GREATER MANCHESTER INDEPENDENT PROSPERITY REVIEW

TRANSITIONS IN EDUCATION AND SKILLS

A technical report for the research on
Skills

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Greater Manchester Combined Authority Research Team produces high quality research and intelligence to form the evidence base underpinning policy and strategy for the city region.

The Inclusive Growth Analysis Unit at the University of Manchester is an independent analytic resource set up in 2016 to help make poverty reduction central to processes of economic growth and devolution in Greater Manchester, and to provide research, analysis and insight on inclusive growth in other UK cities. It conducts and synthesises research, publishes policy briefings and convenes stakeholders around issues related to inclusive growth.

IGAU is jointly funded by the University's Faculty of Humanities as part of its commitment to making a difference and addressing inequalities in our city region, and the Joseph Rowntree Foundation, as part of its programme of work on cities, growth and poverty reduction.

The views expressed in this report are those of the authors and, as usual, errors and omissions in this report remain the responsibility of the authors alone.

GMCA GREATER MANCHESTER COMBINED AUTHORITY

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The Greater Manchester Independent Prosperity Review was commissioned to provide a detailed and rigorous assessment of the current state, and future potential, of Greater Manchester's economy. Ten years on from the path-breaking Manchester Independent Economic Review, it provides a fresh understanding of what needs to be done to improve productivity and drive prosperity across the city region.

Independent of local and national government, the Prosperity Review was carried out under the leadership of a Panel of six experts:

Professor Diane Coyle
Bennett Professor of Public Policy, University of Cambridge, and
Chair of the Greater Manchester Independent Prosperity Review

Stephanie Flanders
Head of Bloomberg Economics

Professor Ed Glaeser
Fred and Eleanor Glimp Professor of Economics, Harvard University

Professor Mariana Mazzucato
Professor in the Economics of Innovation & Public Value and Director of UCL Institute for Innovation and Public Purpose

Professor Henry Overman
Professor of Economic Geography, London School of Economics, and
Director of the What Works Centre for Local Economic Growth

Darra Singh
Government and Public Sector Lead at Ernst and Young (EY)

The Panel commissioned studies in four areas, providing a thorough and cutting edge analysis of key economic issues affecting the city region:

- Analysis of productivity, taking a deep-dive into labour productivity performance across Greater Manchester (GM), including a granular analysis of the 'long tail' of low-productivity firms and low pay;
- Analysis of education and skills transitions, reviewing the role of the entire education and skills system and how individuals pass through key transitions;
- Exploration of the city region's innovation ecosystems, national and international supply chains and trade linkages; and sources of global competitiveness, building on the 2016 Science and Innovation Audit; and
- Work to review the infrastructure needs of Greater Manchester for raising productivity, including the potential for new approaches to unlock additional investment.

A call for evidence and international comparative analysis, developed in collaboration with the Organisation for European Cooperation and Development (OECD) and European Commission, also supported this work.

All of the Greater Manchester Independent Prosperity Review outputs are available to download at **www.gmprosperityreview.co.uk**.

This technical report is one of a suite of Greater Manchester Independent Prosperity Review Background Reports.

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Executive Summary

About the report

The report blends information on educational attainment with data on labour market outcomes to assess the effectiveness of the skills formation system in preparing citizens to thrive in life and work. The report marks the first time that Longitudinal Educational Outcomes (LEO) data has been used for analysis in Greater Manchester (GM).

Attainment

Educational standards in the north of England and in GM have been criticised. The report argues the charge of 'systemic underperformance' is misplaced.

- If judged against national averages GM 'underperforms' in two phases – the Early Years (tests prior to primary school) and at Key Stage 4 (KS4) - GCSE exams taken by 16 year olds. In two of the other principal education transition points, Key Stage 2 (KS2) at the end of primary school, and Key Stage 5 (KS5) at age 18 (level 3 qualifications, mostly A levels), GM 'outperformed' the national norm in 2016/17. Sub-average performance is phase-specific not system-wide[1].

- However, new analysis of the big English city regions – some of which have similar levels of deprivation and disadvantage to GM – shows GM performs either better or the same as others. GM outperforms city regional averages at all stages except the Early Years. Even at KS 4 (the focus of much criticism), between 2005/6 and 2012/13 GM improved faster even than London (by some measure the top performer overall). Performance has been on a par with the 'Rest of England'[2] since.

- Attainment in education, and rankings of performance between areas, can change significantly over time, sometimes influenced by alterations in official benchmarks. For example, back in 2006/7 Early Years attainment in GM was above that of England and London. By 2011/12 it was below that of other areas – and has stayed below since. Yet, over the last decade at KS2, GM has increased its advantage over English and city regional averages (GM was three percentage points above the city regional average in 2014/15).

- Divisions *within* GM are more pronounced than divisions between GM and the rest of the country. GM contains some of the lowest performing (and economically poorest) districts in the country as well as the highest performing (and richest), creating an average of GM performance based on disparity amongst the constituent districts. Even among young people not officially classified as disadvantaged, district differences are significant. For example, 55% of 19 year olds are qualified to level 3 in Salford, compared with 77% in Trafford[3].

- The education performance challenge therefore needs restating. The phenomenon of lower performance is located in large English cities as much as in 'the north'. And GM's challenge is to move beyond mediocrity rather than to claw back from failure.

[1] Although results do tend to fluctuate a little each year, this pattern of lags in Early Years and KS4 and slight advantages at KS2 and KS5 is relatively consistent

[2] RoE=with London and GM excluded

[3] These figures are for non-disadvantaged pupils only

- However, despite restating the challenge, GM cannot afford complacency. It remains the case that Ofsted inspection results indicate GM has proportionally fewer good or outstanding schools and more schools judged inadequate or 'Requires Improvement'. In addition, although overall attainment differences are modest, GM has slightly higher proportions of 'lower attainers' (defined as those who do not get a pass mark of 4 in maths and English) than elsewhere.

- Compared with other cities, disadvantaged pupils perform relatively well in GM at KS2 (joint highest with Newcastle in the proportion of pupils reaching the expected standard); and second best (to Birmingham) of all city regions outside London for disadvantaged pupils in KS4 and KS5.

- GM also has smaller 'disadvantage gaps' (that is, gaps in attainment between better and less well-off pupils, normally defined by eligibility for free school meals) at both KS2 and KS4. However, this should not be interpreted as progress, as the explanation at KS4 is lower attainment among non-disadvantaged pupils.

Disadvantage

Educational fortunes depend greatly on economic situation. Despite decades of aspirational commitments to social mobility and equal opportunity, background remains a central influence on life chances.

- KS4 is the critical transition point. English education creates a 'cliff-edge' at age 16 where the results of high-stakes exams have implications for future economic outcomes. At age sixteen in GM non-disadvantaged pupils are more than twice as likely as disadvantaged pupils to go on to a school sixth form or sixth form college. Poorer pupils are also three times more likely to drop out of their chosen pathway after KS4.

- By the age of 19, 63% of non-disadvantaged young people have a level 3 qualification (mostly A levels); just 37% of disadvantaged young people are similarly qualified.

- Although further learning is not for everyone, and whatever pathway is selected needs to be high quality, the evidence suggests that if disadvantaged young people can make it into KS5 the penalties of disadvantage are somewhat less severe than they are at earlier phases. At KS5, the gap in sustained destination rates between disadvantaged and non-disadvantaged young people was nearly half of that at KS4 – presumably because it is higher attainers who generally progress.

- Two thirds of young people overall go on to KS5 to pursue either A levels or vocational learning. The large proportion of disadvantaged pupils who don't get the grades to move to KS5 mostly end up doing retakes or below level 3 learning. Disadvantaged young people are more likely to move into work post 16 than others (up to the age of 18, young people must be in learning of some kind, so the work has to involve training).

- After KS4, GM has poorer 'positive destination' (work or further learning) outcomes than other comparable city regions as well as compared with the English average. It ranks second from bottom for disadvantaged young people (after West Yorkshire) and bottom for non-disadvantaged.

- But not all pathways reinforce disadvantage. For example, apprenticeships are unique among learning pathways in not demonstrating a penalty for being disadvantaged[4]. People who were on benefits before have exactly the same chances as those who were not for work and wages.

- This differs both from traditional academic pathways and from classroom based vocational learning. For example, compared with apprenticeships, level 2 further education courses have poorer employment prospects (64% sustain an employment destination), and they carry a disadvantage penalty, in that learners who previously claimed benefits were far less likely to get a job afterwards (52% of adults on level 2 courses sustained employment if they previously claimed benefits – a gap of 12ppts with those who were not on benefits).

Destinations

Analysis of the 'destinations of learners'[5] reveals stark differences in earnings power based on background, institution, subject and level.

- The value of learner progression has emerged strongly from the analysis. For example, among former apprentices, those who undertook an advanced level apprenticeship out-earn those with an intermediate level by £3,000 a year. (The average salary for a former apprentice from a GM college three years after achievement was £16,400 for an intermediate apprenticeship and £19,400 for an advanced apprenticeship).

- But the GM-UK wage gap for former apprentices is pronounced. Three years after completing an apprenticeship 47% of former apprentices earned above £21,000 nationally vs 37% in GM. The reason is likely to be lower wages in GM in general.

- Wages are higher from 'technical apprenticeships' compared to service or 'people oriented' apprenticeships. For example, former 'child development and wellbeing' apprentices in GM earned on average £12,400 two years after completing. Former engineering apprentices earned £29,500.

- Learning patterns partially shape the gender pay gap. Women are more likely to enter lower paying apprenticeships (hairdressing, child development, retail). Meanwhile the gender pay difference for graduates from GM universities is £2,000 five years post-graduation (favouring men). The GM gender pay gap among university graduates is lower than that in the UK (by £1,000) after five years due to lower salaries in GM (£3,000 is the difference between women and men in the UK five years after graduating).

- Five years after graduation, wages for graduates of the University of Manchester are £4,000 higher than the national average (£30,200 compared with £26,200). But for all other GM universities they are lower (£24,533 is the GM average).

[4] However, it is worth bearing in mind that reforms to eligibility criteria for apprenticeships has set tougher academic benchmarks (the need for level 2 in English and maths)

[5] Further work on educational outcomes and utilising LEO data is planned, especially regarding the outcomes of learning in Further Education

- The backgrounds of the students at each GM university are linked to subsequent labour market outcomes. Bolton has one of the highest proportions of students from areas where few of their parents went to University; and graduates of Bolton have the lowest average wages of any GM Higher Education Institution (HEI). In contrast, the University of Manchester has a relatively low proportion of students from areas of low HE participation. However, graduate wages are relatively high. This points to segmentation of the higher education market according to background and prior attainment; these factors influence wages subsequently.

- Earnings vary according to subject studied. Economics graduates from UoM earn £24,000 more than education graduates after five years in their careers.

- GM sends more young people to university than the national average – but not to the top third of UK HEIs (16% compared to 18% of KS5 leavers nationally). Some 38% of KS 5 leavers from GM go to the remaining two thirds compared with 32% nationally. Further research is needed to explore this finding in greater depth.

- The wages on offer from some apprenticeships at advanced level and above appear better than those from broadly comparable university courses from non-Russell Group HEIs. This is especially true for engineering and 'business management' apprenticeships. However, at the median, graduate salaries from non-Russell Group HEIs are higher than the median for apprentices (by about £1,200 two years after completion or graduation).

- For people who undertake learning later in life, there is a weaker relationship with 'positive outcomes' (meaning entering work or going on to further learning) than for younger people across all different types of learning. For example, 62% of learners over the age of 50 sustain a positive outcome, compared with 74% of 19-24 year olds. There are many possible reasons including caring responsibilities and greater 'leisure learning'. Nevertheless, the link between learning and outcome decreases with age.

Policy implications

The study offers evidence to inform future policymaking rather than put forward a policy programme. However, some priorities emerge…

- GM should maintain its focus on the early years as a fundamental component of its long-term economic strategy, as 10 years on from the Manchester Independent Economic Review (MIER) performance still lags benchmark areas.

- GM's secondary schools have improved outcomes in recent years, but too many require further improvement. GM and government should explore how to work with school leaders and others to drive improvement in secondary schools, learning lessons from successful areas (for example, London) and mould-breaking schools. A suggestion for how GM could reconfigure education and skills governance to advance its agenda for improving performance is contained in a further Technical Report published alongside this study[6].

[6] Lupton, R. and Unwin, L., A New Approach to Education, Training and Skills in Greater Manchester: Building Capacity for Individual, Workplace and Civic Prosperity, IGAU, March 2019. The report is an independent view of how the governance and leadership of education and skills in GM could be reformed in line with local policy priorities. (This report is also part of the Greater Manchester Independent Prosperity Review)

- Deprivation is the main factor in determining education and labour market performance. The reasons go beyond what happens in schools and policymakers should maintain a focus on tackling the root causes of disadvantage: a high-skill, high productivity economy cannot exist and thrive in a sea of deprivation. However, recognising that education plays an important role in tackling disadvantage, GM and government should develop pilots to explore how to keep more disadvantaged young people engaged in education, to reduce drop-out rates after KS4, and promote understanding about 'what works' by drawing on the lessons of 'odds-beating' schools which achieve higher performance despite higher deprivation levels.

- Apprenticeships are unique in offering a learning pathway that does not penalise disadvantaged learners. There should be a sustained effort to raise the number of residents from deprived backgrounds that follow the apprenticeship route at KS5, with a focus on the 'technical apprenticeships' which offer improved pay prospects. There should also be an increased emphasis on the quality of apprenticeships (both in terms of pay and opportunities for progression).

- Increasing the number of people undertaking higher level technical skills (at levels 4 and 5) remains a priority that currently lacks a clear response, after notable falls in the proportion of adults undertaking training. GM's diverse university sector may consider greater collaboration with FE colleges and other training providers to help fill a perceived shortage of higher technical skills as part of their civic mission. Further research is also needed to understand why GM sends fewer young people proportionally to the top universities.

1. About this report

1.1 Aims of study and report structure

This report aims to understand how well-served Greater Manchester is by its education and skills system. To do so we explore the nature of 'transitions' between education phases, as well as between learning and work. The aspects of the system we examine are the Early Years, primary education, secondary schools, the 16-18 phase (whether academic, vocational, through an apprenticeship or work-based learning), higher education and the move into work.

We use an approach that blends data on educational attainment with experimental analysis of Longitudinal Educational Outcomes data (LEO) to gain an understanding of what happens to learners once they have finished their course or apprenticeship and the kinds of labour market outcomes they secure.

The main research questions are as follows:

- How well does each part of the Greater Manchester education and skills system perform? And how well does this compare with other areas (for example other core cities)?
- What are the roles of 'transition points' in shaping personal development and labour market outcomes in Greater Manchester?
- What is the role of post-16 education in supporting the transition to work and further learning?
- What new vision for the education and skills system will help the city region's economy in the future?

The first strand of research (on performance and attainment) examines four transition points: the Early Years, Key Stage 2 (KS2), Key Stage 4 (KS4) and Key Stage 5 (KS5). We developed previous work on performance to enable comparisons against other core cities and to facilitate deeper understanding of KS5[7].

The second strand was an analysis of 'education destinations', meaning where learners progress to after completing their learning. For this we used publicly available information from LEO that brings together information on learners with other data sources (eg. tax records and benefits data) to facilitate tracking[8]. The data is not always consistent – for example, LEO contains information on graduate salaries but not the salaries of those who leave further education – but it marks the first time that LEO has been used for analysis in GM.

The third input to the research is a technical report on what GM should do differently which was commissioned from the IGAU as part of the Prosperity Review: a potential answer to the fourth research question. It is published alongside this evidence[9].

[7] We use the attainment at age 19 measure to assess KS5
[8] Further information on LEO is contained in the appendices
[9] See footnote 6

1.2 This report is structured as follows:

i. A context section sets the scene for the Greater Manchester Independent Prosperity Review; explores some central issues in the relationship between education and poverty; and summarises the most likely explanations of why London produces good education outcomes despite high numbers of relatively disadvantaged pupils.

ii. The report moves next to investigate educational performance in GM. Although much has been written previously on this topic, we summarise it, but focus principally on new analysis of comparisons with core English cities and a more developed assessment of KS5, typically completed by 18 year olds.

iii. A substantial section on destinations examines what happens to learners in Greater Manchester on the journey from learning into the labour market.

iv. A concluding section highlights some of the main findings. It also highlights the salient findings for future policy and strategy.

2. Introduction and Context

2.1 Education, skills and industrial strategy

This study considers 'transitions' in education, learning and skills. Skills always feature heavily in the ingredients list for productivity growth even if the recipe itself has yet to be fully understood. Perceived shortcomings in the UK's skills base have long been said to account for a large part of the productivity gap with comparable nations[10], while in GM lower skills explains much of the productivity lag with the UK, as well as lower labour market participation[11].

What is typically meant by 'skills' is 'workforce skills' – the attributes of the working age population. But human capital formation is a process that rests on prior foundations. In the pages that follow we consider the role of GM's schools and colleges, apprenticeship providers and universities, in enabling people to flourish and be productive in dynamically evolving workplaces later in life.

We do so with an eye on both the present and the future. Industrial strategy in the context of a city region is fundamentally concerned with how to influence economic change. The UK is known to be one of the most unequal economies in the European Union with sharp differences in economic outcomes between and within regions and cities, and where, on the deindustrialised edges of many city regions in the north of England, apparently intractable combinations of social, educational and economic problems are clearly visible. Equipping citizens to take advantage of the opportunities that exist through skills reform is at least part of the response, even if it remains an incomplete answer. Yet some argue it may become even more urgent in the future. Dominant trends identified under the futurology banner – globalisation, automation and digitisation among them – imply both a need for better skills as jobs evolve, but also a risk of some communities with currently low skills being left further behind[12].

Ultimately, all projects aimed at boosting prosperity, social mobility and life chances, must have education and skills at their heart. Yet skills is a troubled, unstable area of policymaking. Multiple changes to curricula, qualifications, regulation, institutions and agencies[13] have left recognised problems unresolved while exacerbating historic confusion about how to pursue non-academic pathways into work. Among these acknowledged deficiencies are notoriously weak vocational education, declining adult technical training, a general lack of technical and higher technical skills, inadequate skills progression, and inflexible learning opportunities. At the time of writing, T levels – level 3 vocational qualifications for 16-18 year olds that are intended to be equivalent to A levels – are set to be rolled out from 2020 in the latest attempt to address part of this vocational skills challenge. Yet increasingly it is clear that the early phases of education and skills formation cannot resolve all problems by themselves. The goal of lifelong learning seems to be receding as cuts to

[10] Up to a sixth of the gap with Germany, US and France, according to the Leitch Review of Skills. See The Leitch Review (2006) Prosperity for All in the Global Economy, HM Treasury http://webarchive.nationalarchives.gov.uk/+/http:/www.ukces.org.uk/upload/pdf/2006-12%20LeitchReview1_2.pdf

[11] See Greater Manchester Independent Prosperity Review Background Papers (Baseline Report: Evidence Review and Technical Report: Audit of Productivity), March 2019 www.gmprosperityreview.co.uk

12 See Greater Manchester Independent Prosperity Review Background Paper (Technical Report: Future of Work and Skills), March 2019 www.gmprosperityreview.co.uk. However, the theory of eternally rising skills demand is far from proven. See Felstead, A., Gallie, D., Green,F., and Inanc, H., Skills at Work, Skills and Employment Survey Minireport, https://www.cardiff.ac.uk/__data/assets/pdf_file/0011/1229834/2_Skills_at_Work_Minireport_Final_edit.pdf

[13] According to the Institute for Government, 29 pieces of major skills 'reform' have occurred since the 1980s; see Norris, E. and Adam, R. (2017) All Change: Why Britain is so prone to policy reinvention, and what can be done about it, Institute for Government https://www.instituteforgovernment.org.uk/publications/all-change

adult funding eat deeply into incentives to learn[14]. Over the last seven years, FE colleges, both nationally and locally in GM have endured significant cuts to their main budgets. Between 2010 and 2015 overall funding fell by some 14% and the Adult Skills Budget was reduced by 25% in just one year (2015-16).

There may be an even deeper question hanging over learning in the UK, too. Reformed qualifications do not necessarily imply improved skills. Data from the Organisation for Economic Cooperation and Development (OECD)[15] suggest the UK, far more than other countries, has expanded its profile of formal qualifications without improving its underlying skills. England was the only nation in the study involving 166,000 respondents in 24 advanced economies in which the younger generation (16-24 year olds) showed weaker reading and maths proficiency than the 55-65 year old age group. "The data…raise questions about the relevance and quality of formal education in some countries," the OECD report noted.[16]

Skills has also been at the forefront of the debate about city regional devolution. Devolution of some skills budgets to GM from 2019 has opened fresh areas of policymaking and the city region has extensive ambitions to transform the skills of residents[17]. Yet so far the mechanisms to affect outcomes in education and skills remain very limited[18].

2.2 Why transitions matter

What do we mean by transitions? The term transition is a deliberate attempt to consider skill formation and the start of work as a single system made up of different elements and phases. Northern education – and schools in GM – have come under sustained criticism for lacklustre performance in recent years, most sharply in respect of GCSE results, as we shall see. Through the lens of transitions we look at the health of the overall education and skills system, rather than isolated phases of learning, to arrive at a balanced view of effectiveness. In addition, we join up both elements of human capital formation - the academic (education) with the vocational (skills) – into a perspective which examines the entire system.

The term transitions taps into the growing body of evidence that disadvantage is cumulative[19]. Lower performance in one phase of education creates the conditions for lower performance in the next, which in turn shapes the kinds of work people end up doing and thus productivity (although the nature of work in a local area cannot be the responsibility of learning providers). The sense that economic disadvantage in the future is being nurtured by shortcomings in the education system of the present has been a theme of commentary. Michael Wilshaw, a former director general of Ofsted, has said: "Education has the power to bring people together, but it can also divide. Regions that are already less prosperous than the South are in danger of adding a learning deficit to their economic one."[20] The disconnect between the universally expressed desire of policymakers for

[14] For more on the severity of cuts to funding for adult learning see Belfield, C., Crawford, C., and Sibieta, L., Long-run Comparisons of Spending per Pupil Across Different Stages of Education, Institute for Fiscal Studies, 2017 and Belfield, C., Farquharson, C. and Sibieta, L., 2018 Annual Report on Education Spending in England, Institute for Fiscal Studies, 2018.

[15] OECD: OECD Skills Outlook 2013. First Results from the Survey of Adult Skills, 2013

[16] OECD, op cit

[17] See Our People, Our Place: The Greater Manchester Strategy, GMCA, 2017

[18] See Greater Manchester Independent Prosperity Review Background Paper (Technical Report: Future of Work and Skills), March 2019 www.gmprosperityreview.co.uk The devolution agreements between GM and Government have included devolution of the Adult Education Budget.

[19] Hirsch, D., Experiences of Poverty and Educational Disadvantage, Joseph Rowntree Foundation, September 2007

[20] Michael Wilshaw, Speech at the Launch of Ofsted's Annual Report, December 2016 see https://www.gov.uk/government/speeches/the-power-of-education

education to be a way out of disadvantage has been confounded by the evidence that in many ways it mirrors and amplifies the inequalities of the wider society.

2.3 The Manchester Independent Economic Review – a decade on

The main purpose of the Prosperity Review is to provide an evidence base for the Local Industrial Strategy and reflect on what has happened since the last time GM undertook a root-and-branch examination of its economy in the Manchester Independent Economic Review (MIER), which was published in 2009[21].

