The great British brain drain
An analysis of migration to and from Newcastle

May 2017

Summary

Skills are a crucial component of any city economy. This is likely to become ever more the case as the UK continues to specialise in higher-skilled activities. Those cities that can offer businesses the high-skilled workers they need are likely to be the most successful.

Currently, Newcastle performs below the national average when it comes to the share of residents with a degree. But this varies by age. Whilst the share of people aged over 40 with a degree in the city is well below the national average, the number of 25-29 year olds with a degree is above the national average. This shows that it is the lower qualification levels of Newcastle’s older working-age residents that pulls the overall average down.

Newcastle’s two universities make an important contribution to the gradual change in the skill’s make-up of the city. Six months after graduation in 2013/14 and 2014/15, Newcastle gained approximately 1,500 graduates overall each year. In other words, for those cohorts more graduates were working in the city who grew up elsewhere than were working elsewhere but were originally from Newcastle.

This is to a large extent due to the city’s ability to retain graduates who moved to Newcastle to study at its universities. The city attracts in many thousands of students from elsewhere to study, and around 25 per cent of them stayed on to work in the city, the 9th highest share of all university cities.
But while it has been successful at graduate retention, the city has been less successful at attracting in graduates who studied elsewhere. On this measure Newcastle had the 7th lowest share of all university cities. Our research shows that graduates are attracted to cities for their job opportunities. So to attract more graduates to work in the city Newcastle should focus on wider economic factors, such as transport, planning, and improving the skills of those with few or no formal qualifications, which will improve the job opportunities available to graduates.

<table>
<thead>
<tr>
<th>Percentage of working age population with degrees</th>
<th>Newcastle</th>
<th>UK average</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-64 year olds</td>
<td>34% &lt; 37%</td>
<td></td>
</tr>
<tr>
<td>25-29 year olds</td>
<td>28% &lt; 35%</td>
<td></td>
</tr>
<tr>
<td>28%</td>
<td>49% &gt; 45%</td>
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23% Graduate workforce moved into the city for the 1st time to work 7th lowest of all cities

36% Graduate retention rate 9th highest of all cities
Introduction

The economic performance of UK cities is increasingly dependent on the skills of their workforce. Cities across the UK face the challenge of both attracting and retaining high-skilled talent. The Great British Brain Drain investigates migration within the UK, specifically between cities.\(^1\) It finds that migrants tend to be younger and more highly-skilled than the population overall. Looking specifically at graduate migration, many university cities lose some of their graduates to London and this movement is especially strong for the highest performing graduates with 2.1 or 1st class degrees from Russell Group universities. Despite this, most university cities experience a 'graduate gain'; they gain more graduates than they lose. This is because the majority of movements to and from cities consist of students moving to a new city for university, and then moving again for work, with over half of all graduates following this pattern.

This briefing is a complementary piece of analysis to the main report, in which we look in detail at the nature of migration and graduate mobility to and from Newcastle. Firstly, it looks at overall migration patterns into and out of Newcastle. Secondly, it looks specifically at the movements of students and new graduates. Finally, it looks at the new graduate labour market in the city.

Centre for Cities uses the Primary Urban Area (PUA) definition of cities. For Newcastle this comprises of Gateshead, Newcastle-upon-Tyne, North Tyneside and South Tyneside local authorities. For more information visit: [www.centreforcities.org/puas](http://www.centreforcities.org/puas).

The nature of overall migration between Newcastle and the rest of England and Wales

This section combines data on all migration within England and Wales from the ONS and the 2011 Census to look at migration to and from Newcastle by age and qualification.\(^2\)

Most migration is between Newcastle and the rest of the North East

Between 2009 and 2015 163,610 people moved into Newcastle and 165,790 people moved out, leading to an overall net outflow of 2,180 people from the city. In comparison to other UK cities, this was one of the smallest net movements. During the period Bournemouth experienced the largest net inflow of 15,100 people and London the largest net outflow of 340,310 people.

