true, however, that the rate of change in immigration has been greater in Brexit-voting areas, though this association is still rather weak (correlation coefficient = 0.09).¹³

¹²There may, of course, be implications for the funding of welfare and education services if tax revenues were to fall following a decline in the numbers of (employed) EU migrants and there be no offsetting rise in revenues from elsewhere. The LTIMs data (not shown here) suggest that EU speculative job-search flows – rather than flows for those with a job offer – were affected most after Brexit.

¹³This basic finding does not change much if a lower level of disaggregation is used (local authority). See, among others, Langella and Manning (2016) or Becker, Fetzer and Novy (2017) for a more

FIGURE 8
EU migrant shares of area populations, 2018



Source: Author's analysis of Labour Force Survey.

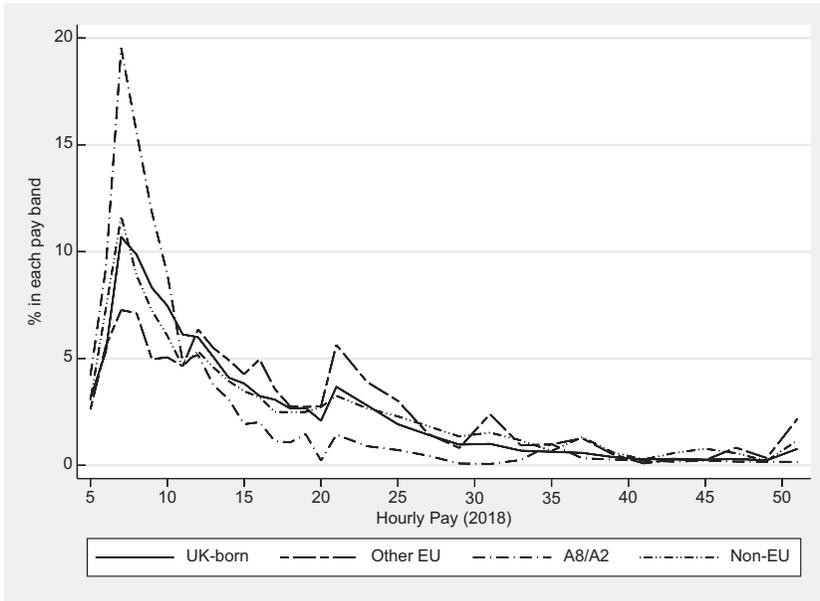
Should the EU population continue to decline, then it is perhaps in London and the South-East that we might expect to see more noticeable effects. This, however, assumes that the Brexit shock is spread evenly across the EU population and there are reasons to suspect that this may not be the case (see below).

Equally, EU immigrants in work are spread across the pay distribution, with a clear difference in pay patterns between A8/A2 and other EU workers. A8/A2 workers tend to be in low-paid work, much more so than others, while EU14 workers tend to be in higher-paid jobs, more so even than UK-born workers.¹⁴

detailed analysis of the determinants of the Brexit vote. The consensus of these papers is that, while the local area rate of change in immigration is a positive and statistically significant determinant of the Leave share of the vote, relative economic deprivation explains more of the variation in the Leave vote than immigration.

¹⁴Figure A1 in the online appendix gives the cumulative distributions associated with these plots. The figure shows that 90 per cent of employees from the A8/A2 countries earn less than £15 an hour compared with 70 per cent of UK-born employees and 60 per cent of employees from other EU countries.

FIGURE 9
Pay by migrant status, 2018



Source: Author's analysis of Labour Force Survey.

As the outline of pay patterns in Figure 9 suggests, EU migrants are concentrated in certain sectors and occupations of the economy. Table 2 shows the broad sector EU workforce shares along with the industrial sub-sectors with the largest EU workforce shares. EU migrants, while on average rather evenly spread across the UK workforce, do feature prominently in a few sectors. The sectors that employ the highest proportions of EU migrants are typically low-wage, high-labour-turnover sectors (for example, hotels, domestic help and food manufacturing). Again there are exceptions to this. In the air transport and scientific research sectors – typically skilled sectors – around 12–13 per cent of the workforce are from the EU.

