

## **Are Europeans working in UK ‘bargaining chips’? Education Experiences**

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### **Abstract**

*This paper investigates ‘Brexit’, the decision by UK voters to leave the European Union in the June 2016 referendum. After discussing various perspectives, this paper analyses evidence on the number of graduates employed in UK who are citizens of other EU countries. Evidence in this paper suggests the UK government should re-think their approach to Brexit: EU migrants to UK may be expensive and difficult to replace*

**Keywords:** Brexit, European Union, UK, labour force, graduates

### **1. Introduction**

At the time of writing, the UK government is preparing to negotiate the terms of ‘Brexit’: Britain’s departure from the European Union (EU). The UK government might use citizens of other EU countries (now in UK) as ‘bargaining chips’, to seek a good deal from the other EU 27 countries – threatening to banish people without UK citizenship. To shed light on Brexit bargaining-power, this paper investigates how many people in the UK workforce have university education. The UK government could encourage more UK school-leavers to study for a degree; would this be sufficient to replace EU citizens who live & work in UK, but do not have UK citizenship? The number of graduates only represents a fraction of the problem: graduate employees need work experience to carry out a skilled role such as an engineer; and many employees carry out a skilled job without a degree – this paper does not attempt to estimate the cost of work-based training by UK firms. But focusing on graduates allows us to shed light on Brexit, using UK Labour Force Survey data.

### **2. Literature review**

#### **2.1 Introduction**

Economic integration is increasingly important in Europe, for political and economic reasons. Balassa (1961: 174) defines economic integration as a process (incorporating measures to stop discrimination between countries), and a state of affairs (lack of discrimination between economies involved). However, integration is discriminatory to external states, particularly in Europe. A customs union requires recognition of market imperfections and externalities, and integrated action to maximise gains from trade (El-Agraa, 2015: 100). The extent of success depends on the countries’ ability to work together and distribute gains fairly, so all states benefit. Since the ‘Brexit’ vote in June 2016, there has been disagreement as to what impact this will have on British society and the economy. Much depends on whether UK undertakes a ‘hard Brexit’, where it cuts all ties with EU – as encouraged by some Brexit campaigners; or a ‘soft Brexit’, where UK maintains a long-term relationship with the EU to benefit both parties – perhaps retaining some economic integration.

#### **2.2 Economies of scale and investment in UK**

Technological progress and services can only reach their full potential in large, unobstructed markets (European commission, 1985: 32-3); integration between countries stimulates technological progress, improving economic growth. Investment can lead to Research & Development, and more specialisation. Technology transfer occurs as information is exchanged across countries and firms; competition is an incentive to develop further. Technological improvements such as knowledge capital can increase productivity.

Free movement of capital is one of the EU's four basic freedoms, allowing firms to invest across borders within the EU without restrictions. Those supporting a hard Brexit argue that outside of the EU, the UK can strike better deals with the Commonwealth, Asian tigers or USA. However, Dhingra (2016: 11) claimed that losing full EU membership is likely to reduce inward Foreign Direct Investment (FDI), by 14% to 38%. Firms may invest less in training – preventing access to better-qualified staff, and leading to further skill gaps. This might reduce economic growth and future investment. In the medium-to-long-term, Brexit may lead some companies to relocate to other EU member states. To lessen this impact, the UK could attempt to remain in the 'European Economic Area', like Norway. However, Miller (2013: 36) argues EU membership is only one reason why UK attracts FDI; by modifying regulations (such as taxes) to make UK more attractive, the government could offset effects caused by Brexit.

