BREXIT

THE IMPACT ON TRADE, INVESTMENT AND IMMIGRATION
Karl Marx famously said that ‘philosophers have sought to understand the world; the point, however, is to change it’. His remark feels particularly pertinent at a time when ‘impact’ has become an increasingly significant part of the lives of researchers, universities and funding agencies. For economists at the Centre for Economic Performance (CEP), this rarely feels too much of a burden: for over 25 years, one of CEP’s central aims has been for top-quality economics to have an impact on society through the long-term percolation of new ideas into policy, practice and public understanding.

But there are also times when research can have a more immediate impact, notably when voters are considering where to place their crosses in an election or referendum. To inform debate during today’s campaign – the referendum on whether the UK should Leave or Remain a member of the European Union (EU) – CEP has been conducting a series of investigations into the economic effects of a vote for ‘Brexit’. This CentrePiece summarises the evidence on the likely impact of changes in trade, investment and immigration.1

Later in the year comes another vote where the world will be on tenterhooks about the result: the US presidential election. A key part of the platform of the probable Republican candidate Donald Trump is that something needs to be done about the serious damage supposedly inflicted on American workers by the Chinese. João Paulo Pessoa uses a model of the global economy to show that even when developed economies face a fierce competitor like China, they also receive many benefits.

Elsewhere in this issue are articles on two more core areas of policy-relevant CEP research: health and education. Sir David Metcalf, chair of the Migration Advisory Committee and a CEP ‘founder’, comments on the UK health sector’s failure to maintain a sufficient supply of nurses. And Sandra McNally, director of CEP’s research programme on education and skills, evaluates ‘synthetic phonics’, educational policy-makers’ current favoured method for improving children’s literacy.

Finally, a change of personnel: we are delighted to announce that Stephen Machin will become CEP’s new director from the start of the next academic year. There will be plenty from him in future issues, but this one closes with outgoing director John Van Reenen’s swansong: a final assessment of the economic impact of a decision to Leave the EU, in which he suggests that the preferable outcome would be to Remain.

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1 http://cep.lse.ac.uk/brexit/
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Brexit: the final assessment

For over two years, a CEP research team has been studying the likely impact on the living standards of UK households of a referendum vote to leave the European Union. The first of three reports summarised here focuses on the impact of ‘Brexit’ through changing trade patterns.

**Brexit: the impact on UK trade and living standards**

There are many issues that will weigh in the minds of UK voters in the run-up to the referendum on membership of the European Union (EU) on 23 June. Many people feel that they are oppressed by a remote, undemocratic super-state that can over-rule UK laws. Others believe that the EU promotes better co-operation between communities that were at war for centuries. These views often stem from deeply held political and moral beliefs.

Economics can make a contribution to the debate by considering what might be the material costs and benefits of leaving the EU. If there are economic benefits, then for Eurosceptics it’s a win-win. On the other hand, if there are economic costs to Brexit, then even a die-hard Leave campaigner must consider whether the price is too high. Some might be prepared to pay any cost: for them it is ‘death before enslavement’. To most people however, it’s not so all-or-nothing. They will look at the likely costs and benefits, and this will help to inform their decision.

**Figuring out the economic costs and benefits of Brexit**

An obvious benefit of Brexit is that the UK will not have to send so much money to Brussels. This is around 0.31% of our national income. An equally obvious cost of Brexit is that trade between the UK and the EU will be lower if the UK leaves than if it stays.

Under optimistic assumptions, Brexit would lead to a fall in national income of 1.3%
The degree to which trade costs will be higher outside the EU is a big question. But it’s a fact that even when countries have comprehensive trade deals, there can still be non-tariff barriers due to regulatory differences, border checks, rule-of-origin requirements and anti-dumping actions. Even Norway, which as a member of the European Economic Area (EEA) signs up to all the single market regulation and does not face border checks, has lower productivity than would be expected if it were a member of the EU (Campos et al, 2015).

There is a rich menu of economic models to analyse the impact of trade arrangements, but it turns out that most of them have a pretty similar structure when it comes to thinking about welfare gains. We develop a state-of-the-art trade model plus industry-level data on exports and imports covering all sectors of the economy in every country in the world. This, plus an estimate of how trade responds to costs, enables us to figure out how trade patterns and living standards will change when trade costs (tariff and non-tariff barriers) change after Brexit.

Since it is hard to know precisely how trade costs will change after Brexit, we look at two stark scenarios. An ‘optimistic’ scenario is that the UK swiftly strikes a deal so that it gets deep access to the EU single market, just like Norway (in which case the fiscal savings from a lower EU contribution will be negligible at 0.09% of GDP). A ‘pessimistic’ scenario is that the UK is unwilling to accept the free movement of labour and the associated regulations that are part of the ‘access price’ to the single market. In this case, it will be a member of the World Trade Organization (WTO) only, facing the usual EU external tariffs, and trade will fall by more.

Figure 1 shows the results of our analysis. There is a drop in income per person of 1.3% in the optimistic case, which doubles to 2.6% in the pessimistic case. This translates to a fall of between £850 and £1,700 per UK household per year.

Is the pessimistic scenario too optimistic? Probably yes
The calculations we make are very narrow. They assume away any positive effects that trade may have on productivity through more competition, innovation, foreign investment and migration. We also abstract away from the economic damage induced by the policy uncertainty in the very difficult negotiating period following a Brexit vote. Negotiations over new trade agreements could stretch over many years.

**Figure 1:** The ‘static’ effects of Brexit on UK living standards

<table>
<thead>
<tr>
<th>Trade effects</th>
<th>Fiscal benefit</th>
<th>Total change in income per capita</th>
<th>GDP change per household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimistic – assumes deep access to EU single market</td>
<td>Pessimistic – assumes WTO membership only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1.37% -2.92%</td>
<td>0.09% 0.31%</td>
<td>-1.28% -2.61%</td>
<td>£850 -£1,700</td>
</tr>
</tbody>
</table>

**Figure 2:**

*Long-run effects of the EU on UK living standards*

Likely losses from leaving the EU -6.3% to -9.5%
Historical benefits of joining the EU 8% to 10%

Likely losses from leaving the EU -6.3% to -9.5%
Historical benefits of joining the EU 8% to 10%

Under pessimistic assumptions, Brexit would lead to a fall in national income of 2.6%
Is the optimistic case too pessimistic?
How could things turn out better? First, could the UK negotiate a sweetheart deal much better than Norway or Switzerland have managed? This seems unlikely. About half of the UK’s exports go to the EU, whereas only 10% of the EU’s exports are destined for the UK, so the bargaining power is lopsided.

What’s more, the EU will not want to be seen to be offering generous rewards for leaving, as this may encourage other members to do the same. In addition, all this assumes that everyone is behaving reasonably and rationally – unfortunately divorces tend to be much messier. Kicking the EU when it is undergoing a major

Taking account of the long-run effects of higher trade costs on productivity, the cost of Brexit may rise to 6.3-9.5% of national income

The 100 most burdensome EU regulations have been estimated to impose annual costs of
£33.3 billion

The same 100 regulations bring annual benefits to the UK of
£58.6 billion

Getting rid of those regulations where costs are deemed to outweigh benefits could only save 0.9% of GDP. About half of this is estimated to come from the Renewable Energy Strategy and the Working Time Directive.