After Brexit, most of the *existing* EU workforce would still be eligible for British citizenship or leave to remain (having the requisite years of residence in the UK). So the workforce is unlikely to disappear overnight. It is at the *hiring* margin that employers in the high-EU-share industries, particularly the high-turnover sectors, may face difficulties after Brexit without some sort of sectoral quotas, seasonal schemes or adjustment period. The annual hiring rate in the UK is typically between 12 and 17 per cent of the total workforce, depending on the state of the economic cycle. But low-wage sectors such

TABLE 2
Sectoral distribution of EU immigrants, 2018

	Total employment	% of sector who are EU immigrants	Average hourly wage ^a	Hiring rate ^b	% of new hires from EU
<i>Largest EU workforce share</i>					
Food manufacturing (SIC10)	300,000	30%	£10.00	18%	31%
Domestic services (SIC97)	50,000	26%	£9.20	22%	27%
Hotels (SIC55)	350,000	18%	£8.40	26%	22%
Warehousing (SIC52)	400,000	16%	£10.70	17%	22%
Textile manuf. (SIC13)	70,000	14%	£10.90	16%	15%
Plastic manuf. (SIC22)	160,000	15%	£10.60	13%	14%
Chemical manuf. (SIC20)	100,000	13%	£12.10	10%	29%
Air transport (SIC51)	70,000	13%	£15.70	15%	36%
Building (SIC41)	890,000	13%	£13.80	13%	12%
<i>Broad sector average</i>					
Agriculture	350,000	6%	£8.80	8%	12%
Energy	590,000	5%	£14.50	12%	8%
Manufacturing	2,900,000	11%	£12.30	13%	16%
Construction	2,900,000	9%	£13.00	12%	8%
Retail and accommodation	6,000,000	9%	£8.30	23%	11%
Transport	2,900,000	9%	£13.50	15%	14%
Finance	5,600,000	7%	£13.70	16%	10%
Public administration	9,600,000	5%	£12.50	13%	7%
UK	32,100,000	7.4%	£11.50	16%	10%

^aAverage hourly wage is the median.

^bHiring rate is approximated by the percentage of the workforce in employment for less than 1 year.

Source: Labour Force Survey four-quarter average ending 2018 quarter 1.

as those in Table 2 tend to have higher turnover. The annual hiring rate in the hotels sector is more than one-quarter of the workforce and EU workers comprise around a similar fraction of new hires. Around one-third of new hires in food manufacturing are from the EU.¹⁵

Table 3 focuses on the occupations with the largest workforce shares of EU migrants. Many of these occupations are less-skilled manual occupations, consistent with the industrial distribution of migrants shown in Table 2. Again there are exceptions. EU migrants comprise a much higher-than-average share of scientific research and higher education professionals. Again the reliance on

¹⁵Food and beverage retail (SIC56) has the highest labour turnover rate in the UK, with around one-third of the workforce typically hired each year. The Labour Force Survey suggests that the EU share of the workforce in this sector is 11 per cent and the share of EU workers in new hires is around 12 per cent. The median hourly wage is £7.50, equal to the level of the adult National Minimum Wage in 2017.

TABLE 3
Occupational distribution of EU immigrants, 2018

	<i>Total employment</i>	<i>% of sector who are EU immigrants</i>	<i>% of UK-born in sector who are graduates</i>	<i>% of EU in sector who are graduates</i>	<i>% of new hires from EU</i>
<i>Largest EU workforce share</i>					
Packers (9134)	115,000	49%	3%	25%	50%
Food processing (8111)	140,000	45%	7%	22%	48%
Scientific research (2321)	30,000	24%	71%	85%	36%
Childminders (6122)	110,000	20%	12%	49%	35%
Storage (9149)	430,000	20%	5%	28%	21%
Assembly and routine (813)	300,000	18%	11%	42%	21%
Cleaners (9233)	650,000	17%	2%	20%	14%
Builders (5319)	240,000	16%	12%	14%	9%
Chefs (5434)	330,000	15%	8%	28%	22%
Waiters (9224)	280,000	15%	9%	38%	15%

Note: A graduate is defined as having left full-time education aged 21 or over.

Source: Labour Force Survey. Classifications based on SOC 2000 codes (shown in parentheses) averaged over four quarters ending 2018 quarter 1.