MIER highlighted the interdependence of workforce skills and learning earlier in life. "There is a substantial body of economic research which demonstrates that aptitudes for education and skill are set very early in life, many by the age of seven and all by the mid-teens," the review found. "Long-term success in building a high value, high-skill economy will also depend on pre-schooling and primary schooling."[22] The review noted the train of thinking that led economists to concentrate on the need to develop higher-level skills; the evidence suggests the proportion of higher skilled jobs in a geographical area has a robust correlation with productivity and with maximising the benefits of agglomeration. Yet the review argued in favour of developing skills at all levels to ensure residents had the qualifications, confidence and learning capacities to take advantage of higher skilled employment opportunities. "The key lesson that we draw is that it is essential to improve skills across the board. The whole labour force contributes to the productivity of the most highly skilled. High skilled niches cannot thrive in a sea of low skills and poverty."[23]

MIER also emphasised that although local policymakers tend to emphasise initiatives to improve skills supply, in the absence of any evidence of pronounced skills shortages[24], more attention needed to be placed on how employers utilised skills. The apparent economic paradox of why generations of improvement in qualifications levels have not helped lift productivity will be picked up in the audit of productivity as part of this Prosperity Review[25]. Here the focus will be on how effectively schools, colleges and universities prepare citizens to thrive later in life.

2.4 The northern educational deficit

The accusation that schools in the north of England do a bad job of educating young people has been frequently made. Familiarity with the charge-sheet is useful background for the analysis to come.

Two reports attached to the Northern Powerhouse[26] have focussed mostly on secondary schools and Key Stage 4 (KS4) results – in other words, GCSEs at age 16. One noted data for the 2014-15 academic year which showed that only 34% of disadvantaged students attending northern schools achieved 5+ A*-C GCSEs, including English and mathematics, compared to a national

[21] MIER, http://manchester-review.co.uk/
[22] MIER Reviewers Report, http://manchester-review.co.uk/wp-content/uploads/2015/02/Review.pdfp42
[23] MIER Reviewers Report, http://manchester-review.co.uk/wp-content/uploads/2015/02/Review.pdfp42
[24] Both MIER and subsequent research, for example GMCA Labour Market and Skills Review, have reported generally low instances of skills shortages in GM, although they unquestionably exist in certain occupations (chefs, fork lift truck drivers, nurses, teachers and midwives, for example). This situation may be dramatically altered by Brexit if the anxieties of employers prove justified.
[25] See Greater Manchester Independent Prosperity Review Background Paper (Technical Report: Audit of Productivity), March 2019 www.gmprosperityreview.co.uk
[26] The Northern Powerhouse aims to boost growth in the north and was launched in 2014/15. Key cities involved in the NPH are Manchester, Leeds, Liverpool, Newcastle, Sheffield and Hull.

disadvantaged average of 37% and 48% in London.[27] In addition, the number of secondary schools judged to be good or outstanding by inspectors in the South and East was 81%, compared with only 70% in the North. A second report in February 2018 referred to 'decades of underperformance in education', but pointed both to the extent to which higher levels of economic disadvantage drastically affected school performance and how Early Years education was a central part of the explanation for later problems[28].

The 'double whammy' of the poorest pupils being taught in the least good schools was highlighted in a report from The Children's Commissioner[29]. The report found that more than half of the secondary schools serving the North's most deprived communities were judged to be less than good. There were also disproportionate numbers of children dropping out of education before they reached the age of 18. As well as a north-south discrepancy in social mobility and life chances in the UK, the Social Mobility Commission found the difference was often between richer and poorer areas. The report noted that London was very different from anywhere else with much better performance in schools despite high numbers of disadvantaged pupils, but in general big cities "punched below their weight" in attainment[30].

But another theme of recent commentary on education has contextualised the focus on secondary schools. Research by the Greater Manchester Combined Authority[31] found GM has much higher levels of disadvantage than England; using the measure of disadvantage that looks at whether children have received free school meals (FSM) at any point rather than in the academic year in question[32], it said a third of secondary school pupils are classified as disadvantaged compared with 27% in England. And even with higher proportions of disadvantaged students, lags to the national average occur at two distinct phases: in the early years and at KS4. At two other principal transition points – key stage two (KS2) at the end of primary school when children sit standardised tests, and at the end of Key Stage 5 (KS5; level 3 qualifications, largely but not exclusively comprised of A levels, that most, but not all, young people sit at age 18) – GM surpassed the national averages. The 'underperformance' was less system-wide than phase-specific.

Comparator groups also affect conclusions. The Inclusive Growth Analysis Unit, based at Manchester University, has argued that after removing London from the national average and comparing GM against the rest of England, performance in GM is actually "consistently good"[33]. The real story was not a local failure, but the exceptional transformation in educational fortunes that has occurred in London, as the capital has moved from a city with a reputation for poor education in the 1990s to one that vastly outperforms the rest of the country and has seen consistent year-on-year improvement (we return to this shortly).

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[27] Department for Education, Weller, N., A Northern Powerhouse Schools Strategy: An Independent Review by Sir Nick Weller, November 2016,

[28] Northern Powerhouse Partnership, Driving Ambition Across the Powerhouse, February, 2018

[29] Social Mobility Commission, State of the Nation, November 2017

[30] Children's Commissioner, Growing Up North, March 2018

[31] GMCA, Education in Greater Manchester: Attainment and Progress in GM's Schools, GMCA, unpublished paper, 2018

[32] Disadvantaged pupils are formally defined as those eligible for FSM at any time between year 6 and year 11, as well as looked after children (for at least one day) or children adopted from care. FSM eligibility refers to parental benefit status in an academic year. The latter is used in general for the analysis of attainment because it is a stricter measure, but at other points in this report we refer to the wider disadvantage measure.

[33] MacDougall, A., and Lupton, R., Trends and Performance in the London and Greater Manchester Education Systems, Inclusive Growth Analysis Unit, April 2018

The Institute for Public Policy Research has sought to find the origin of the divide between London and the north of England and pointed to the impact of the pre-school years. It found that the 'early years gap' between children from poorer and wealthier homes was almost twice as large in the North as it was in London. But secondary school attainment was where educational inequalities widened dramatically. The institute argued that focusing on failing schools would not be sufficient to eradicate educational inequality because the 'inputs' mattered much more than was typically allowed for: schools in the North received less money per pupil than those in London, and often struggled to attract and retain high-quality teachers and leaders. Once the intake of pupils is controlled for, the North East and North West came out as two of the highest-performing regions in the country (alongside London). In other words, Northern schools had a harder job to do, but were not necessarily doing it badly[34].

2.5 Disadvantage and learning

As will by now be clear, disadvantage and educational attainment are intrinsically linked. The UK has one of the steepest 'socio-economic gradients' of any advanced nation, meaning children from disadvantaged backgrounds do worse at school than those from advantaged backgrounds by a greater amount. Furthermore, socio-economic circumstances in childhood have been found to transmit poverty across the generations[35]. Factors linked to poverty, disadvantage and education are complex and tend to interact. A primary cause of child poverty is a lack of opportunities among parents with low skills and low qualifications; such parents are less likely to work and if they do they are likely to have low earnings. Poverty and low achievement at school are part of a wider cycle in which family disadvantage is passed on from one generation to the next[36].

Within this literature, those who attain less well are relatively well understood. Boys outnumber girls by three to two. Ethnicity also has a very significant impact on attainment. Pupils from Chinese and Asian backgrounds are the most successful, and students from Afro Caribbean backgrounds are the least successful. Low achievement is much more likely if students come from poor urban areas and they receive FSM[37]. Yet not all groups are affected equally by poverty. Poverty (with receipt of FSM as the proxy) appears to be a stronger predictor of low achievement for white pupils than for other ethnic groups. Where white children under-achieve early in their schooling they are most likely to persist in under-achievement; but not speaking English well early in life is only a short-lived disadvantage.

Educational achievement is also shaped by attitude. Horgan (2007) found that perceptions of teacher behaviour are influenced by social background with kids highly aware of social position and the limitations placed on them from an early age[38]. Boys at the age 9 or 10 can become 'disenchanted'. Some researchers link attitude to feelings of being more in control. Pupils from disadvantaged backgrounds often feel less in control and less involved in learning. "They have a greater tendency to become reluctant recipients of the taught curriculum," researchers discovered. Kellett and Dar (2007) found confidence at reading and writing created an advantage from a

[34] IPPR North, Putting Education at the Heart of the Northern Powerhouse, May 2016
[35] For a fuller discussion of this see Joseph Rowntree Foundation, Experiences of Poverty and Educational Disadvantage: Reviewing the Evidence, September 2007
[36] Blanden, J. and Gibbons, S., The Persistence of Poverty Across: A View from Two British Cohorts, Policy Press, 2006
[37] Cassen Rand Kingdon, G., Tackling Low Educational Achievement, Joseph Rowntree Foundation, 2007
[38] Horgan, G., The Impact of Poverty on Young Children's Experience at School, Joseph Rowntree Foundation, 2007

relatively early age and that this helped mould a perception of control. In turn, this affected the relationship with teachers and other adults.[39]

Many initiatives in the past have tried to improve the quality of schools and of teaching, but it follows from some of the complexities of disadvantage that school improvement may not be enough on its own and will do little to touch the factors outside school that interact to create missed opportunities. Research has found that only around 14 per cent of variation in achievement is attributable to identifiable features of school quality.[40] As the Joseph Rowntree Foundation put it: "If students from deprived backgrounds feel powerless as learners they will continue to have disappointing educational results. Therefore the transformation of educational relationships inside and outside the classroom will be at least as important as efficient delivery of the school curriculum in boosting the chances of children from disadvantaged families."[41]

2.6 The London Experience

Given the research findings outlined above, the transformation in London's performance over recent decades is all the more relevant and startling. The capital has higher levels of disadvantage than almost anywhere else, especially in some outer London boroughs. Despair was widespread in the 1990s about how to revive education in the capital. Today, London tops geographical league tables. So the question that follows is why has London done relatively well in its educational performance despite much higher numbers of disadvantaged children than other cities?

The case study of education in the capital has been a source of intense fascination for researchers. Attainment and progress has been higher than for the country as a whole, while inner London made the largest improvement in KS4. This was largely due to more rapid improvements by disadvantaged pupils.

There is not a clear consensus on why London outperforms other regions and research to date has tended to take different approaches to answering the question, using different time periods[42]. But there are some lines of explanation.

Burgess argues London's ethnic composition is a central factor. Recent immigrants have higher aspirations and tend to work harder at school. London has a larger proportion of high performing ethnic minority groups and a smaller proportion of low performing ethnic minority groups. White pupils make the least progress so the lower proportion of white British pupils (38%) and the higher rate of ethnicity can explain all of the progress. "If London had the same ethnic composition as the rest of England, there would be no London effect", the research finds[43].

Other research has disputed the impact of ethnicity. Greaves et al, examining the improvement between 2002 and 2012, argue ethnicity only explains part of the difference and the advantage reduces when controlling for KS2 attainment[44]. The authors instead highlight the role of primary schools. Although secondaries kept pupils on track it was primary schools that enabled KS2 improvements that fed later success.

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[39] Kellett, M. and Dar, A., Children Researching Links Between Poverty and Literacy, Joseph Rowntree Foundation, 2007
[40] ibid
[41] JRF, op cit, p7
[42] For a fuller discussion of the London effect, see IGAU: The London Effect: Literature Review, April 2018
[43] Burgess, S., Understanding the Success of London's Schools, Centre for Market and Public Organisation, 2014
[44] Greaves, E., Macmillan, L., and Sibieta, L., Lessons from London Schools for Attainment Gaps and Social Mobility, Social Mobility & Child Poverty Commission, 2014

In commentary about the London effect, attention is usually paid to policies such as the London Challenge (an initiative intended to galvanize education reform through a mixture of leadership, behaviour reform and disseminating the use of data) and Teach First, a bid to attract high flying graduates to teaching. But Greaves et al say such policies came too late to have an effect and also targeted secondary schools which does not cohere with the rest of their findings. Yet the authors salute the National Strategies, launched in 1998, as being well-timed and appropriately focussed. However, given they were national, this does not help explain the differences between London and elsewhere.

Blanden *et al.* look to explain the London effect from 1994 onwards in terms of improvements among disadvantaged pupils[45]. These authors say ethnicity and primary schools played a part in the transformation and also dismiss the effect of policies. However, they argue that ethnic composition has not changed radically so cannot explain improvement. The authors also find improvement in primaries is an important cause in transformation, explaining one third of growth in Inner London KS4 performance. Support for the argument that the change owes much to the transformed performance of disadvantaged pupils is offered by Baars et al[46]. Quality of teaching, effectiveness of leadership, and teacher vacancy rates also improved more rapidly, but the report also emphasises the unique cultural factors that come together in the capital to enable change – gentrification, for example, as well as general economic and cultural opportunities; these may have enabled raised aspirations. Critically they also saw greater levels of funding as setting an "important threshold or precondition for transformation"[47]. Although programmes may not have triggered the transformation, the combined impact of Teach First, the London Challenge, and the process of schools becoming academics may have combined to stimulate further improvement.

There may be no definitive answer on why London has achieved a prominent turn-around in educational performance. Researchers have also yet to consider the impact of many other possible factors: for example, whether programmes focussed on improving education in the early years have enabled improved primary schools, the strong labour market in London, cultural resources and global flows of capital and people. Furthermore, it would be an error to believe it is automatically possible to replicate the mix of policy, people and circumstance that have enabled change in one area and assume it will have the same effect in another. Nevertheless the example of how an area with high disadvantage levels has improved so dramatically throws a challenge to other areas – as well as offering inspiration.

2.7 The outcomes perspective

In the pages that follow, although we look in detail at educational attainment, the project also analyses outcomes. So, for example, while GCSE scores are certainly one reflection on the nature of learning in a city region, another is what happens afterwards: the numbers of young people who drop out of learning or work altogether is certainly another reflection of the health of the system.

[45] Blanden, J., Greaves, E., Gregg, P., Macmillan, L., and Sibieta, L., Understanding the Improved Performance of Disadvantaged Pupils in London. London, UK: Centre for the Analysis of Social Exclusion, 2015.
[46] Baars, S., Bernardes, E., Elwick, A., Malortie, A., McAleavy, T., Mclnerney, L., Menzies, L., and Riggall, A. Lessons from London schools: Investigating the Success. CfBT Education Trust, 2014
[47] Ibid, p 56

3. Attainment and Performance in GM

3.1 Section Introduction

The section is structured as follows. First, we present attainment figures from four phases of education in 2016/17: the Early Years, Key Stage 2 (KS2), Key Stage 4 (KS4), and Key Stage 5 (KS5). GM is compared to the city-region average[48], London, England, and the 'Rest of England'[49] (henceforth 'RoE') followed by a more detailed examination by educational phase of attainment across the ten GM boroughs, and between GM and the core city regions.

In later sections we investigate gaps in attainment based around differences between pupils receiving free school meals (FSM) and those who do not. We also touch very briefly on the proportions of 'lower attainers' – those who fall beneath official benchmarks – and, equally briefly, on Ofsted's judgements of the quality of schools in the GM city region. The section concludes with a summary of the main findings.

3.2 GM's educational attainment in 2016/17

In the last year for which there is confirmed data – the 2016/17 academic year - GM's attainment in KS2 and KS5 in 2016/17 was higher than that of England and the RoE, but lower in the Early Years and KS4 (although the differences are marginal as far as the latter is concerned). Compared to the city region average (itself lower than the national average, indicating that England's large cities do not perform strongly on many measures) GM's attainment was higher in all phases except the Early Years. More specifically, in the Early Years, 68% of children in GM reached a 'good level of development' (GLD) compared to RoE and England averages of 71%, and the city-region average of 69%. At KS2, GM performed better than the RoE, England, and city-region averages in mathematics in 2016/17, with 76% of KS2 pupils in GM reaching the expected standard in mathematics, compared to 74% for the city-region and RoE averages, and 75% for the national average.

The current attainment measure used at KS4 is called Attainment 8 (A8), which is an average score rather than a proportion[50]. On this measure in 2016/17, pupils in GM had an A8 score that was 0.4

[48] The city region average includes all city regions except Greater Manchester and London. These regions were excluded from the city-region figure to isolate them for the purpose of comparison. 'Leeds (City region)' geography is used in the city region figure, rather than the alternative 'West Yorkshire (Leeds)'. The city region average for a given attainment benchmark is calculated by taking the total number of pupils in all city regions (except London and GM) who reached the benchmark, divided by the total number of pupils in these areas.

[49] Rest of England = England minus London and Greater Manchester. London's educational performance is exceptional. Using the RoE figure, alongside London and GM, allows us to compare GM both with London and with the RoE outside of London. Method as used in:
Macdougall, A. & Lupton, R. (2018a). *What, if anything, can Greater Manchester learn from London's educational success?* Inclusive Growth Analysis Unit. *http://documents.manchester.ac.uk/display.aspx?DocID=37619*

[50] Measures used for the other three education stages show the proportion of all pupils reaching a particular benchmark, whereas A8 refers to the average score achieved by each pupil across eight subjects. Progress 8 is the other closely watched KS4 metric that tracks the value added by schools to prior attainment. For space reasons we concentrate on attainment rather than progress.

of a point higher on average than the city region average. However, GM was 0.4 of a point lower than the RoE average, and 0.8 of a point lower than the national average.[51]

KS5 is the period of education between age 16 and 18. At the end of this period, students typically enter one or several exams to become 'qualified to Level 3'. There are several ways in which students can achieve this (see footnote 52). A common means of assessing how qualified young people are around this age in a given region is to investigate the proportion who are qualified to Level 3 at age 19. GM does comparatively well on this measure: 58% of 19 year olds in GM were qualified to Level 3 in 2017, making GM the best performing city region outside of London, and higher than the city-region average (54%), the RoE average (56%), and the national average (57%) by four, two and one percentage points, respectively[53]. London outperforms all city regions in all four phases of education in 2016/17. Its advantage is most pronounced at KS5, where 66% of 19 year olds are qualified to Level 3.

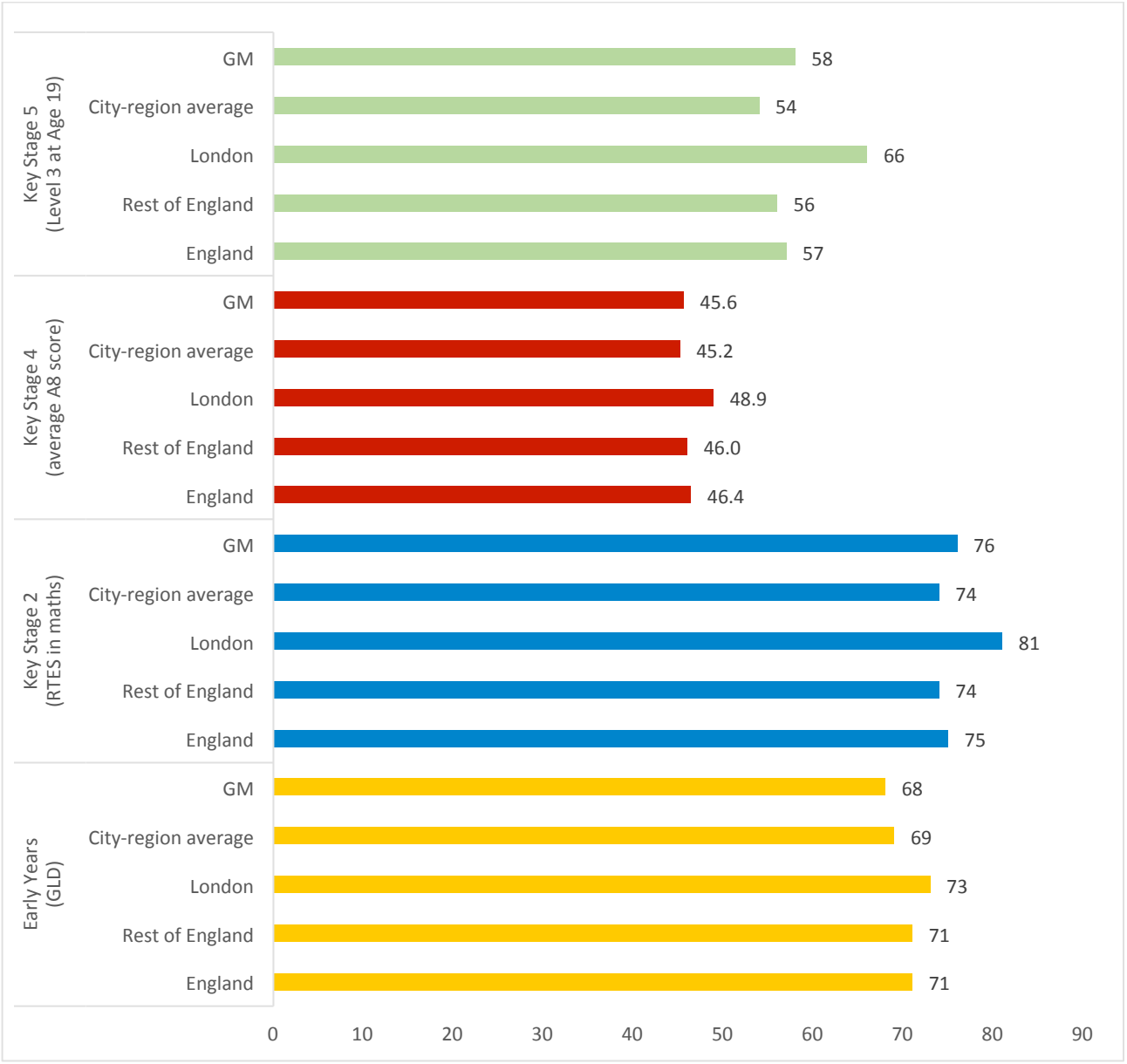
Therefore, most recent figures show that compared to the city region average, GM's overall attainment was higher in all phases except for in the Early Years. Compared to England and RoE overall, GM performs well at KS2 and KS5, but is behind in the Early Years and KS4. London performs better than every other city region at each stage. Figure 1 summarises this data.

[51] Recent changes to the A8 points system mean that understanding what these differences mean in terms of grade differences (i.e., A* - G) is less straightforward. A grade difference will likely equate to between 1 and 1.5 of a point on A8. See here for more details: https://www.gov.uk/government/publications/progress-8-school-performance-measure

[52] The most common way to achieve Level 3 attainment is through obtaining two or more A-levels at grades A-E. Alternatively, Level 3 attainment can be achieved through obtaining at least four AS levels at grades A-E, a pass in the International Baccalaureate, or through vocational qualifications: a pass in a Level 3 NVQ or in a Level 3 vocational qualification with at least 595 guided learning hours, or a pass in an advanced apprenticeship.

[53] This section of the report looks at the overall figure for GM. A section later in the report investigates variation across GM boroughs. It is worth acknowledging at this stage that GM's figure overall is often pulled up by particular boroughs.

Figure 1: Attainment in Early Years, KS2, KS4 and KS5



Data source: DfE

Nb. Measures used: Early Years – GLD; KS2 – reaching the expected standard in Mathematics; KS4 – average Attainment 8 score; KS5 – proportion of 19 year olds qualified to Level 3.

