

Learning curve: Schooling & skills for future jobs

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Learning curve: Schooling & skills for future jobs

Executive Summary

Many of England's weaker city economies have high proportions of residents with no or very few formal qualifications. So one of the biggest challenges that these cities face is to improve the "intermediate" skills profiles of their populations. Any improvement will have long term benefits for both individuals in these cities and the businesses that are located there. And by implication it is likely to have a positive impact on future economic growth in these cities.

The problem is that current skills attainment is serving to reinforce existing skills patterns across England's cities rather than improving them. This is particularly true for educational attainment. Although GCSE attainment in general has showed strong improvement in recent years in cities with weak economies, this has not been reflected in GCSE Maths and English attainment. This is a concern given that numeracy and literacy skills appear to be playing an ever larger role in the labour market.

Focusing on school performance alone will have a limited impact on the skills challenges facing many cities in the UK. Schools have limited influence on the large stock of low skilled people living in our cities that have already passed through the formal education system. Job-related training is an important source of further education and training after an individual enters the labour market. Yet access to job-related training also appears to be much lower in cities with weak economies than in more buoyant economies. This means that the patterns of lower educational attainment in weak city economies are compounded by poor access to skills development later on in life.

This runs the risk that the divide between more successful places and struggling places will continue to grow, and that the most vulnerable people will be most affected. While we recognise that skills policies are first and foremost about people, they require a place-based approach to address the clear spatial pattern in skills attainment. This will require interventions from Government, schools, Local Enterprise Partnerships and Work Programme providers to address the skills challenges that our cities face.

Policy recommendations

- **Greater emphasis should be placed on Maths and English attainment, particularly in struggling cities**

Measures taken to address this should include: further reform to the measurement of school performance by government; allocation of the new Pupil Premium to specifically improve Maths and English attainment; schools with greater flexibility over their curriculum should specialise in these core subjects; and the importance of Maths and English should be stressed through more structured career advice. Labour market intermediaries, including Work Programme providers, should focus on ensuring their clients have the numeracy and literacy skills to enable them to access jobs and progress in work.

“Many of England's weaker city economies have high proportions that have no or very few formal qualifications”



- **Publicly funded adult education and training should be targeted towards improving core skills amongst low skilled, disadvantaged groups**

Funding for basic numeracy and literacy training for individuals that left school without these skills should remain a priority for Government – this is likely to improve their access to further training and employment opportunities. Policy makers must go beyond this though to address other (often significant) barriers to further education and training, such as employer demand for training and flexible course provision.

- **As business-driven organisations, Local Enterprise Partnerships (LEPs) should work with skills providers and employers to improve access to adult education and training**

LEPs should work with employers and skills providers within the LEP area to increase employer demand for job-related training. Part of this role should involve identifying how barriers to access can be overcome.

“Local Enterprise Partnerships (LEPs) should work with skills providers and employers to improve access to adult education and training”



Introduction

Some of England's weakest city economies have some of the largest proportions of people with no formal qualifications. Current patterns of educational attainment and training provision appear to be compounding the skills challenges these cities face. Given that skills are a key input for many businesses, these patterns are likely to reinforce the economic hierarchy between England's cities.

Attempting to address the low skills problem that these cities face should be a central component to any strategy to improve long term growth. For example, almost one in three residents in Blackburn and Barnsley did not hold a qualification worth more than 5 D-G grades at GCSE in 2010. This is likely to impact negatively on these individuals' employment prospects and productivity. And as consequence it is also likely to have a negative impact on the performance of the economies they work in.

Yet to date much greater attention has been given to "graduate retention" in local economic development policies. Much of this has been based on providing cultural amenities to attract a "creative class" of degree holders to live and work in a city. But the bottom line is that graduates follow job opportunities. As such, local authorities should take an indirect approach to attracting and retaining graduates through interventions to improve the business environment in their economies rather than implementing direct graduate retention policies.¹

Instead there needs to be a much greater focus on improving the intermediate skills of the large number of lower skilled people living in some of England's weaker city economies. Unlike graduate retention, cities can have a direct impact on improving the skills of some of their most poorly qualified residents. Schools and further education colleges – to differing degrees – fall under the remit of local authorities. And lower skilled people are less likely to move away in the short term,² so such an intervention is likely to have a more beneficial impact on the skills profiles of the local labour market than policies designed to encourage university take up.

Box 1: The supply of and demand for skills in cities

This report attempts to address the issues surrounding the supply of skills. It argues that improving core skills improves the productivity of those in work. This in turn increases the number of skilled people available to businesses in England's cities.

This report aims to complement *Private Sector Cities*, published by the Centre for Cities in 2010, which looked at the demand for labour across England's cities. If jobs are not available locally then some people may move elsewhere to find employment opportunities. This is a positive outcome for these people and for the national economy. Therefore it should not be used as a reason for cities to not improve skill levels.

1. Webber C & Larkin K (2009) *Growing by degrees? High skilled workers in Liverpool*. London: Centre for Cities

2. Lower skilled people tend to be less mobile. See Green A & Owen D (2006) *The Geography of Poor Skills and Access to Work*. York: Joseph Roundtree Foundation

“Almost one in three residents in Blackburn and Barnsley did not hold a qualification worth more than 5 D-G grades at GCSE in 2010”



Alison Wolf's recent review of vocational education in England has helped to move the debate forward around the skills and education system in England.³ Indeed, the Government has already announced that it will act upon some of the report's recommendations. This report looks to build upon aspects of the Wolf Review by looking at skills attainment across England's cities. Skills policy is and should be people-based. But the findings of this paper show that skills policies must also take a spatial angle if they are to reach some of the most poorly qualified people in some of England's weakest city economies.

The report is structured as follows. Firstly, it looks at the changing nature of the labour market in our cities. Secondly, it considers how secondary schools in cities of differing economic performance have adapted to these changes. Thirdly, it explores the disparities between cities in access to adult education and training. Finally the report offers policy recommendations as to how cities can improve their skills profiles for the benefit of both its residents and businesses.

“Skills policy is and should be a people-based. But skills policies must also take a spatial angle if they are to reach some of the most poorly qualified people in some of England's weakest city economies”

3. Wolf A (2011) *A Review of Vocational Education – the Wolf Report*, London: Department for Education



The nature of employment in cities

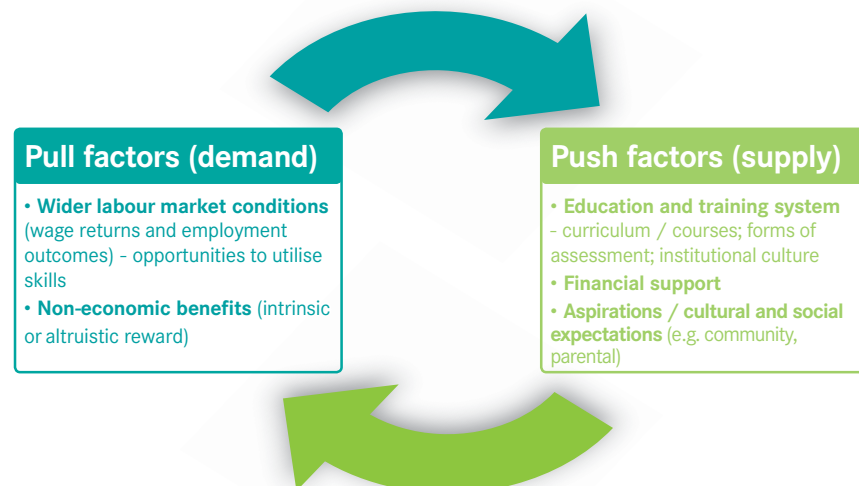
Patterns of labour demand and supply differ across England's cities. This section looks at how the demand for and supply of skills vary according to the economic performance of cities. It then considers the implications that future changes in labour demand are likely to have on the employment prospects within these cities.

The supply of skills is influenced by the extent to which individuals are incentivised to learn and gain qualifications, which in turn is driven by wider labour market characteristics. Incentives to learn are affected by a range of "pull" (demand) side factors, including job opportunities that afford individuals the opportunity to utilise skills gained, and "push" (supply) side factors, such as the resources and expectations that enable and sustain learning (Figure 1). All of these factors are mediated by an individual's innate ability and preferences to learn. But there is also an inherent geography to these factors and incentives are likely to be weaker in vulnerable cities.⁴

As this section illustrates, the opportunities to utilise skills (and realise financial return) through entry into the labour market and progression within it are likely to be more limited in less buoyant city economies as labour demand is lower. Other factors, including community-level factors, are also likely to impact on an individual's incentives to learn. The Longitudinal Study of Young People in England (LSYPE) found that young people living in England's most deprived communities were more likely not to be in employment, education or training (NEET), even when controlling for other factors including socio-economic background.⁵ These factors are reinforcing – potentially sustaining a downward spiral in some of England's weaker cities.