EU workers in hiring in many of these occupations (which together account for around 5 per cent of the total workforce) is apparent.¹⁶

Another feature of EU migration apparent from Table 3 is that in many of the less-skilled occupations highlighted in the table, there are many more EU graduates than might be expected from the UK graduate share in the same occupations. This ‘occupational downgrading’ may reflect job shopping among migrants not subject to work permit restrictions. Some migrants may be in what they regard as temporary jobs while learning the language and assimilating with UK institutions or while engaging in more extensive job matching.¹⁷ Dustmann, Frattini and Preston (2013) suggest that this may help explain why they find evidence of more downward pressure on wages toward the bottom of the pay distribution. Certainly, a greater relative supply of workers in low-wage work and a willingness to accept lower wages among EU graduates is consistent with this observation.¹⁸ Conversely, productivity growth in the low-wage sectors that employ more graduates could be improved,

¹⁶These patterns do not seem to be solely due to segmentation between EU workers into temporary work and UK-born workers into permanent jobs in the sectors highlighted in Table 3. While EU workers are over-represented in temporary jobs in these sectors, they are also over-represented in permanent jobs in the same sectors. Results (not shown) are available on request.

¹⁷To what extent this may be a constrained choice is hard to establish.

¹⁸Again it should be emphasised that any estimated downward effect on wages is rather small.

leading to more employment opportunities and less downward wage pressure in these sectors. As ever, more empirical evidence on this issue is needed.

IV. The way of the future

It is of course conceivable that the downward trends in EU migration that began in 2016–17 will continue without the government perceiving a need to impose restrictions, assuming that reducing migrant numbers were the sole focus of future immigration policy. Indeed, it may well be that the change in direction of EU immigration flows following Brexit has already forced some adjustment, so the immediate migration response of increased outflows and a fall in inflows after the vote, outlined in Section III, has forced firms to address the new reality without there being any change in policy.¹⁹

It could also be argued that if rising (EU) immigration had little effect on UK-born workers then, if EU immigration falls after Brexit, might we also expect little effect with no change in immigration policy? If we assume that the econometric models on which these findings are based control for other factors, then these are the best estimates we have about immigration's labour market effects, whether immigration is rising or falling.²⁰ However, this may not necessarily be so, since going forward things will not be governed by the same macro environment in which EU immigration was rising. It is the effect of the *interaction* between changes in the external environment and immigration trends that we are much less certain of. Alongside possible restrictions on the movement of labour from the EU, the ending of free trade with the EU that could accompany Brexit, the change in the exchange rate that will accompany Brexit, the change in UK growth path that will accompany Brexit, and the relative performance of other economies are all added unknowns that mean going forward may not be the same as going back. Nor can it be said with any certainty that the preferences of any new administration, were there to be an intervening general election, would be the same as those of the current administration. In short, predicting the future is tricky.

1. Immigration policy options

Assume instead that, regardless of the labour market evidence, sometime after 2019 (or in 2021 when the transition period is set to end) the UK government administration of the day will perceive the need to place some restrictions on the freedom of movement of EU citizens into the UK (as may the EU on UK citizens). Indeed the government, on the back of the Migration Advisory

¹⁹See Portes (2017), Resolution Foundation (2017) and Migration Advisory Committee (2017 and 2018) for other views on immigration policy options going forward.

²⁰The coefficients in an econometric model imply symmetry of any estimated effect.

Committee (2018) report, has already announced an intention to regard EU and non-EU immigration equally, with a focus on skilled migration. Details may be provided in a forthcoming White Paper. If Brexit allows government the opportunity to stop the free movement of labour from the EU and to look at immigration policy anew, then what should it do? With regard to future immigration policy, a debate should probably be had as to whether any new policies should deal with the immediate consequences of Brexit or focus on immigration in the long term. The two issues are not necessarily the same. The immediate consequences of Brexit may be very different from what governments may want from a long-term immigration strategy.

An economist might suggest that the design of policy should be based on the assessment of its relative costs and benefits, with the aim of choosing the policies that have the greatest benefit relative to the cost. Quantifying costs and benefits is never easy, particularly when it is not always obvious which constituency policy is being designed for. Is it the UK government? Is it UK businesses? Is it UK citizens? Is it the different countries of the UK? Is it the UK-born population rather than all UK citizens? What about the preferences of the EU? None of these various constituencies will be equal beneficiaries, and how to quantify and weight the preferences of the various competing agencies all adds to the complexity of forming a judgement of the various policy options with regard to economic efficiency and equality of outcomes. This is the difficulty the government of the day will face.²¹

On the policy response to the short-term consequences of Brexit, it would be a mistake to think that employers (or schools or colleges) are going to lose 7 per cent of their populations immediately. Any adjustment will be on the flow not the stock of migrants. The inflow of migrants is, on average, around 10 per cent of the stock. Outflows are around 5 per cent of the stock.²² So any changes in EU migrant numbers will be incremental rather than large scale. Most of the sectors in Tables 2 and 3 provide non-graduate jobs – although, as shown, there are undoubtedly many EU graduates working in these sectors. So certain firms and sectors would also have to look around for different sources of labour, raise wages or change their methods of working (though any firm that relies on a never-ending supply of EU workers in an environment of free movement of labour into and out of the country has an unstable business model).