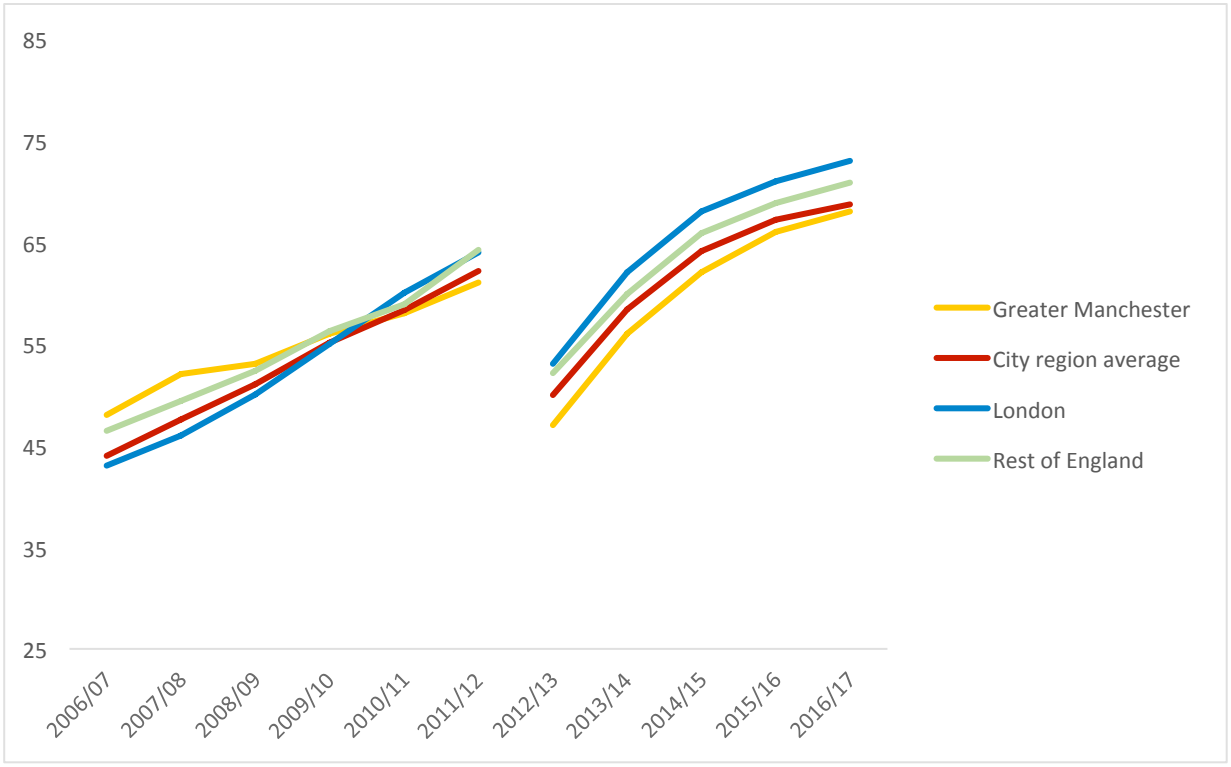
3.3. GM's educational performance in historical context

So far, the evidence is that there are clear lags to the national average in the early years and at KS 4, but GM surpassed the national average in KS2 and KS5 in 2016/17. Compared with other city regions and the rest of England, GM performed relatively well, except in the Early Years. But has this consistently been the story over recent years?

Early Years

Although recent figures show GM lagging in the proportion reaching the GLD benchmark in the Early Years, previous analysis has highlighted that this was not always the case[54]. Between 2006/07 and 2007/08, before the introduction of the Early Years Foundation Stage Profile (EYFSP), GM had a larger proportion of its children reaching GLD than London, RoE, and the city-region average.

Figure 2: Proportion of children reaching GLD in the Early Years, 2006/07 – 2016/17



Data source: DfE

Changes in relative performance from here onwards need to be understood in the light of changes to the GLD measure. Prior to the introduction of the EYFSP in 2008/09, GLD was calculated[55] based on development in only two areas of learning (AOL): Personal, social and emotional development (PSE) and Communication, language, and literacy (CLL). Children in GM performed

[54] Macdougall, A. & Lupton, R. (2018b). *Trends and performance in the London and Greater Manchester education systems, 2006/07 – 2016/17.* Inclusive Growth Analysis Unit. http://documents.manchester.ac.uk/display.aspx?DocID=37618

[55] GLD figures appear to have been calculated and used only internally by the Department for Education and Skills (DfES) prior to the introduction of the EYFSP, as there is no mention of the measure in curriculum guidance documentation; see: National Archives (2004). *Curriculum Guidance for the Foundation Stage.*

comparatively well in these areas, meaning that higher proportions of children reached GLD. In 2008/09, the EYFSP broadened the scope of the GLD measure, including AOL such as Knowledge and understanding the world, and Creative development. Doing less well in these areas, GM's children started to fall short of the overall benchmark; and although the proportion of children reaching GLD continued to increase year-on-year, GM's progress was slower relative to London, RoE, and the city-region average. The most recent iteration of the GLD measure (2012/13 onwards, hence the break in the data on the chart) places more emphasis on mathematics and literacy. On this measure during the most recent five years, GM maintained a fairly steady gap behind London and RoE of around five and four percentage points, respectively, and closed the gap on the city region average from three percentage points in 2012/13 to one in 2016/17[56].

Key Stage 2

Attainment at KS2 has been rising year-on-year across England[57]. The same is true for the city region average. However, between 2005/06 and 2014/15, GM performed better than both the RoE and city region averages, with greater proportions of pupils in GM achieving Level 4 or above in Mathematics[58]. Across this period, GM increased its performance relative to the RoE and city region averages from one and two percentage points respectively in 2005/06 to three percentage points in 2014/15.

In 2015/16 and 2016/17, the standard benchmark changed to 'reaching the expected standard', a more challenging measure roughly equivalent to achieving Level 4b under the previous benchmark system. Under this new system, GM continued to maintain a slight lead over RoE and the city region average of two percentage points (2016/17). Under the older system (until 2014/15) GM and London performed at around the same level on the Level 4 or above measure in Mathematics; however, since 2015/16 London has outperformed all other regions, including GM. A point to note here is that in GM, despite poor performance in Early Years, performance in KS2 does not seem to be affected – indicating, perhaps, that the long-term effect nature of the pre-school years may not be as deterministic as is sometimes imagined.

Key Stage 4

Although it was once the case that a smaller proportion of students in GM achieved 5+ A*-C grades (incl. English and Mathematics) compared to RoE, GM improved at a faster rate than RoE and London between 2005/06 and 2012/13, and has been about on par with RoE since[59]. Between 2005/06 and 2012/13, GM increased the proportion of students reaching this benchmark by 20 percentage points (from 40% to 60%), compared to 19 for both the city region average and London, and 16 for RoE. GM also experienced a slightly more rapid increase than London and the RoE throughout 2005/06 and 2012/13 in the proportion of students reaching the 'less academic' benchmark of 'achieving 5+ A*-C grades'. This indicates that GM's improvements during this period are not confined to one measure.

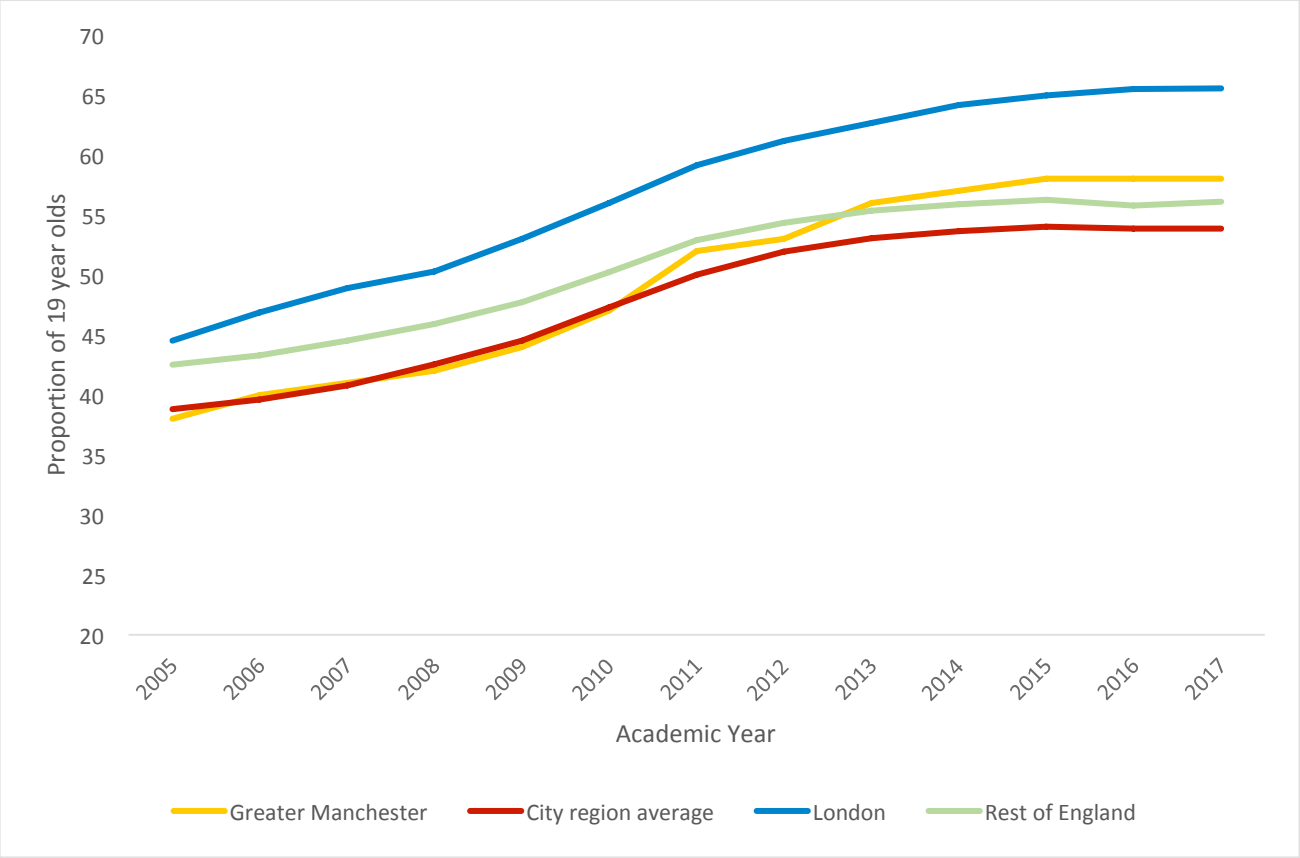
[56] The IGAU have an unpublished paper on this topic, available on request.
[57] Macdougall, A. & Lupton, R. (2018b). Op cit.
[58] Mathematics is used because it is the only subject at Key Stage 2 for which results are available every year for the past decade or so. Figures for other subjects have been combined over the years, and are therefore not comparable over time.
[59] Macdougall, A. & Lupton, R. (2018b). Op cit.

Key Stage 5

The chart below shows that from 2005 to 2010, GM had a similar proportion of all 19 year olds qualified to Level 3[60]as the city region average – around 39% in 2005, and 47% in 2010 – but both trailed behind London and RoE. GM's progress is noteworthy. GM had surpassed the city region figure by 2011, and then the RoE average by 2013. Fifty-eight percent of all GM's 19 year olds were qualified to Level 3 in 2017, which was three and four percentage points higher than the RoE and the overall city region figure, respectively.

Figure 3 also shows London as consistently ahead of GM, RoE, and the city region average since at least 2005. London increased the proportion of its 19 year olds qualified to Level 3 by 21 percentage points between 2005 and 2017, from 45% to 66%. However, GM showed a similar rate of progress, increasing its proportion by 20 percentage points from a lower base across the period, from 38% to 58%. This compares to percentage point increases of 14 and 15 for the RoE and city region averages, respectively.

Figure 3: Proportion of 19 year olds qualified to Level 3 in KS5, 2005 – 2017



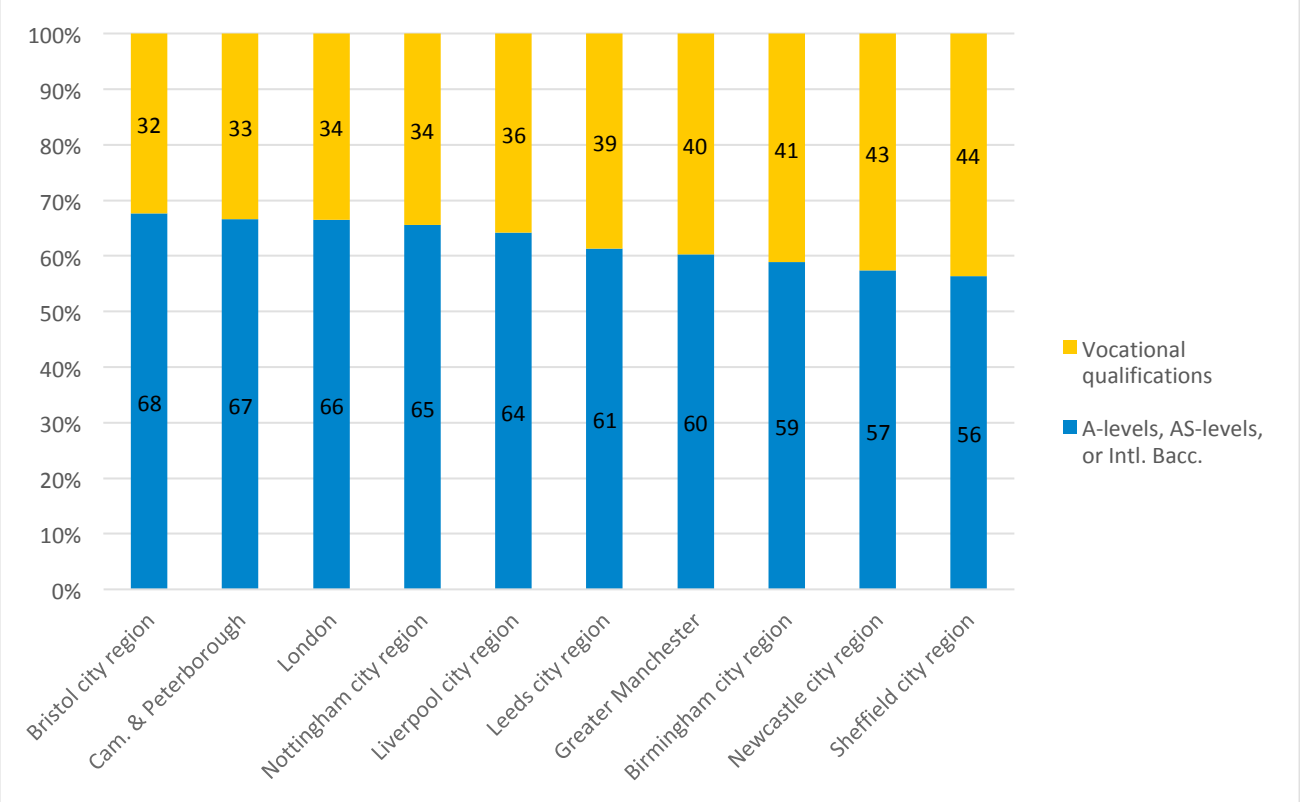
Nb. KS5 figures in Figure 3 are based on where students were learning at age 15. Data source: DfE

Of the 19 year olds nationally who were qualified to Level 3 in 2017, 63% became qualified through A-levels, AS-levels and the International Baccalaureate (IB). The remaining 37% achieved Level 3 through vocational qualifications. Figure 4 shows the same breakdown for each of the ten city regions. GM tends to have a smaller proportion becoming qualified through A- and AS-levels and the IB. Sixty percent of 19 year olds in GM obtained their qualification through A-levels, AS-levels,

[60] This particular measure takes all 19 year olds, and therefore includes those both in and out of learning. Other measures, investigated later in the report, look at what proportion of *students* are qualified to Level 3.

or the IB – three percentage points lower than the national figure. GM is also eight percentage points lower than Bristol city region, which had the largest proportion achieving Level 3 through studying for A- and AS-levels or the IB in 2017, and six percentage points lower than London[61].

Figure 4: Proportions of 19-year-olds who were qualified to Level 3 in 2017 via different pathways

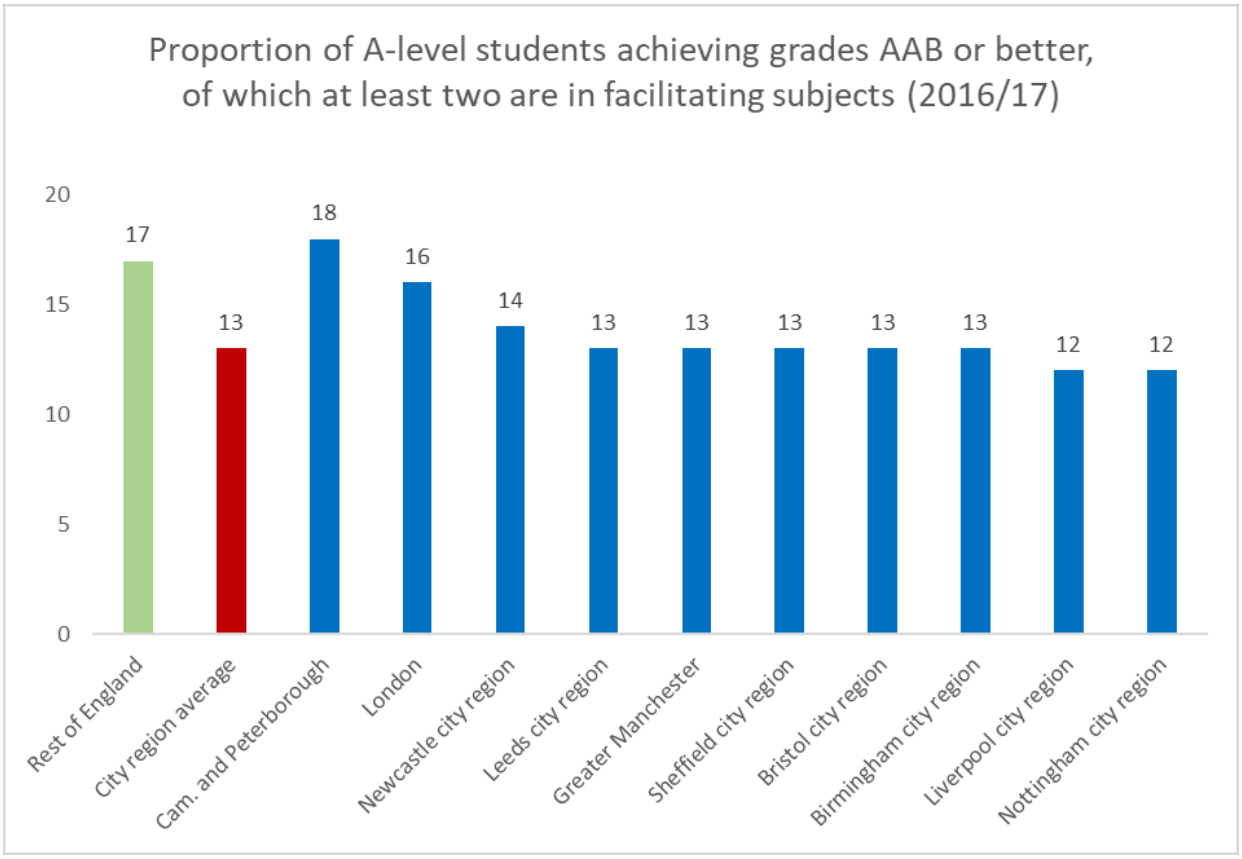


Data source: DfE

For each city region[62], and for the city region and RoE averages, the chart below shows the proportion of students at the end of 16-18 study in 2016/17 who achieved grades AAB, for which two of these subjects were 'facilitating subjects'[63]. Greater Manchester, Leeds, Sheffield, Bristol, and Birmingham city regions are at the city region average of 13% in the proportion of students reaching this attainment level. This is four percentage points lower than the RoE average of 17%. Only Cambridgeshire and Peterborough exceed the RoE average, indicating that city regions in general perform less well on this measure than areas outside city regions.

[61] In future research, it would be interesting to investigate whether certain qualification types are more heavily implicated in the growth shown for London and GM in the proportion of 19 year olds becoming qualified to Level 3.
[62] Data was not available at the level of the smaller constituent regions of some city region geographies. See Appendix 1 for an explanation of how we estimated the contribution of these smaller areas to the larger city region level.
[63] A level facilitating subjects are: biology, chemistry, physics, maths, further maths, geography, history, English literature, and modern and classical languages.

Figure 5: Proportion of A-level students achieving grades AAB or better, including at least two facilitating subjects



Data source: DfE

Table 1 shows the proportion of students reaching a high level of attainment in a selection of facilitating subjects, and the rates of entry into each subject. Overall, rates of entry into these subjects are similar in GM to the national average, with only a slightly smaller proportion of students taking mathematics exams (9% compared to 11% nationally).

In addition, the proportion of students qualified to a high standard across these subjects is also similar in GM to the national figure. GM had the same proportion of scientists qualified to a high standard as the nation as a whole (26%), two percentage points above the city-region average. GM has slightly smaller proportions of students qualified to a high standard in the remaining three subject areas; particularly in further maths where 51% of students in GM achieved a high grade compared to 55% in England as a whole.

Region	Sciences			English			Maths			Further maths		
	Number qualified A* - E	Rate of entry (%)	Prop. of those who sat exam that achieved A* - A (%)	Number qualified A* - E	Rate of entry (%)	Prop. of those who sat exam that achieved A* - A (%)	Number qualified A* - E	Rate of entry (%)	Prop. of those who sat exam that achieved A* - A (%)	Number qualified A* - E	Rate of entry (%)	Prop. of those who sat exam that achieved A* - A (%)
Birmingham	8782	20	22	4389	10	16	5058	11	33	641	1	51
Nottingham	1166	19	25	644	10	15	613	10	41	106	2	55
Liverpool	2841	18	23	1996	12	14	1601	10	37	227	1	45
Sheffield	2526	19	25	1760	13	11	1428	10	37	204	1	60
Leeds	5682	18	25	3551	11	15	2948	9	38	409	1	57
London	18960	19	25	9015	9	20	13135	13	39	2225	2	55
Newcastle	2948	18	26	2348	14	16	1559	9	40	249	1	59
Cam & Peter	1822	17	32	1079	10	20	1150	11	41	235	2	41
Bristol	1882	17	25	1299	11	17	1220	11	37	188	2	48
Greater Manchester	5719	18	26	3240	10	15	2926	9	38	418	1	51
City region average	27649	19	24	17066	11	15	15577	10	37	2259	1	52
England	107535	18	26	63940	10	17	66705	11	39	10885	2	55

Table 1: Subject entries and qualifications in core-city regions, 2016/17

Nb. 2016/17 figures. Sciences includes the biological sciences, physics and chemistry. Data based on the location of the KS5 institution that students learnt at. Data source: DfE.

3.4 Variation across Greater Manchester boroughs

Although city regions can be treated as economic units, it remains a vital point to stress that differences within GM are in fact much more profound than between GM and elsewhere. The GM city region is a microcosm of social differences, and not so much *different in its own right*.

Table 2 shows average attainment figures for all four education phases for all boroughs in GM, and for RoE and GM averages in 2016/17. The table also ranks attainment figures for each borough in each stage. It should be acknowledged, however, that these ranks offer only a crude guide to a borough's relative performance, as a small percentage point change could in some cases lead to a different set of ranks. Trafford stands out as a borough with exceptional achievement. Compared to all other boroughs, greater proportions of children in Trafford reached GLD in the Early Years in 2016/17; greater proportions reached the expected standard in maths at KS2; KS4 pupils on average achieved a much higher score on Attainment 8 in Trafford; and in post-16 learning, pupils who were learning in Trafford at age 15 went on to become qualified to Level 3 in greater proportions by the age of 19. To put this level of performance further into perspective, in 2016/17 Trafford performed better than the RoE and London average at all four stages of education[64].

[64] Trafford's exceptional performance is likely related to its higher-than-average socio-economic status, exemplified by the fact that only 10% of KS4 pupils in 2016/17 in Trafford were eligible for free school meals (FSM), compared to 26% in the borough of Manchester, and 13% in England as a whole.

Table 2: Level of development/attainment and ranks in GM boroughs, 2016/17

	Proportion reaching the benchmark/average score in 2016/17				Rank			
	Early Years	KS2	KS4	KS5	Early Years	KS2	KS4	KS5
RoE average	71	74	46.0	55				
Greater Manchester	68	76	45.6	58				
Bolton	66	76	43.7	59	6	5	6	3
Bury	69	79	46.0	65	3	2	4	2
Manchester	66	75	43.4	54	6	6	8	8
Oldham	64	74	43.6	56	9	8	7	6
Rochdale	64	71	42.5	55	9	10	9	7
Salford	68	75	41.7	50	5	6	10	10
Stockport	72	77	48.2	58	2	4	2	4
Tameside	66	74	44.8	54	6	8	5	9
Trafford	73	83	55.6	73	1	1	1	1
Wigan	69	79	46.2	57	3	2	3	5
Range:	9	12	13.9	23				

Nb. Measures used: Early Years – GLD; KS2 – reaching the expected standard in Mathematics; KS4 – average Attainment 8 score; KS5 – proportion of 19 year olds qualified to Level 3. KS5 figures are based on where students were learning at age 15. Data source: DfE

In contrast to this, in the same year pupils in Rochdale achieved below (in Early Years, KS2, and KS4) or at the same level as (in KS5) the RoE and city-region averages. Oldham shows a similar pattern. Salford is notable for scoring lowest ranking in both KS4 and KS5. KS5 stands out for having the biggest range: 73% in Trafford reached the average attainment benchmark compared with 50% in Salford – a gap of 23 percentage points.

