

III. Human capital²

Why human capital matters

Both economic theory and empirical evidence show that in the long run, human capital is a critical input for [growth](#). The growth dividend from upgrading human capital is potentially enormous and improving the quality of compulsory education is the key to achieving these gains. Evidence suggests that increasing UK school standards moderately (say, to the level of Australia or Germany) could put us on a growth path that would more than double long-term average incomes compared with current trends. An even more ambitious target – to raise our educational standards to those of leaders, such as Finland – would generate even more spectacular gains. It is important, therefore, to frame debates about improving school quality as a growth issue.

There is a double dividend from improving human capital since many of the gains from growth would accrue to the less well-off, thereby reducing inequality. Increasing the quality and quantity of skills of disadvantaged children will make growth more inclusive through reducing the high levels of wage inequality in the UK (see Figure 5 above). In addition to the benefits from lower inequality, reducing the fraction of poorly educated will reduce the welfare rolls and the numbers caught up in the criminal justice system.

Although our principal focus is on education between the ages of 5 and 18, it is important to promote excellence in higher education and lifelong learning as well as dealing with other longstanding problems in vocational training, pre-school education and adult skills. We also suggest reforms in these areas.

A large number of international studies show that high quality teaching is the key to improving schools. There are well-established positive effects from extra resources, improved buildings, higher pay (especially when linked to performance), extended provision of information technology and smaller class sizes. But these effects appear to be very modest in comparison with the large benefits that could be realised by increasing the quality of teachers.

Unfortunately, predicting who will be an effective teacher before they start working is very hard and is not well-captured by the formal teaching qualifications held nor by number of years in the profession. But once teachers have been in front of a class, parents, pupils and especially head-teachers have a good idea of who are the really excellent teachers. In addition, there is now much more data on pupil progression. Thus, a system for improving the quality of teachers has to use information acquired from observing teachers at work and being responsive to their performance.

Diagnosis: the problems of education in the UK

The UK is mid-table overall in most international rankings of schools: it is mediocre in the internationally comparable tests in the OECD's PISA scores (taken at age 15), although it does somewhat better in the more curriculum-based TIMSS (taken at ages 10 and 15). Indicators of the UK's average educational outcomes have shown significant improvements, some of which is grade inflation, but some of which is real. Most impressive is the increase in the proportion of the workforce with a university degree (from 5 per cent in 1980 to 31 per cent in 2011).

One major systemic failing in the UK education system is the 'long tail' of poorly performing schools and pupils compared with other countries, particularly at the secondary level. A significant part of the explanation for this is the stubborn link between pupils' socio-economic background and their educational attainment. For example, a fifth of children in England on free school meals (a common measure of disadvantage) do not reach the expected maths level at age 7 (Key Stage 1) and this proportion rises to a third by age 11 (Key Stage 2). The correlation between disadvantage and poor academic attainment



² For a more detailed discussion please see lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/HumanCapital.pdf.

is particularly strong in the UK. Our failure to provide adequate education to children from disadvantaged backgrounds constitutes a waste of human resources on a grand scale. It holds back economic opportunities and is detrimental to growth.

Disadvantaged children are found in many schools and generally perform poorly compared with their better-off peers even when located in better schools. Disadvantaged children lose out in schools because:

- Most schools face weak incentives to focus on their performance. Parental choice is seriously constrained by place of residence and, in particular, distance from home to school. Despite numerous initiatives to facilitate greater parental choice, including several changes to the schools admissions code, the ability to choose schools is still mainly a prerogative of better-off families who can buy houses near good schools.
- The framework for school inspections by the regulator, Ofsted, places insufficient emphasis on pupil performance across the range of achievement levels.
- Government 'floor targets' are themselves flawed.³ They do not focus on the 'lower tail' within schools and so schools can meet them largely by ignoring the bottom third.

Current funding arrangements give more resources to local authorities in areas with more disadvantaged children. But the evidence suggests that these resources fail to reach them effectively. This is true, for example, because much of this money is not ring-fenced for individual schools or even for disadvantaged pupils within schools. In response to this, the 'pupil premium' was introduced as a funding stream attached directly to disadvantaged children. As with an educational voucher, this should increase the incentives for schools to admit disadvantaged pupils and increase their financial resources. But although such payments are better targeted than standard local authority funding, survey evidence suggests that schools generally do not use these funds specifically to help disadvantaged pupils.