An alternative ‘back of the envelope’ way to estimate the effects of Brexit is to look at what actually happens when countries joined the EU compared with being in free trade areas like the European Free Trade Association or the EEA (Baier et al, 2008). The trade effects are big – a jump of a quarter or more. Combining this with estimates of the impact of trade on GDP from real falls in trade costs leads to an implied fall of UK national income of between 6.3% and 9.5% (see Figure 2). This is similar to the 8-10% range, which other researchers estimate to have been the historical benefits of the UK joining the EU (Crafts, 2016).

This tripling of the costs of trade loss is also consistent with economic research comparing the actual benefits of trade liberalisation (big) with those predicted from static models like those presented here (much smaller). Naturally, UK trade with the EU does not disappear in any scenario – there remains a ‘trade deal’ in all cases. It is simply that there is less trade than there would have been had the UK remained a member.

It makes little sense to point to a decline in the EU’s share of total UK trade over the last decade as evidence that the single market has ‘failed to reduce trade costs’. This decade has witnessed the rapid growth of Asian trade powerhouses as well as the worst global economic crisis since the Great Depression. UK trade with Europe has increased since 2000; it’s just that trade with China has increased much faster.
refugee crisis and a long-running monetary crisis might provoke some very grumpy outcomes.

Second, could the UK strike better trade deals with non-EU countries like China, India and the United States than with the EU? Although the UK will not have to compromise with other EU members when doing such deals, it cannot offer access to the biggest single market in the world as the EU does (UK GDP is under a fifth of the size of the single market). The EU is in the final stages of negotiation with the United States and Japan on deals that are estimated to increase real household income by 0.6% (Breinlich et al, 2016). If the UK cannot replicate these deals (and the United States has stated that it is not interested in a UK-only deal), this will be a further income loss on top of our estimates.

Finally, what about the promised bonfire of ‘red tape’ when we leave the EU? Being outside the EU would enable the UK in principle to jettison some irritating regulations. But it’s worth bearing in mind that being in the EU has not stopped the UK from having one of the most flexible product and labour markets in the OECD (behind only the United States and sometimes Canada).

The real question is whether much better regulation will really be forthcoming after Brexit. Eurosceptics often claim that ‘the 100 most burdensome EU regulations have been estimated to impose annual costs of £33.3 billion’. But what they neglect to mention is that the government impact assessments they cite also estimate that the same 100 regulations bring benefits to the UK of £58.6 billion per year (Booth et al, 2015).

It’s been argued that by getting rid only of those regulations where costs are deemed to outweigh benefits, 0.9% of GDP could be saved. About half of this is estimated to come from the Renewable Energy Strategy and the Working Time Directive.

It’s unclear that tearing up these environmental and employment protections will be politically feasible or really as economically beneficial in the long run as the impact assessments find.

Is Brexit a price worth paying?

Many people may decide that knocking a grand or two off their salary or pension is worthwhile to get Brussels off their backs. Some – though probably fewer – might even say the same if the bill rises to over £6,000 a year. These are reasonable positions and every voter will make up their own mind over the price they are willing to pay.

But those who say that leaving the EU is a win-win because Britons will both feel more free and become a lot richer are not being candid about the evidence. The standard trade models given here, calculations from trade and income differences of being in and out of the EU and also historical assessments show a consistent picture – Brexit will cost. The only question is ‘exactly how much?’

Further reading


Stephen Booth and colleagues (2016) ‘What if...? The Consequences, Challenges and Opportunities Facing Britain Outside the EU’, Open Europe.


It’s over.
Investment from overseas brings many benefits to the UK economy, including higher pay and productivity. According to CEP research, leaving the European Union could lead to a fall in inward foreign direct investment into the UK of close to a quarter. This would damage productivity and could lower people’s real incomes by more than 3%.

Foreign investors love Britain – but Brexit would end the affair

Foreign direct investment (FDI) comprises investments from outside a country to set up new establishments, expand existing ones or purchase local companies. According to government body UK Trade & Investment, the UK has an estimated stock of over £1 trillion of FDI, and only the United States and China have more. About half of this stock of FDI is from the European Union (EU).

Countries generally welcome FDI as it tends to raise productivity, which increases output and wages (Bloom et al, 2012). FDI brings direct benefits as foreign firms are typically more productive and pay higher wages than domestic firms. But FDI also brings indirect benefits as the new technological and managerial know-how introduced by foreign firms can be adopted by domestic firms, often through being part of multinationals’ supply chains. FDI can also increase competitive pressures, which force managers to improve their performance.

Why might Brexit hit foreign investment?
Why might FDI fall if the UK were to leave the EU? There are at least three reasons:

- First, being fully in the single market makes the UK an attractive export platform for multinationals as they do not face the potentially large costs from tariff and non-tariff barriers when exporting to the rest of the EU.
- Second, multinationals have complex supply chains and many co-ordination costs between their headquarters and local branches. These would become more difficult to manage if the UK left the EU. For example, component parts would be subject to different regulations and costs; and intra-firm staff transfers would become more difficult with tougher migration controls.

Leaving the EU could lead to a fall in inward foreign direct investment of close to a quarter
Third, uncertainty over the shape of the future trade arrangements between the UK and EU would also tend to dampen FDI.

A number of factors determine where firms choose to locate and invest. Bigger and richer markets tend to attract more firms, which want to be close to their customers. The UK has strong rule of law, flexible labour markets and a highly educated workforce, all of which make it an attractive FDI location whether or not it is in the EU.

Supporters of Brexit claim the UK could attract more FDI outside the EU as it would be able to strike even better deals over trade and investment.

So what do the data say?
Our research examines bilateral FDI flows across all 34 OECD countries over the last 30 years. We look at how FDI changes when countries join the EU after controlling for a large host of factors such as the size and wealth of the different countries.

The evidence is clear. Being in the EU increases FDI by around 28% (the exact magnitude ranges from a 14% to 38% increase in FDI depending on the statistical method used). These estimates are similar to those in Campos and Coricelli (2015), who find an impact of 25% to 30% using an alternative method that compares the evolution of UK FDI with a comparison group of similar countries.

Being a member of the European Free Trade Association (EFTA) like Switzerland would not restore the FDI benefits of being in the EU. In fact, we find no statistical difference between countries in EFTA compared with those completely outside the EU like the United States or Japan. So striking a comprehensive free trade deal after Brexit is not a good substitute for full EU membership.

Foreign investment increases your income
To get at the nation-wide impact of FDI on output and income, we draw on the work of Alfaro et al (2004), who estimate the effect of changes in FDI on growth rates across 73 countries. We find that the impact of lower FDI following Brexit would be equivalent to a fall in real UK incomes of about 3.4%. This represents a loss of GDP of around £2,200 per household.