### **2.3: Political issues**

Nicola Sturgeon (Scottish First Minister) has highlighted Scotland's desire to stay in the EU single market, and for Scottish and EU workers to receive equal and fair treatment (BBC, 2016a). David Davis (Secretary of State for Exiting the European Union) said business interests won't be harmed by needless migration controls (Pienaar, 2016), suggesting a 'soft' Brexit is the best way forward. Should UK opt for a hard Brexit, there is a strong chance of an internal break-up of UK – Scotland may seek independence from the rest of Britain (The Economist, 2016a). This could amplify effects on the UK, particularly if Scotland were to enforce their own tariffs and labour-movement restrictions. There are also concerns that Brexit will be 'catastrophic' for the Northern Ireland peace process (BBC, 2016b): it is possible that damage to the peace process may be worsened by increased border control between the Ireland and Northern Ireland.

### **2.4: Language skills**

Greenfader & Brouillette (2013) claim integration improves language skills, which are vital to many industries. UK currently faces a shortfall in the number of people speaking international languages (Gough, 2016); bilingual citizens are essential for firms undertaking international business – for liaising with suppliers abroad, or connecting with foreign clients. Many bi-lingual speakers in the UK are of other nationalities. By restricting freedom of movement on leaving the EU, the UK risks losing these citizens, and it may deter UK nationals from learning languages (particularly if there is a decline in trade with the EU), leading to further skill shortages. In 2012, foreign language proficiency among English students was just 9%, compared to an average of 42% in other EU states; UK universities are continuing to reduce the number of language degrees offered (The Economist, 2015). On leaving the EU, UK is likely to lose access to the Erasmus programme, which allows students to build upon their language skills and further their education within another EU country (Erasmus, 2016). This gives European students a chance to further develop their skills in the UK, which can have a positive long term effect on the economy.

### **2.5: The financial sector in UK**

Since the Brexit vote, IPPR (2016) found job postings remained broadly the same as before the vote in most sectors, but the financial sector saw a 13.6% drop. This is probably due to the uncertainty of the UK's future relationship with the EU, and whether UK will maintain access to the single market (which is highly desirable for most firms). Another exception was that the number of legal professional postings had risen significantly, perhaps due to firms preparing for Brexit. The Single European Market (SEM) brings lower financial transaction costs: financial integration allows consumer access to a wider variety of financial products, whilst making cross-country transactions simpler and cheaper (Vetter, 2013: 3). Finance is an area the UK specialises in, so access to the SEM is a distinct advantage: if SEM is lost, the UK financial sector may begin to decline.

It has been argued that 'hard Brexit' would allow UK to decrease regulation, making it more competitive and less restricted by the EU. But this may have been overstated: Britain currently compares favourably in terms of regulation – being one of the least-regulated countries, compared with Europe and non-EU countries such as America & Australia (The Economist, 2016b). It is almost certain that financial advisors and other finance professionals would continue to need correct qualifications (many of which are taken after an individual has an undergraduate degree). Without EU immigration, it is questionable if there would be enough graduates to maintain the standard and size of the UK financial sector. If the UK government wanted to maintain access to the SEM, it would need to keep most of the EU regulations. This would prevent many potential gains from Brexit which campaigners predicted before the referendum.

Howarth (2015) argues that as Britain runs a large surplus in the financial sector in relation to other EU countries, there is little incentive for the EU to offer a high-access deal to UK; therefore this sector is likely to be one of the worst affected, if tariffs are enforced. Firms may wait to see the full implications, after Article 50 of the Treaty of Lisbon (i.e., Brexit) is activated – the impact on UK employment will only be clear in the medium to long term (IPPR, 2016).