But consequences there may be, and government will have to decide whether the demands from the sectors most affected, such as those highlighted in Tables 2 and 3, need to be addressed in the short run alongside a longer-term immigration strategy. One option would be to have sector-specific and

²¹This is the role of social welfare functions/planners in economics. The difficulties in quantifying the various preferences, costs and benefits remain.

²²To see this, compare the stocks given in Table 1 and the flows documented in Figure 6. The Labour Force Survey also estimates the EU inflow (share of EU migrants who had been in the UK for less than one year) to be 10 per cent in 2018.

time-limited or seasonal migration schemes (from the EU or elsewhere) to allow workers into these less-skilled sectors over the medium term until businesses have adapted to the new policy environment. How long the medium term should be is again a matter for debate. The downside of such a policy is that sectors may postpone any changes to their business model.

2. Who gets in?

Any future work-related migration policy is therefore likely to involve rationing of places and, with it, the selection of migrants. This means thinking about whether to adapt existing schemes or introduce new ones. This in turn means the government has to look at its current net migration target of 100,000 to decide whether it will remain or not.²³ Assuming it remains in place, this has implications over the numbers of individuals allowed in under the different entry routes (essentially work, family or students), and the spread of differential treatment to EU over non-EU citizens.²⁴ For example, given current flow numbers outlined in Figure 6, the government would have to reduce EU net migration to zero to achieve its notional target of net 100,000 (and rely on continued net emigration of British citizens). Or it will have to impose additional restrictions on non-EU movements into the UK.

The granting of work visas is currently based around the notion that bringing in migrants alleviates skill shortages. While firms always have the option to raise wages or change the capital mix in these situations, such adjustments may take time and so a visa scheme can address ‘short-term’ shortages. This in itself creates incentive problems, since once on a shortage list, occupations have less incentive to train their own workers or adopt alternative ways of working.²⁵ Conversely, a policy of importing skilled labour from abroad could facilitate more training of local workforces, by skilled immigrants, if training is rationed.²⁶ Non-EU work visas to the UK are currently restricted to ‘graduate-level’ jobs. Any quotas or work visas for EU nationals after Brexit are also likely to favour graduate jobs. This is partly because the existing immigration policy for non-EU citizens is almost exclusively restricted to graduate-level

²³ Arguably, trying to target a net migration figure in which government has, in the absence of time-limited entry, little control over outflows, let alone inflows in an environment of free entry, was not the most sensible policy to adopt. We leave this to economic historians to debate. How to measure inflows and outflows effectively is a matter for immediate consideration.

²⁴ In practice, freedom of entry currently applies to European Economic Area (EEA) nationals rather than EU nationals and Swiss nationals. It is unlikely that the UK will differentiate between these groups after Brexit.

²⁵ Similar to a general non-time-limited policy, arguably this may have happened with some sectors placed on the existing UK Shortage Occupation List. Once on the list, without periodic reassessments, there is less incentive to try alternatives to hiring immigrants.

²⁶ See Mountford and Wadsworth (2018) for a detailed discussion and an empirical investigation of these competing hypotheses.

jobs and partly because the net fiscal contribution from graduate jobs is likely to be higher than that from non-graduate jobs.²⁷ Whether there are more shortages in this area or in the vocational sector, due to Britain's relatively poor training record,²⁸ is open to discussion.²⁹ It may be that a revised shortage list could be broadened, again, to include vocational jobs.

Another form of selection would be to target individuals rather than jobs, effectively reverting to a points-based system, a form of which was in place in the UK during the late 2000s. Coming up with a coherent points system is not an easy thing to do.³⁰ Targeting individual graduates may not help graduate sectors if the graduates migrate to less-skilled occupations (as suggested by Table 3). One benefit of having occupation-based entry shortage schemes rather than individual points-based entry is that labour market signals determine which businesses are in shortage. In general, it is hard for governments or agencies to pick winners. Letting firms and workers interact within informed general-government-imposed guidelines (such as restricting entry to graduate jobs) is probably a better way to get good job matches. Restricting by occupation rather than people probably reduces migration flows more, since the set of eligible occupations is easier to restrict than a set of eligible individuals.