Quantifying the relationship between FDI and growth is notoriously difficult so the exact number is subject to considerable uncertainty. But it suggests that falls in FDI following Brexit would matter for living standards in the UK. An income decline of 3.4% is larger than our static estimates of the losses from trade of 2.6% in our pessimistic case (see previous article), which suggests that a significant fraction of the long-run impact of Brexit comes from FDI losses.

Of cars and cash – two UK success stories that stand to lose out
The macroeconomic estimates give a bird’s eye view of the effects of Brexit; but it’s useful to focus on particular industries: cars and financial services.

Cars are a successful part of UK manufacturing. In 2014, the industry contributed around 5.1% to UK exports, 40% of which were to the EU. Head and Mayer (2015) use information on assembly and sales locations (IHS Automotive data) on 1,775 models between 2000 and 2013. In their work, Brexit has two main disadvantages:

Lower foreign investment would damage productivity and lower people’s real incomes by more than 3%
First, as trade costs rise, locating production in the UK is less attractive because it becomes more costly to ship to the rest of Europe.

Second, there is an increase in the co-ordination costs between headquarters and the local production plants located separately in the UK and the EU – for example, transfers of key staff within the firm may be harder if migration controls are put in place.

Putting both costs together, total UK car production is predicted to fall by 12% – 180,000 cars per year. This is mainly because European car manufacturers such as BMW move some production away from the UK. Prices faced by UK consumers also rise by 2.5% as the cost of imported cars and their components increase.

Financial services have the largest stock of inward FDI in the UK (45%) and constitute 12% of tax receipts. The single market allows a bank based in one member of the EU to set up a branch in another, while being regulated by authorities in the home country. This ‘single passport’ to conduct activities in EU member states is important for UK exports of financial services. ‘Passporting’ means that a UK bank can provide services across the EU from its UK home. It also means that a Swiss or an American bank can do the same from a branch or subsidiary established in the UK.

The UK might be able to negotiate some of these privileges after Brexit. Members of the European Economic Area (EEA) outside the EU enjoy them, but they also have to contribute substantially to the EU budget, accept all EU regulations without a vote on the rules and must allow free labour mobility with the EU. And even for these countries like Norway, which must ‘pay and obey with no say’, there seem to be greater difficulties in doing business than a full EU member. One reason is that the coverage of financial services under the EEA does not keep pace with EU policy changes, so Norwegian banks have a tougher time accessing the EU market.

Staying in the EU also gives the UK the ability to challenge new regulations in the European Court of Justice, a right that was successfully exercised when the European Central Bank wanted to limit clearing-house activities to the Eurozone. If the UK leaves the EU, it would lose its leverage in negotiating and challenging future EU regulations.

In summary: is it worth it?
Overall, Brexit would cut inward FDI – by close to a quarter according to our new estimates. This will damage UK productivity and could lower real incomes by 3.4%. Case studies of cars and finance also show that Brexit would lower EU-related output of goods and services, and erode the UK’s ability to negotiate concessions from regulations on EU-related transactions.

Of course, these costs may be a price that many people are willing to pay to leave the EU. But they are not trivial costs. The UK received about £44 billion of new FDI inflows in 2014, according to UK Trade & Investment. If we conservatively assume that the stock of FDI is unaffected, that still means losing almost £10 billion of annual inflows after Brexit.

This article summarises ‘The Impact of Brexit on Foreign Investment in the UK’, CEP Brexit Analysis No. 3 by Swati Dhingra, Gianmarco Ottaviano, Thomas Sampson and John Van Reenen (http://cep.lse.ac.uk/pubs/download/brexit03.pdf).

Swati Dhingra is an assistant professor of economics at LSE and a research associate in CEP’s trade programme. Gianmarco Ottaviano is professor of economics at LSE and director of CEP’s trade programme.

Thomas Sampson is an assistant professor of economics at LSE and a research associate in CEP’s trade programme. John Van Reenen is director of CEP.

Further reading


Case studies of cars and finance show that Brexit would lower EU-related output of goods and services.
A major argument of Brexit campaigners is that leaving the European Union would give the UK more control over the flow of immigrants, who they claim hurt the jobs and pay of native-born workers. CEP research shows that EU immigration is at worst neutral and at best, an economic benefit of membership.

**Why immigration is no reason to leave the EU**
Many Britons are concerned that high levels of immigration have hurt their jobs, wages and quality of life. This anxiety is understandable as workers have had a rough ride in recent times. Allowing for inflation, average wages fell by 8–10% in the six years after the global financial crisis of 2008. Such a sustained fall in pay is unprecedented in the UK’s post-war history.

Alongside falling wages, immigration from the EU has been soaring. Between 1995 and 2015, the share of EU nationals in the working age population more than tripled from 1.8% to 6.3%, and most of this happened after 2004 when eight East European countries joined the EU. Net EU immigration flows were about 172,000 in 2015, not far off the non-EU rate of 191,000.

So it does make sense that many people believe this immigration wave has hurt UK workers and think that leaving the EU would make things better.

To investigate this, we crunched the most recent data and scoured the evidence. The bottom line is that EU immigration has not significantly harmed the pay, jobs or public services enjoyed by Britons. In fact, for the most part it has made us better off. Far from EU immigration being a ‘necessary evil’ that we must bear in order to gain access to the greater trade and foreign investment generated by the EU single market, immigration is at worst neutral and at best another economic benefit of membership.

EU immigrants and their impact on the UK labour market

Immigrants from the EU are younger and more educated than the UK-born – for example, almost twice as many have received some form of higher education. They are also more likely to be in work, especially those entering from Eastern Europe (see Figure 1).

Having young, well-educated and hard-working people coming to your country might not seem such a bad thing. But since immigration increases competition for jobs, doesn’t it mean that the employment prospects for UK workers have got worse? After all, there are always stories of someone who has gone after a job but has missed out to an immigrant.

But higher immigration does not mean that UK unemployment must always rise as a result because there isn’t a fixed ‘lump of labour’ out there. Immigrants have to eat, drink and live somewhere. They spend money on local goods and services. All this pumps up demand and

### Figure 1:
EU immigrants are more educated and more likely to be in work than the UK-born

<table>
<thead>
<tr>
<th></th>
<th>UK-born</th>
<th>EU immigrants</th>
<th>A8 (East European)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly educated</td>
<td>23%</td>
<td>43%</td>
<td>36%</td>
</tr>
<tr>
<td>Other levels of education</td>
<td>57%</td>
<td>77%</td>
<td>64%</td>
</tr>
<tr>
<td>Employed</td>
<td>72%</td>
<td>78%</td>
<td>82%</td>
</tr>
<tr>
<td>Unemployed or inactive</td>
<td>20%</td>
<td>15%</td>
<td>13%</td>
</tr>
<tr>
<td>Student</td>
<td>8%</td>
<td>7%</td>
<td>23%</td>
</tr>
</tbody>
</table>

**Notes:** Labour Force Survey data from 2015. ‘Highly educated’ are people who were in education until the age of 21 or older. The ‘A8’ central and east European countries are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia, which all joined the EU in 2004. Percentages are of the working age population, which is everyone over the age of 16 and under the age of 65.
Post-Brexit falls in EU immigration would be likely to lead to lower UK incomes

thereby creates new jobs. The employment effects of adding an immigrant are no different from increasing population, and the UK population has risen by around a half over the last hundred years without the unemployment rate marching correspondingly upwards.

