
# THE MOBILITY MANIFESTO

**A report on cost-effective ways to achieve greater social mobility through education, based on work by the Boston Consulting Group**

**March 2010**

## Contents

## Foreword by Sir Peter Lampl

Politicians face a dilemma as they approach the 2010 General Election. The political parties share a commitment to improving social mobility so that as a nation we can make the most of the talents of all our young people, whatever their background. Yet the effects of the recent financial crisis mean that there is no new money available to fund their ambitions as the government looks to cut public spending.

The key objective of the Sutton Trust has always been the promotion of social mobility through education. We have developed and promoted a range of programmes designed to increase opportunities for those from non-privileged backgrounds. But we also have a strong commitment to achieving good value for money and to conducting rigorous research about the effectiveness of the programmes we fund and promote.

Two years ago, we asked the Boston Consulting Group (BCG) to assess the relative cost-benefit of a number of our existing projects. We published a summary of their findings in our report, *Investing for Impact*, in 2008. This found that for every £1 invested in Sutton Trust schemes, the financial returns amounted to an average of £14 in extra lifetime earnings for the individuals affected.

For this follow up study we have asked BCG to analyse a range of new and innovative educational policies to assess their relative effectiveness in terms of boosting social mobility. We asked them not just to look at small scale projects, but system-wide reforms and policies too, from the early years, through primary and secondary school and into university and beyond.

BCG also conducted a complementary but distinct piece of analysis on the economic benefits of social mobility in terms of GDP growth (presented in Chapter 1). The analysis estimates that weakening the link between background and achievement in the UK would contribute between £56 billion and £140 billion to the value of the economy each year by 2050. Looked at another way, the lack of social mobility in the UK is costing us vastly in financial terms.

This would matter less if the world around us was standing still. But it is not. Despite the global economic downturn, other countries are investing heavily in measures to boost school results and increase university participation. In the US, for instance, President Obama's stimulus plan includes $100 billion earmarked for education. And a recent report for the Organisation for Economic Co-Operation and Development (OECD) showed for a range of countries that relatively small gains in students' educational performance can have large impacts on their future economic well-being. Without concerted action, gains for other countries will be the UK's loss.

Of course, there is no short term fix when it comes to social mobility. The impact of investment today will be greatest in decades to come, once children in schools have entered the labour market and realised the full benefit of a better education. But a failure to invest in social mobility now is to condemn talented people – and our economy - to a less than optimal future.

This illuminating and important analysis provides a blueprint of ideas that should offer the political parties plenty of food for thought as they prepare for the coming election. It also recognises, particularly in the current economic climate, that politicians and governments have to make choices. We are not asking for a blank cheque: rather, the analysis shows instead where money can be best invested and suggests ways to re-prioritise existing funding so that it can have the greatest impact. In some cases, politicians may find that our proposals offer better results than existing programmes and many are low cost.

We have used the Boston Consulting Group's analysis to prioritise six projects that we hope to pilot, or encourage others to pilot. We have also highlighted six programmes that we hope the next government, of whatever colour, will consider supporting. We have also shown that measures that may be popular, such as reducing class sizes, may be less effective than some more targeted interventions.

If there is one overriding lesson from this report, it is this: social mobility is not only a matter of social justice; it is also an economic imperative. As a nation, it is vital for the future health of our economy that we make the right choices to maximise the opportunities for successful mobility.

I am very grateful to the team at the Boston Consulting Group for producing this invaluable work on a pro bono basis. I would also like to thank Conor Ryan for his help in preparing this report and the various advisors from the Government and Opposition who gave up their time to comment on and inform the project. I hope it will be seen as an important contribution to the election debate and to the agenda of the next government.

## Summary and key findings

### Economic benefits of improved social mobility

- Improving levels of social mobility for future generations in the UK would boost the economy by up to £140 billion a year by 2050 in today's prices – or an additional 4% of Gross Domestic Product (GDP) over and above any other growth.

- Overall the UK's economy would see cumulative gains of up to £1.3 trillion in GDP over the next 40 years.

- These calculations are based on a methodology developed by the US economist Eric Hanushek, linking education performance and GDP gains for countries.

- The estimates are based on two scenarios of improved social mobility in the UK:
    1. Boosting the educational outcomes of children from less educated families so the *distribution* of UK test scores (but not the average score itself) is similar to Finland, a country with high mobility levels.
    2. Boosting the educational outcomes of children from less educated families so their absolute test scores are in line with the UK average - but without reducing the scores of those from the most educated families.