Another problem in schools is due to deficiencies in teacher recruitment and training. Selection into teacher training is tight at the beginning of the course but negligible thereafter. Tightening academic entry requirements still further is not the answer: such policies restrict the number of recruits without having a significant impact on teaching effectiveness.

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Although the UK scores reasonably by international standards, school autonomy remains limited because a large number of schools still operate under heavy constraints due to the power of local authorities. Local authorities are generally reluctant to allow popular schools to expand and underperforming schools to contract. Thus, in practice most schools have a guaranteed intake, regardless of how they perform. This is changing under the expansion of the academies programme started by the last government and extended in the 2010 Academies Act by the coalition government. Academies have significantly greater freedoms in management (although, quite rightly, not the freedom to select their pupil intake on ability) and they are directly funded by the Department for Education.

School autonomy *combined with* a strong accountability framework centred on quality provides the best hope for improving school performance. There is evidence that more autonomous schools respond better to local parental choice, so increasing parental choice will not lead to higher standards without greater decentralisation to empower head teachers. Accountability is also fostered through better governance and leadership through sponsorship from successful external organisations, such as universities or school networks.

³ According to the Department for Education, primary schools are underperforming unless one of the following criteria is met in English and maths: (i) at least 60% of pupils achieve the expected level (level 4) or higher; overall; (ii) pupils make the expected degree of progress between the end of infants (Key Stage 1) and the end of juniors (Key Stage 2). Secondary schools are underperforming if less than 40% of pupils achieve five good GCSE – or equivalent qualifications – graded A* to C, including English and maths (this threshold will rise to 50% by 2015); and fewer pupils make good progress in English and maths between Key Stage 2 and Key Stage 4 than the national average.

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Core recommendations on education

Our proposals go with the grain of the academies movement. But the system needs to deal more squarely with the UK's failure to develop the talents of disadvantaged pupils. We therefore propose some direct steps, particularly financial and non-financial incentives, to address this fundamental problem.

The ‘academisation’ of the school system should deepen into a **‘flexible ecology’**, building on aspects of the higher education system (see below). There are four integral parts: greater school autonomy, strengthened central accountability (transparent information and inspection), wider parental choice and more flexibility for successful schools and their sponsors to expand.

To improve school governance, leadership and management, it must become easier for outstanding sponsored academies to grow. Ideally this operates at the school level by making physical expansion easier. But there may be spatial limitations, which is why expansion through the growth of networks of sponsored academies is also an important way to spread better practices. By the same token, it should be made easier for underperforming schools to shrink and, if they do not improve, to be taken over or, in extreme cases, closed down.

Changes to help to develop the talent of **disadvantaged pupils** include:

- Information on school performance needs to be changed to also reflect the performance of disadvantaged children within the school. Such changes should apply to league tables and targets and they should be more closely reflected in Ofsted's inspection regime. Improving the performance of disadvantaged children should be given a central role when Ofsted awards an ‘outstanding’ grade to a school.
- ‘Floor targets’ must be redesigned to become effective in addressing poor school performance and should be aligned with the guidelines defined in the framework for schools inspection. This should involve moving away from undifferentiated average

performance targets (such as the current target, which requires 40 per cent of A* to C passes at GCSE level). These are ‘blind’ targets that distort schools’ incentives to target resources and support towards those children who can more readily be expected to reach the pre-defined threshold.

- Contextual value added (school exam results adjusted for intake quality) should be published by school for pupil premium children and for the medium-performing Key Stage 2 group.

The expansion of new sponsored academies should be focused on underperforming schools serving disadvantaged children. The original programme was shown to be very successful in doing this ([Machin and Veroit, 2011](#)). But the post-2010 academies are less focused on this group of schools.

Teacher quality needs to be improved through better conditions for both *entry and exit*. Teacher recruitment and training could be improved by:

- Teach First (which is renowned for its outstanding track record in recruiting high quality graduates) should expand until it becomes one of the main routes into school teaching.
- Mainstream teacher recruitment should become more concentrated in the best universities and schools, following a national recruitment process.
- The probation period for teachers should be extended in length – for example, by doubling it from two to four years.
- Policies that insist on grades, qualifications and backgrounds should be relaxed to encourage a wider range of applications to reflect the fact that teacher effectiveness is not highly correlated with crude background indicators.
- Mechanisms for teachers and schools to share best practice should be more strongly encouraged. The ‘London Challenge’ programme has shown how successful this could be.