Of all inward migration into the city, 38 per cent was from elsewhere in the North East region. Another 17 per cent was from Yorkshire and the Humber. A similar pattern occurred for outwards migration from the city: 39 per cent was to the North East and 15 per cent was to Yorkshire. There were also large movements of people between Newcastle and the North West.

However, when inward and outward migration is combined the most prominent net flow was to London, as shown in Figure 1. The flows to and from the rest of the North East were similar in size and therefore led to only small net inflows and outflows. In contrast there was a much larger outflow to the capital, than inflow, causing a net outflow of 7,200 people. Over the period there were net inflows to the city from the neighbouring regions of the North West and Yorkshire.

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2. International migration is not included in these datasets
Looking specifically at movements between cities, the largest net inflows to Newcastle were from the neighbouring cities of Middlesbrough and Sunderland. There were also considerable net inflows from Bradford and Huddersfield. The city lost most people to London, with a net outflow of 7,340 people to the capital taking place between 2009 and 2015.
Newcastle’s migration patterns are driven by the movements of young people

Migration varied a lot by age and younger age groups accounted for a much larger share of migration than older age groups. Those aged 16 to 21 contributed 35 per cent of inward migration to Newcastle, despite only accounting for 16 per cent of the city’s population, as shown in Figure 3. Outward migration was driven by a slightly older cohort, with 22 to 25 year olds accounting for 25 per cent of outward migration but only 8 per cent of population. Migration of older age groups was much lower, and those aged over 46 were much less likely to move to or away from the city.
This means that overall there was a net inflow of 16 to 21 year olds, followed by a net outflow of 22 to 25 year olds, as shown in Figure 4. For all other age groups there was a small net outflow from the city, hence the overall small net outflow of 2,180 people.

Figure 4: Net inflow of people to Newcastle by age, 2009-2015

Source: ONS internal migration data
Newcastle loses graduates to most regions of England and Wales

While ONS migration data does not provide information on the qualifications of migrants, the 2011 Census does for those who moved between 2010 and 2011. When the data is split into three age groups: 16 to 21, 22 to 30 and 31 to 45 year olds, three distinct trends emerge.

There was a net inflow to Newcastle from every region of those aged 16 to 21 with A-Level qualifications leading to a net inflow of the whole age group into the city, as shown in Figure 5. The largest net inflows were from Yorkshire and the North East, with 1,220 and 1,090 moving into Newcastle respectively. These patterns were similar for those with lower qualifications, with a net inflow occurring from all regions; the largest being from Yorkshire and the North East.

In older age groups movements were dominated by graduates. Looking specifically at 22 to 30 year olds, Newcastle attracted in graduates from the North East region but lost them to all other regions, as shown in Figure 6, leading to a net outflow of young graduates from the city overall. The largest net outflow was to London, equal to 650 graduates over the period 2010 to 2011. In contrast, there was an overall net inflow to Newcastle of 22 to 30 year olds with A-Level qualifications.

It is important to note that this data covers a one year period only, however broad trends from the ONS data suggest these patterns are likely to be similar for the 2009 to 2015 period.
This pattern was reversed for 31 to 45 year olds: there was a large net outflow from Newcastle to the rest of the North East region for all qualification levels. There were only small net movements between the city and other regions, such as a net outflow to the North West and a small net inflow from the East. Overall therefore there was a net outflow from the city of this age group, for all qualification levels, and the net outflow of graduates seen for 22 to 30 year olds continued for 31 to 45 year olds.  

It is worth noting that these net flows represent a small number of the overall number of graduates in Newcastle. Between 2010 and 2011 there was a net outflow of 180 graduates aged 31 to 45; this was equivalent to only 0.1 per cent of all degree holders living in the city.
Looking again at the wider migration data for 2009 to 2015 from the ONS, this allows us to view the movements of 31 to 45 year olds between local authorities and shows that many of those leaving Newcastle did not move far. The largest net outflow from the city was to Northumberland, equal to 1,500 people, as well as a movement of 660 people to County Durham. This means that many move to neighbouring local authorities, and remain within a commutable distance to Newcastle even if they no longer live in the city.