- Matching Finnish levels of social mobility would add £6 billion a year to GDP by 2030 and £56 billion a year by 2050 (at today's prices). Bringing below average students in the UK to the national average would add £14 billion a year to GDP by 2030 and £140 billion by 2050.

### Cost effective schemes to improve mobility

- For the main part of this study, the Boston Consulting Group (BCG) identified a number of innovative and cost-effective schemes from around the world that have been proven, or have the potential, to improve the educational achievement of non-privileged children and boost social mobility.

- The cost of these initiatives, which range from the early years to elite university entry, could generally be met by reallocating existing budgets – and a number are very low cost.

- From a long list of over 40 policies, BCG considered 16 programmes and ranked them on a range of metrics, including their cost-benefit ratio, the ease with which they could be introduced and their political palatability.

- In particular, they looked at the potential for such programmes to increase the number of disadvantaged young people going to university, where BCG estimate there is a financial benefit of over £130,000 of extra lifetime earnings on top of A levels.

- For every pound spent, the most cost-effective schemes would generate over £50 in extra lifetime earnings for the individuals who benefit. For every £1 spent, the least cost-effective schemes would still generate £3 in extra lifetime earnings. The average return across the schemes is £6 for each £1 spent.

Summary of analysis – ranked by cost-benefit ratio

| **POLICY** | **Pupils reached per cohort** | **Cost of policy per cohort** | **Total benefit per cohort** | **Cost-benefit Ratio** |
|---|---|---|---|---|
| University access programmes linked to contextual admissions | 3,000 | £4m | £212m | 53:1 |
| Summer schools at leading universities | 3,000 | £1.6m | £69m | 43:1 |
| No excuses / KIPP schools | 6,000 | £22m | £584m | 27:1 |
| University admissions test support | 2,000 | £0.8m | £21m | 26:1 |
| Teacher performance, development and incentives programme | 68,000 | £75m | £1,227m | 16:1 |
| Summer Camps for primary children | 18,000 | £69m | £910m | 13:1 |
| Teacher residencies | 68,000 | £92m | £1,227m | 13:1 |
| Independent careers and education advice service | 560,000 | £150m | £1,035m | 7:1 |
| Increased low income children at high performing state schools | 5,000 | £8m | £58m | 7:1 |
| Personalised performance data | 730,000 | £9m | £52m | 6:1 |
| Individual enrichment sessions for bright children in KS3 | 14,000 | £105m | £474m | 5:1 |
| Comprehensive Early Years programme | 90,000 | £687m | £2,528m | 4:1 |
| Financial support for internships | 13,000 | £6m | £25m | 4:1 |
| Means-tested fees at independent schools | 6,000 | £110m | £365m | 3:1 |
| Extra-curricular programme to boost school engagement | 1,000 | £25m | £79m | 3:1 |
| Reduced class sizes | 560,000 | £5.2bn | NA | NA |

*N.B. all costs are in 2009 pounds. BCG's judgement of the strength of the assumptions behind each policy can be found in appendix 1.*

- Of the programmes above, the analysis highlights six that the Sutton Trust will develop further for piloting, either itself of through other organisations:

1. University access programmes linked to contextual university admissions (currently being piloted in two universities)
2. Developing 'No-excuses' / KIPP schools in the UK that offer 50% extra learning time to disadvantaged students
3. Support for university admissions tests (possibly through existing Sutton Trust university summer schools)
4. Summer camps for primary children to prevent summer learning loss
5. New ‘Teacher residencies’ to attract able mature candidates into teaching
6. Individual enrichment sessions for highly able disadvantaged pupils in key stage 3

- The Sutton Trust will also develop and promote six other programmes to government and other funders:

1. University summer schools at more leading research universities
2. An independent careers and education advice service for schools
3. Increasing low income children at high performing schools through automatic applications and ‘opt outs’, rather than ‘opt ins’
4. Personalised performance data for non-privileged young people and parents to explain future possibilities and highlight potential opportunities
5. A comprehensive early years programme that links parenting schemes with additional childcare provision and home support
6. Means-tested fees at independent day schools

## Chapter 1 - The economic benefits of improved social mobility

The body of this report is a review of potential 'mobility- enhancing' education schemes. The backdrop, however, is a parallel analysis also undertaken by BCG that developed some overall estimates of the extra economic wealth that higher levels of social mobility would generate for the UK. Here, increased social mobility is defined as improved educational attainment for children from the most disadvantaged homes (with the least educated parents) - effectively a weakening of the link between family background and children's outcomes.

This general calculation does not relate directly to the specific programmes and policies detailed later in this report. Implicit in the calculation is the assumption that greater numbers of better educated school and university leavers from a wider range of backgrounds would help to increase opportunities in the country overall.