Despite the prominence and priority given to the Shortage Occupation List, a majority of non-EEA work-related migrants arrive instead by the resident labour market test (RLMT).³¹ This allows employers to bring in non-EEA migrants, even if the job is not on a shortage list, if the firm can demonstrate that there are no suitable applicants from within the European Economic Area. Whilst it may at first seem implausible that no suitable candidates can be found among the 500 million or so EEA citizens, the RLMT arguably is an alternative way of determining a skill shortage without the need for a dedicated shortage list. However, such schemes do need to be continually monitored to prevent abuse of the system. The test would also have to be amended to restrict initial employer search to the UK, rather than EEA-wide as at present, to accompany Brexit. Combinations of shortage lists and resident labour market tests do perhaps allow government to select sectors it sees as priorities while at the

²⁷Note this is graduate jobs not people. The definition of a graduate job is based on occupational classification and/or average wages in the occupation.

²⁸OECD, 2017.

²⁹The Migration Advisory Committee (2011) report on occupation shortages highlights shortages in many vocational (non-graduate) occupations that were subsequently excluded from the shortage list used to determine the allocation of work visas in the UK.

³⁰That said, Canada and Australia operate, in part, an individual points-based immigration system. Canada recently reweighted its points system toward skilled migrants with a job offer (OECD, 2016). Australia's individual points system also depends, partly, on the individual working in a (moving) set of shortage occupations. Both countries, however, while certainly not offering unrestricted immigration, operate policies that can facilitate rising numbers of skilled immigrants. Rising numbers of skilled immigrants is unlikely to be a policy option for the UK should it relinquish free movement of labour.

³¹See, for example, <https://www.gov.uk/government/publications/immigration-statistics-year-ending-march-2018/summary-of-latest-statistics>.

same time allowing a degree of flexibility among employers. The issue, as ever, is getting the appropriate mix in order to balance the two interests.

Whatever combination of these methods is employed, there are likely to be more shortages than most governments would allow to be filled by immigration without some sort of quotas. The current form of rationing within a set quota makes firms compete on salary, which some businesses may be less able to do than others.³² This could prove to be anti-competitive in the long run if incumbent firms can more easily pay higher wages. Similarly, quotas also need to be administered, presumably imposing as little cost and effort on firms and individuals as possible so as to try to ensure that firms without large dedicated teams adept at working in the system do not lose out.

3. Welfare and work

One possible model for EU migration after Brexit would be to allow free entry from the EU after Brexit with a fixed time interval in which to find a job, possibly accompanied by a registration scheme to help enforcement and monitoring of numbers. This would essentially be the status quo, since job seekers from the EU rather than those with a job offer are a minority of work-related entries.³³ However, it would not be seen to address any worries over the chimera of ‘benefit tourism’. Whether real or imagined, this could be seen to be addressed by restricting entry to those with a job offer after Brexit, EU and non-EU alike. If the entry level were set at graduate jobs, the going wage would exclude most of these jobs from tax credit payments, as is done with non-EEA migrants now. Welfare claims could then only be made after any subsequent spell of unemployment or sickness *and* granting of UK residency, again as is done with non-EEA migrants now.³⁴

However, even restricting labour migration to those with job offers in certain occupations does not automatically restrict migration to these sectors. There will be an issue about whether to let EU students work in the UK before and after graduation. At present, non-EEA student entrants can work for up to 20 hours a week in any sector while studying and can then stay in the UK for six months after graduation in order to try to find a Tier 2 (effectively, graduate) job. There are no limits on the number of students who can do this. Similarly,

³²There will also be an issue about whether to let EU students work in the UK after graduation. See the next subsection.

³³Job-seeking flows have fallen to less than 30 per cent of all job-related flows in 2017 quarter 4, from a peak of 41 per cent in 2015 quarter 4 (LTIMs, 2018). Job seekers from the EEA have been unable to claim housing benefit in the UK since 2014.