“Employment rates for poorly qualified people are much lower in struggling cities”

Figure 1: What incentivises individuals to learn?



Source: Ewart Keep (2008)

Employment rates for poorly qualified people are much lower in struggling cities

Employment rates differ widely according to qualification level. Graduates have the highest employment rates, while those with no formal qualifications have the lowest employment rates. This comes as no surprise. What is more interesting is that the employment rates for different qualifications vary according to the strength of city economies.

4. Keep E (2008) *Incentives to Learn: Time to Reconceptualise, Recontextualise and Integrate?* Cardiff: Cardiff University
5. Sodha S & Margo J (2010) *Ex Curricula*. London: Demos



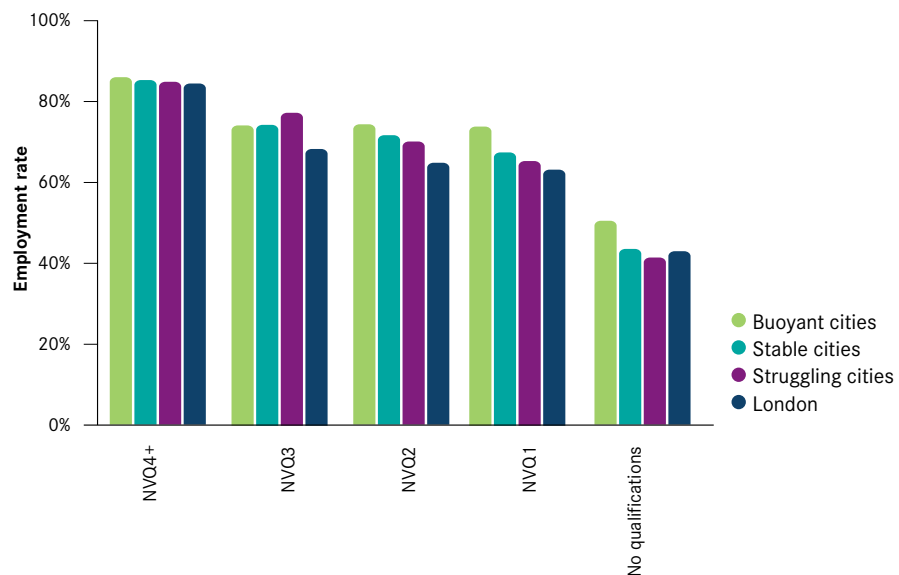
Box 2: Buoyant, stable and struggling cities⁶

The Centre for Cities classifies the 56 English cities into three groups according to their economic performance: buoyant, stable or struggling. An index of economic performance was created incorporating six indicators, including population growth, private sector job creation, GVA growth, average wages, average house prices and average benefit claimant rates. For example, Milton Keynes' strong population growth, private sector job creation and relatively high wages defined it as a "buoyant" city. On the other hand, Blackburn's weak population growth, private sector job losses and relatively low average wages (among other variables) classified the city as "struggling".

"Lower skilled people are even less likely to be employed in weaker economies than they are in stronger city economies"

Figure 2 shows the employment rates by qualification across cities according to their economic performance.⁷

Figure 2: Employment rate by qualification across city groups, average 2004 to 2010



Source: NOMIS 2011, Annual Population Survey 2010 data. Cities in England only.

The chances of a graduate (represented by NVQ4 which also includes other higher level attainment such as professional qualifications) being employed does not vary significantly according to the strength of a city's economy – graduate employment rates are almost identical in struggling cities to those in buoyant ones. A similar story can be seen for those that hold Level 3 qualifications (A-level and equivalent) too. These outcomes are largely driven by graduates and skilled workers being more mobile. But this pattern is not replicated for lower level qualifications. The probability of having a job for those that hold either a Level 1 qualification or no formal qualification at all is much lower in a struggling city as opposed to a buoyant one – low skilled people are even less likely to be employed in weaker economies than they are in stronger city economies.

6. See Webber C & Swinney P (2010) *Private Sector Cities: A New Geography of Opportunity*. London: Centre for Cities
 7. London has been separated from the buoyant category because of the very different nature of its labour market. Its success not only attracts a large number of graduates but also a number of poorly skilled people that seek to access the economic opportunity the capital provides. For that reason London has a different skills profile to other buoyant cities. This is in line with Ed Glaeser's theory that "urban poverty is a sign of urban success" because the most successful cities attract poor people looking for work. See Glaeser E (2011), *Triumph of the City: How our Greatest Invention Makes US Richer, Smarter, Greener, Healthier and Happier*. London: MacMillan

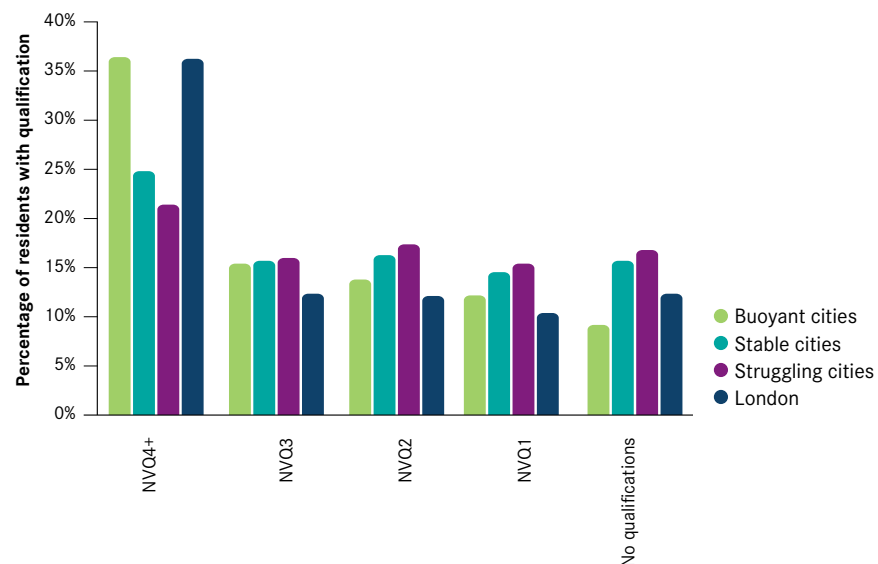


Lower employment rates in struggling cities are linked to the oversupply of people with low or no qualifications

Lower demand for labour in struggling cities certainly plays a role here. Previous work has found low skilled individuals are more likely to be employed in tight labour markets where the employment rate is above 75 percent.⁸ But the supply of different types of skills is also likely to play a role.⁹ There is a much smaller supply of graduates in struggling cities – around 25 percent of the working age population in these cities holds a degree, compared to 40 percent in buoyant cities. Conversely, there is a much higher supply of people with no qualifications in struggling cities – around 14 percent of the working age population in these cities have no formal qualifications, compared to eight percent in buoyant cities (see Figure 3). As a result, there are a smaller percentage of people chasing low skilled jobs in buoyant cities than there are in struggling cities.

“Lower employment rates in struggling cities are linked to the oversupply of people with low or no qualifications”

Figure 3: Qualifications across city groups, average 2004 to 2010



Source: NOMIS 2011, Annual Population Survey 2010 data. Cities in England only.

Poorly qualified people are more likely to be detached from the labour market

As Figure 4 shows, levels of inactivity in cities correlate strongly with the percentage of people that don't have any formal qualifications. Those cities that have the highest percentage of residents without any formal qualifications also tend to have the highest rates of inactivity.

