productivity insights network

PIN - Productivity Projects Fund

Small Project Report

Graduate retention rates across UK cities and regions – a longitudinal analysis.

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About PIN

The Productivity Insights Network was established in January 2018 and is funded by the Economic and Social Research Council. As a multi-disciplinary network of social science researchers engaged with public, private, and third sector partners, our aim is to change the tone of the productivity debate in theory and practice. It is led by the University of Sheffield, with co-investigators at Cambridge Econometrics, Cardiff University, Durham University, University of Sunderland, SQW, University of Cambridge, University of Essex, University of Glasgow, University of Leeds and University of Stirling. The support of the funder is acknowledged. The views expressed in this report are those of the authors and do not necessarily represent those of the funders.

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1. Introduction

There is substantial evidence to suggest that productivity growth in the UK has benefited significantly from the large increase in higher-education enrolment that started in the 1990s (Rincón Aznar et al., 2015). However, there remains a worry that the benefits of this expansion in higher education have accrued to some regions rather than in others, with numerous policy reports suggesting that London may be benefitting disproportionately through higher retention rates and an influx of graduates from other regions.

The aim of this project was to analyse whether graduate retention and migration rates are significantly higher in some regions, particularly in London, after controlling for subject choice, institution choice, region and/or country of domicile, parental background, and other selection factors. It also sought to identify changes in graduate migration patterns over time, and to place them in the context of a changing policy and labour market landscapes.

The project involved desk-based research of relevant policy initiatives and policy reports from the past 20 years, and the statistical analysis of student and graduate microdata provided by the Higher Education Statistics Agency (HESA). The data includes, for individual students, details of parental background, location of domicile and work, course details, and employment circumstances six months after graduation for the period 2007/8 – 2016/17, with an additional data set providing information on graduate locations and circumstances 15 months after graduation (for those who graduated in 2017/18).

2. Policy background

2.1 Browne (2010) and Augar (2019) reviews

The Browne (2010) review recommended a removal of the cap on tuition fees, to allow universities to charge higher fees to match demand and the costs of supplying each course. Criticism arose immediately following the review, with many suggesting that the resulting increase in tuition fees would lead to a decrease in the number of students from disadvantaged backgrounds attending university. This did not come to pass, but the resulting fee increase affected subject choice: regardless of parental background, English domiciled students were found to be 2% less likely to study arts and humanities subjects, and 3% more likely to study health and life sciences subjects, with this effect being particularly pronounced for students from more disadvantaged backgrounds (Requena, 2016).

The more recent Augar (2019) review proposed to reverse the increase in the fees, by lowering the annual cap in fees for undergraduate courses. However, perhaps more significantly, it placed greater emphasis on further education and technical skills. The report supports the establishment of new technical colleges, proposes a significant reform of the apprenticeship levy (a policy designed to encourage greater provision of apprenticeships, but which is ineffective in practice), and also supports the introduction of a lifelong loan entitlement for accessing higher-level courses.

2.2 Technical skills, training, and life-long learning

Since the 2019 Augur Review, there has been a renewed focus on sub-degree qualifications and further education; this complements a more general shift away from focus on academic skills, higher education, and “University for All” policies of the 1990s, and instead looks to emphasise the importance of technical skills and life-long learning. Indeed, the Augur review signified a shift in policy focus from academic to vocational and technical education, stressing the importance of alternative qualifications.

The recent white paper "Skills for Jobs: Lifelong Learning for Opportunity and Growth" (January 2021) provides a more flexible approach to skills training, offering a lifetime skills guarantee. It looks to reform apprenticeships and to offer different routes to support people in developing skills throughout their lives. Importantly, it places employers at the "heart of defining local skills needs", by strengthening the links between employers and further education providers. This suggests an increased policy interest in vocational qualifications, potentially redefining the geography of skills, as graduates of vocational courses tend attend local institutions and are more likely to remain in the region of study after graduation.

2.3 Graduate retention policies

In order to increase the rate of graduate retention in cities outside of London, new initiatives have been proposed, such as the new Institutes of Technology (IoTs). The aim is to provide technical training and degree courses, with a focus on STEM skills that are in high demand in the region. This would ensure that the skills being taught are those demanded locally, but it also has the potential to increase graduate retention rates by providing immediate employment paths for graduating students in the local area.