Yet even if there is no reason to think that immigration should increase unemployment, isn’t it obvious that a bigger supply of workers must increase competition for jobs and drive wages down? Again – it isn’t necessarily so.

Greater movement of labour allows countries to specialise in what they are best at, just like being more open to trade. Companies change the mix of services and products to adapt to the new skills. Immigrants – especially if they are more skilled – will tend to raise productivity. Demand for services means more demand for people to supply them. All these effects will tend to raise real wages.

So ultimately we cannot know the truth about immigration and its effects from just appealing to anecdotes or theories. We need to look at the evidence.

Luckily, there is a huge amount of research examining the effect of immigration on jobs and wages. The conclusion of this body of work is that the large increase in immigration did not significantly harm the job and wage prospects of UK workers.

But most of this research was done on data in the good times before the global financial crisis and the Eurozone crisis. Have things changed since 2008 when the job market got tougher?

If we look at employment rates of the UK-born over the last four decades since the last EU referendum, there is little relationship with EU immigration. Although EU immigration rose during 2008-10 when employment rates fell, immigration also rose in the last five years when employment rates recovered.

Similarly, although wage rates were falling in the period 2008-14 when immigration was rising, wages were still going up in the period 2004-08 as well as in the last year. The problem of falling wages was due not to immigration but to other factors, including the financial crisis and austerity.

What about at the local level? Did places with larger influxes of EU immigrants have worse job outcomes than those with smaller increases? Our latest research finds that in fact there is no relationship between changes in EU immigration at the local authority level since 2008 and changes in the unemployment rates or wages of those born in the UK.

But what about impacts on certain types of workers? After all, there is concern that less skilled workers are hurt if educated immigrants are willing to accept low paying jobs. To see if prospects for less skilled UK nationals are associated with EU immigration, we looked at the changes in pay and job rates of the low educated.

Our results are unchanged: EU immigration has not harmed less skilled UK workers.

Public finances and public services

Since EU immigrants are younger, more likely to work and better educated, they also pay more in taxes than they receive in welfare payments. For example, East European immigrants paid in about £15 billion more than they took out in public spending and benefits in the decade up to 2011 (while UK nationals received more than they put in over the same period).

So EU immigrants are helping to reduce the budget deficit, which helps pay for more public services for the UK-born population. They bring in extra assets that could be used to increase spending on the NHS and education for the UK-born.

Although the fact that the government has been cutting back on public services cannot be blamed on immigrants, it could still be that local areas that saw bigger immigrant inflows experienced worse services. But the evidence suggests that there is no significant effect on education and the NHS or social housing. If immigrants led to social conflict then we would expect to see this reflected in measures of crime rates. But again, there is no discernible effect.

Immigration and productivity

Even though there is no evidence of local effects of immigration, there is also a disadvantage of focusing on local outcomes in that this may miss out on the economy-wide effects of immigration. By enabling specialisation and raising productivity, immigration can raise national wages.

Migration acts much like international trade, as people tend to move to countries where they can be more productive and earn higher incomes. Immigrants tend to be the most entrepreneurial and talented people.

Many studies find positive effects of immigration on productivity, especially when immigrants are more educated. Recent work by the OECD finds that EU immigrants are younger and more educated than the UK-born – and more likely to be in work.
halving UK net immigration rates would reduce UK productivity growth by 0.32% per year. Since average UK productivity growth has been almost flat since the financial crisis, this is not something to be lightly discarded.

Brexit supporters argue that economic benefits would flow from bringing EU immigration under the same rules as non-EU immigrants. The OECD study also looks at how improving the average skill level of immigrants could increase productivity. To offset the productivity loss from halving EU net immigration, the UK would have to improve the relative education level of EU immigrants enormously. Since EU immigrants are already significantly better educated than the UK-born (see Figure 1), this would be an extremely difficult task to pull off, especially with an aspiration to cut total net immigration to the tens of thousands.

Refugees
The refugee crisis is not related to the UK’s membership of the EU. Refugees given the right to remain in other EU countries like Germany have no right to live or work in the UK. It usually takes between five and eight years before refugees are even allowed to apply for citizenship. The UK is not in the Schengen passport-free travel agreement, so there are border checks preventing entry of refugees.

The bottom line
We can confidently say that our empirical evidence shows that EU immigration has not had any major negative effects on average employment, wages or inequality for Britons.

At the national level, falls in EU immigration would be likely to lead to lower UK incomes. This is partly because immigrants are more likely to be in work (helping reduce the budget deficit) and partly because they have a positive influence on productivity.

There is a wide consensus that trade and foreign investment will fall after Brexit, which will hurt UK living standards. Cutting EU immigration will not offset these costs. Indeed, it is likely to make UK incomes even lower.

This article summarises 'Brexit and the Impact of Immigration on the UK', CEP Brexit Analysis No. 5 by Swati Dholingra, Gianmarco Ottaviano, John Van Reenen and Jonathan Wadsworth (http://cep.lse.ac.uk/pubs/download/brexit05.pdf).

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Learning to read and write is an essential skill for modern life, yet about 15% of the adult population in OECD countries have not mastered the basics – for example, they are not able to understand the instructions on a bottle of aspirin. These literacy problems are especially serious in England where younger adults perform no better than older ones. Poor literacy skills lead to lower earnings and a lower probability of finding a job.

Despite these longstanding problems, it remains unclear which teaching strategies are most useful for rectifying literacy deficiencies. Perhaps because of the complexity of the English language (with words often not written as they sound), there has been much disagreement about how to teach literacy. But following an independent review led by former schools inspector Jim Rose in 2006, education policy-makers in England decided to emphasise a method known as ‘synthetic phonics’.

Synthetic phonics involves learning to pronounce the sounds (phonemes) associated with letters ‘in isolation’. Once learned, these individual sounds are then blended together (synthesised) to form words. The method is controversial among educationalists because it is not the only phonics-based method of teaching literacy, and its advocates insist that it not be taught alongside other methods.

While the ‘Rose review’ was taking place and before it was published, there was a pilot in 172 schools and nurseries, which gave intensive training to teachers in the use of synthetic phonics in early years education. After the Rose review, training was rolled out to different local authorities, which received funding for a literacy co-ordinator to work intensively in about 10 schools per year, but also to disseminate best practice throughout the local authority by offering courses.

The programme only reached all local authorities by the school year 2009/10. Thus, it was not anticipated that all schools would update their early years teaching overnight, even though the government guidelines had changed. Our

Children at risk of struggling with their reading get long-term benefits from ‘synthetic phonics’
empirical analysis of the impact of synthetic phonics makes use of the differential timing of the phasing-in of intensive support to schools as a ‘natural experiment’ to identify the effect of teacher training in the new method.