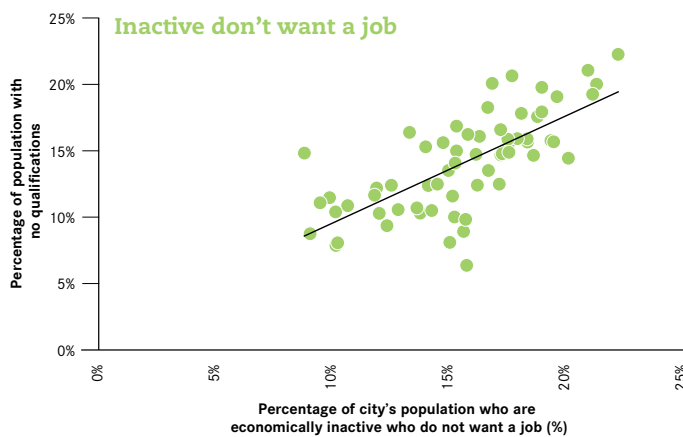
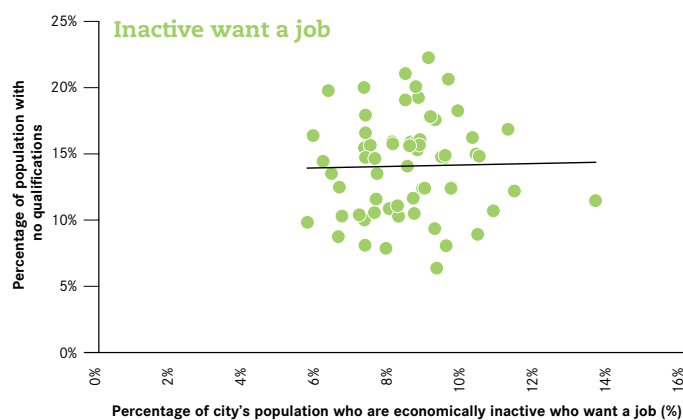
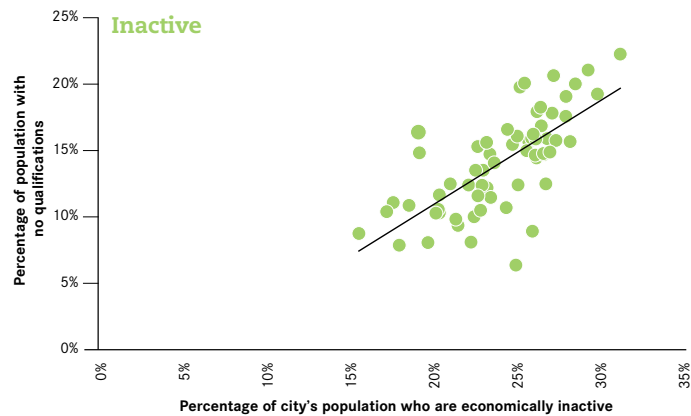
Breaking inactivity down further based on the desire to have a job tells a more nuanced story. This correlation is driven completely by those who are inactive but do not want a job – there is no correlation between the percentage of people with no qualifications in a city and those who are inactive but would like a job. This suggests that many low skilled people have become detached from the labour market. Given the patterns of qualification attainment in Figure 3 this has particular implications for struggling cities.

8. Gibbons S, Green A, Gregg P & Machin S (2005) *Is Britain Pulling Apart? Area Disparities in Employment, Education and Crime*. Bristol: The Centre for Market and Public Organisation

9. The analysis in this report uses qualifications as a proxy for skills.



Figure 4: Correlations of the percentage of inactive people in a city with the percentage of people that do not have any formal qualifications, 2004 to 2010



Source: NOMIS 2011, Annual Population Survey 2004/10 data. Cities in England only.

“The number of jobs available that do not require any formal qualifications contracted by 28.8 percent, falling much faster than the pool of people that do not have any formal qualifications”

Globalisation is likely to reinforce recent changes to the labour market

The UK labour market has continued to specialise in higher skilled jobs in recent years. Figure 5 shows that between 2004 and 2010 the number of degree level jobs (NVQ4+) increased by 16.5 percent. At the other end of the scale, the number of jobs available that do not require any formal qualifications contracted by 28.8 percent, falling much faster than the pool of people that do not have any formal qualifications. This pattern holds across our three groups of cities. And this trend is likely to be reinforced in the future – globalisation, technological development and the UK’s comparative advantage in higher skilled work will put a further squeeze on the lower end of the labour market.



Figure 5: Change in the number of jobs and resident population by qualification, Great Britain, 2004 to 2010



Source: NOMIS 2011, Annual Population Survey, residents analysis, 2004 to 2010 data. Jobs are measured in terms of the employment rates of each skill group. We note that this does not correspond exactly to an equivalent skill level job as people may well be employed in jobs that they are over-qualified for, but it should act as a good proxy.

“Numeracy and literacy skills are becoming ever more important”

This has significant implications for struggling cities in particular. As shown in Figure 3, these cities tend to have much higher proportions of working age residents without any formal qualifications, which has a corresponding negative impact on their employment rates. A continuation of the job creation patterns above would mean that the large pools of unskilled labour in these cities would have an ever more acute impact on the performance of their economies.

Numeracy and literacy skills are becoming ever more important

The types of generic skills required by employers has also changed in recent years, with demand for numeracy and literacy increasing since the mid 1990s.¹⁰ As shown in Figure 6, previous research¹¹ has found that between 1997 and 2006 “influencing”, literacy, “self-planning” and numeracy skills saw the largest increase in their requirement from employers.¹² This was because of the change in the tasks undertaken in employment – the number of jobs not requiring employees to write anything or use basic arithmetic fell, while the number of jobs requiring the writing of long reports or the use of advanced maths increased.

These findings are backed up by a vast literature on the importance of literacy and numeracy skills. For example, people with strong literacy and numeracy skills in the UK are more likely to be employed and have higher wages than those that do not,¹³ with similar results being found in the USA.¹⁴ Those with low levels of literacy also struggle to adapt when new working practices are introduced.¹⁵ And the lack of

10. Vignoles A, De Coulon A & Marcenaro-Gutierrez O (2010) “The Value of Basic Skills in the British Labour Market”, *Oxford Economic Papers* 63: 27-48

11. Green F (2009) Employee Involvement, Technology and Job Tasks, NIESR Discussion Paper No. 326

12. “Influencing” is defined as “instructing, training or teaching people”, “persuading or influencing others”, “making speeches or presentations”, “planning the activities of others” and “listening carefully to colleagues”. “Self-planning” is defined as “planning your own activities”, “organising your own time” and “thinking ahead”.

13. See: Dearden L *et al* (2002) “The Returns to Academic, Vocational and Basic Skills in Britain”, *Bulletin of Economic Research* 54 (3): 249-274; Grinyer J (2005) *Literacy, Numeracy and the labour market: Further analysis of the Skills for Life survey*, Department for Education and Skills report

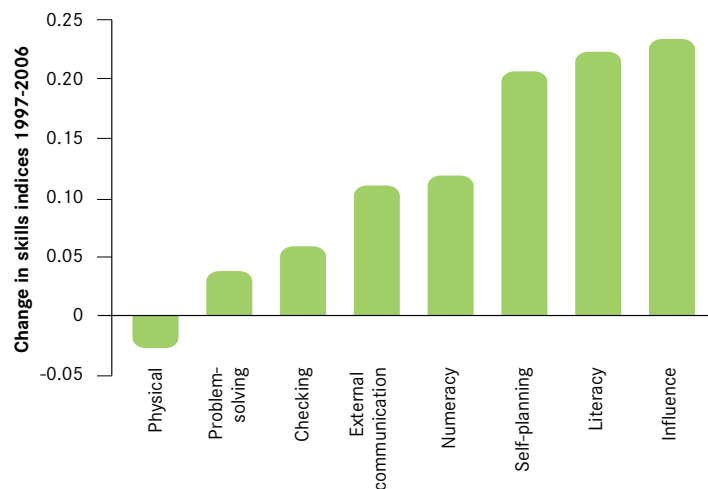
14. Tyler JH (2004) Basic Skills and the Earnings of Dropouts, *Economics of Education Review*, Vol 23: 221-235

15. Evans K & Waite E (2010) Stimulating the innovation potential of ‘routine’ workers through workplace learning, *Transfer: European Review of Labour and Research*, Vol 16 (2): 243-258



literacy and numeracy skills possessed by prospective employees is a big concern for businesses when they recruit.¹⁶

Figure 6: Changes in the use of generic skills, 1997 to 2006



Source: Green F (2009) Employee Involvement, Technology and Job Tasks, NIESR Discussion Paper No. 326

The research that supports the importance of literacy and numeracy skills provides contrast to the impact that many intermediate vocational skills courses outside of apprenticeships have on employment prospects.¹⁷ Numerous studies find that the majority of vocational Level 1 and Level 2 qualifications have either no impact or in some instances actually reduce lifetime earnings, rather than increasing them.¹⁸ Worryingly 18 percent of students each year achieve no higher than a Level 2 award in post-16 education. For this reason the recent Wolf Review of Vocational Education estimates that at least one in five of each cohort entering the post-16 secondary education system receives very little benefit from the courses they undertake.