3.5 Core-city region comparisons

Table 3 gives average attainment figures for 2016/17 in each of the ten city regions, plus the city region and RoE averages. Like Table 2, it ranks the city regions based on their attainment figures. GM does well compared to most other city regions. In all education stages except the Early Years, GM performs in the top two city regions outside of London. Of particular note, GM had the largest proportion of 19 year olds outside London qualified to Level 3 in 2017: 58% compared to the city region average of 54%.

However, a GM average that omits Trafford would look different. Proportions of pupils reaching the benchmark/scores in each stage of education would decrease from that shown in Table 3 to 67%, 76%, 44.5 points, and 56%, in the Early Years, KS2, KS4, and KS5 respectively. Ranks would also decrease to 9, 3, 9, and 3[65].

Table 3: Level of development/attainment and ranks in core-city regions, 2016/17

	Proportion reaching the benchmark/average score in 2016/17				Rank			
City Region	**Early Years**	**KS2**	**KS4**	**KS5**	**Early Years**	**KS2**	**KS4**	**KS5**
City region average	69	74	45.2	54				
RoE average	71	74	46.0	55				
London	73	81	48.9	66	1	1	1	1
Greater Manchester	68	76	45.6	58	6	3	3	2
Bristol	72	74	45.0	54	2	6	6	6
Cam & Peter	69	72	46.1	57	5	10	2	3
Newcastle	72	78	44.7	53	3	2	9	8
Leeds	68	73	45.5	55	7	9	4	5
Sheffield	70	74	44.8	50	4	5	7	9
Birmingham	68	73	45.4	56	8	8	5	4
Liverpool	66	74	44.8	53	10	7	8	7
Nottingham	67	76	44.3	47	9	4	10	10

Nb. Measures used: Early Years –GLD; KS2 – reaching the expected standard in Mathematics; KS4 – average Attainment 8 score; KS5 – qualification level 3. KS5 figures are based on where students were learning at age 15. Data source: DfE

3.6 Attainment gaps

In this section we examine 'gaps' between results for different cohorts. We focus on disadvantaged pupils and the comparison to non-disadvantaged pupils because this difference

[65] It should be noted that although Trafford is shown here to have a large impact on GM's overall attainment, high-attaining boroughs will also exist in other city regions, and will therefore have similar effects on the overall city region figure. Analysis of high-performing boroughs in other city regions was not conducted for this report.

is most relevant to GM's educational performance and economic future. There are other important differences between cohorts, however. It is generally widely known that girls do much better than boys – they achieve half a grade higher on A8 at KS4, for example - although the gap diminishes by the time of A levels. Meanwhile, ethnic minority pupils and those with English as an additional language (EAL) tend to do marginally better than average at KS4, while those with a Special Educational Need (SEN) achieve one and a half grades lower than those without. Across all these cohort issues the gaps are very similar to the situation elsewhere in the country so for reasons of space we do not cover these issues in depth here. A fuller analysis of cohort types is available in GMCA's analysis of school performance data[66].

Previous work[67] has shown that GM has had a smaller gap between the performance of pupils who receive free school meal (FSM) and those who do not than the RoE fairly consistently for the past decade at both KS2 and KS4. But it is important when interpreting this finding to establish whether this is due to disadvantaged pupils doing well or to lower attainment overall, which, on the analysis contained in this review, is likely to vary by educational phase. As an example, in 2016/17 in GM the gap between those in receipt and those not in receipt of FSM was 17 percentage points at KS2 and 12 points at KS4 (using the benchmarks 'reaching the expected standard in maths' and 'Average A8 score'). This compares to 21 percentage points and 14 points for RoE. GM had a larger disadvantage gap than RoE in the Early Years, until around 2009/10. Since 2012/13, GM's FSM gap in the Early Years has been smaller than RoE (around 17 percentage points compared to 19); however, this is due to non-disadvantaged children doing comparatively worse on the GLD measure, rather than disadvantaged children doing better, and therefore not necessarily a sign of progress. At KS5 in 2017, GM had the same gap as the city region average (26 percentage points) in the proportion of its 19 year olds that were qualified to Level 3. This was smaller than the RoE gap of 29 percentage points.

Now turning to examine disadvantaged pupils only, the proportion of GM's disadvantaged pupils reaching the expected standard in KS2 maths was joint highest (with Newcastle) of all city regions outside London at 62%. In addition, GM's disadvantaged pupils performed second best (to Birmingham) of all city regions outside London in both KS4 and KS5.

In the past GM has explained lower performance by reference to higher levels of disadvantage. GM has rates of disadvantage that are approximate to the city region average, but larger than the figure for the Rest of England. For example, the proportion of pupils in the Early Years, KS2, and KS4 who were eligible for FSM in 2016/17 in GM was 17%, 19% and 17%, respectively. This compares to 17%, 18%, and 16% for the overall city region figure, and 13%, 14%, and 13% for the RoE. Therefore, GM has higher rates of disadvantage than the rest of the nation, but similar rates of disadvantage to the city region average.

GM does better than expected at KS2 and KS4 given its levels of disadvantage. For example, although GM has the fifth highest rate of disadvantage at KS2 (19%), it had the joint second highest proportion reaching the expected standard in maths. Newcastle also performed very

[66] GMCA, Attainment and Performance in Education, 2017
[67] Macdougall, A. & Lupton, R. (2018b). Op cit.

well in the Early Years and in KS2 given its level of disadvantage. It has the second highest rates of disadvantage in both these phases (19% and 20% in EY and KS2), but showed the second highest level of attainment (72% reached GLD; 78% reached the expected standard in maths). London does particularly well at KS4 despite its levels of disadvantage. In the same year 18% of pupils in London at KS4 were eligible for FSM (second highest behind Liverpool), but their average A8 score was 48.9 – at least 2.5 points ahead of any other city region and the national average.

Now we turn to disadvantage gaps across GM boroughs in attainment at each phase of education. Table 4 shows the differences between pupils who receive FSM and those who do not and their ranks across the 10 GM boroughs.

Table 4: Free school meal gaps in GM boroughs, 2016/17

	FSM gaps in 2016/17				Rank			
	Early Years	**KS2**	**KS4**	**KS5**	**Early Years**	**KS2**	**KS4**	**KS5**
RoE average	18	21	14.4	29				
Greater Manchester	16	17	12.4	26				
Bolton	17	15	13.8	26	6	3	8	7
Bury	10	23	11.1	21	1	9	4	2
Manchester	10	14	10.2	22	1	2	3	4
Oldham	14	13	9.7	25	4	1	2	6
Rochdale	16	17	8.9	20	5	4	1	1
Salford	12	18	12.0	22	3	6	6	3
Stockport	25	24	14.4	34	9	10	9	10
Tameside	18	18	12.4	23	7	6	7	5
Trafford	27	19	20.1	33	10	8	10	9
Wigan	23	17	11.5	30	8	4	5	8

Nb. Measures used: EY – GLD; KS2 – reaching the expected standard in Mathematics; KS4 – average Attainment 8 score; KS5 – proportion of 19 year olds qualified to Level 3. KS5 figures are based on where students were learning at age 15. Data source: DfE

Stockport, Trafford, and Wigan tend to have the largest gaps between FSM-receiving pupils and those not in receipt. FSM gaps in these boroughs are much larger in the Early Years, KS2

and KS4. In Stockport, as Table 5 shows, this is because greater proportions of disadvantaged pupils tend to reach each benchmark. Trafford's larger gaps, however, are due to much larger proportions of non-disadvantaged pupils achieving the benchmarks, rather than smaller proportions of disadvantaged pupils achieving them.

Trafford in the Early Years is an interesting case: Trafford has the smallest proportion of disadvantaged children of all boroughs who reach GLD, but the largest proportion of non-disadvantaged children reach GLD. In this same year, only 7% of children in Early Years in Trafford were eligible for FSM, compared to 34% in Manchester, illustrating the difference in socio-economic composition of these two local authorities.

Table 5: Level of development/attainment and ranks for FSM-eligible and non-FSM eligible pupils

FSM-eligible pupils only:	**Proportion of pupils reaching benchmark in 2016/17**				**Rank**			
	EY	**KS2**	**KS4**	**KS5**	**EY**	**KS2**	**KS4**	**KS5**
RoE	54	56	33.5	31				
GM	54	62	35.1	37				
Bolton	52	64	32.1	37	4	4	9	5
Bury	60	59	36.4	47	1	7	2	1
Manchester	59	65	35.8	38	2	2	4	4
Oldham	52	63	35.6	37	4	5	6	6
Rochdale	51	58	35.4	40	6	9	7	3
Salford	58	61	31.9	33	3	6	10	8
Stockport	50	56	35.7	29	8	10	5	10
Tameside	51	59	34.8	35	6	7	8	7
Trafford	48	66	37.5	44	10	1	1	2
Wigan	49	65	36.0	31	9	2	3	9
Non-FSM eligible pupils only:	**Proportion of pupils reaching benchmark in 2016/17**				**Rank**			
	EY	**KS2**	**KS4**	**KS5**	**EY**	**KS2**	**KS4**	**KS5**

RoE	73	77	47.8	60				
GM	70	79	47.5	63				
Bolton	69	79	45.9	63	6	5	7	3
Bury	70	82	47.5	68	4	2	3	2
Manchester	69	79	46.0	61	6	5	6	6
Oldham	66	76	45.3	61	10	9	8	5
Rochdale	67	75	44.3	59	9	10	9	8
Salford	70	79	43.9	55	4	5	10	10
Stockport	75	80	50.1	63	1	4	2	4
Tameside	69	77	47.2	58	6	8	5	9
Trafford	75	85	57.6	77	1	1	1	1
Wigan	72	82	47.5	61	3	2	3	7

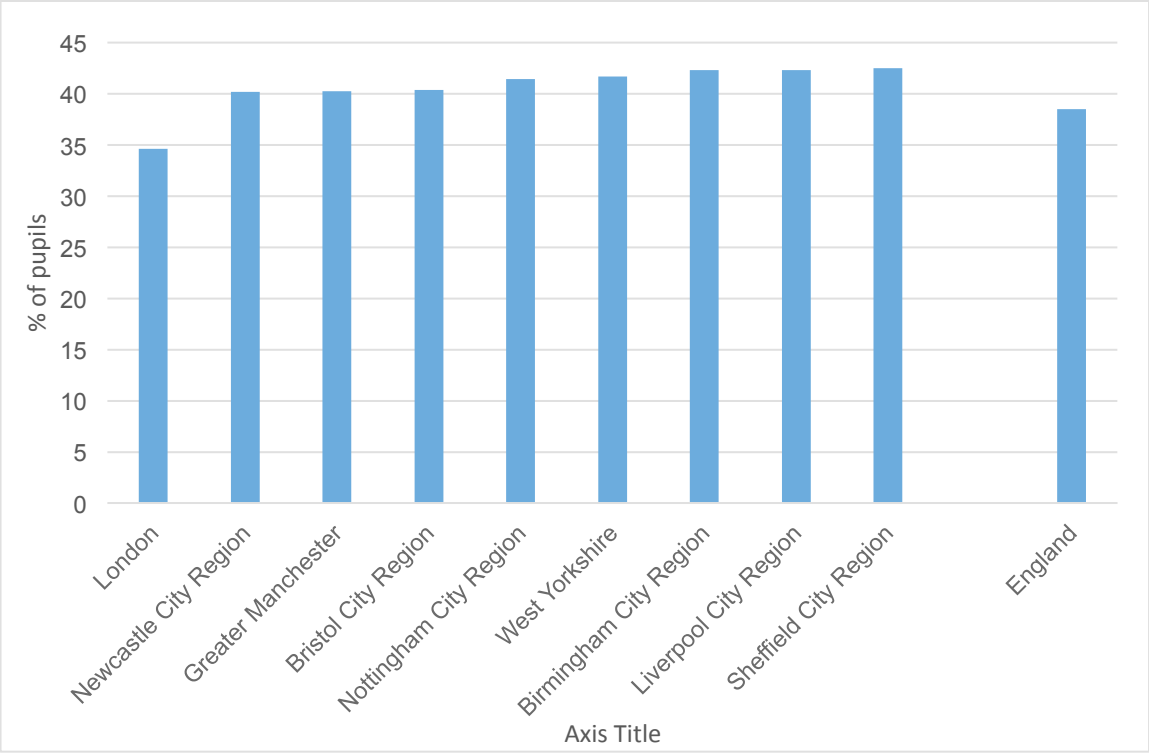
Nb. Measures used: Early Years (EY) – GLD; KS2 – reaching the expected standard in Mathematics; KS4 – average Attainment 8 score; KS5 – proportion of 19 year olds qualified to Level 3. KS5 figures are based on where students were learning at age 15. Data source: DfE

3.7 'Lower attainers'

At this point in the analysis we pause to consider a specific issue within the debate about attainment: that of the 'lower attainers'. There are a number of ways to define lower attainers, but we follow Velthius[68] in a paper for the IGAU in using the definition of those who did not achieve a grade 4/C or above in both English and maths GCSE at KS4. The data comes from the IGAU project on low attainers. In GM, about two in five young people did not achieve the benchmark, which is slightly above the England average, but either similar or below that of many other comparable city regions within England. The chart shows these differences.

[68] Velthius, S., Lower attainers in Greater Manchester and Newcastle City Regions, IGAU, forthcoming. The term lower attainers is used as a shorthand for those whose attainment falls below the official benchmark, but it needs to be recognised that what constitutes 'good' attainment and 'low' attainment are subject to change over time as policy targets and benchmarks shift. Levels of attainment varies quite substantially within this segment of young people, and that what may be 'low' attainment for some people may be good attainment for others.

Figure 6: Percentage of pupils not attaining A-C/9-4 in English and maths in Core City Regions, average over period 2012/13 to 2016/17*



Sources: SFR05/2014: GCSE and equivalent attainment by pupil characteristics: 2013 - National and local authority tables; SFR06/2015: GCSE and equivalent attainment by pupil characteristics: 2014 - National and local authority tables; SFR03/2016: GCSE and equivalent results: 2015 to 2016 (revised) - Characteristics local authority tables; and SFR01/2018: GCSE and equivalent results: 2016 to 2017 (revised) - Characteristics local authority tables.

Yet once more the greater insight is the scale of the difference between the various areas of GM rather than the comparison between city regions. In Trafford, just a quarter of pupils fall into this category, but in Salford, Manchester, Oldham and Rochdale, about 45% of young people do not reach the official benchmark. There is a very large gap between the district with the lowest proportion of 'low attainers' and the next lowest (Stockport on 36%)[69]. Unsurprisingly, disadvantage plays a part: in GM the proportion of lower attainers who are eligible for FSM is 28 per cent. About 30% of lower attainers have a Special Educational Need. In general in GM a lower proportion of pupils has an SEN (16%). Ethnicity rates and numbers of pupils with English as an additional language are higher in GM than in other city regions, but because EAL pupils tend to do slightly better than others this factor is unlikely to affect the results. Trafford is an interesting area. It has very few FSM-eligible pupils (11 per cent, the lowest out of all local authorities in Greater Manchester), but because the attainment gap between FSM-eligible and non-FSM-eligible pupils is so large[70], FSM-eligible young people nonetheless make up a fairly substantial proportion of lower attainers (about 24 per cent).

[69] There is a large difference in attainment among 'lower attainers'. Some pass five subjects, just not English and maths, while others do not pass any.

[70] This is not because FSM-eligible pupils in Trafford tend to have lower attainment than in other areas (in fact, attainment among those eligible for FSM is relatively high in Trafford compared to other local authorities in

3.8 Ofsted: the quality of schools in GM

Thus far, we have examined the performance of schools from attainment scores and the use of different geographical comparators. But Ofsted judgements on the quality of schools are also of relevance. Ofsted judgements are dealt with in greater depth elsewhere, but a brief summary of the situation is also relevant to this Review[71].

Ofsted data suggests that the issue in Early Years in GM is not obviously one of provider quality: nine out of ten Early Years providers (and indeed primary schools) are rated either outstanding or good, both in GM and nationally. But these proportions go down to just three in four secondary schools, both in GM and nationally.

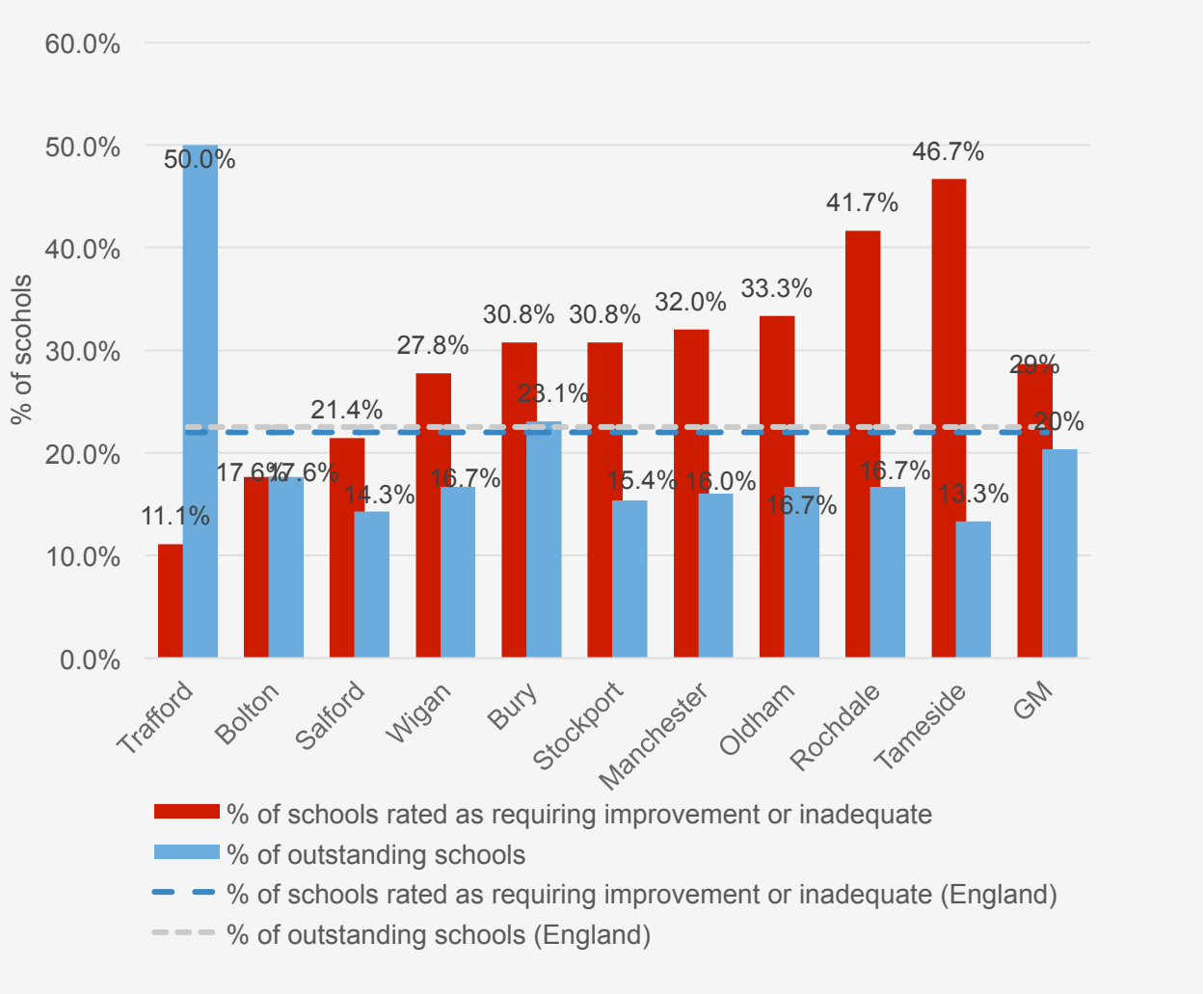
Relatively fewer GM secondary schools were rated outstanding by Ofsted compared to national levels – 20.4% in GM and 22.5% in England. Around 37,000 GM pupils attended one of GM's 32 outstanding state-funded schools. The proportion of outstanding schools in GM is boosted by Trafford schools. Across the other nine GM districts, only 17% of schools were rated as outstanding, compared to 22.5% nationally. At secondary school level, more schools are rated as 'inadequate' - the lowest rating possible - than at any other school level, both in GM and nationally. With one in 18 schools rated inadequate in GM (or 5.7%), local levels are slightly above the national average of one in 22 schools (or 4.5%).

Overall, 45 GM schools are rated as requiring improvement and inadequate, teaching just under 42,000 pupils. This again reflects higher levels than nationally, with well over one in four schools affected in GM (or 29%), compared to just over one in five schools nationally (22%). In short, GM's secondary schools do slightly lag the national average on quality ratings, although the differences are not large.

Greater Manchester), but because attainment among non-FSM-eligible pupils is much higher than in other areas. This is likely to be due in part to the selective school system operating in Trafford.

[71] See GMCA, Performance in GM schools. KS 5 providers are not included in this analysis

Figure 7: Ofsted ratings of state-funded secondary schools in GM (as of March 2017)



Source: Ofsted, Maintained schools and academies inspections and outcomes as of March 2017

3.9 Summary of attainment section

The main points of this section are:

- In 2016/17 GM had lags to the national average in two education phases (Early Years and KS4). In two others (KS2 and KS5) it surpassed the national average. It compares relatively favourably against other large cities and against the RoE in all phases except the Early Years where underperformance is consistent.
- GM has levels of pupil disadvantage that are similar – if slightly higher – than core city averages. These are higher than the RoE. For example, 19% of primary pupils are disadvantaged (the fifth highest of all the city regions). But GM had the second highest proportion reaching the expected standard in maths.

- Progress at KS 5 has risen; it had surpassed the city region figure by 2011, and then the RoE average by 2013.
- Differences between and within the GM districts are more significant than between GM and other comparators. GM has some of the highest performing and lowest performing local authorities. However, without the presence of the higher performing, average results for the city region as a whole would be lower.
- Attainment gaps between advantaged and disadvantaged pupils are lowest where attainment overall is lower; this ought not necessarily to be interpreted as a progressive result.
- The notion of systemic underperformance is misplaced. Although there are issues with two specific phases (Early Years and KS4), in respect of KS4 performance is very similar to other big English cities, while improvements have been more rapid. Challenges with performance in the education system ought to be viewed as a 'cities problem' in specific education phases rather than with all schools.
- In terms of policy implications, GM needs to continue and deepen its attention to improving results in the Early Years. It also needs to reflect on what steps it can take to exert influence over a highly fragmented education landscape in secondary schools up to the age of 16 to help address sub-average performance.

4. Destinations of Learners in Greater Manchester

4.1 Introduction to the section

After age 16 in the English education system a much wider range of transitions opens up. Learning must continue in some form up until the age of 18, although it can be 'a job with training' or an apprenticeship meaning that for some young people their next transition will be into the labour market; in practice, though, most young people stay in formal education after 16, whether to go on to do A levels or pursue vocational options in further education (or indeed to retake lower level qualifications). Analysing these types of transitions – or 'destinations' as they are known in skills research - is an alternative way of assessing the functioning of the education and skills system within the GM city region and how it compares to other cities and to national norms.