This trend of older degree holders moving out of a city but staying within commutable distance is common to many UK cities. Previous work by Centre for Cities has shown that those aged between 35 and 54 tend to place more value on the size and type of their house, and access to local schools, leading many to prefer living outside cities.

Whilst Newcastle saw a net outflow of 940 people to London during this period, there was a small net inflow from the capital into the surrounding local authorities. Therefore, although the people tend to move away from the city towards the capital, some do move back to the area but go straight into local authorities such as Northumberland and Durham rather than return to the city.

**Summary**

- Newcastle’s migration patterns were dominated by movements between the city and the rest of the North East region.
- Overall there was a small net outflow of 2,180 people from Newcastle between 2009 and 2015.
- However, there were net inflows of 16 to 21 year olds with A-levels from all regions. Many of these were likely due to students moving into the city for university.
- There were two outflows of graduates from the city: firstly of young graduates moving to London, and secondly of older graduates moving elsewhere within the North East.

**A more detailed look at the movement of students and graduates**

The data above suggests that universities play a large role in the movements of people to and from Newcastle. This section explores the specific migration patterns of students and graduates into and out of the city using two data sets from the Higher Education Statistics Authority (HESA). The first looks at admissions (for all students at university in 2014/15 including international students), and the second is based on a survey of graduates six months after graduation (for leavers in 2013/14 and 2014/15) but only includes domestic students. Unlike the ONS data used above it covers the whole of the UK.

**Box 1: Higher education institutions in Newcastle**

This analysis covers Newcastle’s two universities: Newcastle University and Northumbria University. In the academic year 2014/15 there were 40,181 students enrolled at these universities, 41 per cent at Newcastle University and 59 per cent at Northumbria.

Subjects studied by students varied across the two universities. Of those graduating from Newcastle University, 18 per cent studied medicine or dentistry, 11 per cent engineering, 9 per cent business and 9 per cent social studies. At Northumbria University 20 per cent of graduates studied subjects related to medicine, such as nursing, 11 per cent studied business, 11 per education, 10 per cent biological sciences and 9 per cent creative arts and design.

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Movements to university

*Newcastle’s universities have a strong regional and international pull*

In the academic year 2014/15, 37 per cent of Newcastle’s university students were originally from the North East region and 17 per cent were from the city itself. As Figure 8 shows, other popular UK origins of students were Yorkshire and the North West.

There was a considerable number of international students, who accounted for 20 per cent of all students in the city. EU students accounted for 3 per cent of all students in Newcastle, and 15 per cent of international students. Any future changes to immigration policy, for example due to Brexit, is likely to affect the make-up of Newcastle’s university student body.

*Figure 8: Origins of Newcastle’s university students, 2014/15*

Looking specifically at the cities students came from, most were from cities neighbouring Newcastle: 4 per cent of the students who moved to Newcastle for university were from Sunderland, 3 per cent were from Middlesbrough and another 3 per cent were from Leeds. The capital was also a popular origin, with 4 per cent of those moving to Newcastle from London.
However, these patterns differed by institution. Newcastle university had a much wider pull than Northumbria university whose students were mainly local. International students made up 29 per cent of Newcastle University’s student population, as shown in Figure 10, compared with 19 per cent coming from the North East region including 12 per cent from Newcastle itself. Other popular origins of students were Yorkshire (11 per cent) and the North West (10 per cent).

In contrast, 51 per cent of those at Northumbria University were from the North East, as shown in Figure 11, with 27 per cent from the city itself. In addition to this local pull, 12 per cent of students at the university were international. Yorkshire and the North West were again popular origins of students, contributing 14 per cent and 7 per cent respectively of students at Northumbria.
Students who move away from Newcastle for university choose to stay in the North East

The most popular university destination of those who left the city was to stay in the North East region, as shown in Figure 12. Of those who moved out of Newcastle, 27 per cent went to Sunderland for university. Other cities attracting Newcastle students were Middlesbrough (8 per cent), Leeds (8 per cent) and London (7 per cent).
Figure 13: Destination cities of Newcastle students moving away for university, 2014/15