Our proposed measures would, we believe, work together to increase the skills that are needed to make the UK economy a more competitive and dynamic place to do business and directly tackle the longstanding problem of poor intermediate and low-level skills. Together they would ensure that fewer of our children leave school ill-equipped to work in the competitive international environment that we now face. These proposals would also reduce disadvantage without compromising the achievements of other children.

Other policies to support human capital

Further recommendations for schools

- To provide additional support for disadvantaged pupils, the criteria for receiving the pupil premium should be expanded to reflect a wider measure of disadvantage than simply free school meals. This need has now been acknowledged by making eligibility for the pupil premium dependent on whether a family has ever been eligible for free school meals in the last six years. But available databases could expand the definitions of eligibility further.
- The pupil premium is planned to increase from £600 to £900 in 2014/15. We recommend that part of the premium should be given in cash to the pupils and families to provide an individual incentive. This should be conditional on improvements in performance after age 14, such as attendance and grade improvement beyond pre-agreed baseline expectations. This kind of 'conditional cash transfer' programme has proved to be effective in a wide variety of programmes (in welfare reform, for example, re-employment vouchers are usually more effective if the bonus is kept by the jobseeker rather than the firm). The precursor to this approach was the Educational Maintenance Allowance, which evaluations show was effective in encouraging children from disadvantaged backgrounds to remain in school. We recommend that the bursary scheme that replaced Educational Maintenance Allowance should be wrapped back into this.
- More resources should be made available for programmes that provide better information to low income children and parents on the economic returns to different subjects.
- In the spirit of encouraging better teaching, a more flexible system of rewards should be introduced for pay and promotion. This would include ending automatic increments; basing pay on performance and local market conditions; and extra rewards for teachers of core subjects in tough schools. We need swifter action on improved professional development and movement out of the classroom for underperforming teachers. Some of these changes are starting to happen and we expect this process to accelerate under the flexible education system that we are recommending, which should give head-teachers the incentives and capabilities to make these reforms.
- UK education policy has traditionally lacked rigorous, independent evaluations. Positive steps have been taken in this direction with the creation of the Education Endowment Foundation, but much more could be done. For example, we recommend piloting the release of teacher-level information on performance (in similar vein to NHS data available on surgeons).

Higher education

The UK has a world-class system of higher education, home to many of the world's leading universities. For example, the UK is the only country outside the US represented in the [Shanghai ranking](#) of the world's top 10 universities and has more major scientific prizes per capita (for example, Nobel prizes) than the US. The benefits from maintaining funding for research and an open environment in which universities can compete for the best minds as students and faculty cannot be overestimated. The knowledge and understanding created in universities play a central role in building a flexible and adaptable economy. The higher education sector benefits the UK economy as a source of skills, of innovations that raise productivity and of valuable exports earnings in the form of foreign students who choose to study here (an enormous industry of global growth). There are potential advantages to the UK from having the world's leaders in economy, society and government educated here.

- It is essential that the UK continues to attract the best students and faculty from around the world. The current policies on student visas and work visas for non-UK citizens are damaging because of their direct impact on the ability to recruit. We recommend that if the net immigration target itself is not dropped, then students should be removed from the target. These policies send a signal to the world that the UK is becoming insular and will damage our position in higher education and, if they are sustained for any length of time, they will constrain growth.
- One of the main reasons for the UK's success in higher education is a framework of rules and accountability that emphasises excellence in teaching and research. Universities are largely autonomous in their operational decisions and it is important that this is sustained. There is now a settled institutional framework through the Higher Education Funding Council for England (HEFCE) and the funding councils to channel funds towards centres where research is objectively evaluated. The flexible ecology of higher education allows freedom to build bridges with industry, either in the form of sponsored research or through collaborations in student degree programmes. There is further scope to strengthen and enhance these linkages in undergraduate programmes.

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delivery of course material and lectures online, for example, by the [Khan Academy](#). Given the dominance of the English language in science and the flexibility of the higher education sector, this should be an area where the UK can seize an opportunity.