2.4 Attracting and retaining skilled immigrants

Higher education institutions in the UK host over half a million international students annually, and the UK is the second most popular destination for international students globally (Hubble and Bolton, 2021). However, recent changes to UK immigration policy may alter the number of international students in the UK. To study in the UK, a new student visa route requires prospective students to have a minimum of 70 points in order to study in the UK; the points can be acquired so long as the student can demonstrate that they have an offer from an approved educational institution, speak English and are able to support themselves during their studies. Unlike previously when EU students were treated as home students, and entitled to free tuition in Scotland, and reduced tuition fees in the rest of the UK, this new visa process treats all international students equally. This may reduce the numbers of EU students attending UK institutions, and more significantly, reduce the number of EU graduates in the UK.

Further, the UK has also introduced a new post-study work visa. This graduate route is open to all international students who have successfully completed a course of study at undergraduate level or above in a UK institution and enables them to work, or look for work, in the UK for up to two years following graduation. If successful in finding a job, visa holders are able to switch to a skilled work visa, enabling them to remain in the country. Additionally, as part of the Research and Development Roadmap, the Government proposed that PhD students should be offered a three-year post-study work visa, with a specific fast track for STEM subjects. This emphasis on science students is in line with the recent focus on STEM subjects as part of a wider shift in UK higher education policy.

3. Graduate location patterns and graduate retention

Given this changing policy landscape, we analysed the patterns of student and graduate location choices, focusing on the following areas of interest: (i) the relative performance of London compared to other cities and regions, (ii) graduate retention rates by cities and regions over a 10-year period (2008-2017), (iii) migration patterns for STEM graduation, (d) migration patterns for graduates employed in knowledge intensive services, high-tech manufacturing, and less knowledge-intensive sectors (e) migration patterns for vocational and part-time students, (f) migration patterns for EU and non-EU international students.

The project also aimed to shift focus away from the ability of cities and regions to retain graduates who study in the region, to their ability to retain young people originally domiciled in

the city or region, and who remain or return for employment after graduation. This allows greater focus to be placed on prior educational attainment and access to higher education, as well as quality of higher education provision, and local demand for skills.

3.1 Shifting graduate location patterns over time

We find that the vast majority of UK domiciled undergraduates are employed in their region of domicile six months after graduation, and that this share is fairly constant over time (at 70%). Large urban areas have even greater retention rates, with 85% of UK undergraduates employed in large cities or urban areas working in their city of domicile six months after graduation. Retention rates are also high in smaller urban and semi-urban areas, with 41% of graduates from these areas working in their county of domicile after graduation, despite nearly 96% leaving their local area to study elsewhere.

While there is a narrative within the policy literature that Northern regions lose large proportions of their graduates to London and the South East, we find that this is only partly the case. For instance, while Yorkshire and the Humber loses nearly half of its graduates to other regions after graduation, most of them stay in the north of England, with only 10% moving to London. We also find that cities have high retention rates for graduates with a preference for urban areas. Scottish cities have particularly high retention rates (77% for Glasgow), as do most large cities in England (e.g., 71% retention rate for Manchester, 72% for Newcastle, among graduates who are employed in a large city after graduation).

Graduate retention rates have been fairly stable over time for UK domiciled undergraduate students, but have risen quite significantly in London over time (Figure 1). The latter is partly due to improvements in secondary-school attainment and access to higher education for London domiciled students.