Improving numeracy and literacy skills should not be the only focus of core skills provision. Figure 6 shows that “self-planning” and “influence” skills have also become more important for example. But the evidence above suggests that numeracy and literacy should form the core of any approach to improve intermediate skills. These core skills are required to develop other skills too – for example, self-planning is likely to require some degree of literacy. These core skills can then either be applied directly in the labour market¹⁹ or then used in further study.²⁰

Policy implication: Given their high levels of low qualified people, struggling cities in particular are susceptible to the changing labour market. **Struggling cities should focus on improving literacy and numeracy levels to improve the employability of their residents.**

16. Confederation of British Industry (CBI) (2006) *Working on the Three Rs: Employers' Priorities for Functional Skills in Maths and English*. London: CBI; British Chambers of Commerce (2011) *The Workforce Survey: Micro businesses August 2011*. London: British Chambers of Commerce

17. Notable exceptions being BTEC and City and Guilds Level 2 qualifications. See Conlon G & Patrignani P (2010), *Return to BTEC Vocational Qualifications: Final report for Pearson* London: London Economics

18. For example, see Dearden L, McGranahan L & Sianesi B (2004) *An in-depth analysis of the returns to National Vocational Qualifications obtained at Level 2*, London: Centre for the Economics of Education

19. 40 percent of young people change occupation in the first few years after school, while almost two-thirds change sector. This underlines the requirement for young people to have a strong set of core skills that they can apply to many different jobs rather than narrower vocational qualifications. See Crawford C *et al* (2010) *Evidence for the Wolf Review*, London: IFS

20. Maths for example is important for a large range of university degrees. See Vorderman C *et al* (2011) *A world class mathematics education for all our young people*, London: The Conservative Party

“Struggling cities in particular should focus on improving literacy and numeracy levels to improve the employability of their residents”



How are secondary schools performing in light of a changing national labour market?

The trends above provide insight into how skills providers need to respond to demands of employers. As such, schools – a key part of the skills system in a city economy – need to respond to the changing demands of employers to increase the future employability of their pupils. The evidence suggests this involves equipping pupils with sufficient numeracy and literacy skills.

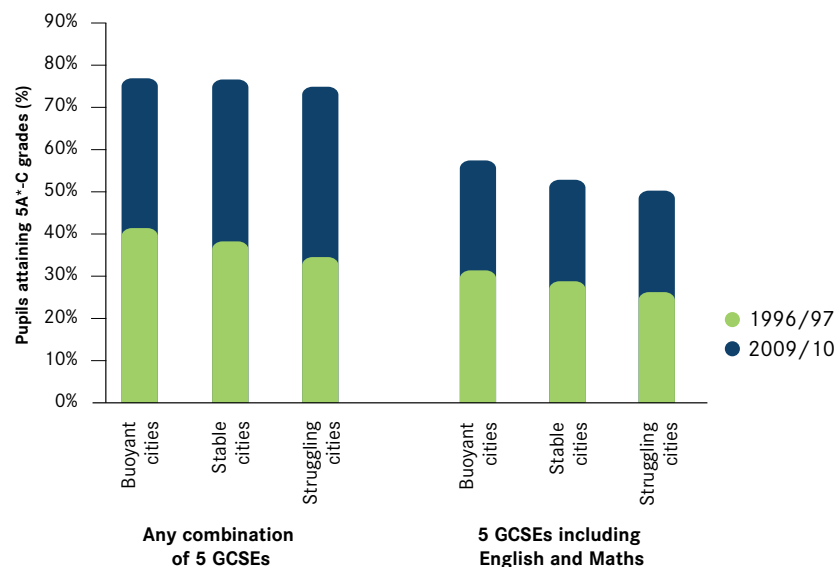
School performance has been the focus of much previous research. However, there has been much less focus on the performance of schools on a city-by-city basis. We now turn to look at how school performance differs across cities and what this means for labour market performance of England's city economies.²¹

There is a large body of literature that identifies the importance of early years education for educational outcomes.²² While undoubtedly this, as well as other socio-economic influences, will have some bearing on the analysis presented below, it does not mean that secondary schools have no impact on educational performance. In addition to other social-economic factors, the choices that secondary schools make have an impact on the future labour market outcomes of their pupils.

Struggling cities have seen a significant improvement in 5A*-C GCSE attainment

There has been a significant improvement in the proportion of pupils attaining at least 5 GCSEs at grade A*-C across England's cities in the last fifteen years. And as Figure 7 shows struggling cities have seen the largest improvement in the grade attainment of their pupils.

Figure 7: GCSE performance across city groups, 1996/97 and 2009/10



Source: Neighbourhood Statistics 2011, GCSE and Equivalent Results for Young People by Gender, Referenced by Location of Educational Institution, 2009/10 data; Department for Education. Cities in England only.

21. The analysis below presents city wide figures and we note that there is variation in educational attainment between schools within a city. It includes schools both in the public and private sector.

22. Department for Education (2011) *The Importance of Early Years education*. London: Department for Education



In 1996/97, schools in buoyant cities had the largest proportion of pupils gaining 5 A*-C grades, while struggling cities had the lowest. This gap had all but disappeared by 2009/10. While the proportion of pupils gaining 5 A*-C grades had increased by 35 percentage points in buoyant cities, it had increased by 40 percentage points in struggling cities. Given the large pool of unqualified people in struggling cities shown in the previous section, the significant improvement of school attainment is positive news for the skills profiles of these city economies.

But disparities in Maths and English attainment across cities remain

Unfortunately the picture looks very different when looking at the number of pupils gaining 5 A*-C at GCSE including Maths and English. Figure 7 also shows that not only were improvements in GCSE attainment including Maths and English more muted across all cities, a gap in performance remains between struggling and buoyant cities.

This supports the findings of the Wolf Review that schools have attempted to improve their league table performance by choosing less academic subjects or qualifications²³ (Box 3 discusses league tables in more detail). As Figure 8 shows, such behaviour appears to have occurred across cities. Maths and English attainment now makes up a smaller share of overall GCSE attainment across all three city types. But this fall is by far the most pronounced for struggling cities. In 1996/97, around 76 percent of pupils gaining 5 A*-C grades gained these grades in Maths and English (a similar percentage to those in stable and buoyant cities). But by 2009/10, only 67 percent of pupils attaining these grades did so in Maths and English.

Box 3: School league tables

Secondary school league tables rank schools on their performance in GCSE or equivalent subjects. Although school performance is measured in different ways by different institutions, a key headline measure used is the number of pupils gaining 5 A*-C grades at GCSE or equivalent. This information is made available to help inform parents' choices as to which school to send their children to.

There are two main criticisms of this approach. Firstly, it incentivises schools to encourage pupils to study for subjects that are perceived to be easier to attain. Vocational subjects in particular, which are often equivalent of up to four GCSEs at A*-C grade, have been an increasingly popular choice. For this reason the Wolf Review recommended a reassessment of the weighting given to vocational courses in school performance tables.²⁴ As a result the Government has announced that it will alter the eligibility of certain vocational courses to count towards headline performance indicators.

Secondly, using the 5 A*-C measure encourages teachers to push pupils over the D-C grade borderline rather than to support pupils on higher grade borderlines. Schools can improve their league table performance by improving a pupil's grade from a D to a C. However, improving a pupil's grade from a B to an A does not improve the number of 5 A*-Cs that he or she attains. Therefore, there is a greater incentive for the school to focus on the lower end of attainment.