## 2.6: Exports from UK

The EU is Britain's biggest trading partner; Dhingra et al. (2015: 2-5) highlight how the reduction in trade from Brexit would outweigh fiscal savings by £50bn in their pessimistic scenario, or £18bn in their positive scenario. A falling value of the £ may help UK exporters; but this could be offset if tariffs are enforced (Chigwada, 2016). UK will have to form new trade agreements; but with a smaller market and consumer base, its bargaining power will be drastically lower. Ciuriak et al. (2015: 10) dispute that Britain (outside the EU) can negotiate a more beneficial arrangement with USA – suggesting 'Most Favoured Nation' (MFN) tariffs tend to favour areas in which UK lacks comparative advantage, such as manufacturing. Hence, Brexit could reduce production, having a negative multiplier effect on economic growth and employment. Ojo (2016) suggests UK industries such as steel will collapse after Brexit, as UK will no longer benefit from EU anti-dumping arrangements (such as Chinese steel). UK manufacturing may not be stronger outside the EU; Brexit could cause large unemployment rises, leaving large groups of workers with obsolete skill-sets. Higher unemployment generally reduces tax and National Insurance Contributions. The Leave campaign suggested Brexit could give UK £350m per week for the National Health Service (NHS) (Mossialos et al., 2016: 1); even if this money were allocated to healthcare, it would only make a minor impact in overall implications of Brexit.

## 2.7: Access to medical treatment

Brexit could reduce research on new drugs, and cause withdrawal from the EU Health programme which protects citizens across borders (NHS, 2016a); this would impact UK negatively as diseases spread, immunity to diseases increase, and people cannot get help they require. The EU Healthcare programme budget from 2014 to 2020 is €449.4 million (Europa online, 2016); it offers the opportunity to undertake projects on underfunded areas such as mental health (NHS, 2016a). Withdrawing from this programme may reduce standards of healthcare, and raise unemployment as UK researchers lose potential funding. One of the health programme's objectives is improving sustainability of health systems (Europa online, 2016); through cooperation and sharing knowledge, it helps NHS standards improve and costs fall. Less access to grants could deter students, keep academics from expensive research, and reduce UK Research & Development.

## 2.8: Education & training of the UK workforce

Henseke & Green (2015) highlight that UK businesses spend around 2.5% of GDP on training workers; yet there are still major skills gaps in the market – such as in science, technology and medicine. Sarkar et al. (2016) suggest a mismatch between British graduates' skills, and the skill-sets and degree types required by the British economy. Even if UK firms spend more on training, or students switch their degree preferences, it would take years to see the effects. EUROSTAT (2016) report that UK is unusual, in that UK residents from other EU countries generally have more university education than UK-born citizens. In recent decades, UK governments reversed the direction of financial support: rather than giving grants to university students, the system now takes money from students for tuition fees (Lunt, 2008). UK student loans began in 1990, becoming the main financial support for England & Wales students after the 1998 Teaching and Higher Education Act – which abolished mandatory maintenance grants for student living costs (Callender & Jackson, 2005: 510). The Conservative/Liberal-Democrat government announced in October 2010 that every university student must pay about £9,000 tuition fees per year. Tuition fees discourage people from attending university (Callender & Jackson, 2005: 533; Crawford et al., 2014; Dearden et al., 2011). This paper does not analyse all details of university funding – for example, Scottish universities are funded differently to most of UK. Perhaps the three most important recent changes in UK Higher Education finance are tuition fees beginning at £1,200 per year in 1998, rising to £3,000 per year in 2006/07, then jumping to about £9,000 per year in 2012/13 (Bolton, 2016: 3-5; Dearden et al., 2011: 3). According to Hutton (2012), tuition fees and other costs make UK “the most personally expensive system of university funding in the world”. Foreign doctors make up around a third of the medical workforce (Mossialos et al., 2016: 3). Dussault et al. (2009: 24) suggest Brexit could be catastrophic if specialists such as anaesthesiologists are driven out of UK.

Health minister Jeremy Hunt pledged to end NHS reliance on foreign doctors, by training 15% more medical students at an average cost of £220,000 (Buchan, 2016). However, the government reduced incentives for students to take medical training (e.g. cutting bursaries, and imposing unpopular new junior doctor contracts) (Mckay, 2016); potential medical students may opt for other careers such as finance, or move abroad – many graduates are already seeking opportunities in Australia & Canada (The Economist, 2016b). This could reduce the quality of UK health services, and increase waiting times. Thomson & Sylvester (2016) warn that around 90,000 EU migrants work in the UK care sector – which is likely to collapse without them. With an ageing population, demand for care is expected to rise.