The projections are based on a model developed by the respected US economist, Eric Hanushek. The model links children's cognitive skills in different countries, as measured by internationally comparable tests, with their rates of economic growth[1]. This builds on a range of studies published over the last decade indicating a causal link between improving test scores and economic growth[2]. As the Government has recognised, the economic importance of having a better educated workforce is likely to grow more in the future in an increasingly competitive global marketplace.

The projections assess the economic impact that improved educational performance of children from poorer backgrounds would have over the next 40 years – as it will take this long for any changes in the education for young children to take effect and filter through into higher earnings in later life. Improvements in early years' education, for example, might help a three year-old in 2010 to eventually get into a prestigious university in 2025, who would then only reach the peak of their earning power in 2047. Equally, a series of school reforms might take 15 years to pilot, evaluate and expand more widely - and eventually lead to a renewed and better educated workforce over the subsequent 25 years. For that reason, BCG measured the GDP impact of improved social mobility over a 40-year timeline.

The estimates are based on maths tests taken by 15 year olds in 2006 in the UK and other developed countries as part of the OECD's Program for International Student Assessment

[1] We would like to thank Professor Hanushek for his helpful comments on the calculations presented here.

[2] For the latest international review on this method by, see the recently published OECD report at http://www.oecd.org/document/58/0,3343,en_32252351_32236191_44417722_1_1_1_1,00.html. A previous report for the World Bank found test scores that are larger by one standard deviation are associated with an average annual growth rate in GDP that is 2 percentage points higher.

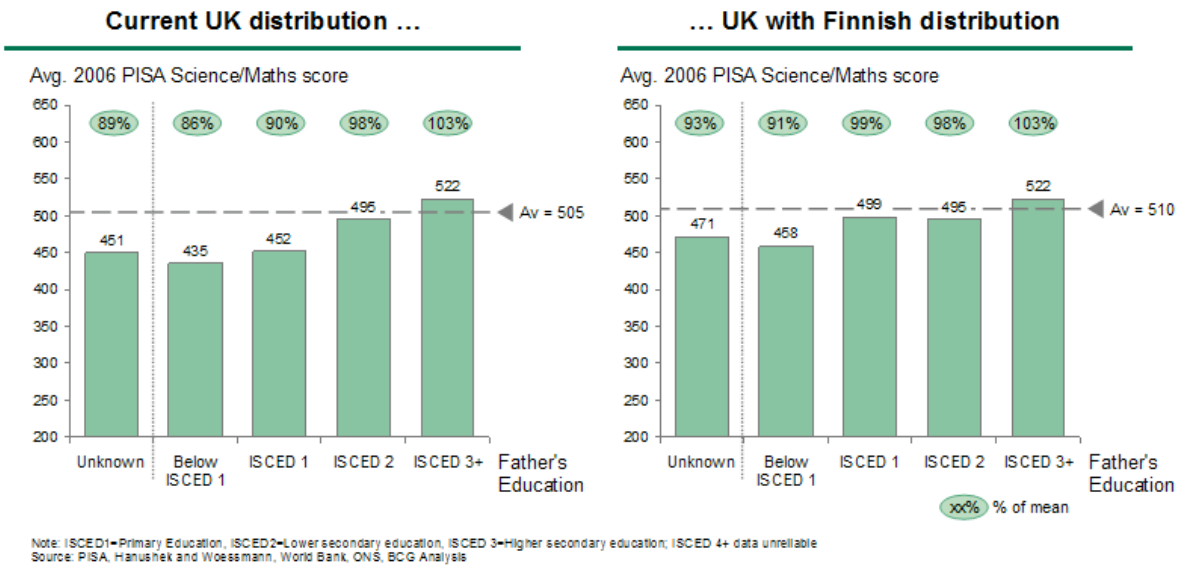
(PISA)[3]. Different scenarios of how well children might perform in tests in subsequent years predict how quickly a nations' Gross Domestic Product (GDP), a basic measure of a country's overall economic output, grows in future decades. Using this approach, BCG considered two scenarios for improved social mobility.

**Improving the test score distribution to Finnish levels**

First, BCG calculated the impact of making the distribution of the achievements of UK pupils similar to that for children in Finland - a country with higher levels of social mobility and a weaker link between parental education levels and the performance of children.

Currently, PISA test results show that children in the UK whose fathers have qualifications at primary education standard or below lag significantly behind children whose fathers had A levels or degrees. But if UK results mirrored the distribution of results in Finland, the average scores of UK children from poorly-educated families would be much closer to children from highly educated families. This is illustrated in the chart below.