Overall Newcastle gains more domestic university students than it loses

In the academic year 2014/15, 31,620 students in Newcastle were originally from outside the city, but within the UK, and 10,560 students originally from Newcastle were studying elsewhere in the UK. As a result, there was a net gain to the city of 21,060 students. This finding is in-line with the net inflows of 16 to 21 year olds to city, shown in Figure 7.
Movements of new graduates post-university

*Newcastle has a high retention rate*

After graduation more than a third of Newcastle’s students stay to work in the city. This was the 9th highest retention rate of all UK cities, placing it amongst other large cities as shown in Figure 14. In comparison, London and Manchester retained 77 per cent and 51 per cent, respectively, of their new graduates. At the other end of the scale, Chatham and Exeter only retained 12 per cent and 13 per cent of new graduates.

**Figure 14: Retention rates of each UK city, 2013/14 – 2014/15**

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6 Due to low response rates international students are not included in this analysis.
However, the city’s two universities had very different retention rates. Six months after graduation, 26 per cent of Newcastle University graduates were working in the city. In comparison, as shown in Figure 15, 40 per cent of graduates from Northumbria University had stayed.

One reason for this difference is the tendency of Northumbria students to be from the local area. As shown above, half of the university’s students were from the region and local students are more likely than others to remain in the city on graduation given their home ties. Figure 16 shows that 52 per cent of the university’s graduates who stayed in the city grew up there. In contrast, only 31 per cent of Newcastle University’s retained graduates were originally from the city.

This suggests that retention rates are likely to be driven by the regional focus of a city’s institutions. By implication, Newcastle University’s more diverse student population is likely to be part of the reason for its lower retention rate.

**Figure 15: Percentage of graduates retained in Newcastle post-graduation, 2013/14 – 2014/15**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Retention Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle University</td>
<td>25 per cent</td>
</tr>
<tr>
<td>Northumbria University</td>
<td>40 per cent</td>
</tr>
</tbody>
</table>

Source: HESA destination of leavers survey

**Figure 16: Proportion of all retained students from Newcastle itself and elsewhere, 2013/14 - 2014/15**

This relationship also exists at a city level. Figure 17 shows that cities with high retention rates tend to have a higher share of local students. However, for some cities this relationship is not as strong: Edinburgh and Aberdeen have high retention rates without a high share of local students. A distinction can therefore be made between cities which retain graduates due to a strong local focus, and those which retain graduates despite their diverse student base. Newcastle is one of the latter cities, more similar to Edinburgh than Middlesbrough; it retains a quarter of all students who were not originally from the city, one of the highest rates of all UK cities.
Retention rates also vary by subject, as shown in Figure 18. Of those studying subjects related to medicine, 56 per cent stayed in Newcastle for work after university. Almost half of computer science graduates (45 per cent) stayed in the city and the retention rate for those studying education was 46 per cent.

The high number of retained medical students was driven by Northumbria University. 20 per cent of its graduates studied subjects related to medicine, and 61 per cent of these graduates then chose to remain in Newcastle on graduation. For computer science and education the retention rates of students did not vary much across the two institutions.
London is the most popular destination of graduates who leave Newcastle

Of the two-thirds of graduates who left Newcastle on graduation, 17 per cent chose to work in London, as shown in Figure 19. The attraction of the capital is not unique to Newcastle graduates; our research shows that the capital is a popular destination for graduates across the UK, especially those with 1st or upper second class degrees from Russell Group universities.

Nearby cities were also popular destinations. Many stayed within the North East, with 7 per cent moving to Sunderland and 5 per cent to Middlesbrough. Looking slightly further afield, 5 per cent moved to Leeds and 4 per cent to Manchester.

**Figure 19: Destinations of Newcastle graduates who move to other cities for work, 2013/14 – 2014/15**

Source: HESA destination of leavers survey
Strong home ties mean many graduates return home to Newcastle

Half of those who leave Newcastle for university return on graduation. This means that Newcastle had the 5th highest return rate of UK cities. This finding is common to large cities: on average 51 per cent of leavers returned home to large cities. London attracted even more home, with 74 per cent of leavers returning to the capital on graduation.