The concept of a 'destination' refers to where learners go on to after each stage of education. The data used in this section comes from the Longitudinal Educational Outcomes (LEO) dataset, which brings together data about learning[72] with data from tax authorities and the Department for Work and Pensions to provide information about medium to long-term outcomes for specific education and skills pathways. Further information about LEO, and its vocabulary and parameters, is available in Appendix 2 and 3 at the end of the report, but some points are worth emphasis.

First, up to this point this technical report has focused exclusively on young people, but LEO enables insight into older learners as well in some, if not all, pathways; after all, 'the system' needs to be able to deal with adjustments in careers in response to technological or economic change, as well as preparation for work.

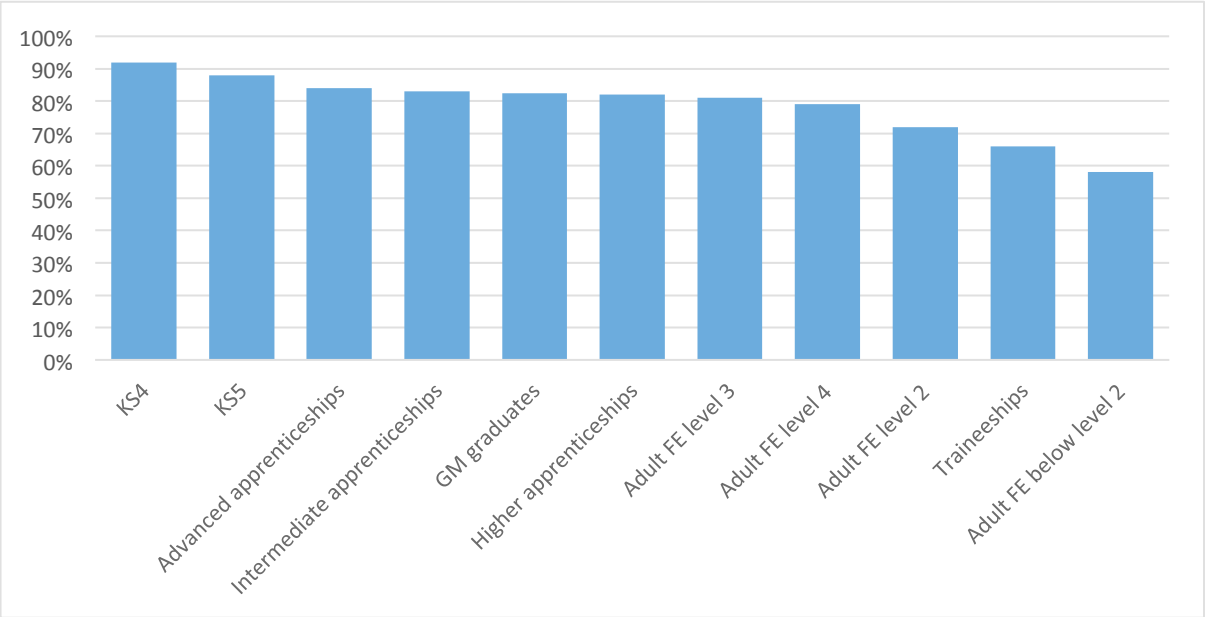
Second, there are some significant gaps in what is available. For instance, there is no publicly available LEO data available for 16-18 further education leavers. This is a gap government statisticians are seeking to remedy at the time of writing. Elsewhere, the data is patchy. Detailed salary information is available in respect of university graduates and apprenticeships, but not for those who leave classroom learning in FE colleges. Some of this patchiness tends to frustrate valuable comparisons which would yield practical information relevant to life-choices – for instance, whether better salaries are on offer if a young learner undertakes an apprenticeship or level 3 FE in a classroom. Unfortunately, salary details are only available for apprenticeships so no comparison is possible. The guiding principle of the LEO analysis has been to utilise what is available and seek further releases.

Perhaps the only measure where a comparison is available across learning pathways is for 'positive destinations' of further learning or work after finishing a course or apprenticeship. Arguably the comparison is somewhat unfair because learning pathways, and the types of learners that make use of them, are very different and occur at different life stages. However, it is possible to see the variability in the types of destinations secured post-learning. In brief,

[72] National Pupil Database for schools; Individualised Learner Record for post 16 FE; Higher Education Student Record for HE

positive destinations go up with level (they also tend to go down with age as is shown by the chart at the end of the destinations section). Although life-stages will affect this finding, the implication appears to be the more learner progression there is, the better the likely outcome.

Figure 8: Sustained destination rate one year post completion – post-16 education and skills



Source: DfE; LEO

The chart above shows that KS4 and 5 have the highest overall sustained destination rates, which is unsurprising as they cover compulsory education ages. Apprenticeships have the next highest sustained destination rates, which may reflect the fact that the learner is already situated in the labour market (an apprenticeship is a job). Destination rates for graduates are similar to apprenticeships, bearing in mind that graduates may take longer than apprentices to 'settle' into a sustained job. Sustained destination rates for adult education then decrease as the level of learning decreases showing clearly that the higher the level of adult FE learning, the higher the likelihood of being in sustained employment/further learning a year later.

The structure of the section is as follows.

First, we examine the destinations pursued by different types of learners at age 16 and the effect of disadvantage on those destinations, drawing contrasts both with the overall English picture and with the experience of other city regions. The same treatment is given to the transition at KS5.

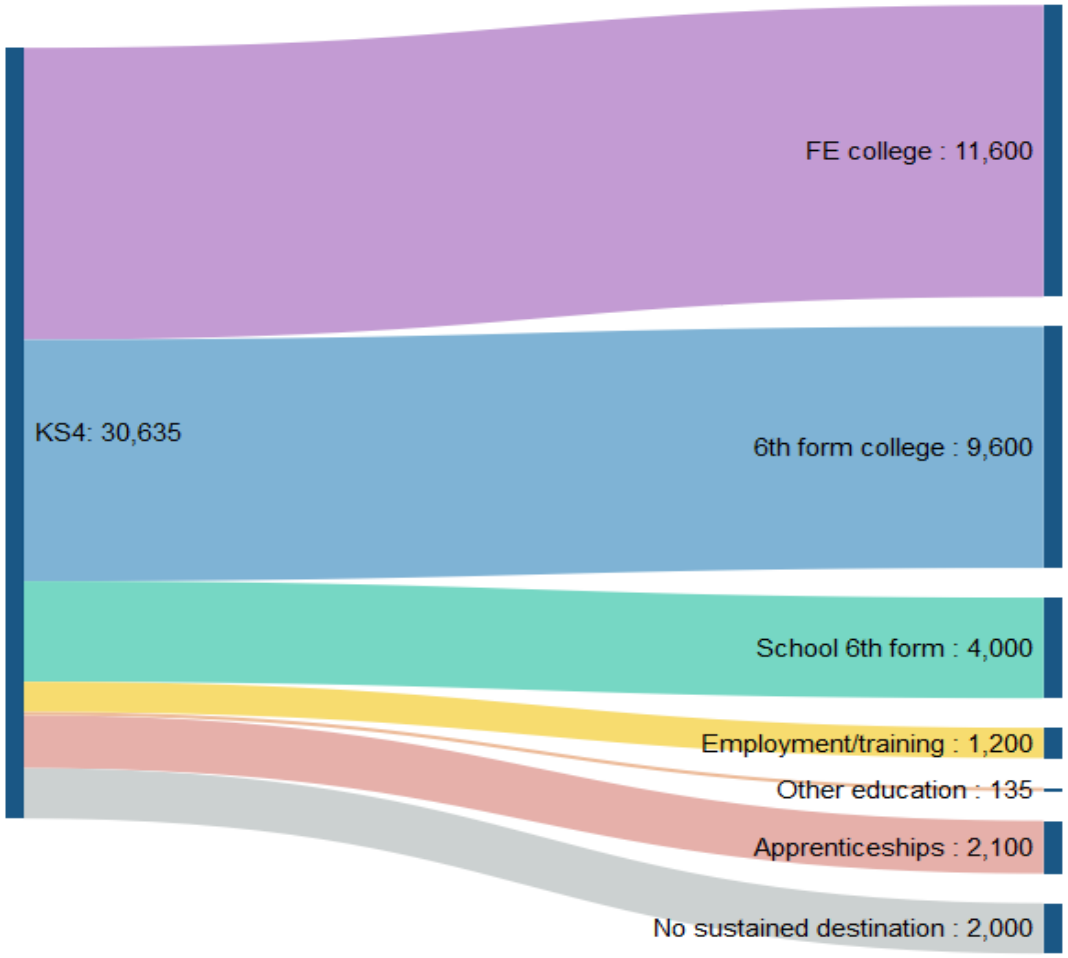
Next we turn to FE, apprenticeships and graduates in terms of employment opportunities, and, where available, salaries. We begin the story of the post 16 transitions learners make in GM by returning to GCSE results and the decisions young people make about their next step in life, obviously in light of the results that they received.

4.2 After Key Stage 4

GM is unusual in the structure of 16-18 education because relatively few schools offer A levels and the Sixth Form College sector is much larger than in most other areas of England. Space precludes entering the history of why this pattern has developed.

Structures still vary very significantly within the constituent districts of GM. But at age 16, almost a third of all young people go to Sixth Form College. The diagram below shows the totals, but as proportions, 38% of young people go into further education, 32% go to sixth form college, 13% go to school sixth form, 4% go into employment with training and 7% go into an apprenticeship; a very small number pursue 'other education' – most typically specialist education - and 7% fall into 'no sustained destination', meaning they do not progress to any sustained destination[73] (a small number are also lost from the system of monitoring). The data refers to destinations recorded in 2015/16 for individuals who left KS4 in 2014/15.

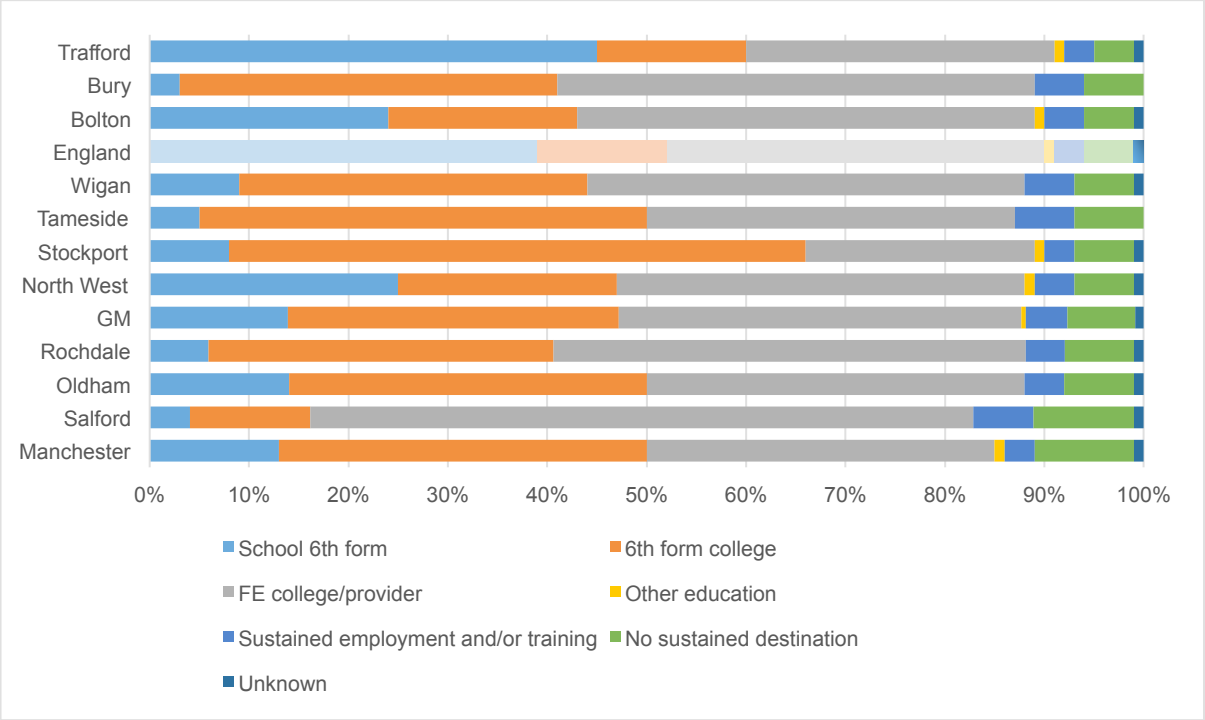
Figure 9: Progression of learners after KS 4 (2014/15



[73] The term 'sustained destination' means the learner is recorded in one of the destination categories through five of the six months from October to March following completion of the key stage KS4/5

The group of young people who end up either with 'no sustained destination' or 'unknown' are likely to overlap with those who drop out of education altogether and become 'NEET' – not in education, employment or training[74]. The GM average sustained destination rate post-KS4 was 92%, two percentage points lower than the 94% England average. This means that 8% of KS4 leavers from GM did not sustain an education, training or employment destination during 2015/16, ranging from 11% in Manchester to 5% in Trafford[75]. This finding points to evidence of GM appearing to 'do worse' in the journeys it sets young people up for because of the higher rate of dropping out. All types of schools were beneath the England average.

Figure 10: Destinations of KS4 leavers from GM, 2015/16



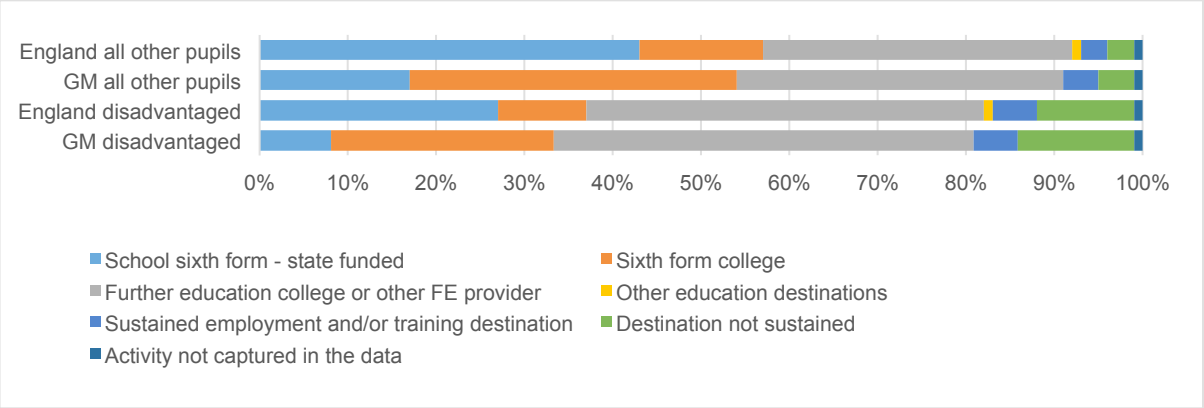
Source: DfE, Key Stage 4 destination measures 2015/16, SFR 56/2017

4.3 Disadvantage (KS4)

Disadvantaged pupils in GM were much less likely to have a sustained destination than other pupils (86% vs 95%), as can be seen in the chart below. Furthermore, disadvantaged pupils were slightly less likely than non-disadvantaged pupils to go on to an apprenticeship, but slightly more likely to go on to some other employment or training destination; at this age, leaving education to get a job is a more likely pathway for the less well off. The figures for no sustained destinations are very stark: disadvantaged pupils in GM were more than 3 times more likely to have no sustained destination in 2015/16 than non-disadvantaged pupils.

[74] GM Labour Market and Skills Review, 2017/18, GMCA, 2018
[75] Including 0.85% of people for whom destination was 'unknown'

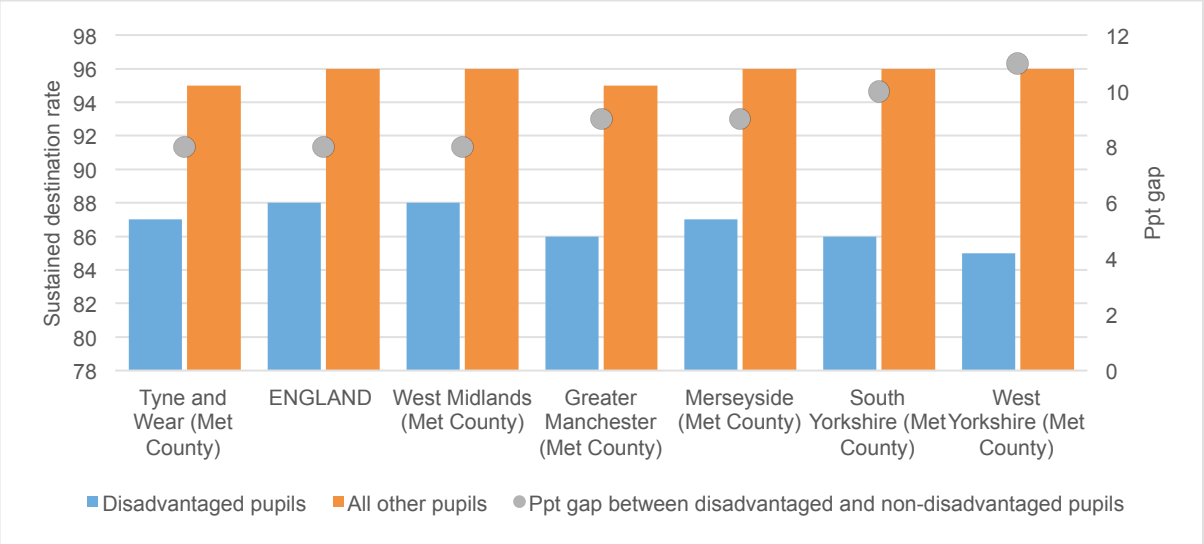
Figure 11: Destinations of KS4 leavers by disadvantage status



Source: DfE, Key Stage 4 destination measures 2015/16, SFR 56/2017

However, as with attainment measures, it is worthwhile considering findings on disadvantage in the context of place. Compared with other broadly similar city regions in England the discrepancy shrinks to just a single percentage point of difference between sustained destination rates for non-disadvantaged pupils across the Northern and West Midlands metropolitan areas (see chart below). But the gap between disadvantaged and non-disadvantaged pupils ranges from 11 ppts in West Yorkshire to 8 ppts in Tyne and Wear. GM is at the lower end of this scale, with a gap of 9ppts in the sustained destination rate between disadvantaged and non-disadvantaged pupils, and this is due to the lower destination rates for both non-disadvantaged and disadvantaged pupils. As discussed above, it would be wrong to celebrate a lower disadvantage gap if the reason for it is worse overall results on outcomes.

Figure 12: Overall sustained destination rate by disadvantage status, comparison with metropolitan areas



Source: DfE, Key Stage 4 destination measures 2015/16, SFR 56/2017

NB: Ppt gap on the second axis refers to percentage point gap between pupils by disadvantage status. This is the same in subsequent charts.

4.4 KS5 destinations

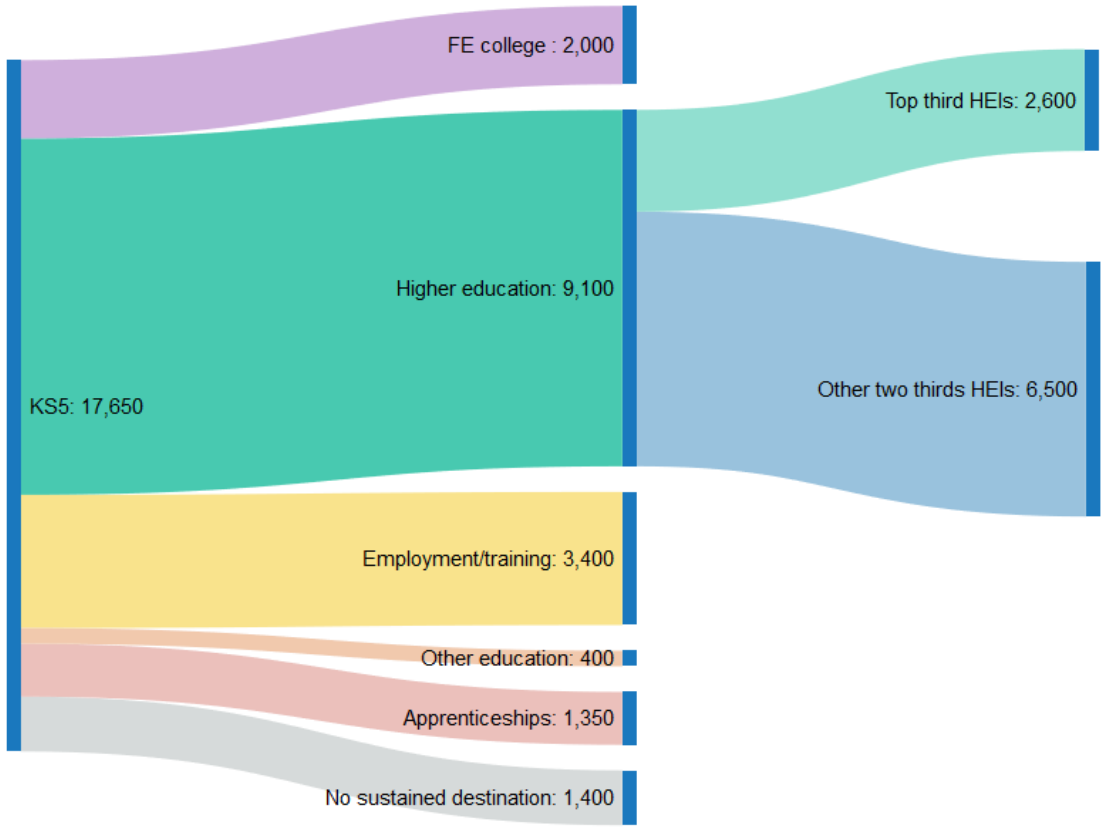
The next significant transition point in a young person's trajectory is after KS 5, typically at the age of 18. KS5 destinations data applies to the 60% of young people who studied at KS5 (level 3) before going onto their chosen destination. The remaining 40% of pupils study lower level qualifications or do not enter qualifications after KS4 (level 2). The requirement for them to keep working away at obtaining a pass (level 4) in English and maths post-16 is beginning to receive some policy attention as evidence mounts that the majority of these learners do not make progress the second time around[76]. It is worth noting, though, that the variety of learning possibilities is transformed between KS4 and KS5 with vocational courses which are equivalent to a level 3 – for example, BTEC diplomas and extended diplomas - also available at further education and many Sixth Form Colleges, alongside standard academic qualifications[77]. So it is at this point that the distinction between generically transferable 'education' and the more vocationally applicable 'skills' becomes properly apparent.

The diagram below gives a graphical expression of these destinations. In terms of proportions, the dominant destination at age 18 for young people who undertook KS5 qualifications is university (52%). A little short of a fifth (19%) enter employment or work-based training of some type, 11% go into further education, apprenticeships account for about 8%, and 'no sustained destination' also for 8%. A very small proportion (2%) go into 'other education' – private training or specialised educational facilities.