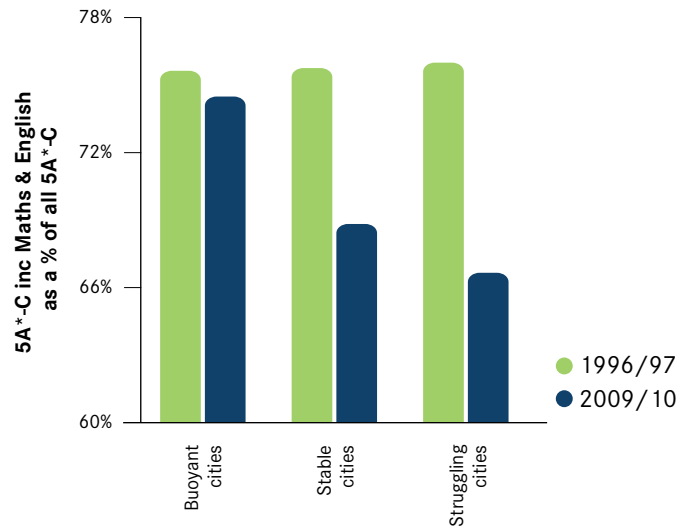
23. Wolf A (2011) *A Review of Vocational Education – the Wolf Report*, London: Department for Education

24. Wolf A (2011) *A Review of Vocational Education – the Wolf Report*, London: Department for Education

**“Disparities
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Figure 8: The shift in emphasis away from Maths and English across city groups, 1996/97 and 2009/10

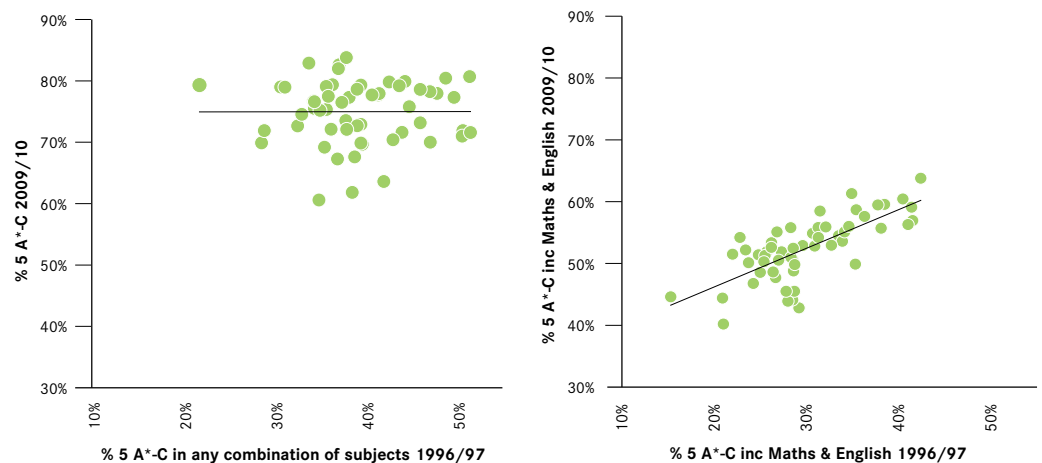


Source: Neighbourhood Statistics 2011, GCSE and Equivalent Results for Young People by Gender, Referenced by Location of Educational Institution, 2009/10 data; Department for Education. Cities in England only.

“Buoyant cities have seen a greater percentage point increase in the share of pupils achieving high grades between 2000/01 and 2009/10 than stable and struggling cities”

These findings are underlined by the correlation between current and historic GCSE performance of cities, as shown in Figure 9. There is no correlation between the number of pupils attaining 5 A*-C grades in 1996/97 and 2009/10 in cities, but there is a strong correlation between the percentage of pupils attaining 5 A*-C grades including Maths and English in 1996/97 and 2009/10. So whereas the past was no predictor for broad city GCSE performance in 2009/10, those cities that had the best results in 1996/97 including Maths and English continued to do so in 2009/10.

Figure 9: Correlation between GCSE performance in 1996/97 and 2009/10



Source: Neighbourhood Statistics 2011, GCSE and Equivalent Results for Young People by Gender, Referenced by Location of Educational Institution, 2009/10 data; Department for Education. Cities in England only.

Disparities also remain in high achievement across cities

Struggling cities also have a smaller proportion of pupils attaining top grades at GCSE. Figure 10 shows the attainment of the highest grades at GCSE by city economic performance. A similar pattern is apparent in the variation of attainment of the highest grades as is seen for 5 A*-C including English and Maths – buoyant



cities see a far higher percentage of pupils gaining both at least 5 A*-A grades and one A*-A than stable and struggling cities. Furthermore, buoyant cities have seen a greater percentage point increase in the share of pupils achieving these grades between 2000/01 and 2009/10 than stable and struggling cities.

Figure 10: 1A*-A and 5A*-A attainment across city groups, 2000/01 to 2009/10



Source: Department for Education. Data was not provided for the years 2002/03 to 2006/07. Cities in England only.

Coupling this with the analysis on 5 A*-C grade attainment above suggests that schools in struggling cities have been not only encouraging pupils to do less academic subjects but also focusing on pushing pupils over the D-C grade borderline in these subjects. The criticisms of such an approach in terms of the implications for pupils are well rehearsed.²⁵ While such actions improve the position of schools in league tables, they do not provide pupils with qualifications most valued by employers and universities.²⁶

The impact this has on city economies has been less scrutinised. Struggling cities are grouped together because of their weak economic performance in recent years. The oversupply of residents with no formal qualifications is likely to have had a negative impact on their performance. So given the nature of the skills profiles of these cities and the changing nature of the labour market, it appears that schools in struggling cities in particular are not providing their economies with the skills required to meet the needs of local employers. This has implications for the productivity of city economies. While we note there are wider factors affecting educational attainment, this means that schools (which are incentivised to improve their league table positions) are likely to be playing some role in reinforcing the divergence in economic performance across England's cities.

Disparities in GCSE Maths and English performance have implications for A-level take-up

The relative performance at GCSE-level has implications for A-level take-up. Students enrolling to go on to study for three or more A-levels are normally required

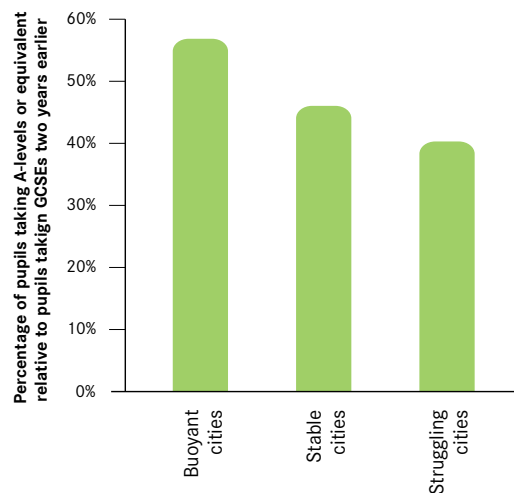
25. For example, see Wolf A (2011) *A Review of Vocational Education – the Wolf Report*, London: Department for Education
 26. Department for Education (2010) *The Importance of Teaching, Schools White Paper*, London: The Stationery Office

“Disparities in GCSE Maths and English performance have implications for A-level take-up”



to have at least Grade C in both Maths and English.²⁷ As Figure 11 shows, the take up of A-levels or equivalent more generally is lower in struggling cities than it is in stable or buoyant ones. This cannot be fully attributed to poorer GCSE performance, as other factors such as occupational structure are also likely to have an impact on A-level take-up.²⁸ But given the requirement for Maths and English GCSE for many A-level courses and the pattern that emerges in Figure 11, it is likely that poorer Maths and English performance at GCSE in struggling cities is contributing to continuing disparities in A-level take-up.

Figure 11: Average percentage of students sitting A-levels or equivalent relative to the number of pupils sitting GCSEs two years earlier across city groups, 2004/05 to 2008/09²⁹



Source: Neighbourhood Statistics 2011, GCSE and Equivalent Results for Young People by Gender, Referenced by Location of Educational Institution, 2002/03 to 2007/08 data, and GCE/Applied GCE A/AS and Equivalent Examination Results (Level 3) for Young People by Gender, Referenced by Location of Educational Institution, 2004/05 to 2009/10 data. Cities in England only.

“GCSE Maths and English attainment appears to impact on youth unemployment”

The pattern of achievement at A-level – as opposed to enrolment – does not reflect that at GCSE however. There has been very little difference in the performance of A-level students across the typology of cities in recent years. And stable cities have seen the best performance out of the three. This may be a result of self-selection, with better performing pupils more likely to go on to study for A-levels or equivalent. The problem for struggling cities in particular is not the attainment of pupils at A-level but the smaller number of students that progress to study for them. This in turn has an impact on the number of young people progressing on to degree-level courses. Progression within the education system at all levels has implications for future employment prospects.