We use two ‘treatment’ groups of schools where teachers were trained to deliver phonics teaching: first, the initial schools in the pilot set up to inform the Rose review; and second, schools in the first wave of local authorities that were exposed to intensive support to implement the findings of the Rose review. The control group consists of schools that were selected for intensive support as soon as their local authorities were enrolled in the programme.

We use the National Pupil Database to follow all pupils in the treatment and control schools as they progress through their education at the ages of 5, 7 and 11. Thus, we can establish the effect of the intensive training on pupils as they get older. This is an early years programme (ages 5-7), so we are exploring whether there are immediate effects at those ages and lasting effects at age 11.

Our results show large average effects at the ages of 5 and 7, but these disappear by the age of 11, probably because most children learn to read eventually regardless of the teaching method. But those who are at risk of struggling with their reading – those who come from poor family backgrounds or who do not speak English as a first language – receive significant long-term benefits.

Without a doubt, these effects alone are high enough to justify the fixed cost of a year’s intensive training support to teachers. Furthermore, the teaching method contributes to closing educational gaps based on disadvantage and initial language proficiency by family background.

The fact that a relatively inexpensive policy introduced to primary schools administered by local authorities reduced literacy inequalities in such a way takes on an added significance given the radical and far-reaching schools policies underway in England. The government aspires for all schools eventually to become academies, operating entirely outside the control of local authorities.

It is still unclear what future role local authorities may play in education, but it will certainly be massively diminished, and perhaps non-existent, once full ‘academisation’ has happened. Thus, the kind of policy we have studied will not be feasible once this has taken place. Of course, this has wider ramifications and relevance for other countries that may be planning to decentralise education in similar ways.

The benefits for disadvantaged pupils justify the fixed cost of a year’s intensive training support to teachers

This article summarises “Teaching to Teach” Literacy” by Stephen Machin, Sandra McNally and Martina Viarengo, CEP Discussion Paper No. 1425 (http://cep.lse.ac.uk/pubs/download/dp1425.pdf).

Stephen Machin is CEP’s research director and professor of economics at University College London. Sandra McNally is professor of economics at the University of Surrey and director of CEP’s education and skills programme. Martina Viarengo is an associate professor of economics at the Graduate Institute, Geneva and a faculty associate at Harvard University’s Center for International Development.
in brief...

Bargain hunters: calculating the benefits of consumer search

To what extent can shoppers convert the time they spend looking for particular products into monetary savings? Fabio Pinna and Stephan Seiler use electronic tags to study the behaviour of 12,000 consumers in a large supermarket in Northern California.

Most of us are familiar with the experience of scrounging supermarket shelves to find the items we want at the right price – but how effective are we at converting the time spent looking for a particular product into monetary savings? Our research seeks to measure the benefits of consumer search by studying the behaviour of around 12,000 shoppers visiting a large supermarket in Northern California.

To avoid interfering with consumers’ normal shopping behaviour, we use a unique dataset obtained from radio-frequency identification (RFID) tags attached to supermarket shopping carts. Once consumers pick up a shopping cart (or basket), the RFID tags start to emit signals to a grid of antennas installed on the roof of the supermarket.

We combine the data collected from the RFID tags with purchase data from loyalty cards and a map of the supermarket with the location of all products placed on the shelves. This technology allows us to record consumers’ purchases, the paths they travel within the supermarket as well as the time they spend in front of a shelf when contemplating which product to buy, giving us a direct measure of search effort.

The data collected from the supermarket suggest that consumers spend about 10 seconds on average in the vicinity of the products that they eventually purchase. Using pricing data, we can quantify the possible benefits from searching by reporting the difference between the average and the lowest price we observe in each product category. The average price corresponds to the expected price when the consumer does not engage in search, while the minimum price reflects the expected price paid when search is exhaustive.

There can be big gains from consumer search: an extra minute scouring the shelves lowers spending on an average shopping trip by 7%
We find an average price difference of $1.57, but the difference varies both across and within product categories. On average, consumers buy in seven categories on a shopping trip, which would allow for total trip-level savings of roughly seven times $1.57 or $11. This corresponds to 40% of total expenditure during the average shopping trip, which suggests that there are substantial gains from search.

We also find that the impact of extending search is surprisingly large. An additional minute spent searching lowers expenditure by $2.10, which corresponds to about 7% of total expenditure on the average shopping trip. This number quantifies how much more consumers could have saved if they extended their search time from the current level, and hence suggests that consumers are not realising substantial possible gains from further search. This could be either because they find it cumbersome to search or because they are underestimating the possible gains from search.

Perhaps surprisingly, we find that characteristics of different product categories, such as the average price level, have little influence on search behaviour. In other words, consumers are searching for similar amounts of time in cheap and expensive categories. There is, however, very substantial variation in search duration across different areas of the supermarket, partly due to the timing of the average visit to those categories. For example, categories that are stocked towards the exit tend to be visited late in the trip and consumers systematically search less in those categories.

Consumers’ search activity varies greatly across different areas of the supermarket

These findings suggest that situational factors such as cognitive exhaustion towards the end of a shopping trip are a strong determinant of how much consumers search and hence how likely they are to find a good deal. The supermarket layout can therefore greatly influence purchase decisions via its impact on search behaviour.

Our findings also imply that because of the limited amount of search that consumers actually do, marketing tools such as feature advertising and in-store displays can be very effective.


Fabio Pinna is an associate at Deutsche Asset Management and holds a PhD in economics from LSE. CEP alumns Stephan Seiler is an associate professor of marketing at Stanford University.
Is US presidential candidate Donald Trump right when he claims that the Chinese are causing serious damage to American workers? João Paulo Pessoa analyses the impact of the recent massive increase in China’s participation in world trade on jobs and incomes in developed economies.
China recently surpassed the United States as the country with the largest share of world trade in goods – see Figure 1. This boom in trade with China has led to much concern about the losers from rising import competition in manufacturing. In Donald Trump’s US presidential campaign, for example, he has continuously complained about the Chinese: ‘They’re stealing our jobs; they’re beating us in everything; they’re winning, we’re losing.’

So how do the people of high-wage countries fare when integrating with low-wage economies like China? Is Trump’s statement correct? Is China harming all British and American citizens? Well, not really.

Winners and losers
Economists have long known that greater openness to trade is likely to be beneficial over the longer run – by reducing prices and allowing countries to expand their production to new markets. But there are also important changes in the labour market that take place during the process of adjustment to increased trade, such as the displacement of workers in sectors harmed by imports, and workers not immediately moving to growing exporting sectors.

To assess the effect of more trade with China on developed economies, I use a state-of-the-art quantitative model of the global economy. The model incorporates important channels through which trade affects individuals in a country, providing a mapping from trade data to the benefits for society as a whole.

In the model, consumers benefit from more trade integration by getting access to imported goods at lower costs. But at the same time, a rise in import competition in a sector can lead to lower wages and higher unemployment. Moreover, it is going to be costly for

Figure 1:
Share of world trade by country

Notes: The figure shows the share of world trade by country over time. Share of world trade is defined as exports plus imports by country divided by total imports plus total exports in the world.
Source: World Input Output Database.
displaced workers to move across sectors: they may prefer to work in their old industry as it is located in a place where they own a property or their family members are settled.