Vocational training

Intermediate skills are particularly poorly developed in the UK, as are the transitions between schools and the workplace, hence our relatively high proportion of young people 'not in education, employment or training' (NEETs). There is now a cross-party consensus that the number of apprenticeships should be increased as they are a vital way to tackle the problem of low/intermediate skills. There has been a significant expansion of apprenticeships since 2010, but unfortunately these have mainly been for the over-25s in relatively low skilled, low paying jobs.

Several recent reports on apprenticeships by Hilary [Steedman](#), Alison [Wolf](#) and Doug [Richard](#) have a common theme. The most important thing is to get employers more involved through a mixture of carrots (devolving more of the skills budget directly to them) and possibly sticks (for example, an industry-specific training levy). Apprenticeships need to be longer, they should pay a training wage (English apprenticeships are relatively highly paid by international standards, which deters many employers) and their administration must be radically simplified. Potential learners need accurate information on training and good advice that does not pretend that all types of learning will be equally economically rewarding.

The UK has a longstanding problem of poor adult basic skills and particular shortcomings in literacy and numeracy. Many reports (for example Kang et al, 2012) estimate that around a fifth of the adult population lack such basic skills. Our policies to improve education and the apprenticeship system will have a long-term effect on reducing this serious problem.

Apprenticeships must be of much higher quality - too much of the expansion of apprenticeships over the last six years has been around low quality apprenticeships. There should be an element of 'off-the-job' training. There must also be an element of compulsory basic skills in English and maths which in the long run would help to tackle the problem of poor adult basic skills. Every other country concentrates on improving the language and maths ability of its post-16 vocational students and so, belatedly, should the UK.

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Pre-school education

Early years' pre-school education has immense potential to increase skills since small improvements at an early stage of life will cumulate over an individual's lifetime. Thus, it is far better to intervene early on to improve human capital than to wait until someone is struggling for a job as an adult. Early life experiences will be a source of disadvantage that is later reflected in poor performance in schools. There are some high quality randomised controlled trials outside the UK that suggest large returns to intensive interventions such as the [Perry Preschool project](#), the [Abecedarian Project](#) and [Nurse-Family Partnership](#).

Given the proven importance of early intervention we support a greater policy focus on improving children's centres as a means of delivering targeted interventions to improve the prospects of children who are most at risk of developing weak cognitive and non-cognitive skills. Children's centres are essentially a scaled down version of Sure Start, which also struggled to deliver high quality services for disadvantaged children (partly because most of the staff are volunteers). The extra resources needed for children's centres needs to be concentrated on the disadvantaged with an emphasis on evaluating best practice and propagating it throughout the system.

Why have problems with human capital persisted?

Since the UK's education system has been an area of intense interest and policy reform over the past 15 years, it may seem surprising that so many problems persist. There have been welcome movements towards greater school autonomy and improved educational standards. Much has been learned about what is effective, but there are factors that are holding back reforms and these problems need to be addressed.

First, information (such as league tables), targets and Ofsted focus on the average pupil rather than those nearer to the bottom of the distribution. Politicians tend to accept this focus because they often target the average voter in elections.

Second, the reforms we discuss threaten a number of vested interests in maintaining the status quo. Some people are understandably fearful of the ideas of changing teachers' contracts, reducing the role of local authorities and allowing greater movement of pupils between schools. Combining the move to a more flexible system with an emphasis on disadvantaged children should help to allay those fears.

Third, because of the high public profile of the education system, there is a tendency for national politicians to tinker with certain areas of human capital policy to give the impression that the government is actively working to improve things. There is also too great a readiness to create the perception of party differentiation.

Apprenticeship policy is an example of these problems. The 2011 Wolf Review emphasised that the attempted micro-management of vocational training by central government with overlapping directives, constant policy reversals and expensive bureaucracy is at the heart of the problem. As with other areas highlighted by our Commission, the policy uncertainty engendered in this area has been highly counterproductive.

Summary on human capital

Growth depends on improving human capital and this starts with higher quality teaching in schools. We propose a flexible system for education, which gives schools greater autonomy and the ability to grow within a national accountability framework that places a premium on radically raising the standards of the bottom ability group. Together with improved choice for parents, better quality information (across the entire distribution of achievement) and more effective incentives for teachers and schools, this will improve the quality of teaching. The UK's world-class university system must also be sustained and strengthened as a key potential advantage in a rapidly changing world.