## 2.9 Summary

EU migrants are net contributors to Britain (The Economist, 2016a). Dustmann et al. (2010) found migrants from Central & Eastern European countries 59% less likely than UK natives to claim state benefits & tax credits, and 57% less likely to live in social housing. If current EU citizens were unable to stay in UK, the NHS (and overall government budget) would be worse off financially: in 2015, Full Fact (2016) estimated that roughly 2.1 million UK-born people live in other EU countries – for example, over 300,000 UK nationals migrated to Spain. If strong immigration controls were implemented, it is likely other countries would retaliate, perhaps reducing the number of UK citizens moving abroad. This could counteract effects of migration into the UK, and could be particularly problematic as many of the UK's expats are retired (on return, they are unlikely to contribute to the labour force; and as older people, tend to need more access to healthcare – putting further pressure on NHS). The Office for Budget Responsibility (2013) predicted that doubling net migration over the next 50 years could reduce government debt by a third; but curbing migration could raise government debt by over 50%, due to their net contribution to public welfare. KPMG (2014: 19) claim “Long-term prosperity requires a suitably skilled and experienced workforce. There is a shortage of qualified scientists, engineers and technologists” in UK. Skill shortages limit UK firms' ability to develop or improve their products (Vivian et al., 2016: 143). Ares et al. (2016: 10) suggest Brexit will harm UK firms, by reducing access to skilled workers: “Employers may be able to compensate for any changes to immigration rules by recruiting more UK nationals, but this will depend on their ability to find workers with the same skills and to attract workers from a smaller pool of potential recruits”. A government survey found skills shortages in UK increased since 2013 (Vivian et al., 2016: 13).

## 3. Data and methods

This paper uses UK data for 1997 to 2016, from the ‘Labour Force Survey’ – a large-scale household survey, carried out for the UK government by Office for National Statistics (ONS). Each LFS sample is representative of the UK population. LFS data for 2016 quarter 3 (ONS, 2016) and earlier LFS surveys have been analysed by the authors. For some analysis in this paper, the latest available 12 months' of LFS data are used (to avoid results being influenced by seasonal changes). Weight variable ‘PWT’ is used to estimate UK-wide figures, from LFS samples. Each respondent's citizenship is identified from variables ‘CRY’, ‘CRYO’, ‘CRYOX’, ‘CRYO7’, ‘CRYOX7’ and ‘CRY12’. After LFS respondents report their highest qualification, ONS provide data as variable ‘HIQUALD’ (and similar variables in later surveys, such as ‘HIQUL15D’)– using ‘degree or equivalent’ to include degree or postgraduate qualifications, but not Higher Education qualifications below degree-level.

This paper also uses tertiary education data from United Nations Educational, Scientific and Cultural Organization (UNESCO, 2016a). Tertiary education is generally carried out in universities, but the definition of ‘tertiary education’ varies between countries. UNESCO (2016b) report the ‘Gross Enrolment Rate’ (GER) in tertiary education: “Divide the number of students enrolled in a given level of education regardless of age by the population of the age group which officially corresponds to the given level of education”. For Chart 3, the authors select countries & regions which are among UK's main competitors for exporting.

## 4. Results

As discussed in the literature review, the government hopes to reduce UK dependence on foreigners by training more doctors – costing £220,000 per doctor (Buchan, 2016). The authors analysed the latest 12 months of LFS data (from September 2015): variable ‘SC102KM’ identifies “medical practitioners”. Using weighting, these surveys imply about 353 thousand medical practitioners work in UK, of which 20 thousand are from EU countries outside UK. Hence, the cost of training doctors to replace those from other EU countries would be (20,446 x £220,000): about £4.5 billion.