**Chart 1: Educational attainment as a function of father's attainment**




Note: ISCED1=Primary Education, ISCED2=Lower secondary education, ISCED 3=Higher secondary education; ISCED 4+ data unreliable
Source: PISA, Hanushek and Woessmann, World Bank, ONS, BCG Analysis

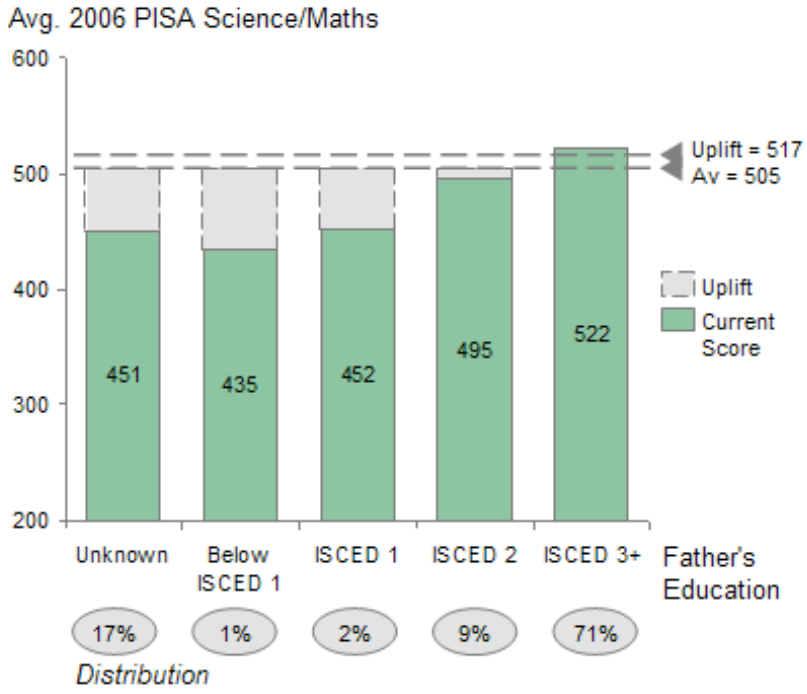
Under this scenario, the UK national average PISA score would increase from 505 points on the OECD scale to 510 points – still significantly below the 556 score that places Finland top of the PISA league. Even so, using the Hanushek model, this would add 0.3% to the country's GDP by 2030, or £6 billion a year in today's prices; and 1.6% by 2050, adding £56 billion to the value of the economy for that year.

[3] See: http://www.pisa.oecd.org/

**Improving the lowest test scores to UK average levels**

The second, more ambitious, scenario considered a situation in which attainment across the parental education groups was raised to the UK average in the PISA test scores, but with the important caveat that there would be no reduction in the average achievements of children in the highest group for father's education. This is shown in the chart below.

**Chart 2: Raising all PISA scores in the UK to at least the average**




Note: ISCED1=Primary Education, ISCED2=Lower secondary education, ISCED 3=Higher secondary education; ISCED 4+ data unreliable
Source: PISA, Hanushek and Woessmann, BCG Analysis, World Bank, ONS

Under these assumptions, the UK national average PISA score would increase from 505 points on the OECD scale to 517 points. Using the Hanushek model, this would add 0.7% to GDP by 2030, or £14 billion a year; and 3.9% by 2050, adding £140 billion to the value of the economy for that year. These figures are at today's prices.

While these are only 'ball-park' projections, based on a simple approach, they represent very conservative estimates of the possible economic gains from improved social mobility. A recent OECD report argues that gains in PISA scores of 25 points over 20 years is a realistic target for countries, given that greater increases than this have been recorded by some nations over a shorter period in recent years[4].

[4] http://www.oecd.org/dataoecd/41/25/43636332.pdf

## Chapter 2 – The analysis

The principal piece of work undertaken by the Boston Consulting Group (BCG) for the Trust was an analysis of the cost-effectiveness of a range of education interventions that could boost social mobility - by improving the chances of children from poorer backgrounds achieving more highly in school, progressing to university and accessing well-paid and influential careers. In a context of limited and reducing public spending, it was felt particularly important to identify new and innovative ways of improving mobility which could be delivered within current budgets and which were likely to result in significant benefits for those young people reached.

The BCG analysis involved a four stage approach: developing a framework for assessing the costs and benefits of various policies; identifying examples of innovative and effective practice from the UK and overseas; developing these policies for the UK context and fleshing out their details; and finally prioritising the policies according to their relative impact, scalability and other relevant factors.