³⁴Non-EEA Tier 2 migrants are on a job-specific work permit. This means that they are tied to the job with the permit until they have indefinite leave to remain, and are hence effectively excluded from the welfare system until this time. Should the firm they work for collapse or the individual be laid off during this period, migrants have two months to try to find an alternative sponsor. See <https://www.gov.uk/employee-lose-sponsor-licence>.

family members of legally resident EU individuals will almost certainly be allowed to migrate to the UK under international law, like non-EEA migrants at present. Non-EEA family migrants can work in any sector in the UK. There were no sector restrictions on self-employment for A2 workers during their transition period. Would something similar apply to all EU workers after any Brexit?³⁵ There are also firms that can bring in employees from international subsidiaries in occupations not on a shortage list. Again decisions will have to be made on whether to extend or amend these work entry routes to EEA workers after Brexit.

4. Area-based schemes

There are also issues of regional or, more likely, country-specific immigration schemes to consider. At the moment, Scotland has some additional leeway over its work route since it has its own shortage occupation list. Regional or country-based schemes are easier to operate with temporary visas. With permanent residence, individuals can move away from the area that sought to attract migrants, which can then negate the effect of the policy to attract migrants. But temporary visas bring other problems in the form of monopsony issues. If individuals are tied to a particular employer, this gives the employer more power over a worker than if the worker were free to choose where to work. More temporary working may place more demands on the UK's new labour inspectorate to ensure working standards are met and indeed increase the likelihood that some individuals overstay the length of their visas.

5. Cost of hiring from abroad

In April 2017, the UK introduced an immigration levy (the 'Immigration Skills Charge') on any firm hiring (graduate) labour from outside the EU. The charge varies by firm size but does add to the existing firm costs of hiring migrant workers and is arguably selective in that more profitable firms may be more likely to be able to afford to pay the levy. It is too early to tell whether this has deterred some firms from hiring from outside the EU, but knowledge of this policy and its effects would be welcome in helping decide whether and how to extend it to the hiring of workers from the EU.³⁶ Other costs of recruiting from abroad include labour market tests whereby would-be employers have to demonstrate that they have tried unsuccessfully to recruit from the domestic

³⁵Ruhs and Wadsworth (2018) show that the ending of transition restrictions on A2 workers in 2014 immediately reduced the number of A2 self-employed workers without reducing the number of A2 employed people. This suggests that work patterns adjust to the regulatory environment of the day.

³⁶There have only been two published quarters of inflow data since the policy was implemented. If anything, work-related inflows from outside the EU were up in the quarter (and on the year) after the policy began.

labour market. Such tests can be opaque and easily manipulated and could be looked at again in a new policy environment. It is also possible to involve the workforce to try to ensure that working conditions do not change with the advent of migrant labour, as in Norway.^{37,38} Does the UK want to try that sort of system?

V. Conclusions

Rather like the quote attributed to Chou En Lai, on the consequences of the French revolution,³⁹ that it was too early to say, so the consequences of Brexit. There are still far too many unknown unknowns to say anything confidently about what will happen in the near future. There is still a dearth of evidence about Brexit and its consequences in the labour market to draw on to design policy, though there is enough evidence around to evaluate the effects of EU immigration in the run-up to the Brexit vote, which could be used to inform future policy.

Immigration seems to matter much more politically than it does economically. All the empirical work that has been done on UK immigration shows very small labour market effects, either positive or negative, though its influence in cultural matters probably extends much further. Any reduction in EU immigration would make paying the deficit off a little harder – since EU migrants pay more in taxes than they receive in benefits and public services (whereas the UK-born population and non-EU migrants receive more in benefits than they pay in taxes), but these net payments are not very big.

The options for future immigration policy are many and varied and there are no easy answers as to what to do or what to prioritise. As such, this makes it hard to design a new migration system, even if that were wanted.

We can say that restrictions on EU workers after the UK leaves the EU look likely, but any adjustment will not be on the stock of EU migrants but in the numbers flowing into and out of the UK and these flows are much smaller than the stock. So any change is likely to be incremental, on average, though undoubtedly some sectors – typically lower-paying, high-turnover sectors – will be hit more than others. Brexit does allow the government the opportunity to seriously consider its future immigration policy, but there is not much time to put a studied scheme in place before 2021. While that future will almost

³⁷OECD, 2014.

³⁸In Norway, a general requirement for all work-related residence permits from outside the European Free Trade Association (EFTA) is that wage and working conditions for the job in question correspond to those for Norwegian workers in similar jobs. There are exemptions from these rules for migrants in temporary work. See Bratsberg, Raaum and Røed (2014) for an analysis of immigrant performance in Norway.