Health minister Hunt (2016) said “From September 2018, we will train up to 1500 more doctors every year [...] Of course it will take a number of years before those students qualify, but by the end of the next parliament we will make the NHS self-sufficient in doctors”. The next parliament is expected to end in 2025. If UK replaces 20 thousand EU-but-not-UK doctors at 1,500 per year, it would take around 13 years before all extra trainees began training. Training takes about 10 years (NHS, 2016b), so they might all be doctors by 2041 (however, it is unlikely that all 20 thousand would complete their training successfully). Specialist medical professionals such as surgeons take longer: about 14 years (NHS, 2016b). It might help the UK government plan for Brexit if it were possible to estimate the cost of replacing other key staff; but the authors are not aware of estimates of the cost to train other employees, such as engineers or scientists. Instead, this paper attempts to convey the number of non-UK (EU) citizens who may need to be replaced by UK citizens, if a ‘hard Brexit’ occurs: without more immigration from other EU countries, there may be gaps in the UK labour market.

The remainder of this paper focuses on graduates (people with a degree or postgraduate qualification), because it is less difficult to estimate the cost of training a graduate – for example, by reducing tuition fees paid by university students (currently about £9,000 per year). This paper does not attempt to estimate the costs of work-based training of graduates. Table 1 uses the latest 12 months of LFS data, using variable ‘SC10MMN’ (Occupation in Main Job, SOC2010 minor group level). The authors report eight of these ninety occupations, chosen because they have the highest numbers of EU (but non-UK) graduates: these eight occupations seem the most difficult to replace after Brexit.

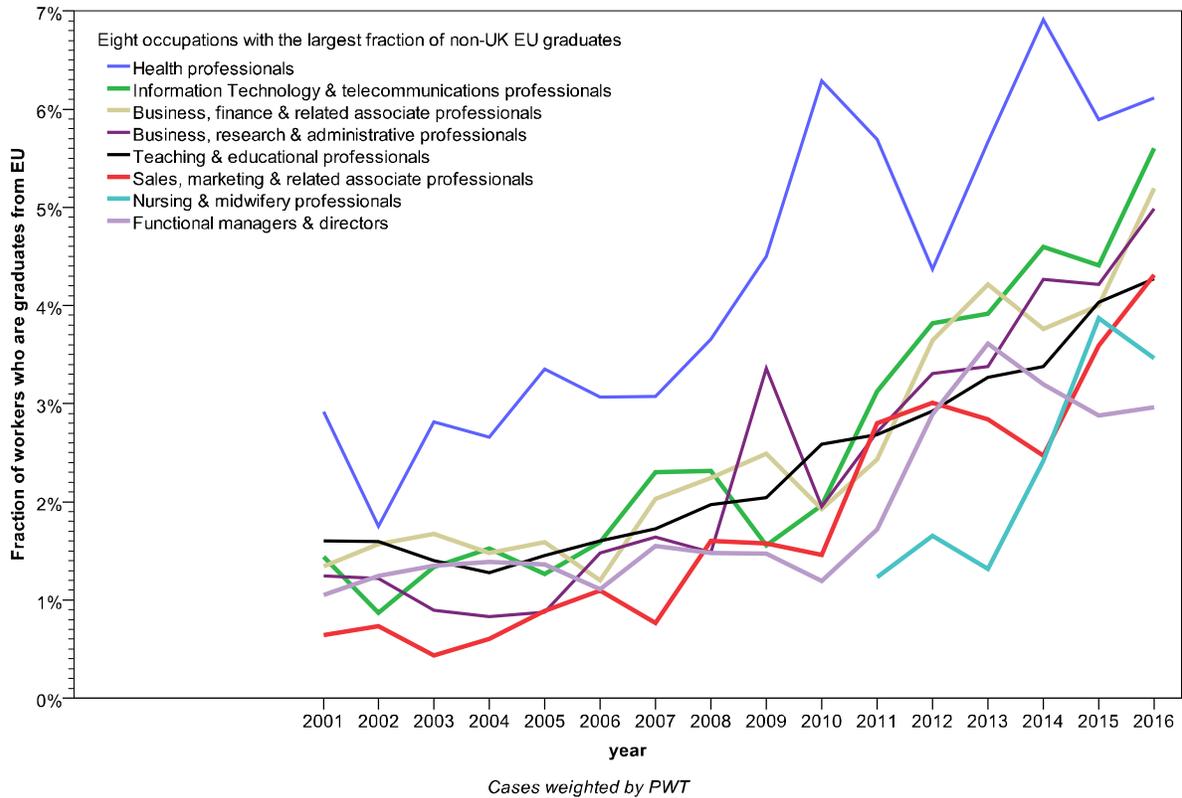
**Table 1: UK workforce (selected occupations), October 2015 - September 2016**