Overall Newcastle gains graduates

Despite the outflow of many graduates to other parts of the UK after university, the number of non-local graduates in Newcastle outweighed the number of local graduates who left the city to work elsewhere. Therefore, the city gained graduates overall.

As shown in Figure 20, there were 2,260 surveyed graduates who grew up in Newcastle but left to study or work elsewhere (shown by the turquoise bar). On the other hand, the city gained 4,580 of those surveyed from elsewhere, either when they moved into the city to study and stayed to work, or when they moved into the city for the first time after university (shown by the dark green bar). This resulted in a net gain of 2,320 of the graduates surveyed (shown by the light green bar).

This is the 8th highest graduate gain of all UK cities. London gained the greatest number of surveyed graduates, 42,070, and Manchester followed with 4,660. Large UK cities gained on average 2,520 surveyed graduates, a very similar number to Newcastle.

Figure 20: Comparing students lost and graduates gained by Newcastle, 2013/14 – 2014/15

This data may not initially appear to be in-line with the earlier findings of a net outflow of young graduates from the city. This is because there is a final cohort of students, the ‘bouncers’ who are only temporarily in the city whilst at university. These students move into a city to study but leave straight after graduation. It was these bouncers who drove the outward migration patterns seen.

Of those who moved to Newcastle for university, 75 per cent left on graduation. Although this seems large, this is the 8th lowest proportion of all university cities. Figure 21 illustrates the size of this group: 7,850 surveyed graduates were ‘bouncers’ (shown by the dark green bar). This was a much larger number of graduates than those gained (shown by the light green bar), and so hides the fact that some students do stay on in the city to work.
The nature of the new graduate workforce

This section explores the cohort of graduates who were working in Newcastle 6 months after graduating in 2014 and 2015.

More than half of Newcastle’s graduate workforce study in the city

Figure 22 brings together all the graduates who chose to work in Newcastle on graduation, providing an overview of the city’s graduate workforce. It shows that 57 per cent studied in the city: 26 per cent grew up in Newcastle, stayed for university and then again for work, and 31 per cent moved in for university and stayed afterwards. Those who left to study elsewhere but returned for work made up 19 per cent of the workforce, and the remaining 23 per cent had never lived in Newcastle before but moved in for work.

Compared with other UK cities with a university, the city had a high proportion of home-grown graduates (10th out of 48 cities), and a reasonably high proportion of graduates who came for university and stayed for work (14th). Newcastle’s number of returners ranks them in the middle of the university cities (26th), but it had quite a low proportion of graduate movers (42nd).

Figure 22: The components of the new graduate workforce, 2013/14 – 2014/15

Graduates working in Newcastle are very representative of the UK’s graduate population in terms of the class of degree attained. As Figure 23 shows, 16 per cent of graduates in the city had top class degrees from Russell Group universities, an equal number to the proportion of all UK graduates with this class of degree.
Other classes are also similar to the UK average: most graduates (55 per cent) were not from Russell Group universities but achieved a first or upper second class degree.

**Figure 23: Share of working new graduates by class of degree, 2013/14-2014/15**

![Bar chart showing the share of working new graduates by class of degree in Newcastle and the UK.]

Source: HESA destination of leavers survey

**New graduate wages in Newcastle are relatively high**

On average a graduate working in Newcastle earned £22,920, placing it in the top third of graduate wages across all UK cities. The average wage of a Newcastle University graduate was slightly higher than a graduate of Northumbria University, £23,740 compared with £23,590. As shown in Figure 25, wages varied by location. Graduates of both of the city’s universities earned more if they moved away from Newcastle than if they stayed, though the difference was small.\(^7\)

However, analysis of UK graduates finds that wages are not the most important determinant of where to work after university.\(^8\) Other factors such as the type of jobs available in that city and the opportunities for career progression are higher priorities.

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\(^7\) One reason for this is the difference in living costs across the UK. Unfortunately data on these is not available at a local level and so this analysis does not account for living costs when comparing graduates wages.