³⁹It seems that Chou was referring to the student uprisings of 1968, not the revolution of 1789 as is commonly referenced: <https://mediamythalert.wordpress.com/2011/06/14/too-early-to-say-zhou-was-speaking-about-1968-not-1789/>.

certainly see restrictions on numbers of EEA migrants, it may well be that immigration policy, like so many policies in the UK, evolves and reacts to events and the unforeseen consequences of previous actions.⁴⁰

Supporting information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

- Appendix

References

- Becker, S., Fetzter, T. and Novy, D. (2017), 'Who voted for Brexit? A comprehensive district-level analysis', Centre for Economic Performance (CEP), Discussion Paper no. 1480.
- Bratsberg, B., Raaum, O. and Røed, K. (2014), 'Immigrants, labour market performance and social insurance', *Economic Journal*, vol. 124, pp. F644–83.
- Costa, R. and Machin, S. (2017), 'Real wages and living standards in the UK', Centre for Economic Performance (CEP), Election Analysis Paper no. EA036 (<http://cep.lse.ac.uk/pubs/download/ea036.pdf>).
- Department for Work and Pensions (2017), 'Analysis of migrants' access to income-related benefits', August, London.
- Dustmann, C. and Frattini, T. (2014), 'The fiscal effects of immigration to the UK', *Economic Journal*, vol. 124, pp. F593–643.
- , — and Preston, I. (2013), 'The effect of immigration along the distribution of wages', *Review of Economic Studies*, vol. 80, pp. 145–73.
- Hatton, T. (2016), 'Immigration, public opinion and the recession in Europe', *Economic Policy*, vol. 31, pp. 207–46.
- HM Revenue and Customs (2017), 'Income tax, NICs, tax credits and child benefit statistics for EEA nationals, 2013 to 2014', August, London.
- Langella, M. and Manning, A. (2016), 'Who voted Leave: the characteristics of individuals mattered, but so did those of local areas', LSE Blog (<http://eprints.lse.ac.uk/71596/1/blogs.lse.ac.uk-Who%20voted%20Leave%20the%20characteristics%20of%20individuals%20mattered%20but%20so%20did%20those%20of%20local%20areas.pdf>).
- Lemos, S. and Portes, J. (2014), 'New Labour? The effects of migration from central and eastern Europe on unemployment and wages in the UK', *B.E. Journal of Economic Analysis & Policy*, vol. 14, pp. 299–338.
- LTIMs (2018), 'Provisional long-term international migration estimates', Office for National Statistics (<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/datasets/migrationstatisticsquarterlyreportprovisionallongterminternationalmigrationltimeestimates>).
- Manacorda, M., Manning, A. and Wadsworth, J. (2011), 'The impact of immigration on the structure of male wages: theory and evidence from Britain', *Journal of the European Economic Association*, vol. 10, pp. 120–51.
- Migration Advisory Committee (2011), *Analysis of the Points Based System* (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/257255/report.pdf).

⁴⁰The government is due to set out its proposals in a White Paper scheduled for late 2018. Let's see.

- (2017), ‘EEA-workers in the UK labour market: a briefing note to accompany the call for evidence’ (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/636286/2017_08_08_MAC_Briefing_paper.pdf).
- (2018), *EEA Migration in the UK: Final Report* (<https://www.gov.uk/government/publications/migration-advisory-committee-mac-report-eea-migration>).
- Mountford, A. and Wadsworth, J. (2018), ‘Trainspotting: good jobs, training and skilled immigration’, Royal Holloway Economics Department, Working Paper.
- Nickell, S. and Saleheen, J. (2015), ‘The impact of immigration on occupational wages: evidence from Britain’, Bank of England Staff Working Paper no. 574.
- OECD (2014), ‘Recruiting immigrant workers: Norway 2014’, Paris.
- (2016), ‘Recruiting for success: challenges for Canada’s labour migration system’, Paris.
- (2017), ‘Skills outlook’, Paris.
- Portes, J. (2017), ‘Free movement after Brexit: policy options’, The UK in a Changing Europe (<http://ukandeu.ac.uk/research-papers/free-movement-after-brexit-policy-options/>).
- Resolution Foundation (2017), *Work in Brexit Britain: Reshaping the Nation’s Labour Market*, London.
- Ruhs, M. and Wadsworth, J. (2018), ‘The impact of acquiring unrestricted work authorization on Romanian and Bulgarian migrants in the UK’, *Industrial and Labor Relations Review*, vol. 71, pp. 823–52.