	<b>UK workforce (thousands):</b>	
	non-graduates, and graduates from UK or outside EU	EU (non-UK) graduates
Teaching and educational professionals	1,885	84
IT & telecommunications professionals	1,137	65
Sales, marketing & related associate professionals	1,132	50
Business, finance & related associate professionals	864	47
Business, research & administrative professionals	851	42
Health professionals	637	41
Functional managers and directors	1,222	37
Nursing and midwifery professionals	843	30
(82 other occupations)		
<b>TOTAL</b>	<b>38,549</b>	<b>1,072</b>

Source: LFS (authors’ analysis)

Table 1 gives an initial assessment of the Brexit challenge: the latest LFS surveys suggest there are about 1,072 thousand graduates from EU countries (excluding UK): just over a million workers. If it were possible to train a million more UK graduates, a minimum cost is 1.072 million multiplied by three years of fees at £9,000 per year: around £29 billion (there are complications: for example, degrees in Scottish universities usually take 4 years). The actual cost is probably somewhere between £27,000 (typical tuition fees for three years), and £220,000 (the cost of training a doctor: Buchan, 2016). However, UK has a limited number of school-leavers, not all of whom wish to go to university – so it may take a long time to find an extra million Britons to train. An increasing fraction of staff are graduates from EU countries other than UK. To illustrate this, the eight occupations in Table 1 are shown in Chart 1 (LFS variable SC10MMN is not reported before 2001). ‘Nursing and midwifery professionals’ were classified as ‘associate professionals’ before 2011.

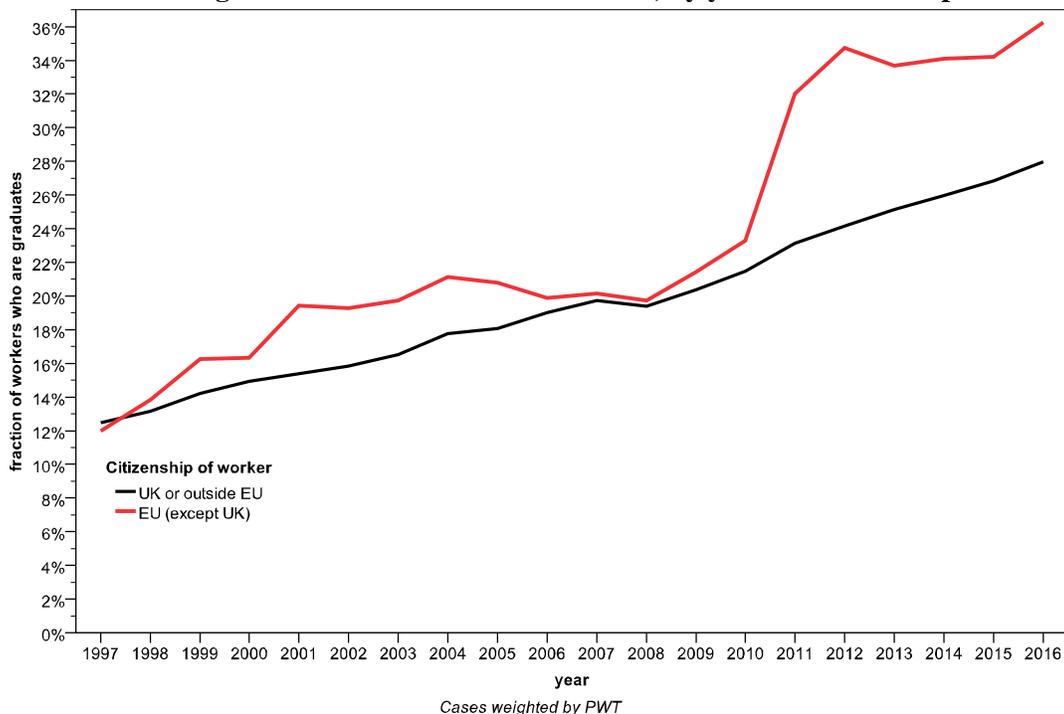
**Chart 1: fraction of workers in eight occupations who are EU (but not UK) graduates**