\(^8\) Swinney P and Williams M, The Great British Brain Drain: where graduates move and why, London: Centre for Cities
Figure 24: Mean graduate wages of each UK city, 2013/14 – 2014/15

Source: HESA destination of leavers survey
Figure 25: Mean graduate wages by institution and location of employment, 2013/14 – 2014/15

<table>
<thead>
<tr>
<th>University</th>
<th>Average salary of graduate (£)</th>
<th>Average salary of graduate employed in Newcastle (£)</th>
<th>Average salary of graduate employed elsewhere (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle University</td>
<td>23,740</td>
<td>23,580</td>
<td>23,800</td>
</tr>
<tr>
<td>Northumbria University</td>
<td>23,590</td>
<td>22,960</td>
<td>23,990</td>
</tr>
</tbody>
</table>

Source: HESA destination of leavers survey

Half of the city’s graduate workforce is employed by the public sector

In Newcastle, half the graduates worked in the public sector, 14 per cent worked in KIBS jobs, such as law and marketing, and another 27 per cent worked in other private services. In comparison a smaller share of the UK graduate population worked in the public sector (46 per cent), and a higher share worked in KIBS (15 per cent), as shown in Figure 27.

Figure 26: Share of graduates in Newcastle working in each sector, 2013/14-2014/15

Figure 27: Share of UK graduates working in each sector, 2013/14 – 2014/15

Source: HESA destination of leavers survey
Of those graduates who left the city to work elsewhere, 24 per cent worked in KIBS jobs. This suggests that they moved away from the city in order to find job opportunities in this sector as the share available in Newcastle was much lower.

Looking at a finer industrial breakdown, 30 per cent of graduates working in Newcastle were in the healthcare sector, 19 per cent were in education and 4 per cent in public administration. Looking at the KIBS industries, 5 per cent of graduates were employed in legal and accounting services, 3 per cent in computer programming and 4 per cent in head office activities or management consultancy. Finally, another significant sector was retail, which employed 4 per cent of graduates.

These jobs tended to be concentrated in the centre of the city. The NE1 postcode was home to 29 per cent of all new graduate jobs, and 36 per cent of all new graduate jobs in the private sector.

The vast majority of Newcastle’s graduate workforce was employed in high-skilled jobs six months after graduation, which are jobs traditionally considered to be of a graduate level. However, 14 per cent were in low-skilled occupations, as shown in Figure 28. This in part reflects the time it takes graduates to find their first graduate job but could also suggest some underemployment of graduates. However, this distribution of occupations was similar to the UK graduate workforce as a whole, in which 76 per cent were in high-skilled, and 11 per cent were in low-skilled employment. Therefore if there is graduate underemployment occurring it is no worse than the UK average.

Figure 28: Occupation levels of graduates working in Newcastle, 2013/14 – 2014/15
Box 2: Outcomes of the graduates from Newcastle’s universities

Figures 29 and 30 show the sectors employing graduates of Newcastle’s two universities, regardless of where they choose to work. Newcastle University graduates were much more likely to work in KIBS jobs (27 per cent) and less likely to work in the public sector (41 per cent). In comparison, half of Northumbria graduates moved into the public sector, 18 per cent work in KIBS and 19 in other private services.

Given that graduates choose where to work based on the jobs on offer, this suggests that those graduates who leave Newcastle may be leaving to find greater opportunities in the KIBS and the broader private sector. It may also partly explain the higher retention rate of Northumbria graduates, as the sectors they worked in were more aligned to the jobs on offer in the city.

Therefore, as the city looks to attract in more graduates the priority should be increasing the number of job opportunities in the KIBS and other private services sectors.
Implications for the total number of degree holders in Newcastle

In 2015, 34 per cent of Newcastle’s working age population (aged 16 to 64) were degree holders. This was a slightly lower proportion of high-skilled workers than the UK average: 37 per cent of UK workers had a degree-level qualification. Since 2004 Newcastle has consistently lagged slightly behind the UK average, as shown in Figure 31.