To analyse how all these effects interact following a ‘trade shock’, I use numerical simulations, together with several data sources. I look at six countries/regions in the World Input Output Database: China, the United States, the UK, the European Union, the ‘rest of the world developed’ (Australia, Japan, Canada, South Korea and Taiwan) and the ‘rest of the world developing’ (Brazil, India, Indonesia, Mexico, Turkey and Russia). I also aggregate the economy into five sectors: services, low-tech, mid-tech and high-tech manufacturing, and energy and others.

The ‘China shock’ used in my analysis consists of a decrease in trade barriers between China and the rest of the world and an increase in Chinese productivity in all sectors except services. These changes correspond to a growth of 64% in China’s share of world exports, a magnitude not very different from the figure of 65% reported in the World Input Output Database for the four-year period from 2000 (the year before China joined the World Trade Organization).

Figure 2 shows the evolution of real income per capita (or real consumption per capita) for countries or regions over the years following the fall in trade costs and productivity gains in China, which take place in period 1. Income instantly increases in all countries, either because they are able to export more to China or because consumers in these countries have access to cheaper goods.

Moreover, these gains are sustained over time. For example, real consumption in the United States and the UK increases by approximately 1.3% and 2.3%, respectively, in the long run. Naturally, Chinese citizens experience large income gains: more than 23% (not shown in Figure 2).

Does this mean that all individuals gain in all countries? Not necessarily. The effects of the China shock on wages and unemployment vary substantially across sectors within countries. In low-tech manufacturing industries in the United States and the UK, which face severe import competition from China, workers’ real wages fall and unemployment rises. The fall in the real average wage in this

Greater trade benefits workers in services and harms workers in low-tech manufacturing

Notes: Transition path following an unanticipated fall in trade costs between China and the rest of the world and a rise in Chinese productivity in all sectors apart from services. Real income relative to the income in period 1.

Source: Author’s calculations from several data sources.
sector is approximately 1.6% in the United States and 0.7% in the UK five years after the shock.

But at the same time, workers in the services sector experience a rise in the real average wage and no significant change in the unemployment rate: the real average wage in services increases by approximately 1.9% in the United States and 2.5% in the UK.

The dynamics associated with the rise of China are particularly striking. Immediately after the shock, wages rise in exporting sectors and fall in industries facing competition from China. As workers move from sectors hit badly by China in search of better-paid jobs in other industries, wages in exporting sectors start to fall due to the arrival of new workers searching for jobs. This implies that wages are lower in the long run than in the short run in these industries. In some import-competing sectors, however, the effects go in the opposite direction: wages fall immediately after the shock and recover over time.

I also test some predictions from the model using UK data at a much more disaggregated industry level. By analysing the period between 2000 and 2007 (the year before the Great Recession), I find that UK workers initially employed in industries that suffered from high levels of import exposure to Chinese products earned less and spent more time out of employment compared with individuals that were in industries less affected by imports from China.

I also find that low-skilled workers experienced higher employment losses than high-skilled ones. Of course, these are only negative relative effects (across sectors) of Chinese imports on UK workers and do not imply that China harmed UK citizens overall. Indeed, the results from the model suggest that China is far away from being this sort of villain.

Policy implications
The results raise important policy questions. The first point is that even when developed economies face a fierce competitor like China, they also receive many benefits. This implies that any policy aiming to restrict trade in the name of more protection for workers should be reconsidered.

At the same time, the trade shock does generate winners and losers in the labour market. Hence, it may be beneficial to find a way to compensate the people who lose out, and let the adjustment take place without any type of intervention that hinders trade.

It is important to bear in mind that the gains from trade are likely to be greater in reality than the ones presented in my study, which does not include several channels associated with trade that could lead to additional improvements in incomes. These include access to cheaper inputs, migration, greater intensity of research and development, and vertical production chains.

Even when developed economies face a fierce competitor like China, they also receive many benefits


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Management practices in Pakistan

For more than a decade, CEP economists have been leading efforts to get measures of management incorporated into the statistical infrastructure used by governments and researchers. Renata Lemos and colleagues report on the latest initiative, assessing the use of performance monitoring, targets and incentives in firms in Pakistan.

The causes and consequences of the vast differences in productivity within and across countries have been the subject of research for decades. Recently, economists have woken up to the important role of management practices in firms to explain these differences. Working with the State Bank of Pakistan and the Pakistan Bureau of Statistics, we have conducted what is to date the largest survey of management practices in Pakistan. Almost 2,000 plant managers in Punjab were involved in face-to-face interviews, focused on three broad areas:

- Data-driven performance monitoring practices for the collection and use of information to improve production processes.
- The design, integration and realism of production targets.
- Incentives for employees, including bonuses and procedures for promotion, reassignment and dismissal.

We aggregate the responses into a single summary measure of ‘structured management’ scaled from 0 to 1, where 0 represents an establishment with no structured management practices and 1 represents an establishment where such practices are fully adopted. What do we find?

First, as in other countries, there is tremendous variation in management practices across establishments – see Figure 1. But the adoption of structured management practices in Pakistan is far lower than in the United States. The average firm in Pakistan adopts 44% of overall structured management practices (divided into 52% of data-driven performance monitoring; and 42% of incentives and targets). The comparable numbers for the United States are 64%, 67% and 62%, respectively.

The dispersion of management scores is also higher in Pakistan. The difference between the top and bottom 10% of management scores is 46% in Pakistan compared with 38% in the United States. This chimes with previous findings that productivity dispersion is much higher in emerging economies (such as India and Mexico) than in developed countries (such as Germany and the United States). Firms that are worse managed and have lower productivity seem to exit the market more slowly in emerging economies, which could be due to weaker competition and greater protection of insiders.

Second, establishments with more structured management practices are larger and more capital-intensive. They also have better performance in terms of productivity, profits and growth. Perhaps surprisingly, the magnitude of the correlation with performance in Pakistan is similar to the United States. Maybe the methods of ‘good management’ are not so different across diverse countries as is often assumed – at least in manufacturing.

Third, as in other countries, management scores are higher in establishments that are older, that are exporters and

Well-managed Pakistani firms are bigger, older, more skilled, more capital-intensive and more likely to export
that have more skilled managers and non-managers. But conditional on these factors, establishments owned by firms that are not publicly listed seem to have higher management scores than establishments owned by publicly listed firms. This is the opposite to what is found in more developed countries, which suggests that getting a stock exchange listing may be less related to performance than to other factors, such as business and political connections.

So where do managers in Pakistan learn about improved management practices? The most common sources reported by managers are external peers operating in the same industry such as external consultants (36%) and customers (30%), with trade associations, competitors and suppliers playing a lesser role. Internal sources of improved management practices such as firms’ headquarters seem to play a less important role (17%), the opposite to what is found in the United States where headquarters are the most common source of learning (54%).

From a policy perspective, our results imply that governments in developing countries need to remove barriers to the growth of better-managed firms and allow the least well managed to exit. From a business perspective, fostering the spread of managerial best practice through greater efforts by headquarters and more openness to ideas from consultants, suppliers and customers could yield substantial improvements to the bottom line.