Source: LFS data (authors' analysis)

In recent years, many UK employers hired graduates born outside UK. The upward trend from left to right in Chart 1 shows an *increasing* fraction of UK professionals are EU citizens from outside UK. This suggests there may be a shortage of UK-trained staff, as Hunt (2016) claimed about doctors.

**Chart 2: graduates in the UK labour market, by year and citizenship**



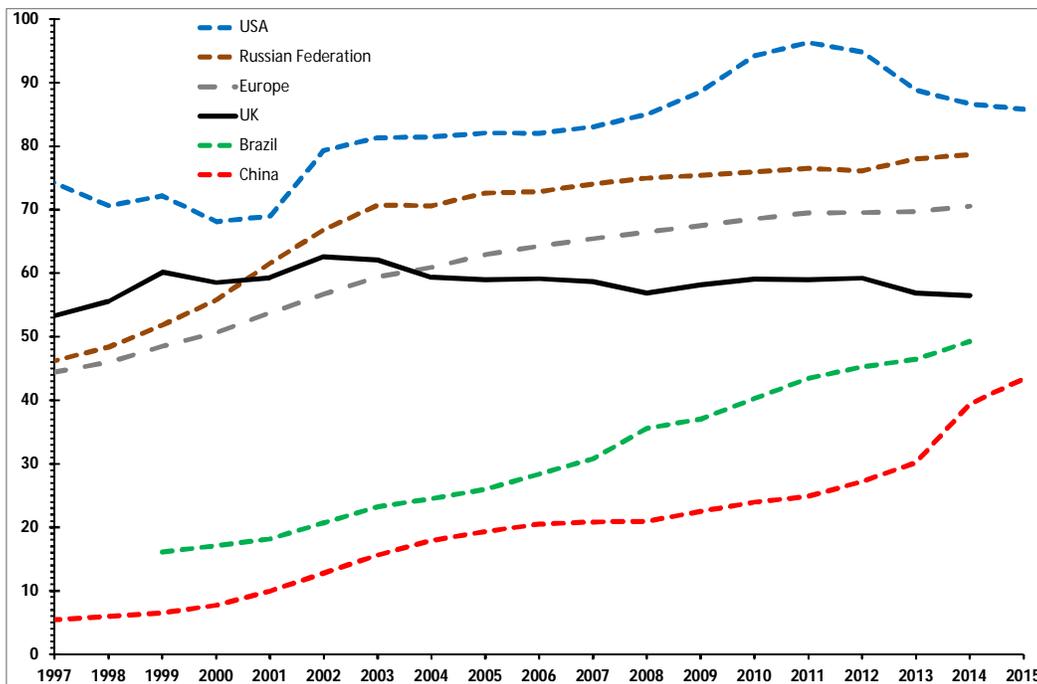
Source: LFS (2016): employed people only; authors' analysis.