[76] Velthuis, S., Lupton, R., Thomson, S. and Unwin, L. *The characteristics and post-16 transitions of GCSE 'lower attainers'* (2018). Working paper available at: http://hummedia.manchester.ac.uk/institutes/mui/igau/lower_attainers_working_paper_oct2018.pdf

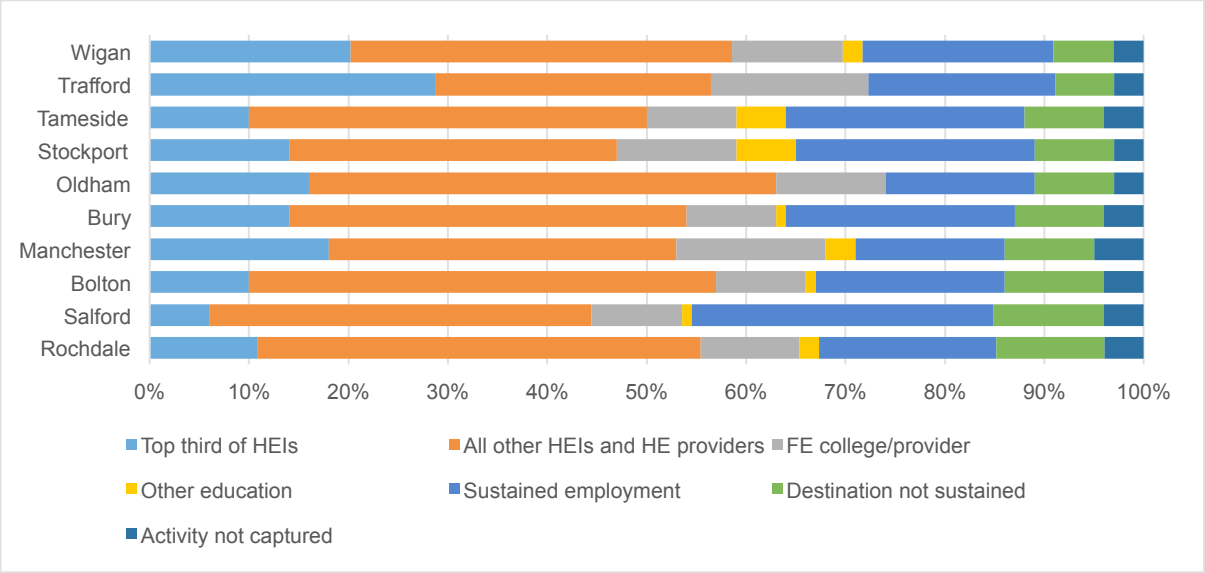
[77] Apprenticeships are not included here and are covered separately below

Figure 13: Progression of Learners after Key Stage 5



Overall in GM, 88% of KS5 leavers had a sustained positive destination in 2015/16, and this ranged from 85% in Salford to 91% in Trafford and Wigan. Again, this is a slightly lower rate for GM than for English education in general (90%) – and is indeed at the lower end of other city regions as we show below. The chart gives the breakdown of post-KS5 destinations by local authority (based on the location of the school or college, not the pupil's home address). At KS5 in GM many pupils will cross authority boundaries to learn at their institution of choice. For example, Salford appears to be sending the lowest amount of pupils to the top third of HEIs, but post-16 education provision in Salford is vocationally/technically oriented. Therefore, more pupils studying A levels (which are more likely to lead pupils to a top third HEI destination) may be travelling to institutions in the neighbouring districts of Wigan, Manchester or Trafford to study.

Figure 14: Destinations of KS5 leavers

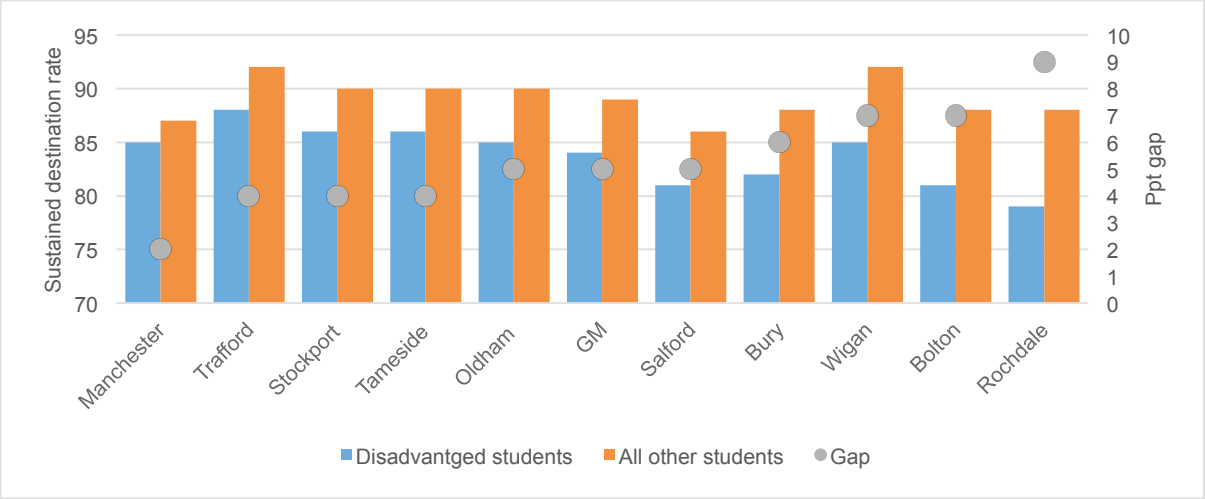


Source: DfE, Key Stage 5 destination measures 2015/16, SFR 56/2017

4.5 Disadvantage (KS5)

In GM, 84% of disadvantaged KS5 leavers had a sustained destination in 2015/16, compared to 89% of non-disadvantaged pupils, a gap of 5 ppt. This is much smaller than the 9 ppt gap in sustained destination rates between disadvantaged and non-disadvantaged KS4 leavers. Since KS5 destinations figures relate to the 60% of the cohort studying at level 3, this group of disadvantaged pupils are higher achievers, and therefore different from the group of disadvantaged pupils in the KS4 destinations figures. The sustained destination rate was highest for both groups of pupils in Trafford, but Manchester was the district with the smallest gap between disadvantaged and non-disadvantaged pupils, at just 2 ppts. However, this was due to the low destination rates for non-disadvantaged pupils. The gap was at its highest in Rochdale, at 9 ppts, and this is almost entirely attributable to the very low destination rate for disadvantaged pupils, as the rate for other pupils was close to the GM average. As mentioned above, especially at level 3 study there will be a significant difference between disadvantaged pupils in Trafford and those in Rochdale. The local context is therefore important but is not necessarily apparent in these statistics.

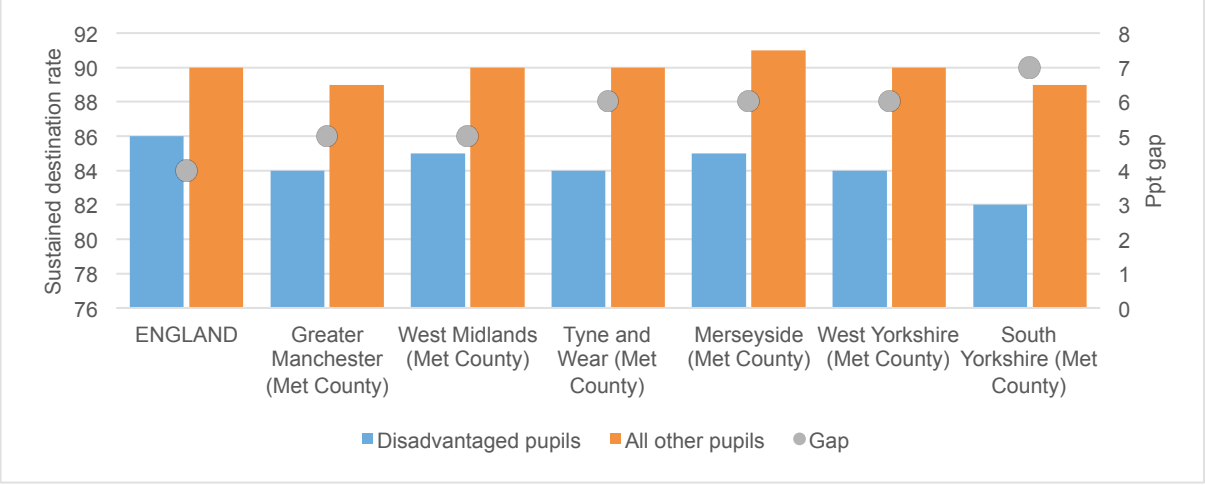
Figure 15: Overall sustained destination rate for KS5 leavers by disadvantaged status



Source: DfE, Key Stage 5 destination measures 2015/16, SFR 56/2017

In comparison with other city regions, the gap between disadvantaged and non-disadvantaged pupils in GM is slightly higher than for England, the same as the West Midlands and smaller than other comparable Northern areas. However, this is primarily due to the lower sustained destination rates for non-disadvantaged pupils in GM compared to other areas.

Figure 16: Overall sustained destination rate for KS5 leavers by disadvantaged status, comparison with metropolitan areas



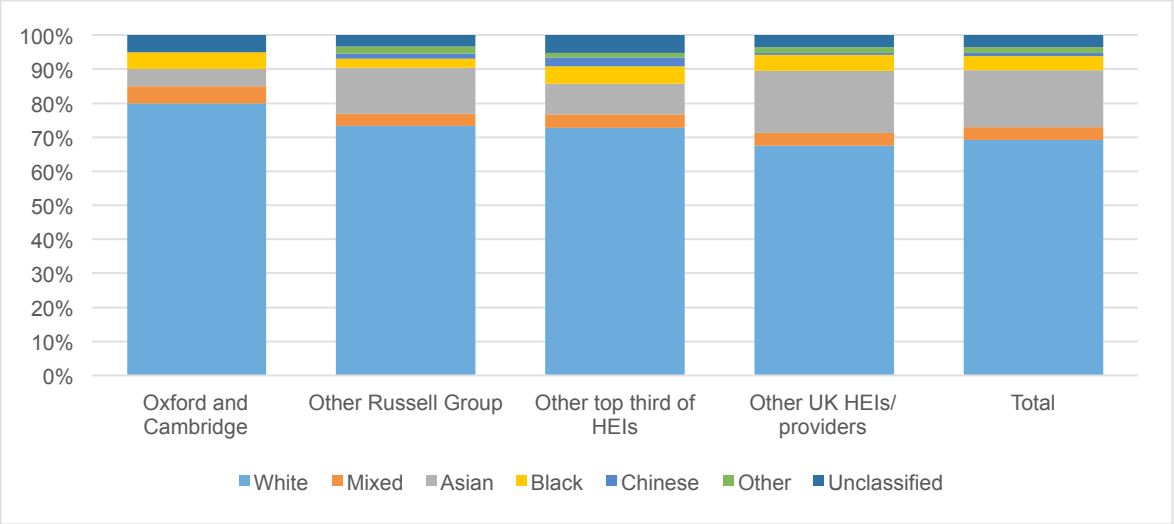
Source: DfE, Key Stage 5 destination measures 2015/16, SFR 56/2017

4.6 KS5 destinations - characteristics of learners

Aside from disadvantage, many other characteristics also influence KS5 destinations. The gender difference in the proportion of students going to the top third of HEIs is more noticeable in GM, at 3ppts, in comparison to just 1ppt across England (favouring women). This may be a result of the higher levels of disadvantage in GM, which has been shown to have a greater detrimental effect on boys' education than girls'.[78]

Ethnicity also matters. Black and minority ethnic (BAME) groups in GM were more likely to go to university than white young people, who were more likely to go into employment. Yet there is evidence that despite relatively high academic achievement, BAME young people are not yet making it to the most selective institutions to the same extent as white young people. When it comes to the most prestigious higher education institutions – Russell Group Universities – white people are more likely to attend than BAME groups (see the chart below). This is true both nationally and within GM.

Figure 17: Proportions of GM KS5 leavers attending HEIs by type of HEI



Source: DfE, Key Stage 5 destination measures 2015/16, SFR 56/2017

Consequently, although BAME young people make up 31% (3,190) of KS5 leavers from GM who go to university, this drops to 26% (790) of those who go to the top third of UK HEIs. Just twenty people from ethnic minority communities moved from KS5 to Oxford and Cambridge. This means that despite more BAME young people than ever making it to university, they still face restrictions on making it to the most selective institutions.

[78] Equality and Human Rights Commission, 2016

4.7 Apprenticeships and adult FE outcomes

So far, attention has largely focused on young people pursuing traditional patterns of educational development in schools and colleges. We return to the 'traditional education' group of learners in a later section when we look at GM's five higher education institutions[79] and the kinds of educational outcomes they enable. Here we examine apprenticeships and adults who take part in FE (as mentioned, no LEO data is available for 16-18 year olds so the FE data refers to adults over the age of 19 only).

As well as the 'sustained positive destination'[80] measure referred to earlier that we used in the analysis of KS4 and KS5, information about the wages of apprentices in the years after completion is also available – although unfortunately not for those who complete FE courses. In addition, instead of the 'disadvantage' measure that is used in education data, the information on apprenticeships and FE carries breakdowns for 'benefit learners'.[81]

4.8 Apprenticeships

Apprenticeships completed in GM in 2014/15 had an overall sustained destination rate of 84%. This means that in the year after completion (2015/16) 84% of people held a job or went into further learning for at least 6 months. Some 81% of apprenticeship completers were in sustained employment, rising to 93% for higher level apprenticeships (the equivalent of a level 4 qualification).

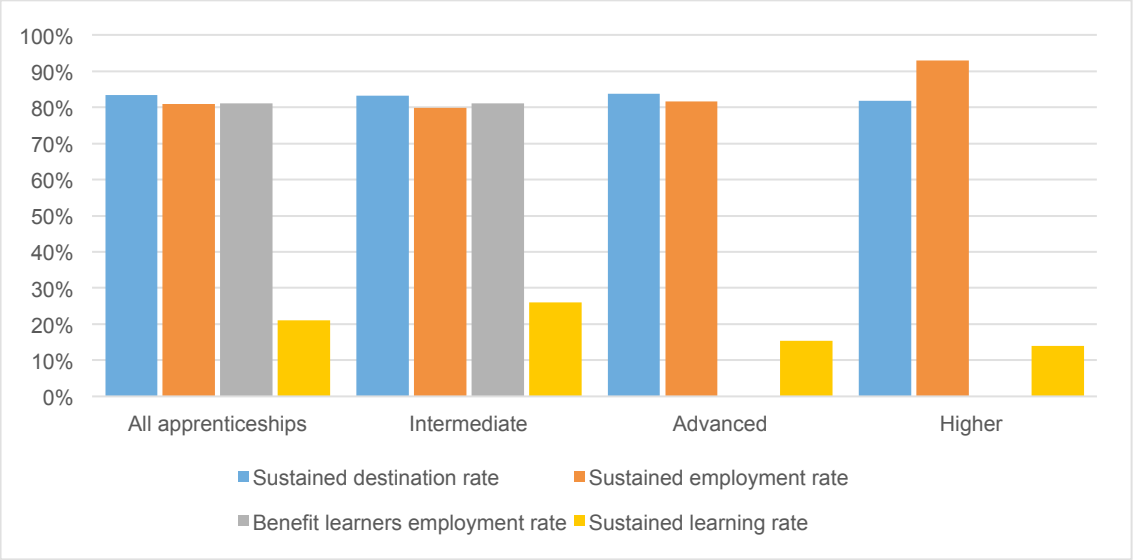
Notably, the sustained employment rate was the same for learners who had been claiming benefits before they started their course as it was for all learners (see chart below). On the face of it, this outcome seems to be a radical departure from previous patterns where disadvantaged learners tend to have persistently lower results: by implication, apprenticeships may be more of a 'leveller' than other types of learning. The chart also shows that 26% of intermediate apprenticeship completers, 15% of advanced apprenticeship completers and 14% of higher apprenticeship completers progressed to further study. Nationally, 22% of intermediate apprenticeships progressed to an advanced apprenticeship. This suggests that more apprentices are progressing from intermediate level in GM, although some may be progressing to other learning pathways than apprenticeships.

[79] The Royal Northern College of Music is classified as a Higher Education Institution, but is obviously specialist rather than broad-based in its subject offering, so there are four mainstream HEIs

[80] A sustained positive destination means a learner had progressed to either employment or further learning in the six month reference time-frame following completion of an 'aim' (a course) in the 2014/15 academic year

[81] 'Benefit learners' refers to those claiming either JSA or ESA (work related activity group only) on the day before their learning began.

Figure 18: Sustained destination rates by level for apprenticeships in GM (all ages)



Source: DfE, Further education outcome-based success measures, underlying data: LA tables, SFR52/2017

Destination rates vary by subject as well as level. Business, accounting and finance apprenticeships had the highest sustained destination rate at 94%, and the highest employment rate at 90%. Alongside these, retail, business management, manufacturing and transport operations/ maintenance were the most employable apprenticeships in GM.

4.9 Apprenticeship earnings

Apprenticeship wage information is unfortunately unavailable on a geographical basis, so it is impossible to isolate GM residents. However, LEO does produce information for individual institutions. The analytical strategy used here is to take a sample of locally prominent institutions delivering apprenticeships – namely, the 10 GM based FE colleges[82] – and examine the wages that people secure one, two and three years after the achievement of the apprenticeship (the reference year is 2014). However, as with all samples, caution is needed when interpreting the results because the sample may not reflect what is typical[83]. The apprentices in question were aged over 19 years of age in the year in which they achieved their apprenticeship.

The ten FE colleges in GM account for around a fifth of apprenticeship provision. The average salary for a former adult apprentice from a GM college three years after achievement was £16,400 for an intermediate apprenticeship and £19,400 for an advanced apprenticeship, a difference of £3,000. The wages on offer from undertaking an apprenticeship in GM were

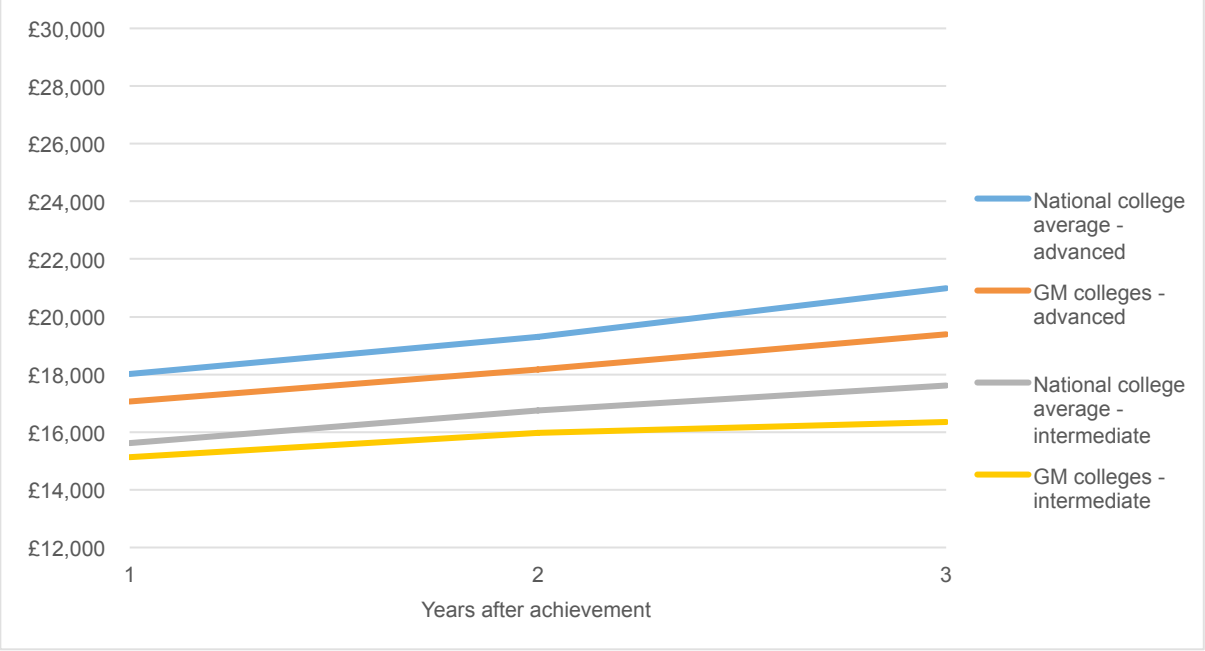
[82] Bolton College, Bury College, Hopwood Hall College (based in Rochdale), The Manchester College, The Oldham College, Salford City College, Stockport College, Tameside College, Trafford College, Wigan and Leigh College.
[83] Initial testing suggests the wages of former apprentices at the GM colleges were slightly higher (by about £500) than those whose apprenticeship was with a different sample of non-college providers known to have a significant presence in GM

beneath national averages, but wages in general are beneath national norms in GM so do not reflect apprenticeship quality; the gap in apprenticeship wages is in line with wage differences in general. The chart below offers a view of the GM-England comparison.

Many factors affect earnings from apprenticeships – the subjects studied, local labour market conditions, sectors, and indeed institution at which the apprentice studied. The spread of average salaries was much greater for advanced apprenticeships than it was for intermediate apprenticeships. Advanced apprenticeship earnings also rose faster than they did for intermediate apprenticeships, which mirrors the national trend. The growth in earnings from one to three years post achievement was 14% for advanced apprenticeships, and 8% for intermediate apprenticeships from GM colleges. Moving up a level of apprenticeship has a very significant impact on salary.

GM apprentices can expect to earn £500 less than their counterparts elsewhere in the country if they undertook an intermediate apprenticeship and £1,000 less following an advanced apprenticeship. The gap between earnings for GM apprentices and the national average widened over the three years post-achievement. Apprenticeships cannot escape local labour market conditions and in GM this means lower wages.

Figure 19: Average salary of apprentices from colleges 1, 2 and 3 years post achievement



Source: DfE, Average earnings post apprenticeship, underlying data

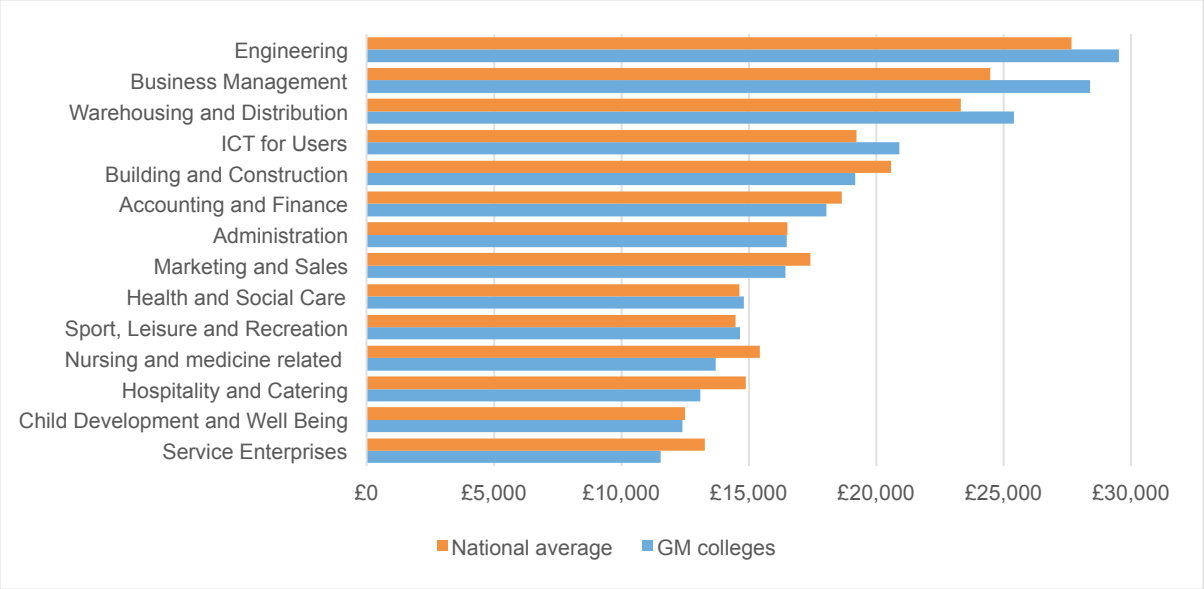
Three years after completion the proportion of apprentices earning over £21,000 was 47% nationally and 37% in GM. For intermediate apprenticeships the proportions were 31% and 23%. Earnings growth for former apprentices in GM was much faster for advanced apprentices than for intermediates (growth of 8%ppts vs 3ppts) and this pattern is consistent with national norms.

4.10 Apprenticeship subject[84]

There are, however, some individual subjects where people who did their learning in GM 'out-earn' others based elsewhere. The top three adult apprenticeship subjects for earnings are engineering, business management and warehousing and distribution. In all three of these areas, former apprentices from GM colleges were earning more than the national average two years post-achievement. GM earnings were significantly behind the national average for hospitality and catering, services and building and construction apprenticeships.

Apprenticeship earnings data does not distinguish between part-time and full-time work, so average earnings by subject are affected by the prevalence of part-time work within an industry. An extreme example of this is childcare, which has a very high prevalence of part-time work and appears as one of the lowest earning subjects.