GCSE Maths and English attainment appears to impact on youth unemployment

The attainment of Maths and English also appears to have implications for those that choose to enter the labour market. Figure 12 shows the correlation between youth unemployment and GCSE attainment. There is no correlation between the youth claimant rate and the attainment of 5 A*-C grades in any subject. But there is a strong

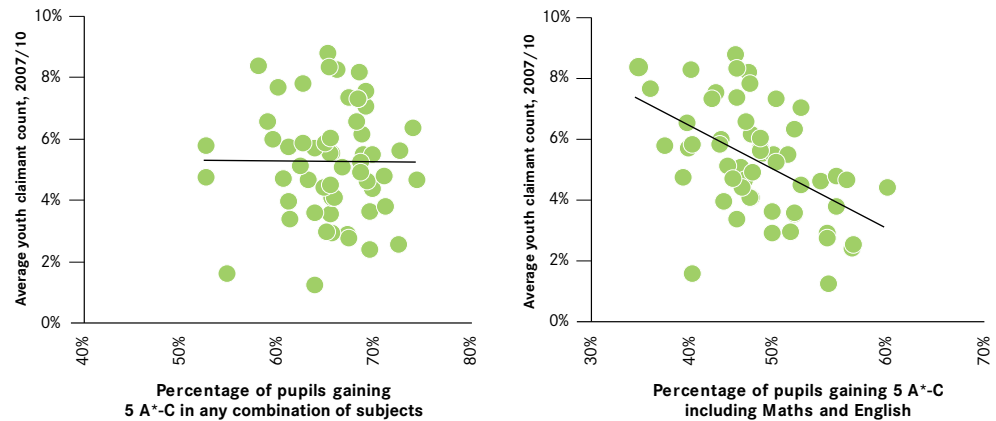
27. Wolf A (2011) *A Review of Vocational Education – the Wolf Report*, London: Department for Education

28. Indeed, a reasonably strong negative correlation between the percentage share of Level 2 jobs (which on the whole do not require education beyond GCSE) and the percentage of pupils that go on to do A-levels in England’s cities suggests that occupational structure plays some role.

29. This assumes that students sitting an A-level or equivalent in any given year sat their GCSEs two years earlier. For various reasons, such as retaking a year, this may not be the case. It also assumes that pupils sit their A-level or equivalent in the same city that they undertook their GCSEs.

negative correlation between the youth claimant rate and the attainment of 5A*-C grades including Maths and English. These findings corroborate with the findings in the wider literature discussed above – the attainment of Maths and English qualifications appear to have a positive impact on the labour market outcomes of individuals.

Figure 12: Correlation between GCSE attainment and youth unemployment in cities, average 2007 to 2010³⁰



Source: NOMIS 2011, claimant count 2007 to 2010 data; Neighbourhood Statistics 2011, GCSE and Equivalent Results for Young People by Gender, Referenced by Location of Educational Institution, 2006/07 to 2009/10 data. Cities in England only.

GCSE performance also correlates with other labour market outcomes. For example, there is a positive significant correlation between GCSE performance (both including and excluding Maths and English) and wages in 1996/97 and wage levels in 2010. It is difficult to identify the cause of this relationship. It may be because better schools improve the skills profiles of cities which increase average wages. But it could also be because higher skilled parents move to cities with better schools.³¹ Either way this has positive implications for the skills profile of a city.

Policy implication: Incentives in the education system mean that pupils in struggling cities in particular are not being equipped with the skills required in the changing labour market. This is likely to reduce the employment opportunities of these people and compound the skills issues that these cities face. **Incentives need to be realigned to encourage both Maths and English attainment and educational improvement across all grades at GCSE.**

30. Data for 5A*-C including Maths and English was only available back to 2006/07.

31. Glaeser E (2011) *Triumph of the City*. London: McMillan

“Incentives need to be realigned to encourage both Maths and English attainment and educational improvement across all grades at GCSE”



Adult participation in education and training

Focusing on school performance alone will have a limited impact on the skills challenges facing many cities in the UK. The education system impacts on the skills of people entering the labour market for the first time. But it is only likely to have limited influence on the large stock of low skilled people living in our cities that have already passed through the formal education system. As noted in *Skills for Sustainable Growth*, 80 percent of those who will be in the workforce in 2020 have already left compulsory education.³²

As noted above, adult skills interventions are particularly important for struggling cities given the disproportionate number of people with few or no qualifications. The skills gap between cities is particularly pronounced for people aged over 25. At the national level 12 percent of 25 to 64 year olds have no qualifications; this figure rises from eight percent in buoyant cities to nearly 15 per cent in struggling cities.

Job-related training has positive impacts on labour market outcomes

Policy makers have paid increasing attention to lifelong learning over the last decade in recognition of the need to improve skills amongst the current workforce – whether through formal or informal education, or job-related training. Yet the evidence on the returns to lifelong learning is mixed. Previous studies have found the returns to formal qualifications gained later in life are limited: taking an A-level in your thirties, for example, as opposed to in your teens is likely to have no impact on wages.³³ Others have found that there are positive employment and wage returns from formal qualifications amongst the lowest skilled.³⁴ A wider range of studies have found that job-related training has a positive impact on labour market outcomes.

Box 4: What is job-related training?

Job-related training refers to all organised, systematic education and training activities in which people take part in order to obtain knowledge and/or learn new skills for a current or a future job, to increase earnings, to improve job and/or career opportunities in a current or another field and generally to improve their opportunities for advancement and promotion (OECD, 2011).

Job-related training (JRT) (for a current or future job) in particular appears to be an important source of adult learning. Nearly half of adults (aged 25 to 59 years) participating in education and training undertake JRT as opposed to learning through formal education. The returns to both employees and employers can be significant.³⁵

32. Department for Business Innovation & Skills (2010) *Skills for Sustainable Growth*. London: BIS

33. Vignoles A, Galindo-Rueda F & Feinstein L (2004) "The Labour Market Impact of Adult Education and Training: A Cohort Analysis", *Scottish Journal of Political Economy*, Vol 51 (2): 266-280

34. Jenkins A, Vignoles A, Wolf A & Galindo-Rueda F (2002) "The Determinants and Labour Market Effects of Lifelong Learning", *Centre for the Economics of Education discussion paper* Number 19, London: London School of Economics

35. Figures relating to rates of return should be treated with caution: information on investment (individual or employer spend on training) is often unavailable making difficult to analyse returns to investment; data often provides a snapshot of outcomes making it difficult to generate causality; other mediating factors are likely to impact on outcomes. Keep E (2008) *The complex links between skills, productivity and workplace configuration: evidence and thinking from the UK*, Cardiff: Cardiff University

“Job-related training has positive impacts on labour market outcomes”



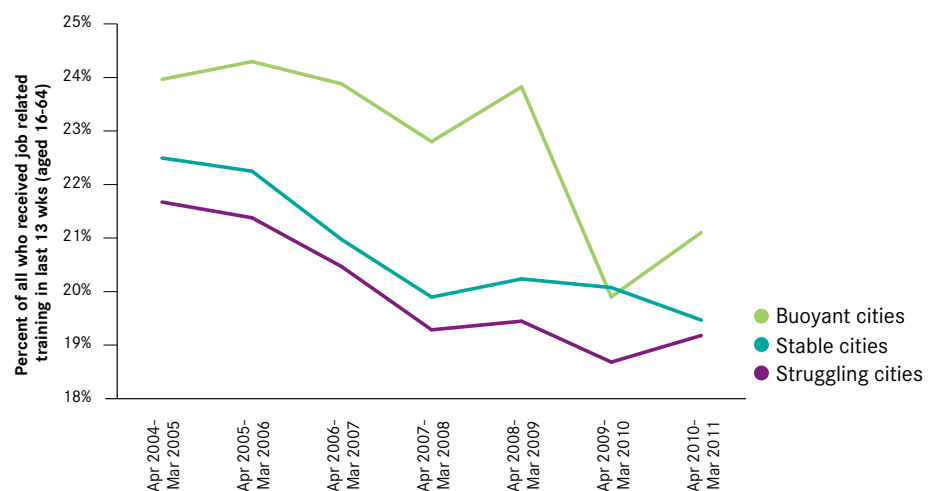
- **Employment returns.** Previous studies have found that participation in JRT increases the chances of being in employment and improves individuals' chances of being re-employed. Training has also been found to have a positive effect on job security, particularly among more disadvantaged groups of workers.³⁶
- **Wage returns.** Studies have found JRT to have positive impacts on real earnings growth of between five to 12 percent.³⁷
- **Productivity returns.** The productivity effects of training have been found to be between two and five times larger than the wage returns to individuals. For firms, JRT can also be an integral part of employee retention strategies by firms.³⁸

But there is large variation in access to JRT – and access is largely driven by previous educational attainment

Access to JRT varies hugely across cities. At a city level, the proportion of adults who participated in JRT within three months of the most recent survey period (April 2010 to March 2011) varies from 13 percent to 27 percent. Those living in struggling cities are less likely to participate in JRT – a trend that has persisted over the last decade.