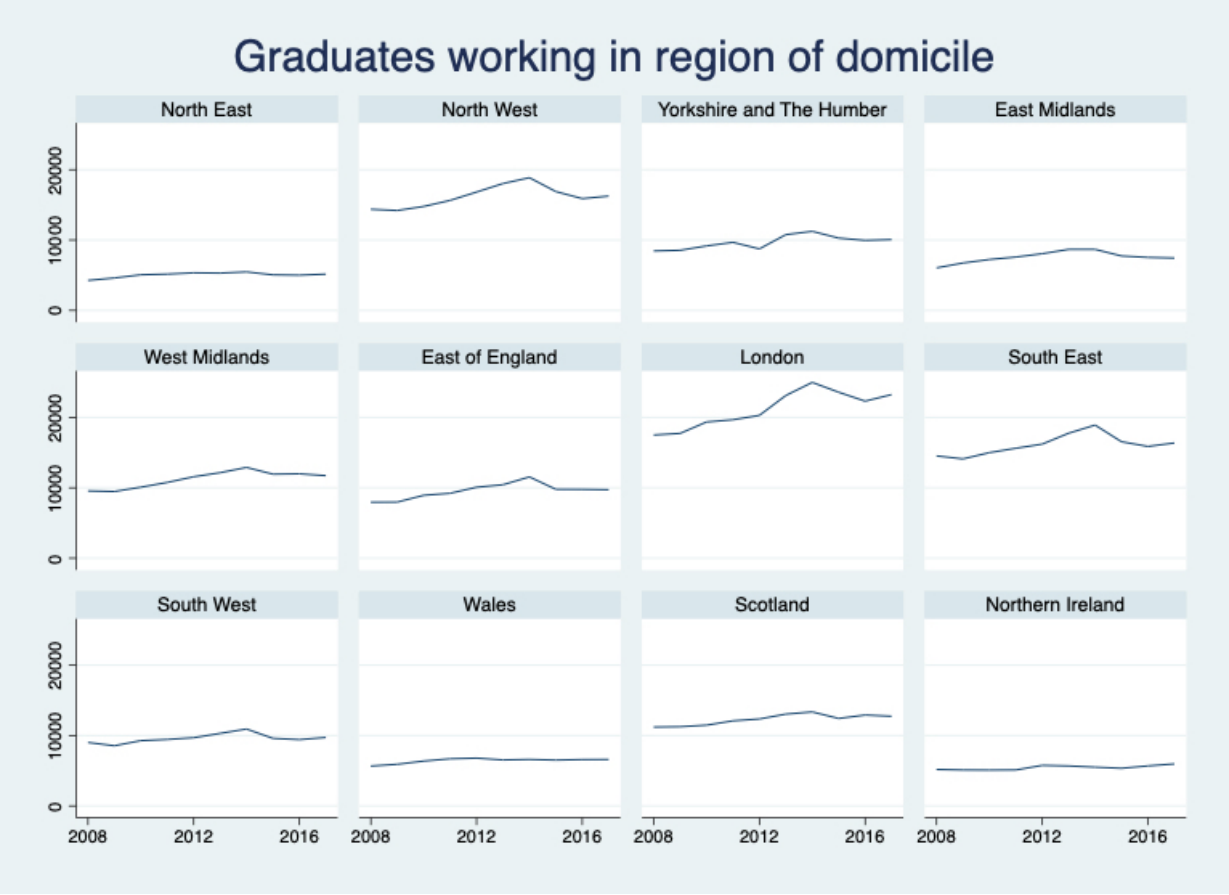

Figure 1: UK domiciled graduates (first degree) working in their region of domicile six months after graduation, over 2008/2018.

3.2 Graduate retention in STEM subjects and vocational courses

We found significant variations to these patterns for graduates of STEM subjects, and those undertaking vocational qualifications. STEM graduates are relatively more likely to come from domicile locations in the North of England and the Midlands, suggesting that there is a pull-factor of local education providers and local employers on the subject choice of local students. After graduation, relatively few STEM graduates move to London, with large numbers remaining in Manchester and the West Midlands after graduation. In terms of occupations, we find that London dominates the graduate labour market for knowledge intensive services (57% of all graduates employed in large cities), while Birmingham does well in high-tech manufacturing (18%), with Cambridge and Oxford also retaining high numbers of graduates (7% and 6%, respectively).

Our results also show that while London attracts and retains a disproportionate number of graduates with first degrees from the research-intensive universities, other regions and cities have high retention rates for students undertaking certificate courses, enrolled in vocational degrees, and attending predominantly vocational institutions.

3.3 Retention of international students

Our most striking findings concern the location and retention of international students, particularly EU domiciled students. We find that while London attracts 44% of all UK domiciled graduates working in large urban markets, the effect is even stronger for EU graduates (at 64%),

with the Scottish cities also retaining large numbers of EU graduates, possibly due to the (until recently) free tuition at Scottish universities. More recent data for 2017/18 shows that EU and non-EU international students are disproportionately more likely to work in London after graduation, with non-EU students choosing London at a slightly higher rate than EU students.

4. Conclusions

This project analysed the patterns of graduate location and graduate retention rates across cities and regions in the UK, with particular focus on the areas of emerging policy interest, such as vocational courses, and international students. We find that the common view that London dominates the graduate location landscape is overstated, with students generally returning to their city or county of domicile after graduation, and most students remaining close to home for both their studies and subsequent first job after graduation.

We moreover find significant nuance in the patterns of graduate migration, with graduates of STEM subjects, those aiming for a career in high-tech manufacturing, or those with vocational qualifications, less likely to move to London after graduation. This would suggest that a focus on vocational and technical skills, as well as more funding for STEM subjects, might lead to a rebalancing of the geography of skills in the UK. The progress made by London in retaining greater numbers of its domiciled students also points to the importance of improving secondary and further education attainment, and providing new access routes, as precursors to retaining higher education graduates.

More significantly, we find that London attracts a disproportionately high number of EU and non-EU international students. There is therefore a worry that the changing fees and immigration landscape could lead to a significant reduction in the number of skilled workers in the city, as well as in other parts of the UK, notably Scotland. This is a significant worry due to its potential impact on UK productivity growth rates.

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