**Figure 31: Share of working age population with a degree, 2004-2015**

What is interesting is that this gap is driven by the older residents of Newcastle. As Figure 32 shows, it is the older age-groups which have the lowest likelihood of holding a degree. Only 28 per cent of Newcastle’s 50 to 64 year olds are graduates, whereas 35 per cent of the UK’s population in this age group have a degree. On the other hand, a higher share of Newcastle’s 25 to 29 year olds have a degree than the age group nationally, 49 per cent compared with 45 per cent. However, this is much a narrower age group, accounting for a smaller share of the population than 50 to 64 year olds, so this alone is not enough to close the overall skills gap.

**Figure 32: Share of Newcastle’s population with degree level qualifications, by age, 2015**

Source: Annual Population Survey
Young workers in the city are therefore more highly-skilled than the UK average. This is in part due to Newcastle’s success attracting in and retaining new graduates who live in and around the city. To provide some context, the city’s overall skill level can be compared to the new graduate workforce (see above).

If, in 2015, Newcastle’s share of graduates was equal to the national share, i.e. 37 per cent rather than 34 per cent, the city would have an additional 18,730 graduates. The annual cohort of recent graduates working in Newcastle is approximately equal to 5,000 people. This shows that the increase in new graduates that the city gains each year is not insignificant, and will play a role in improving the overall skills profile of the city as a whole.

It’s important to note that these figures are for illustrative purposes only. Over time, the UK average is likely to increase, while as section 1 showed, the outflow of older graduates to the rest of the North East will have a downward pull on the number of degree-holders in Newcastle. In addition, if the skills level of the city’s workforce was to increase significantly the economy would need to adapt to ensure enough high-skilled jobs were on offer.

**Conclusions**

Newcastle’s migration patterns are dominated by the movements of university students and graduates. Between 2009 and 2015 there was a large net inflow of young people into the city, many of whom came to study at one of the city’s two universities. There was then a subsequent net outflow of graduates as they moved around the country for work, with a particularly strong flow towards London.

**Overall the city gains a significant number of graduates.** Despite the net outflow of young graduates after university, there was a net gain to Newcastle overall. This was because some of those who moved into the city before university stayed afterwards. Also, many graduates moved into the city for work even though they had not lived or studied there before. As a result Newcastle had the 8th highest net gain of graduates all UK cities.

**A large proportion of students move in for university and leave straight after graduation.** However, this should not necessarily be viewed as a negative. If the city can attract enough graduates from other universities to fill its labour market then there is no drawback to its role educating graduates who go on to work elsewhere.

Newcastle’s universities have different patterns of student recruitment. Newcastle University attracted students from a wide range of locations, and had a strong international pull. In contrast, Northumbria attracted a much higher proportion of students from the North East region and from the city itself. Retention rates also differed across the institutions, with Northumbria retaining a higher proportion of students due to its more local catchment.

Any policies designed to increase retention should keep in mind these different roles. Universities with lower retention rates tend to have these because of their role in educating national and international students, not necessarily because they are less successful at retaining their students.

The city should focus on improving the economy, as the availability of graduate jobs is the main determinant of graduates’ chosen work location. In addition, if there is a need to better link graduates to jobs in Newcastle then policies can be designed to provide this brokerage role. However, our wider research, and other research in the area, shows that those cities that are most successful at attracting and retaining new graduates are the ones with the greatest number of job opportunities. Given this, strengthening the economy should be the primary approach to increasing the number of new graduates in Newcastle.

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9  Noting that the data on new graduates is workplace based, rather than residence based.

10  This is based on the HESA destination of leavers survey. The only response rate available is for all UK graduates, rather than for individual cities, and is equal to 80 per cent. We have therefore assumed a response rate of 80 per cent for Newcastle. To obtain an annual figure we assume an even split of graduates over the two years.
The city should also look to improve the qualifications of older workers. Newcastle’s below average share of graduate workers is driven by its older residents. Although the city has a lower share of degree-holders in its workforce than the UK average, the proportion of young people with degrees is higher than the average. Therefore, as well as focusing on increasing the number of new graduates in the city, Newcastle’s skills policy should also aim to improve qualifications for older workers who hold no or few qualifications.