Over the past seven years there has been a fall in the number of adults participating in JRT across the majority of cities – and those with higher participation rates experiencing the largest falls. Access to JRT had been falling at a faster rate in stable and struggling cities than in buoyant cities prior to the recession (see Figure 13) – the gap reaching its widest just before the recession. At the onset of the recession – as employers and individuals cut back on expenditure and unemployment rose – participation rates fell dramatically, particularly in buoyant cities where rates had previously been high. Only a handful of cities have seen an increase in JRT since the height of the recession.

Figure 13: Change in job-related training (JRT) participation rates, 2004/05 to 2010/11



Source: Annual Population Survey, 2011. Includes 62 GB cities.

36. Hansson B (2008) *Job-related training and benefits for individuals: A review of evidence and explanations*, Paris: OECD

37. *ibid*

38. *ibid*



Variations in access to JRT can be related to a number of factors. For example, those in employment are more than twice as likely to access JRT than unemployed individuals.³⁹ Individuals with higher educational attainment are more likely to participate in JRT, as are those with core literacy and numeracy skills.⁴⁰ And those in professional occupations are almost three times more likely to participate in JRT than those in elementary occupations.⁴¹ The problem for workers in struggling cities is that they are more likely to be affected by all three of these factors than people in buoyant cities. As with school attainment, these patterns act to reinforcing existing skills divides.

Policy makers have endeavoured in the past to improve access to JRT through subsidies and tax relief. The subsidisation of employers' expenditure on training, through programmes such as "Train to Gain", has been ineffective in addressing disparities in access to JRT for several reasons. Firstly, these programmes have been found to have significant deadweight as many employers would have paid for training in absence of government subsidy.⁴² Secondly, in a number of cases Government funding was used to cover the cost of formal accreditation of existing skills⁴³ – potentially a useful signal to other employers and to a firm's own contractors but not developing skills. There is very little data on how tax relief is being used by employers⁴⁴ but employer preference for training individuals with higher-level qualifications is likely to continue, and inequalities in access to JRT persist, under such blanket policies.

Incentives to learn – whether from the employer or individual perspective – are impacted on by the quality of provision in further education and training. The evidence suggests that JRT is not an effective substitute for skills and qualifications acquired through the compulsory education system. Yet this does not preclude policy makers and training providers from designing more effective interventions for individuals who have already passed through the education system. It is important to understand how JRT can be most effective both for those in employment and for jobseekers. Within the definition of JRT presented here there can be huge variety in terms of quality, type and length of training.

While further work is required to build a more robust evidence base of what works in terms of improving adults' skills, several key factors can be identified from previous studies:

- **Training provision is more effective when tailored to the individual.** Assessment of learners' needs and existing skills form an important part of ensuring training is appropriate for an individual.⁴⁵ Participation and achievement rates are also generally higher when training provision is flexible to suit individuals' circumstances and schedules.⁴⁶ For example, provision may be roll-on / roll-off or short courses may have multiple start dates. Many people who lack basic skills lack confidence and are reluctant to take up learning or

39. Quarterly Labour Force Survey 2011, Economic and Social Data Service

40. National Research and Development Centre for adult literacy and numeracy

41. This will be partly influenced by a condition of membership of some professional bodies requiring proof of continuous professional development being undertaken.

42. Abramovsky L *et al* (2008) *The Impact of the Employer Training Pilots on the Take-up of Training Among Employers and Employees*, London: Institute for Fiscal Studies

43. Wolf A (2009) *An Adult Approach to Further Education*, London: The Institute of Economic Affairs

44. Reed H (2011) *Tax Relief on Training: Investigating the options for reform*, London: Union Learn

45. NIACE (2010) *Supporting the provision of training for unemployed adult learners*, Leicester: NIACE

46. OECD (2003) *Beyond Rhetoric : Adult Learning Policies and Practices - Highlights*. Paris: OECD

“It is important to understand how job-related training can be most effective both for those in employment and for jobseekers”



enter formal learning environments. The nature of the learning environment and the accessibility of venues are important factors for consideration in the design of training interventions, as is the availability of specialist support.

- **The provision of “core skills” is most effective when fully integrated with vocational education.** Employers have long called for ‘core skills’ including literacy and numeracy to form an integral part within the schools curriculum, and within in further education and vocational training. Yet the long-running disconnect between academic and vocational teaching still exists. A study by Ofsted found the most effective provision aimed at improving numeracy is where these skills were provided as a matter of course rather than as an option with providers having formed an understanding of learner needs.⁴⁷ Provision was also found to be more effective when learners were given incentive to build on their numeracy skills by understanding how it related to their everyday lives.
- **Courses need to be sufficiently long.** Previous research has identified the length of training courses as a critical factor in their effectiveness, concluding that learners need 100 to 150 hours of instruction.⁴⁸ Course lengths are hugely variable, nearly half of training lasts less than a week; 21 percent lasts more than a year and 17 percent is ongoing or has no definitive limit.⁴⁹
- **Outreach policies and referral systems are an important way of ensuring individuals and businesses are aware of the training opportunities available.** Up-to-date information, sound advice and guidance, and joint working with other local agencies, such as Jobcentre Plus, all form part of effective engagement strategies.⁵⁰
- **Labour market intelligence has a crucial role to play in informing training providers offer.** Local labour market intelligence should be balanced with intelligence on the wider labour market and changes within it to avoid individuals’ employment access being restricted by a particular area or industry.
- **Learning providers’ active engagement with employers increases the effectiveness of training.** Many employers play a key role in the strategic direction of adult training provision, for example through the Bristol City Region’s Skills and Competitiveness Board.⁵¹ There are also examples of colleges seeking to actively engage with employers and the SME base within the local area – with some offering a free recruitment service to employers.⁵²
- **Formal certification of training can lead to better labour market outcomes.** Studies have found that where JRT leads a formal qualification it is likely to have more significant impact on an individual’s employment prospects.⁵³

Box 5 illustrates one approach taken by City of Sunderland college in providing both jobseekers and those currently in work with the skills required by local employers.

47. Ofsted (2011) *Tackling the challenge of low numeracy skills in young people and adults*, Manchester: Ofsted

48. Comings J, Cuban S, Bos J, Porter K with Doolittle F (2003) *As Long As It Takes – Responding to the Challenges of Adult Student Persistence in Library Literacy Programs*, New York: MDRC

49. Quarterly Labour Force Survey, 2011

50. NIACE (2010) *ibid*

51. See www.westofengland.org for further information

52. NIACE (2010) *ibid*

53. Dearden L *et al.* (2006) “The Impact of Training on Productivity and Wages: Evidence from British Panel Data”, *Oxford Bulletin of Economics and Statistics* Vol 68 (4)

“Outreach policies and referral systems are an important way of ensuring individuals and businesses are aware of the training opportunities available”



Box 5: Test the City – Improving Maths and English skills in Sunderland⁵⁴

Test the City was launched by Sunderland College in 2004 offering GCSE-level equivalent qualifications in Maths and English. The programme has around 2,500 adults enrolling every year. It has a pass rate of over 90 percent with individuals gaining an average of 1.7 qualifications in Adult Literacy and Numeracy at Level 1 or 2. The college initially ran an intensive marketing campaign to recruit individuals with basic numeracy and literacy skills. However, the pattern of recruitment has evolved in recent years – many people now approach Test the City rather than the other way round, in part in response to a recent increase in numeracy and literacy tests at job interviews. Students range from the unemployed to those looking to progress within their job or change industries.

College staff received the Queen’s Anniversary Prize for Higher and Further Education in 2010 for their work in Test the City. Staff attribute the successes of Test the City to the flexibility of the programme (students can start the course at any point in the academic year) and the one-to-one approach taken towards each learner.