Figure 20: Average salary of apprentices from colleges 2 years post achievement by subject



Source: DfE, Average earnings post apprenticeship, underlying data

Within apprenticeships there appears to be a split between those that involve the acquisition of technical skills apprenticeships such as engineering, manufacturing, construction and the more service orientated apprenticeships like retail, hairdressing and hospitality. The average annual wage for all employees (ie. full time and part time) in GM was £20,700 in 2014 (the closest year to the apprenticeship earnings data[85]). ICT, warehousing, business and engineering average apprentice earnings exceeded GM average earnings, with building and construction close behind. In comparison, childcare and hair and beauty apprentices earned less than 60% of the GM median wage.

[84] Subject was available for 63% (3,580) of learners counted in the first year, 58% (2870) in the second year, and 41% (920) in the third year post course completion.

[85] NOMIS, Annual Survey of Hours and Earnings – resident analysis, 2018. Includes full and part time workers to match LEO data.

It is noticeable that most of the lowest earning apprenticeship subjects are within industries that typically have high levels of female employment, including childcare, health and beauty, cleaning and social care. The prevalence of part time work will have an influence here, particularly within childcare which stands out as the lowest paid industry by most measures. Notwithstanding the gender dimension and the nature of work in an industry, wages flowing from several service oriented apprenticeships are undeniably low – at proximate levels to the minimum wage.

4.11 Adult further education: Full level 2, 3 and 4 courses

This section looks at destinations for adults (aged 19+) who completed full level 2, 3 or 4 courses in the year 2014/15. The overall sustained destination rate for adult (19+) further education learners was 77% in 2015/16. The chart below shows that the higher the level of learning, the higher the sustained destination and the sustained employment rate. There was little difference in the employment rate for learners who were claiming benefits who completed level 2 or 3 courses. The gap between employment rates for learners who were claiming benefits and all learners was smallest following level 2 courses. Adult learners who studied a full level 3 qualification were almost twice as likely to progress to further learning as those who studied a full level 2 course.

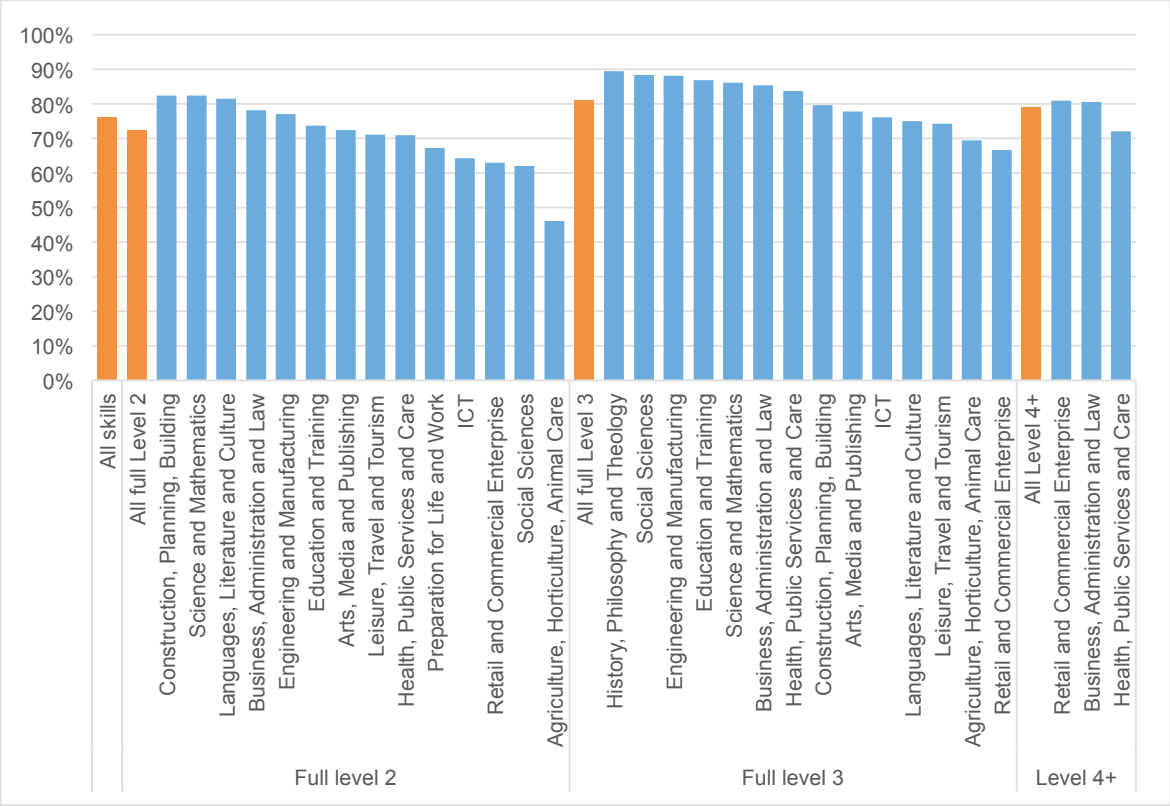
Figure 21: Sustained destination rates for adult (19+) further education in GM

Source: DfE, Further education outcome-based success measures, underlying data: LA tables, SFR52/2017

The chart below details the sustained destination rates of broad subject groups by level of FE course (including both academic and vocational courses in FE). Manufacturing and medical/nursing/dentistry courses all had sustained destination rates of 90% or higher. The next highest destination rates were for accounting, finance and business courses. Environmental conservation had by far the worst sustained destination rate, at 23%, and the lowest employment rate at 21%. This was followed by retail and wholesale courses at 49%. The most employable adult further education courses were in manufacturing, building and construction, closely followed by business management. In terms of the most popular courses (800+

completions), hospitality and catering courses had the lowest employment rate, at 48%. Academic humanities subjects had very high progression rates to further learning (above 70%). Other notably high learning rates can be seen for medical/nursing/dentistry, law and creative arts courses. Employment rates for learners who were claiming benefits were available for courses with 50+ completions. Of these courses, health and social care stands out as having the highest employment rate at 76%.

Figure 22: Sustained destination rate by course level and subject[86]



Source: DfE, Further education outcome-based success measures, underlying data: LA tables, SFR52/2017

4.12 The effect of age on 'positive destinations'

Destination rates decrease as age band increases.[87] This effect can most clearly be seen if we bring together all vocational pathways[88] to help build the sample (although doing so obviously reduces the ability to analyse apprenticeships and classroom based FE separately). For example, take the age group of 19-24 year olds: 74% sustained a positive destination after learning (for 62% it was employment). For the 25-49 year old age group, the proportion

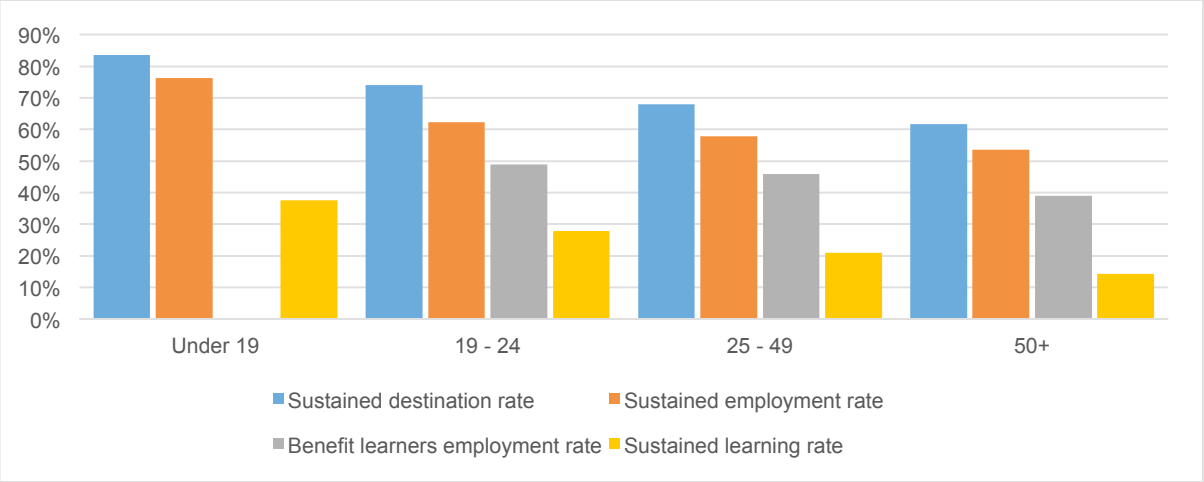
[86] There were very few level 2 social sciences completions or level 4 retail or health, public services and care completions therefore these destination rates may be unreliable.

[87] The way this data is structured means that it is not possible to cross-tabulate any variable with another, i.e. looking at age only, not age by level. For this reason it is also not possible to directly compare apprenticeships and skills learning, because the apprenticeships data relates to all ages and the skills data to adults only. As young people have a much higher destination rate than adult learners, looking at all age apprenticeships with adult only skills is not a realistic comparison.

[88] The data also includes a relatively small number of traineeships

dropped to 68% and for the over fifties to 62%. There could be many reasons for this age effect – from caring responsibilities to greater 'leisure learning' among the older cohort. Yet from a perspective which prioritises labour market outcomes and the public benefits from investment in learning, the implication is that there is a vaguer, looser relationship between learning and positive outcomes later in life. This could be relevant to GM policymakers reviewing the operation of the AEB.

Figure 23: All age destination rates



Source: DfE, Further education outcome-based success measures, underlying data: LA tables, SFR52/2017

This data contains a small number of traineeships – a government programme aiming to help younger people prepare for an apprenticeship, learning or work. It is notable that destination rates from traineeships appear to be particularly low – although to be sure of this a larger sample would be needed. Traineeships led to further learning (with or without employment) for 35% of the cohort, and employment (with or without further learning) for 51%. Women learners were more likely to progress to a sustained destination, employment or further learning.

4.13 Higher Education

At this point in the report, the focus switches again back to academic education by examining graduate destinations. There are many different reasons why an individual might learn; but given the focus of the Prosperity Review, here we focus strictly on economic outcomes.

Greater Manchester has five Higher Education Institutions (HEIs)[89]. Students attending university are a more mobile population than learners undertaking apprenticeships or further education and therefore the sense of them being 'GM's learners' is reduced; they can come from anywhere. Nevertheless, graduate retention remains a vital productivity-related issue so the graduate labour market matters. About 39% of the graduates from GM universities opt to stay in GM to pursue learning or work, and this figure has been consistent since the time of

[89] The Royal Northern College of Music is classed as an HEI, although it is specialist and has relatively few learners. For this reason RNCM is excluded from analysis in this report unless explicitly stated

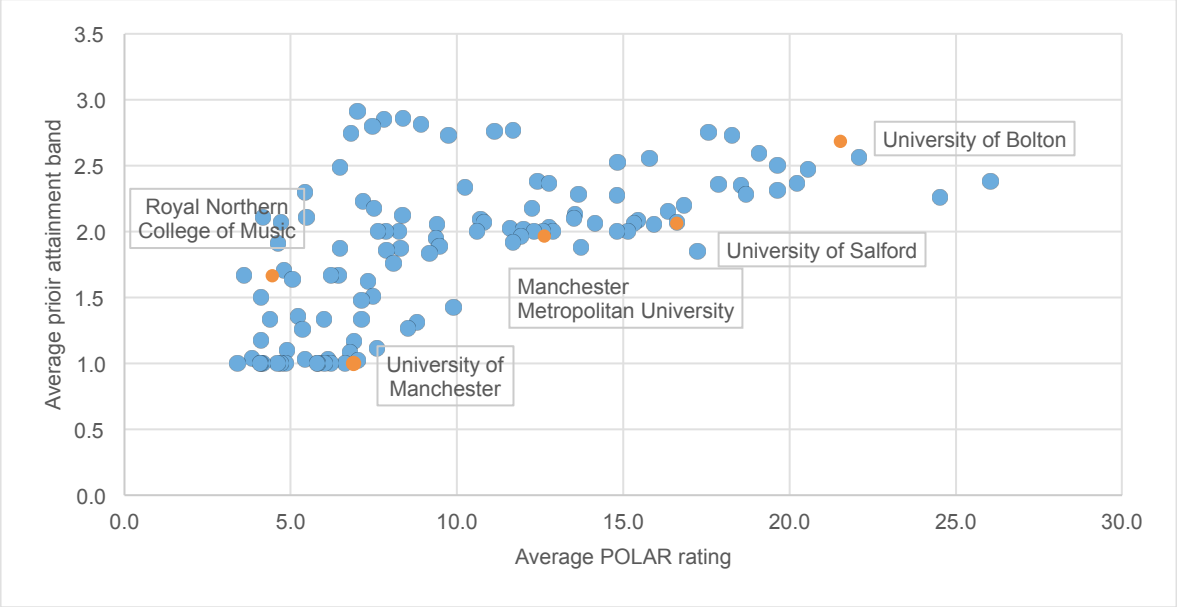
MIER. Some of this group also grew up and went to school in GM too (about 23% overall of GM graduates went to school in GM and stayed after graduation, but this varies by institution[90]).

As disadvantage is such a powerful influence on education, it is essential to consider the prior attainment of students as well as the backgrounds they come from, alongside subject studied and institution attended. To do this, in the chart below, we show data on prior attainment and HE participation.

On prior attainment (the y axis of the chart), the lower the band the higher the attainment levels before entering university. Meanwhile, on the x axis, the higher the 'POLAR decile' the less likely it is students come from local areas where going to university is normal. The chart further shows the position of GM universities in relation to other UK universities. GM's universities are clearly very diverse. They are spread across the prior attainment bands (where 1 is the highest attainment) and POLAR ratings. GM universities are extremely different from each another. Essentially, they are serving very different kinds of student.

[90] From 41% at the University of Bolton, 34% at Salford, 23% at MMU, 12% at UoM and 10% at RNCM. For more on graduate destinations, see Graduate Migration in Greater Mancheter, 2016-17; unpublished; available on request

Figure 24: UK Universities by average prior attainment band and POLAR group[91]



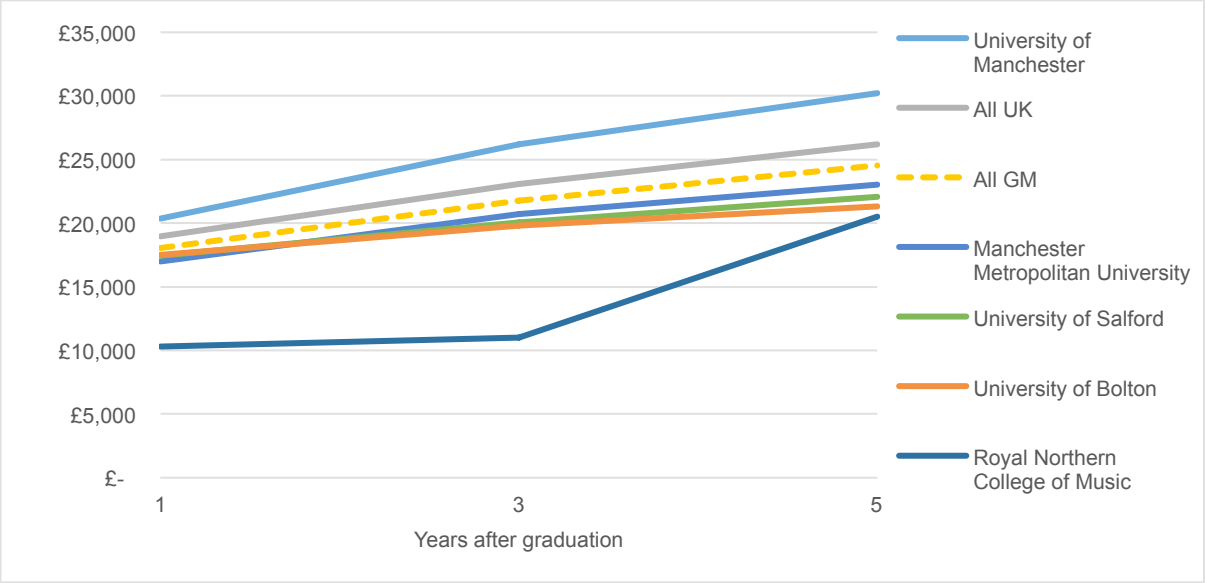
Source: DfE, Graduate outcomes for all students by university, SFR18/2017

4.14 Earnings of GM graduates over time

The chart below shows that the median annualised earnings of graduates from GM HEIs are directly related to the position of the institution in terms of prior attainment and parental situation: in other words, where you come from shapes where you end up. The only exception is the Royal Northern College of Music (RNCM) which is a specialised institution likely to have high numbers of graduates in self-employment.[92] Five years post-graduation the average graduate from the University of Manchester (UoM) was earning £7,200 more than a graduate from Manchester Metropolitan University (MMU), £8,200 more than a graduate from the University of Salford (Salford), and £8,900 more than a graduate from the University of Bolton (Bolton). The average earnings five years post-graduation from all GM HEIs combined (excluding RNCM) was £24,500 - £1,700 less than the average for all UK HEIs. This fairly extreme stratification of the graduate labour market is arguably a logical outcome of the expansion – or 'massification' - of higher education, as some prior research has noted[93].

[91] 40 institutions have been excluded from this analysis due to a lack of data. POLAR rating refers to the percent of students who are in the tenth decile of POLAR ranking. I.e. a POLAR rating of 15 means that 15% of the intake have come from areas in the bottom decile for university participation.
[92] RNCM is excluded from analysis in this report unless explicitly stated
[93] Skills At Work, Skills and Employment Survey, 2018, See https://www.cardiff.ac.uk/__data/assets/pdf_file/0011/1229834/2_Skills_at_Work_Minireport_Final_edit.pdf

Figure 25: Median annualised earnings 1, 3 and 5 years post-graduation

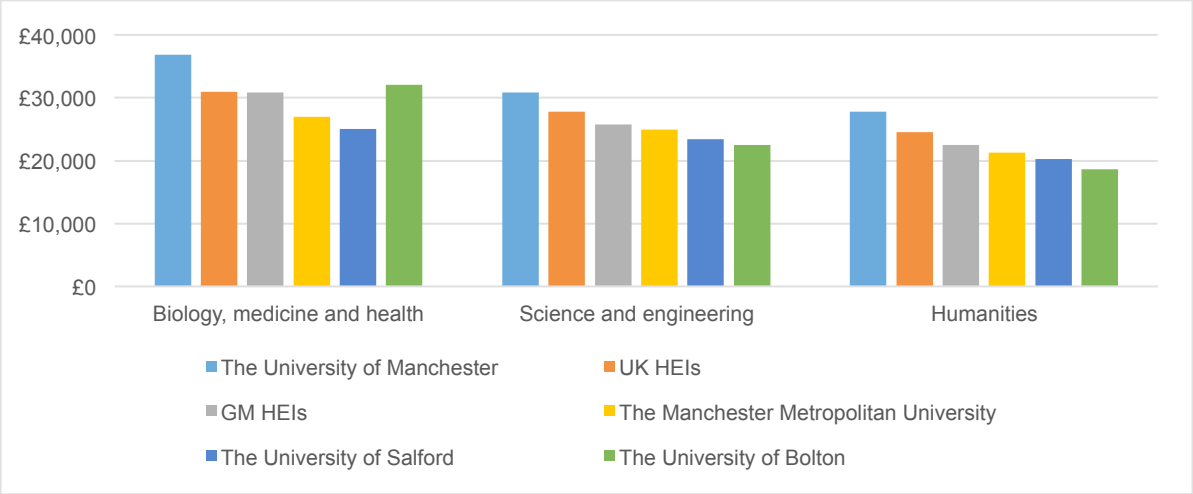


Source: DfE, Graduate outcomes for all students by university, SFR18/2017

4.15 Earnings by subject

Earnings vary dramatically even within institution according to subject studied, with economics graduates from UoM earning about £24,000 more than education graduates 5 years post-graduation for example. Within subjects, GM universities are generally ranked in the same order, with UoM outperforming all other GM HEIs and the UK average, followed by MMU, Salford then Bolton. Significant exceptions include nursing, where Bolton and MMU both outperform UoM; education, where MMU outperforms UoM; and architecture, building and planning, where Salford outperforms all other GM HEIs and the UK average. The chart below shows the earnings of graduates from GM HEIs within broad subject groupings. Bolton's high ranking within biology, medicine and health is due to the relatively high earnings of its nursing graduates.

Figure 26: Median annualised earnings 5 years post-graduation by broad subject grouping

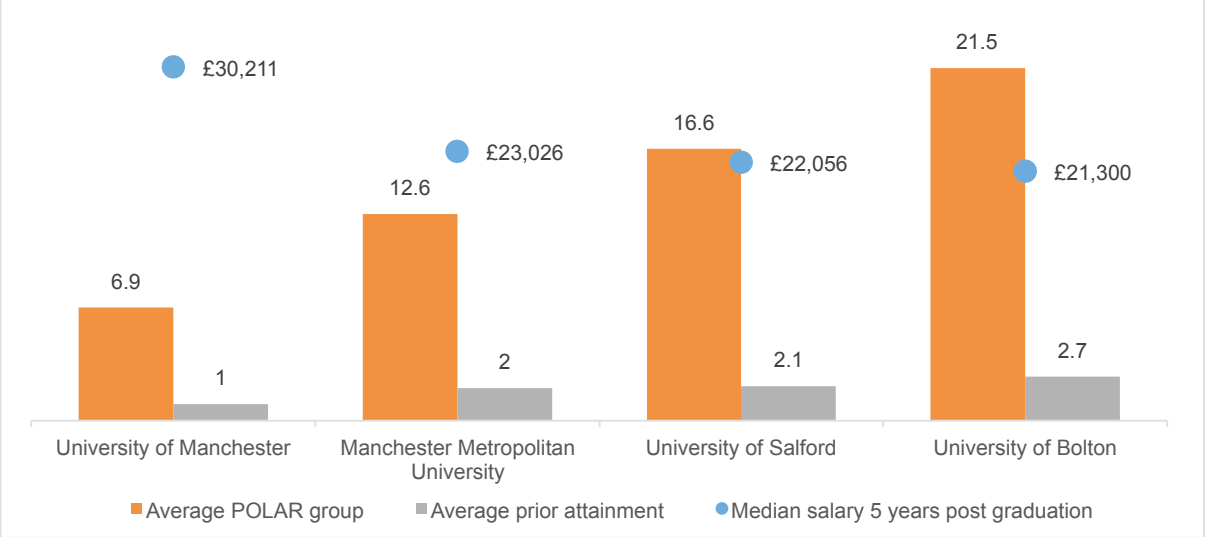


Source: DfE, Graduate outcomes for all students by university, SFR18/2017

4.16 Earnings, POLAR rating and prior attainment

The varied intakes of GM's HEIs affect subsequent graduate salaries. In the chart below there is a clear inverse relationship between average earnings five years after graduating, POLAR ratings and prior attainment band for each GM HEI (1 is the highest prior attainment band, while the orange bars on the chart below indicate percentages from areas with very low higher education participation by families).

Figure 27: Average annualised earnings, POLAR rating and prior attainment band by GM HEI



Source: DfE, Graduate outcomes for all students by university, SFR18/2017

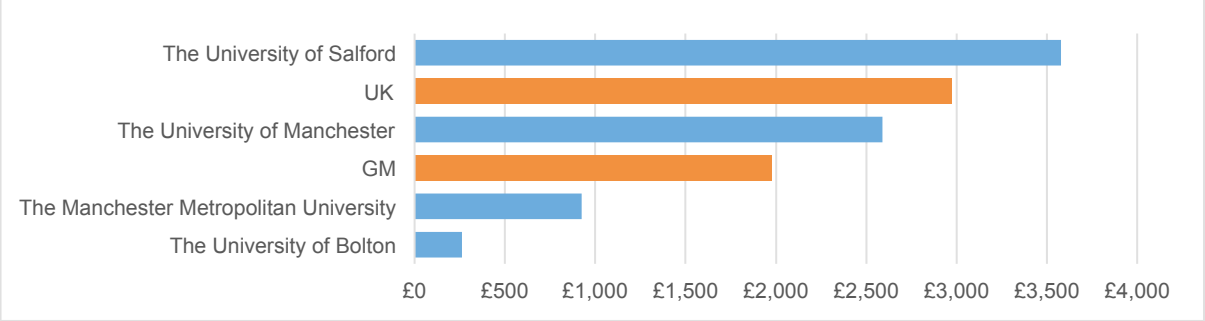
Graduate earnings are clearly impacted by both pre-university characteristics, as well as subject studied. The influence of the institution cannot be isolated from these variables with the publicly available LEO data analysed in this report. The Institute for Fiscal Studies has carried out an analysis which isolates the effect of degree courses on future earnings from pre-

university characteristics.[94] This identified a return of around 20% greater than the average degree for medicine and economics degrees, and around 15% less for creative arts degrees.