Pakistan’s productivity would improve by removing barriers to the growth of better-managed firms


Renata Lemos of the World Bank is a research associate in CEP’s growth programme. Ali Choudhary is at the State Bank of Pakistan, the country’s central bank. John Van Reenen is director of CEP. Nicholas Bloom of Stanford University is a research associate in CEP’s growth programme.

Figure 1:
The distribution of management scores in Pakistan and the United States

Notes: The management score is the unweighted average of the score for each of the 16 questions, where each question is first normalised to be on a 0-1 scale. The ten bars display the share of establishments with scores of 0-0.1, 0.1-0.2, etc.
The government’s Migration Advisory Committee (MAC) has reluctantly recommended that nurses remain on the ‘shortage occupation list’, while criticising the health sector for failing to maintain a sufficient supply of UK nurses. Sir David Metcalf, MAC chair and an active CEP researcher for three decades, summarises the recent report.

A shortage of nurses?

A year ago, the Migration Advisory Committee (MAC) reviewed part of the country’s ‘shortage occupation list’ (SOL). The SOL features job titles and occupations with priority for Tier 2 work visas for skilled migrants from outside the European Economic Area (EEA). Migrants in such jobs do not have to earn the minimum £35,000 pay threshold that is now required to remain in the UK for longer than five years.

The Department of Health did not initially request that nurses be put on the SOL. The MAC assumed, probably erroneously, that the department knows more about the UK labour market for nurses than the MAC does, so did not recommend that they be on the SOL. But during the course of 2015, the department altered its view, and to avoid putting the nation’s health at risk, the home secretary added nurses to the SOL in October pending a MAC review.

An occupation must pass three hurdles to be placed on the SOL: is it skilled to the required level; is it in shortage; and is it sensible to fill vacancies with non-EEA labour? Here, I consider these questions, concluding with some observations about the nursing workforce that require urgent attention from the Department of Health and related bodies.

Skilled, shortage and sensible?

The Nursing and Midwifery Council, the professional regulatory body for nurses and midwives in the UK, is responsible for the registration of all UK nurses. It recognises four fields of registered nurse: adult; mental health; learning disabilities; and children.

In England, there were 361,000 nurses working in the NHS in 2015. But in the UK as a whole – the NHS plus the care and independent health sectors – over 600,000 nurses are employed. The number of nurses has increased in the last three years. The OECD put the proportion of foreign-born nurses in the UK in total employment at 22% in 2011, up from
15% in 2001. Currently, the corresponding OECD nursing average is 15%. In 2014/15, 8,000 foreign-born nurses were recruited to the UK, mainly from the EEA.

The requisite skill level for inclusion on the SOL is National Qualifications Framework level 6 and above – that is, graduate level. Nurses are skilled to that level.

Evidence from national data and partners indicates that nurses pass five of the seven MAC top-down indicators of shortage. These cover employment, hours worked and vacancies. There are also three pay indicators, but these are not relevant at a time of pay freeze or severe public sector pay restraint.

Guidance from the National Institute for Health and Care Excellence indicates that organisations should aim for a maximum 5% vacancy rate to accommodate operational flexibility needs. Health Education England, the body responsible for workforce planning for the NHS in England, estimates that the current vacancy rate for nurses in England is 9.4%, nearly twice the recommended rate. In London, the Royal College of Nursing puts the rate at 17%. Partner evidence suggests vacancy rates well above 5% in the care sector too.

Nurses’ pay accounts for about one tenth of NHS expenditure in England. In turn, spending on agency nurses is equivalent to one tenth of the nurses’ pay bill. Therefore, spending on agency nurses – around 1% of NHS spending – should not be exaggerated. Nevertheless, such spending has risen rapidly in recent years, a further reflection of a shortage of nurses.

National data and evidence from employers and trade unions therefore suggest a shortage of nurses. But why has this happened?

Demand for nurses
Four main factors have boosted the demand for nurses in recent years. The first three should surely have been anticipated by those responsible for workforce planning:

- **Population:** the total population is rising, people are living longer and they require more nursing care.
- **Reforms:** moves to integrate the NHS and social care, coupled with an emphasis on seven day working, raise demand.
- **The changing role of nurses:** nurses have taken on more responsibilities, including some duties previously carried out by doctors.

The restraint on nurses’ pay is presented as an immutable fact; but it’s a choice.
The supply of nurses is influenced by workforce planning, training places and retention efforts

The Francis report and staffing guidelines: demand for nurses rose as trusts sought to increase nurse-to-patient ratios following the 2013 Francis report into events at Mid Staffordshire NHS Foundation Trust.

The supply side
Supply is influenced by workforce planning, training places and retention efforts. Again, these are matters under the control of the Department of Health or individual employers:

- Workforce planning: in England, this involves aggregating local workforce plans into a national plan. The National Audit Office recently commented that this overlooks systemic changes in how services are delivered, and suggested that a more co-ordinated and proactive approach to managing the supply of staff could result in efficiencies for the NHS as a whole.
- Training: between 2009/10 and 2012/13, the volume of commissions (training places for nurses) fell by around a fifth (5,000 places). This trend has been partially reversed recently. The number of places would be substantially higher but for financial pressures.
- The move away from bursaries to a student loan system: in principle this is a sensible policy, but public sector pay restraint may limit the numbers prepared to take up the extra places provided by universities.
- Retention: the turnover of nurses rose from 7.8% in 2008/09 to 9.3% in 2014/15. There is now a noticeable spike in retirements at 55, the earliest age at which a nurse can retire on full NHS pension benefits. Considerable effort is being made to retain nurses. Local initiatives include flexible working, skills development and use of pay supplements.

Pay
Pay is a lever at the disposal of public sector employers to moderate shortages. If it is not used, the tension in policy objectives between restraining public spending and reducing immigration comes to the fore:

- Median pay for nurses is £31,500. This is £7,500 below median pay in other graduate occupations.
- There was a severe shortage of nurses in the late 1990s and early 2000s. The pay review body responded with substantial real pay increases. There is no sign of this happening now, nor of the Department of Health requesting such action.
- Available pay flexibility is insufficiently used. Possible adjustments include recruitment and retention premia and a market forces factor reflecting cost differences among healthcare providers.

The MAC’s analysis shows that there is a historic pattern of peaks and troughs in the supply of migrant nurses. This pattern offers suggestive indications that migrant nurses have been used to save costs. Nursing is an occupation in which migrants earn, on average, less than UK workers doing the same job. In most other graduate occupations, migrants earn on average more than UK workers in the same job.

It is difficult not to see this as undercutting. The evidence shows that non-EEA nurses are typically recruited at the minimum point on the nurses’ pay scale. More worryingly, pay at recruitment does not rise with age (an imperfect proxy for experience).

A safety valve
Over the next decade, the shortage of nurses can be addressed by more training places, reduced attrition among trainees, greater efforts at return to practice, more innovative use of pay flexibility and attention to working conditions. In the meantime, it is sensible to add nurses to the SOL.