“Labour market intermediaries, including Work Programme providers, should focus on ensuring their clients have the numeracy and literacy skills to enable them to access jobs and progress in work”

Policy implications: Labour market intermediaries, including Work Programme providers, should focus on ensuring their clients have the numeracy and literacy skills to enable them to access jobs and progress in work. All new clients should be assessed on their existing skills, particularly numeracy and literacy, to ensure they are equipped with the right skills to allow them to access jobs with progress opportunities.

Publicly funded adult education and training should be targeted towards improving core skills amongst low skilled, disadvantaged groups. Funding for basic numeracy and literacy training for individuals that left school without these skills should remain a priority for Government – this is likely to improve their access to further training and employment opportunities. Policy makers must go beyond this though to address other (often significant) barriers to further education and training, such as employer demand for training and flexible course provision.

As business-driven organisations, Local Enterprise Partnerships (LEPs) should work with skills providers and employers to improve access to adult education and training. LEPs should work with employers and skills providers within the LEP area to increase employer demand for job-related training. Part of this role should involve identifying how barriers to access can be overcome.

Policy makers need to carefully consider what types of intervention are likely to be most effective in terms of increasing participation rates in valuable job-related training activities, particularly more disadvantaged workers. With widespread criticism of past policies aimed at subsidising employer-based training (such as Train to Gain), policy makers need to think carefully about how they can most effectively target those with limited access to job-related training. Evidence suggests this is as much about the quality of provision and employer engagement (and utilisation of skills) as it is about access to finance and the appropriate information, advice and guidance.

54. Interviewee. See www.citysun.ac.uk/adult/test-the-city/ for further information.



Conclusions

The places which have the most people with low or no skills are also the places where schools have fewer pupils gaining 5 A*-C grades at GCSE including Maths and English and there are the lowest levels of on-the-job training. This runs the risk that the divide between more successful places and struggling places will continue to grow, and that the most struggling people will be most affected. Cities need to consider how best they can work with education providers to help improve skills levels in the local labour market.

Policy recommendations

Our findings suggest that:

- **Greater emphasis and incentivisation should be placed on Maths and English attainment, particularly in struggling cities**

This should be done in the following five ways:

1. The Government should go further in its current plans to reform the way that school performance is measured

Much greater weight should be attached to Maths and English attainment when measuring school performance in order to incentivise schools to focus on these core subjects. And performance shouldn't just be measured on the 'floor target' of 5A*-C – schools should be incentivised to focus on improving performance across all grades.

2. Local education authorities should allocate the new Pupil Premium to improve the provision of Maths and English in schools.

The Pupil Premium will allocate £430 per pupil for pupils eligible to receive free school meals. In most cases it will be up to the school to decide how this money is spent, and will depend on the specific educational needs of the pupils. But for schools that have poor Maths and English attainment, particularly in struggling cities, this money should be focused on additional Maths and English tutoring.

3. Free schools in particular should use the greater flexibility they have over their curriculum to specialise in Maths and English in struggling cities

Free schools are outside of local authority control and have been created in order to respond to more local educational demands.

4. All schools should look to stress the importance of Maths and English for future employment prospects through more structured career advice

The recent revisions to the Education Bill give schools greater freedom in the provision of careers advice. Schools should use this flexibility to show the importance of Maths and English for future employment prospects. The Bill proposes to put a duty on schools to provide this from Year 9. Instead, this should be provided from the first day of secondary school to tackle problems of low aspirations

“Greater emphasis and incentivisation should be placed on Maths and English attainment, particularly in struggling cities”



5. Labour market intermediaries, including Work Programme providers, should focus on ensuring their clients have the numeracy and literacy skills to enable them to access jobs and progress in work

All new clients should be assessed on their existing skills, particularly numeracy and literacy, to ensure they are equipped with the right skills to allow them to access jobs with progress opportunities.

“Local Enterprise Partnerships (LEPs) should play a coordinating role amongst local education and training providers, and employers”

- **Publicly funded adult education and training should be targeted towards improving core skills amongst low skilled, disadvantaged groups**

Funding for basic numeracy and literacy training for individuals that left school without these skills should remain a priority for Government – this is likely to improve their access to further training and employment opportunities. Policy makers must go beyond this though to address other (often significant) barriers to further education and training, such as employer demand for training and flexible course provision.

- **As business-driven organisations, Local Enterprise Partnerships (LEPs) should work with skills providers and employers to improve access to adult education and training**

LEPs should work with employers and skills providers within the LEP area to increase employer demand for job-related training. Part of this role should involve identifying how barriers to access can be overcome.

Annex: Youth unemployment and GCSE attainment in stable, struggling & buoyant cities

| City | Average Youth JSA claimant rate 2007/10 | Average 5 A*-C GCSEs (all subjects) 2007/10 | Average 5 A*-C GCSEs (inc English & Maths) 2007/10 | City | Average Youth JSA claimant rate 2007/10 | Average 5 A*-C GCSEs (all subjects) 2007/10 | Average 5 A*-C GCSEs (inc English & Maths) 2007/10 |
|-----------------------|-----------------------------------------|---------------------------------------------|----------------------------------------------------|--------------------------|-----------------------------------------|---------------------------------------------|----------------------------------------------------|
| Buoyant cities | | | | | | | |
| Cambridge | 1.3% | 64% | 54% | Manchester | 5.3% | 69% | 49% |
| Oxford | 1.6% | 55% | 40% | Blackpool | 5.5% | 69% | 48% |
| Reading | 2.4% | 69% | 57% | Chatham | 5.5% | 70% | 50% |
| Aldershot | 2.9% | 67% | 54% | Derby | 5.6% | 66% | 48% |
| Bristol | 2.9% | 66% | 48% | Newcastle | 5.6% | 73% | 47% |
| Crawley | 3.6% | 65% | 51% | Huddersfield | 5.7% | 64% | 47% |
| Milton Keynes | 4.4% | 65% | 45% | Bradford | 5.7% | 61% | 40% |
| Brighton | 4.0% | 61% | 43% | Peterborough | 5.9% | 63% | 40% |
| London | 4.6% | 69% | 53% | Ipswich | 6.0% | 60% | 43% |
| | | | | Telford | 6.0% | 65% | 47% |
| Stable cities | | | | Wakefield | 6.4% | 74% | 51% |
| York | 2.6% | 72% | 57% | Mansfield | 6.6% | 59% | 40% |
| Bournemouth | 2.8% | 67% | 54% | Liverpool | 7.3% | 68% | 42% |
| Southampton | 3.0% | 65% | 50% | Wigan | 7.3% | 68% | 49% |
| Portsmouth | 3.4% | 61% | 45% | Sunderland | 7.4% | 67% | 45% |
| Norwich | 3.6% | 64% | 51% | Doncaster | 7.6% | 69% | 43% |
| Plymouth | 3.6% | 69% | 48% | Rochdale | 7.8% | 63% | 46% |
| Preston | 3.8% | 71% | 55% | Birmingham | 8.2% | 68% | 46% |
| Leeds | 4.1% | 66% | 46% | Hastings | 8.4% | 58% | 35% |
| Luton | 4.1% | 66% | 46% | Grimsby | 8.8% | 65% | 45% |
| Gloucester | 4.4% | 70% | 60% | Struggling cities | | | |
| Worthing | 4.5% | 65% | 51% | Burnley | 5.8% | 53% | 37% |
| Leicester | 4.7% | 63% | 46% | Stoke | 5.9% | 65% | 43% |
| Warrington | 4.7% | 74% | 56% | Blackburn | 6.2% | 69% | 46% |
| Swindon | 4.7% | 61% | 44% | Bolton | 6.6% | 68% | 46% |
| Northampton | 4.8% | 53% | 39% | Birkenhead | 7.1% | 69% | 51% |
| Southend | 4.8% | 71% | 55% | Barnsley | 7.7% | 60% | 36% |
| Nottingham | 4.9% | 68% | 46% | Hull | 8.3% | 66% | 40% |
| Coventry | 5.1% | 67% | 45% | Middlesbrough | 8.4% | 65% | 45% |
| Sheffield | 5.1% | 62% | 44% | | | | |

Source: NOMIS 2011, claimant count 2007 to 2010 data; Neighbourhood Statistics 2011, GCSE and Equivalent Results for Young People by Gender, Referenced by Location of Educational Institution, 2006/07 to 2009/10 data



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All views expressed in this report are those of the Centre for Cities and do not necessarily represent the views of those we interviewed. All mistakes are the authors' own.

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