4.17 Graduate gender pay gap

There is significant and widespread inequality between women and men's pay. Looking at the differences between men and women's earnings 5 years post-graduation, the chart below shows that men earned more than women across all institutions, although the difference is less stark for graduates of GM HEIs than it is for the UK average. Overall, female GM graduates were earning £2,000 less than men 5 years post-graduation. The gap persists for all subjects but is significantly lower in the humanities than in science and engineering or in health and medicine. Male graduates from the University of Manchester had an earnings advantage of over £5,000 within economics, engineering and technology and subjects allied to medicine. The chart shows the average difference between men and women's pay at GM HEIs.

Figure 28: Difference between men and women's earnings 5 years post-graduation by institution



Source: DfE, Graduate outcomes for all students by university, SFR18/2017

4.18 Apprenticeships vs Graduation: what can LEO tell us?

The question of whether it is wiser (in purely labour market terms) to do a degree or an apprenticeship is politically highly topical. High and rising degree costs and some low salaries post-graduation, as well as issues of poor skills utilisation by employers, have combined to increase the attention given to 'alternative pathways' into professional, para-professional and technical roles. Unlike degrees, public funding is available for young people to pursue apprenticeships. So can LEO illuminate the debate about whether the opportunities from apprenticeships are comparable to those for people who go to university[95]?

From the information above it is clear that the data does not line up exactly (for example, salary information for apprentices is available for three years after completion, but for five years among graduates). And there is also the issue of averages: both for graduates and former apprentices the averages mask often extremely wide disparities. Furthermore, it needs to be remembered that apprentices are often already firmly established in workplaces (many apprentices already work for their employer prior to their apprenticeship) while graduates may have fewer years, and less stable working relationships, behind them. The prospects for graduates to develop

[94] Belfield et al, 2018, op cit

[95] Degree apprenticeships are now available making the comparison even more invalid, but they were not at the time of the LEO baseline academic year

subsequently may also be higher for graduates than for apprentices[96]. Degrees and apprenticeships are conceptually different learning journeys and LEO only offers information on the earliest years of a career.

But if we accept that the comparison is inexact and unscientific, it is still possible to take one of GM's more vocationally oriented HEIs and – with provisos – contrast subsequent salaries from a group of apprenticeship providers.

The median salary from the University of Salford three years after graduation was £20,726, according to LEO. The average for a former apprentice with one of the GM colleges was £19,400. Yet there are some subjects where apprenticeships appear to out-earn graduate salaries. If we take a University of Salford graduate from one of the science and engineering disciplines, the average salary was £23,433 five years post-graduation. From the group of colleges offering apprenticeships, engineering, business and management and warehousing all paid salaries above £25,000 two years after the apprenticeship was completed.

In short, there can be no firm answer using median salaries because the data for comparison is too inexact. However, the indications are that there are some subjects where the salaries available from apprenticeships are higher than for university graduates and can be attained within a shorter time-frame. Meanwhile, at the median, the gap in salaries is modest, suggesting that at least for some people, apprenticeships make economic sense.

4.19 Summary of the destinations section

The main points of this section are:

- Levels of disadvantage affect the numbers who drop out of 'positive' destinations after the age of 16 (further learning or work). Disadvantaged young people are twice as likely not to sustain a positive destination. In addition, positive destination rates are lower in GM than nationally overall (92% sustain a positive destination compared with 94% in England) and lower than almost all other city regions in England. This is due to drop outs from learning rather than work or apprenticeships.
- After KS5 disadvantaged learners are again more likely than non disadvantaged learners to drop out at age 18, but the risk is lower (84% vs 89), suggesting that if teenagers can be engaged in some form of learning or work, the disadvantage gap diminishes somewhat at 18 compared with age 16. However, again, GM has a lower rate of sustaining positive destinations at age 18 than almost all other major city regions.
- Adult learners who studied a full Level 3 qualification were almost twice as likely to progress to further learning or work than those who studied a full level 2 course. This emphasises the vital importance of progression for both employment and wages.
- GM's lower wages affect the labour market outcomes of apprenticeships. Three years after completion, the proportion of erstwhile apprentices earning over £21,000 was 47% nationally and 37% in GM. For intermediate apprenticeships the proportions were 31% and 23%.
- Graduate wages are lower in GM. The average earnings five years post-graduation from GM HEIs (excluding RNCM) was £24,500 - £1,700 less than the average for UK HEIs.

[96] See Investment in Skills, New Economy for the Government Office for Science, 2017

- Universities are highly segmented both in terms of the types of undergraduates they accept and the types of graduates they produce. Less well-off young people are less likely to attend Russell Group Universities; subsequently they are likely to earn lower wages. About £9,000 a year is the difference in earnings between a graduate from the UoM and a graduate from the University of Bolton.
- For some subjects, it appears the salaries available following an apprenticeship are comparable to, and in some cases higher than, salaries available from some HEIs.

5. Conclusions

This study has analysed the performance of the education and skills system by blending information about the outcomes of learning with information about attainment. Below we outline the principal findings.

5.1. Disadvantage and its impact

A strong theme running through the study is the overwhelming effect initial disadvantage has on later outcomes. At each attainment phase there are large attainment gaps between those who receive FSM and those who do not. There are also 'destination gaps'. At age sixteen, for example, non-disadvantaged pupils are more than twice as likely as disadvantaged pupils to go on to a school sixth form or sixth form college. Poorer pupils are three times more likely to drop out of their chosen pathway after KS4. And by the age of 19, 63% of non-disadvantaged young people have a level 3 qualification (mostly A levels); just 37% of disadvantaged young people are similarly qualified. Different outcomes further down the line, for example within higher education, are hardly surprising when considering the gaps that have opened up before adulthood.

However, within this process the evidence suggests KS4 is the critical transition point. Beyond KS5 the penalties of disadvantage are somewhat lower than they are at earlier phases – presumably because it is higher attainers who generally progress: at KS5, the gap in sustained destination rates between disadvantaged and non-disadvantaged young people was nearly half that at KS4. The large proportion of disadvantaged pupils who don't get the grades (two thirds overall progress to KS5 with the third who don't disproportionately comprised of disadvantaged young people) mostly end up in below level 3 learning, typically undertaking – generally with limited success – retakes in English and maths. KS4 is therefore a cliff edge beyond which education and skills pathways diverge sharply.

What of the effect of disadvantage on vocational learning? Here the research suggests that some types of learning (apprenticeships) appear to be more of a 'social leveller' than others. For example, LEO shows that learners who were previously claiming benefits have just as good a chance of employment following an intermediate apprenticeship, and do just as well as other learners, with 81% sustaining employment in the year after their apprenticeship. Yet comparable level 2 further education courses neither have the same employment prospects (64% sustain an employment destination) and they carry a disadvantage gap in that learners who previously claimed benefits were far less likely to get a job afterwards (52% of adults on level 2 courses sustained employment if they previously claimed benefits – a gap of 12ppts).

Is it worse to be poor in GM in terms of educational outcomes than in other areas of the country? The answer to this question might depend on whether overall attainment matters more than the gap between better and less well off. Take the example of Trafford. Trafford has the biggest gap between pupils who receive FSM and those who do not, largely because attainment is exceptionally high in the latter group. However, disadvantaged pupils also do best

in Trafford in the whole of GM (arguably because there are relatively few of them). In the neighbouring district of Manchester, disadvantage rates are extremely high, but there is a smaller gap because attainment for non-disadvantaged pupils is lower.

The same point also applies to gaps in destination rates. Gaps between the destination rates of those from poor backgrounds and others are often smaller in GM as a whole, but that is because of lower overall positive destination scores (for example, after KS4 and KS5). To some extent, there may be a trade-off between absolute levels of attainment overall and the relative distance between rich and poor.

For pupils studying at KS4 and KS5 in GM there is a slight lag with the national average in terms of sustaining education, training or employment afterwards. Nevertheless, GM sends significantly more young people to university than the national average. Why should this be? It may be that the proximity to five (including RNCM) HEIs has a positive influence on the likelihood of young people going to university. However, GM sends fewer young people to the top third of HEIs than the national average (16% compared to 18% of KS5 leavers nationally). So more of GM's young people are going to the bottom two thirds of HEIs (ie excluding Russell Group and Oxbridge) – a proportion of 38% compared to the national average of 32%. This finding merits further investigation.

When young people from areas of low higher education participation reach university, they are overrepresented at newer universities and underrepresented at Russell Group universities. This is in part because they are less likely to have attained the high grades needed to access the more prestigious institutions. MMU, Salford and Bolton universities all have a higher proportion of students from areas of low HE participation than the national average, and UoM much lower proportions. For example, the average proportion of students from an area of low HE participation is 6.9% for a course at UoM; it is 21.5% for a course at Bolton. Average earnings for a graduate of UoM five years after graduation are £9,000 higher than those for a graduate of Bolton.

5.2. The quality of GM's education system

Accusations of 'underperformance' in schools in the north of England have been a theme of recent commentary. We argue such judgements depend on choices about comparisons. If judged against the national average, as is the conventional habit of sub-national policy analysis, GM 'outperformed' that average in two phases (KS2 and KS5) and 'underperformed' in two others (Early Years and KS4) – at least in the 2016/17 year. Therefore, the issue is less system-wide than phase-specific. The Early Years problem and performance deficit is well understood (since before MIER), and extensive programmes exist to attempt to remedy it, while further action is necessary to bring system leadership to bear on the highly fragmented secondary school system to help improve attainment and progress at KS4[97]. In short, a better

[97] See Lupton, R. and Unwin, L., A New Approach to Education, Training and Skills in Greater Manchester: Building Capacity for Individual, Workplace and Civic Prosperity, IGAU, March 2019. The report is an independent view of

framing of the challenge (if national comparisons are the benchmark) might be that the problem is breaking out from mediocrity rather than tackling systemic failing.

But the research suggests more illuminating comparator groups than national averages; namely, large cities that are similar to GM in the socio-economic characteristics of residents. Given what we know of the effect of disadvantage on educational attainment, the much greater levels of disadvantage in the large English cities means schools and colleges have a harder job to do in educating young people. Analysis that compares GM to the other major English cities shows that the patterns are almost identical, but GM frequently outperforms city region averages despite generally slightly higher levels of disadvantage than other cities (except in the Early Years where the lag is consistent).

However, it is critical to remember that divisions *within* GM are much more pronounced than divisions between GM and the rest of the country. GM contains districts that are among the lowest performing on educational attainment measures alongside districts that are among the highest performers in the country, with cohorts of young people that are completely different from each other and educational structures that are also wholly varied (for example, the maintenance of grammar schools and secondary moderns in some districts, and other districts with a Sixth Form College system).

5.3. Wages and labour market outcomes

Labour market conditions are not the responsibility of the education and skills system. As is well known, on a host of labour market indicators – from employment rates to job insecurity and pay – GM tends to have greater 'world of work' problems than is typical elsewhere. So it is no surprise learning outcomes are affected. The median annual wage in GM was £2,500 less than the UK average in 2017[98], so lower wages exist across the labour market. It is to be expected, therefore, that average wages for both apprentices and GM graduates are lower than they are nationally.

Apprentices of every level earned less in GM than they did nationally. An intermediate apprentice from a GM college could expect to earn £500 less than the national average immediately post-apprenticeship, and an advanced apprentice £1,000 less. There are, however, some subjects that are the exception, most notably engineering. Former GM engineering apprentices out-earn their peers elsewhere.

Former engineering apprentices were more than ten times more likely to be earning over £21,000 three years after completion than childcare apprentices, and more than twenty times more likely than service enterprise apprentices (who mostly study hairdressing or barbering and beauty). The split in earnings outcomes for former apprentices is largely between technical, traditional type apprenticeships such as engineering and construction, and more service-

how the governance and leadership of education and skills in GM could be reformed in line with local policy priorities. (This report is also part of the Greater Manchester Independent Prosperity Review

[98] ONS, Annual Survey of Hours and Earnings, 2017

orientated apprenticeships like hairdressing, childcare, retail and hospitality. ICT, warehousing, business and engineering average apprentice earnings exceeded GM average earnings, with building and construction close behind. In comparison, childcare and hair and beauty apprentices earned less than 60% of the GM median wage.

There is a gender dimension to this that is hard to ignore. Apprenticeships that are traditionally masculine and are still male-dominated result in much better pay than those in traditionally female dominated sectors. Again, this is not to imply a value judgement about the worth of different sectors but to point out the influence of industry on the gender pay gap, and the financial value (or lack thereof) that has been attached to 'feminised' work. It is also worth remembering that most apprentices in GM are female.

Wages for graduates from GM universities reflect the spread of types of universities and their distinct intakes. Wages for graduates of the UoM are £4,000 higher than the national average (5 years post-graduation), but for all other GM universities they are lower. UoM therefore drags up the GM average wage of a graduate five years post-graduation to £24,000 - £2,000 lower than the UK average. GM universities represent the full range of types of higher education institutions, including Russell Group (UoM), highly localised (Bolton), post-Robbins report mergers (Salford) and former polytechnics (MMU). This range in types means that their student intakes are very different, with entry requirements varying greatly.

The backgrounds of the students at each GM university are directly linked to subsequent labour market outcomes. Bolton has one of the highest proportions of students from areas of very low HE participation of any UK HEI, and graduates of Bolton have the lowest average wages of GM HEIs. In direct contrast, UoM has a low proportion of students from areas of low HE participation, but high graduate wages. This points to the increasingly reified stratification of the higher education market according to background and prior attainment, and that these segmentation factors influence wages subsequently (although subjects studied also have a significant effect on ultimate wages, especially in STEM subjects and economics).

Labour market segmentation also appears to affect the salaries of male and female graduates. The gender pay gap for GM graduates, according to LEO, stands at £2,000, around £1,000 less than the £3,000 gender pay gap for all UK HEIs – again, likely to be another instance of the GM gap being smaller because overall levels are lower.

There is a clear financial pay-off to moving up learning levels, according to LEO. Advanced apprentices earn more and their earnings increase faster both in GM and nationally. Former advanced apprentices from GM colleges were earning on average £2,000 more than intermediate apprentices in the year after completion, and £3,000 more three years after completion. Advanced apprentice earnings increased by 11% over the three years after completion, compared to 9% for intermediate apprentices.

Staying in learning is not for everyone. GM's strategic objective is to foster an education and skills system that nurtures talent whatever the chosen pathway. However, LEO demonstrates that there is labour market value in skills-formation. Within apprenticeships and adult further education, the higher the level of learning, the better the rate of progression to positive

destinations for learners. The relationship is robust across learning pathways. This evidence supports policies that aim to increase upskilling and learner progression in general, but also emphasises the need for much better progression into level 4 in particular (whether through an apprenticeship or classroom learning).

5.4. Key points for policymakers to consider

- GM should maintain its focus on early years as a fundamental component of its long-term economic strategy, as 10 years on from the Manchester Independent Economic Review (MIER) performance still lags benchmark areas.

- GM's secondary schools have improved outcomes in recent years, but too many require improvement or are inadequate. GM and government should explore how it can work with school leaders to drive improvement in its secondary schools, learning lessons, where appropriate and locally relevant, from successful areas (for example, London).

- Deprivation is still the main factor in determining education and labour market performance. The factors for this go beyond what happens in schools and policy makers should maintain a focus on tackling the root causes of disadvantage: a high skills, high productivity economy cannot exist and thrive in a sea of deprivation. However, recognising that education plays an important role in tackling disadvantage, GM and government should develop pilots to explore how to keep more disadvantaged young people engaged in education, to reduce drop-out rates after KS4, and promote understanding about 'what works' by drawing on the lessons of 'odds-beating' schools which achieve higher performance despite relatively high deprivation levels. Wider factors such as local transport infrastructure and travel-to-learn patterns also need to be borne in mind as discussions about system reconfiguration progress.

- Apprenticeships are unique in offering a learning pathway that does not penalise disadvantaged learners. There should be a sustained effort to raise the number of residents from deprived backgrounds that follow the apprenticeship route at KS5, with a focus on the 'technical apprenticeships' which offer significantly improved pay prospects. There should also be an increased emphasis on the quality of the apprenticeship (both in terms of pay and opportunities for progression) alongside the current focus of national policy on the number of apprenticeship starts.

- Increasing the numbers of people undertaking higher level technical skills (at levels 4 and 5) remains a priority that currently lacks a clear response, after notable falls in the proportions of adults undertaking training. GM's thriving and diverse university sector may consider greater collaboration with FE colleges and other training providers to help fill a perceived shortage of higher technical skills as part of their civic mission.

6. Appendices

6.1. Appendix 1: Geographies used in attainment calculations

Several city region geographies used in this Technical Report for the GM Prosperity Review consist of geographies smaller than smallest breakdown available in DfE data (LA level). The following methodology was used to estimate the contribution of smaller areas to overall city region attainment figures.

Using mid-year population estimates of five, 11, 16, and 19 year olds, we calculated the proportion of higher-level geographies (e.g., Worcestershire) made up of pupils of the same age in smaller geographies (e.g., Redditch; 17% of Worcestershire's five year olds live in Redditch). Proportions were found to be stable over time, so mid-2017 estimates were used for all years. The number of enrolled pupils in smaller geographies was estimated using this proportion and the number of pupils in the higher-level geography (e.g., .17*5470 = 930 children). Finally, the number of pupils reaching the benchmark was estimated using the higher-level geography attainment figure (e.g., 36%*930 = 335). This value was included in the total number of pupils reaching the benchmarks in the enclosing city region.

This method was used for four of the ten city regions: Sheffield, Birmingham, Nottingham, and Leeds.

6.2. Appendix 2: LEO terms and definitions

Term	Definition
Sustained destination	The learner was in employment, training or further learning for at least 5 of the 6 reference months (October - March) in the academic year after they have completed their course. E.g. I finish my apprenticeship in May 2017 and am in employment continuously between October 2017 and March 2018.
POLAR rating	The proportion of students who are from an area in the bottom decile of higher education participation. The higher the score, the larger the proportion of students from an area of very low HE participation.
Prior attainment	Prior attainment bands rank student's prior attainment into 3 bands, with 1 being the highest and 3 being the lowest.
Disadvantage	School pupils eligible for free school meals plus looked after children and young people.
Key Stage 4 (KS4)	GCSEs/level 2 learning
Key Stage 5 (KS5)	A levels/level 3 learning
Statement/Education and Health Care (EHC)	EHC plans started to replace statements of special educational needs from 2014. They identify additional support to meet the

plan	needs of children and young people beyond general SEN support.
Completions	Learners who completed an apprenticeship or further education course (whether or not they achieved the qualification/aim).
Achievements	Learners who achieved the aims of an apprenticeship or further education course and therefore gained the qualification.

6.3. Appendix 3: LEO datasets: details and limitations

Dataset	Details	Limitations
KS4/5 destinations **https://www.gov.uk/government/statistics/destinations-of-ks4-and-ks5-pupils-2016**	Shows the percentage of young people progressing to specified destinations in 2015/16, who completed their KS5 or 5 learning in 2014/15. KS4 destinations is based on activity in the year after the young person took GCSEs, KS5 destinations on the year after the young person took their A level or other Level 3 qualification. To be counted, young people must be recorded as having a sustained destination through 5 of the 6 months from October to March following completion of KS4/5. KS5 follows students who entered A levels or other L3 qualifications which accounts for around 60% of young people. Uses National Pupil Database and LEO.	Timeframe covered is short compared to other LEO datasets. Apprenticeship destination figures cannot be compared with other destinations as a separate category. KS5 only covers the 60% of young people who enter level 3 qualifications.
Apprenticeship and adult further education outcomes **https://www.gov.uk/government/statistics/further-education-outcome-based-success-measures-2014-to-2015**	Employment and learning outcomes for adult FE learners, all age apprenticeships and all age traineeships where aims were completed in 2013/14 and 2014/15. Reports sustained positive destinations including sustained employment, sustained learning and sustained employment for benefit learners. Also includes non-sustained learning and non-sustained positive destination measures. Links DfE, ESFA, HMRC and DWP data. Does not includes OLASS or 16-19 FE.	Lack of 16-19 FE which would provide a comparison group for 16-19 apprenticeship and traineeship outcomes. Salary data is available but only at a national level.
Adult apprenticeship earnings	Focuses on learners who achieved apprenticeships between August 2010 and July 2013 and their	No geographic information so location must be derived from provider. Adult learners

https://www.gov.uk/government/statistics/average-earnings-post-apprenticeship-2010-to-2015	earnings after training up to the 2014/15 tax year. Only covers learners who were aged 19 or older at the start of the academic year within which they achieved their apprenticeship. Includes part-time earnings which has a greater impact on sectors with high rates of part-time work e.g. childcare. Uses linked administrative data from LEO.	only who are much more likely to already be in employment which has implications for salaries. No earnings from self-employment.
Higher Education earnings and outcomes https://www.gov.uk/government/statistics/graduate-outcomes-for-all-subjects-by-university	Employment, further study and earnings outcomes for those who completed an undergraduate degree in 2008/9-2012/13 at an HEI in Britain. Data for 23 subject areas and by gender, down to provider level. Also includes prior attainment and POLAR classification.	No 'previous domicile' info therefore can measure GM students but not GM residents who accessed HE. The intake of each HEI in GM is very different, therefore grouping them together or drawing direct comparisons has limited use.

6.4. Appendix 3: TRAC University Peer group comparisons

The Transparent Approach to Costing (TRAC) methodology was developed by the higher education sector as a way to help them cost their activities. It can also be used to compare universities with similar institutions. As this report has shown so far, there are vast differences between the various HEIs in GM, therefore using the TRAC peer groupings allows for a fairer comparison of how they are performing relative to similar institutions.

The table below contains criteria for each of the six TRAC peer groups.

Peer group	GM HEIs	Criteria
Peer group A	UoM	Institutions with a medical school and research income[99] of 20% or more of total income
Peer group B		All other institutions with research income of 15% or more of total income
Peer group C	Salford	Institutions with a research income of between 5% and 15% of total income
Peer group D	MMU	Institutions with a research income less than 5% of total income and total income greater than £150M
Peer group E	Bolton	Institutions with a research income less than 5% of total

[99] Research income is defined as the funding council recurrent research grant plus the total research grants and contracts returned in the HESA Finance Statistics Return (FSR).

		income less than or equal to £150M
Peer group F	RNCM	Specialist music/arts teaching institutions

The University of Manchester falls in the middle of TRAC group A by all the key measures – future earnings, POLAR rating, prior attainment and sustained destination. The University of Salford is average in comparison to the rest of TRAC peer group C on most measures but its average earnings of £22,000 are £2,500 below the group average of £24,500. The Manchester Metropolitan University also falls in the middle of its group (peer group D) by most measures, but the average prior attainment across courses is higher than the group average. In comparison, Sheffield Hallam University has the same average prior attainment as MMU but a higher proportion of students from areas of low HE participation. Five years after graduation the average Sheffield Hallam graduate is earning £800 more than an MMU graduate, and is slightly more likely to be in employment or further study. The University of Bolton has one of the highest proportions of students from areas of low HE participation compared to all HEIs in the country. Despite this, they match the average sustained destination rate of their TRAC peer group (E).