But there is a problem. The MAC was told by the Department of Health that employers in England will look to recruit around 11,000 non-EEA nurses over the next four years. But including nurses for Northern Ireland, Scotland and Wales, the actual figure could be over 14,000, approaching the annual quota of Tier 2 visas (20,700). Clearly, there is a danger that nurses – with their newly designated priority status – could crowd
out skilled migrants from occupations not in shortage, including engineers and workers in the financial sector.

To guard against this, the MAC recommends implementing a safety valve. We suggest an annual ceiling for nurses of 3,500 places in the first year. This might decrease year-on-year in line with the estimated required numbers set out by the Department of Health, such that nurses would come off the SOL in 2019 – the point at which the department forecasts that demand and supply of nurses will return to equilibrium.

Challenges for the health and social care sector

The MAC recommends placing nurses on the SOL: they are skilled, in shortage and – for a little while – it is sensible to add them. But we make this recommendation with considerable reluctance. It seems to us that the shortage is mostly down to factors that should have been anticipated by the Department of Health and related bodies. Furthermore, there seems to be an automatic presumption that non-EEA skilled migration provides the sector with a ‘get out of jail free’ card. Here, I briefly comment on just four areas: workforce planning; training commissions; pay; and who’s in charge.

Workforce planning

Until recently, workforce planning took no account of demand for nurses in the care and independent sectors, creating a structural undersupply of nurses in England. Similar issues apply in Scotland, Northern Ireland and Wales. Health Education England has now begun to factor demand for nurses from the care and independent sectors into their plans.

Equally, the care and independent sectors make minimal effort to ensure that the number of nurses trained is sufficient to meet demand in their sectors. They make little or no direct contribution to the training of pre-registration nurses in the UK and seem content to have a free ride on the back of the government paying for training.

Health Education England develops its workforce plans by adding together local workforce plans submitted by individual trusts. This means that systemic changes in demand – for example, the drive to integrate health and social care more effectively – are often not adequately reflected in the workforce plans. In addition, financial pressures in local trusts may lead them to understate their projected workforce needs.

Training commissions

The current shortage of nurses is closely linked to the decision to cut training places in England by more than 17% between 2009/10 and 2012/13. The MAC has been told that this was driven more by financial issues than an expectation that demand would fall. Health Education England has recently confirmed that even now, the 331 additional places that it is funding in 2016/17 fall well below what is actually needed, again due to financial constraints.

Pay

The restraint on nurses’ pay instituted by the government was presented to us, and in the evidence to the pay review bodies, as an immutable fact. It’s not: it’s a choice. There was insufficient curiosity across both the health and care sector about the extent to which pay might be responsible for, and might help alleviate, present recruitment difficulties. By contrast, all parties seemed able to understand how their employees left for higher salaries available through agency work.

Retention issues are a major contributor to current shortages in the NHS: the Department of Health should at least explore whether higher pay would improve retention. There is some evidence from the Institute for Fiscal Studies suggesting that nurses’ supply of labour to the NHS is sensitive to pay, most notably in London where the shortage appears to be particularly acute.

Who’s in charge?

There is a proliferation of bodies overseeing the administration of health and care services. The MAC received evidence from all of them but there was no common theme with a range of views expressed and data cited – and there is no single, authoritative voice to speak for them. We recognise the efforts of Health Education England to set up a group to pull together views on workforce planning, but the sectors do not help themselves by having a very confusing architecture.

Sir David Metcalf, emeritus professor at LSE and a research associate in CEP’s labour markets programme, has been chair of the government’s Migration Advisory Committee since its establishment in 2007.

CEP’s director John Van Reenen gives his final assessment of the likely impact on the UK economy of a vote to leave the European Union.

The long-term economic effects of Brexit

Even those campaigning to leave the European Union (EU) concede that there will be negative economic consequences in the next few years following a vote for Brexit. CEP researchers have been analysing the long-term effects of Brexit and we conclude that they will be even worse than the short-term damage.

Our best estimate is that GDP per capita will be 6.3-9.5% per year lower than it would be if we were to remain in the EU. At the mid-point of this range, this means an 8% real pay cut: about four years of ‘normal’ wages gains wiped out in a deliberate act of economic self-harm. It is also likely to mean an 8% cut in the real value of pensions and public services – fewer teachers, police and nurses. This will not happen overnight of course, but gradually the UK will become poorer than it would have been had it remained in the EU. If the world economy booms, we will still be better off absolutely – just less well off than we could have been. On the other hand, if the world business cycle swings dramatically down, we will be poorer than we are today.

The Brexit-induced fall in our income comes mainly from less trade with our closest European neighbours, but there is also a sizeable contribution from a downward hit to foreign investment of about 25%.

Many argue that Brexit will reap benefits because of cuts in immigration. But our work shows that EU immigration has done no harm to the average wages and job chances of the UK-born. In fact, because EU migrants are better educated than the UK-born and more likely to work, they help to pay for our public services and pensions, and give a modest boost to productivity.

Some will still shrug their shoulders. One of the Leave campaign’s major donors, Arron Banks has said losing a few thousand pounds a year is a ‘a bargain basement price’ for greater sovereignty. This is easier to say if, like him, you’re worth a £100 million. It’s a trickier decision for someone of more modest means. Our research shows that the pain of Brexit will not just fall on the rich, but will be shared more or less equally throughout the wealth distribution.

And will there really be great gains in democracy after a vote to leave? If we maintain good access to the single market like Norway and Switzerland, we will still have to abide by the rules and pay into the club without any vote on the regulations. It will be ‘pay and obey with no say’. That’s less democracy, not more – and these countries also have to allow free migration of EU citizens.

If we exit the single market more decisively and pay the higher trade costs, this will by necessity reduce trade, investment and incomes even more. Co-operating internationally inevitably means playing by common rules, using your voice to alter them when needed rather than racing for the exit. Being part of the global economy, being in NATO and the World Trade Organization all require some loss of sovereignty in exchange for greater wealth and security.

The EU has helped to build peace, democracy and economic growth for countries that spent most of their history locked in military conflicts. The countries of Southern Europe that joined the EU in the 1980s had been under military juntas. The countries of Eastern Europe that joined the EU in the 2000s had laboured under the boot of communism.

The EU is a far from perfect institution – it regulates too much and it has embraced austerity too uncritically. But reforming it from within is surely better than being outside and detonating an economic bombshell that will hurt the UK, Europe and the rest of the world.

There is a stark choice on 23 June that will determine our fate for generations to come. In the four decades since the last EU referendum, the UK has embraced Europe and the global economy, looked outwards and welcomed talent from all over the world. From a century of relative decline before the mid-1970s, the UK turned a corner and started to catch up and overtake its peers in terms of average income.

Will this vote mark another inflection point where we turn our backs on dastardly foreigners and once again sink into fantasies of colonial greatness while the real economy shrivels? Or will we grasp this opportunity to affirm ourselves as full members of Europe and fearlessly chart the global economy as patriotic Brits have done throughout our history?

One way or another, we will find out later this month.
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