The pattern for eight occupations in Chart 1 is broadened to all occupations in Chart 2; but Chart 2 is a different way to present the information. Chart 2 shows a UK worker is more likely to be a graduate if he/she is an EU citizen not from UK (red line), than other UK workers (black line). If the UK government forces non-UK citizens to return to their home country, the fraction of graduates in the UK will tend to fall; this implies many professionals and associate professionals will no longer be helping to raise UK productivity.

Chart 2 has another lesson: the fraction of graduates in the UK workforce rose, from 1997 to 2016; this trend may continue. Technology such as robotics, 3D printing, and delivery by drones may require more graduates in future. Even if UK had all the graduates it needs today, will there be enough qualified people to meet future needs? This problem is clarified by Chart 3, which places UK in a global context.

Chart 3 uses tertiary education ‘Gross Enrolment Rate’ data from UNESCO (2016a): the fraction of university-age citizens, who attend university. The ‘university-age’ group is the age-group most likely to go to university, which varies between countries (it is usually a three-year period, starting at about age 18). The authors’ choice of which countries to include in Chart 3 is arbitrary, but show some of the UK’s main competitors for exports.

**Chart 3: tertiary education ‘Gross Enrolment Rate’, by year and country/region**



Source: UNESCO (2016a) (authors’ analysis; selected countries/regions only).

Chart 3 shows the proportion of graduates in UK falling from 1999, perhaps because the UK government introduced university tuition fees (Bolton, 2016: 4). After recovering, the proportion fell again from about 2002, perhaps in response to rising tuition fees (discussed in the literature review). When the UK government raised fees to about £9,000 per year from 2012, the fraction of school-leavers attending UK universities seemed to fall faster.

LFS data confirms the falling UK trend in Chart 3 has continued. The number of UK degree-level students fell from 1.78 million in academic year 2011/12, to 1.75 million in 2013/4, and then 1.66 million in 2015/16. The UK Chancellor said in 2016 that UK productivity is falling behind other EU countries (HM Treasury & The Rt Hon Philip Hammond MP, 2016); Chart 3 may explain this – other European countries are training more graduates than the UK is.

Chart 2 shows graduates working in UK are increasingly likely to be from other EU countries: especially from 2011 to 2016. This pattern may be explained by Chart 3: UK is not producing enough graduates to meet firms’ demands, so UK employers are hiring more graduates from other countries in EU.

## 5. Conclusion

Charts in this paper cannot prove a cause-and-effect. But evidence in Chart 3 suggests that many Britons reacted to increased tuition fees from 2012 by choosing not to attend university. The issue for this paper is on the labour market: how can commercial firms and government agencies find the employees they need, after Brexit?

Table 1 in this paper implies just over a million EU graduates may become ‘bargaining chips’, in Brexit negotiations between UK and other EU governments. The UK government could say ‘Give UK a good deal, or we will expel a million of your citizens’. But that seems unwise, for two reasons: as discussed in this paper, the UK economy depends on non-UK employees from EU (graduates, and other less-qualified people) to run hospitals, factories, and other workplaces. The second reason is that the other 27 EU countries could dramatically improve their economies if their (graduate and other) citizens leave UK and return to their home country; the other 27 EU governments would not feel threatened by the possibility of skilled workers returning home.

In 2016, when asked about the rights of EU citizens to remain in UK, Theresa May said “it was absolutely right for us not to [...] give away the guarantee for rights of EU citizens here in the UK” (Hansard, 2016), implying letting EU workers stay in UK is a ‘bargaining chip’ to obtain a better deal for the UK. However, evidence in this paper suggests a threat to expel EU citizens is not credible, because it would be too harmful to the UK economy. It might be wise for the UK Prime Minister to guarantee every EU citizen currently living in UK is welcome to stay as long as they wish.

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