**Costs and benefits**

The first stage in the process was to develop a model for calculating the relative benefits and impacts of a diverse range of policies across the different phases of education. There are a number of ways in which the cost-benefit of a programme can be considered, but for this study benefits were defined as the likely increase in individual earnings resulting from a particular educational intervention, compared with the cost of the policy per capita. In other words, the analysis looked at how many more children or young people were likely to achieve a higher level of qualification as a result of the initiative; what this would mean in terms of extra lifetime earnings when they entered the labour market; and how this compared to the costs of implementing the scheme. This is essentially the same methodology used in the 2008 *Investing for Impact* study on the Trust's own initiatives, refined and applied to system-wide reforms.

The analysis did not consider the wider societal benefits that might result from education policies. Quantifying these - and proving a direct link with a single intervention - was problematic and weakened the overall robustness of the analysis. However, it is doubtless the case that many policies to improve education (particularly in the earlier phases of education and improvements in basic skills and qualifications) will also have wider positive knock-on effects on crime and health, among other areas. These benefits – although not quantified - are likely to be significant, and are additional to the individual financial benefits outlined in this analysis.

**Individual benefits: background and assumptions**

For the purposes of this report, BCG drew on a range of research into lifetime earnings. The analysis compared earnings at present value for people working to the age of sixty with a variety of different levels of qualifications. Assuming real earnings growth of 1% a year and a discount rate of 5%, BCG calculated that:

- someone who failed to achieve five good GCSEs would earn £335,000 over their lifetime;
- someone with five good GCSEs would earn £422,000 (or £87,000 more);
- someone with A levels would earn £495,000 (or £73,000 more than their peers with good GCSEs); and
- someone with a university degree would earn £604,000 over their working lives (£108,000 more than having A levels alone - and £268,000 more than failing to achieve five good GCSEs).

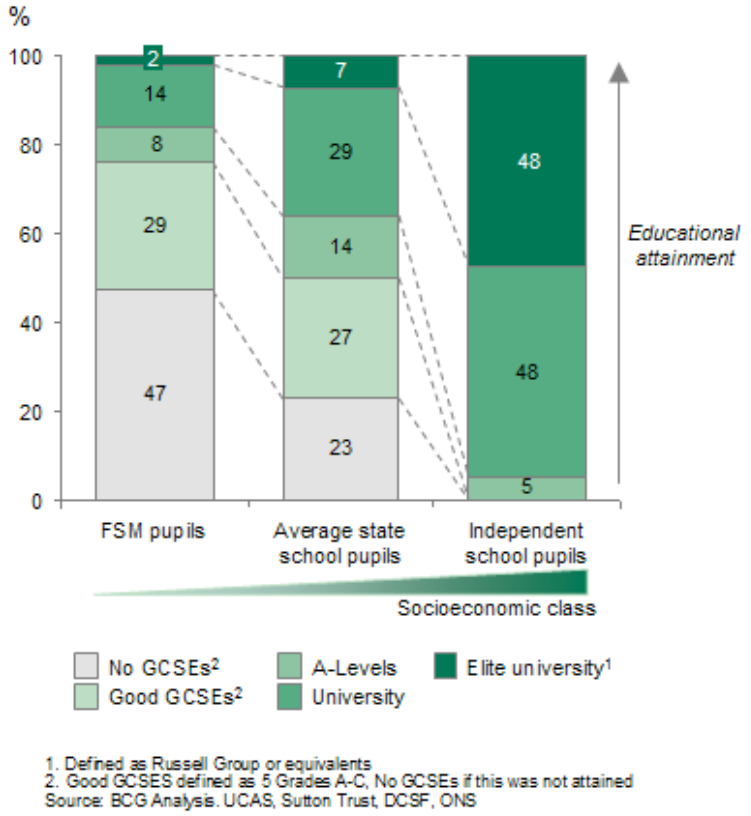
For a number of the projects, BCG also calculated the benefits of going to a group of leading research-led universities over and above a university outside this group. [5]

The model does not assume that people's working lives follow a uniform pattern: it allows for a 2% chance of unemployment, and assumes that earnings would peak at an average of around £60,000 a year for elite graduates during their thirties, falling to nearer £40,000 a year during their fifties. For a graduate outside this elite group, the peak is closer to £40,000 a year, falling to around £35,000 a year during their fifties. The average salary peak for someone without good GCSE qualifications is just £20,000 a year.

In order to define the 'uplift' of any programme or initiative on this scale, BCG also had to define the status quo – the proportion of young people from different types of background that currently achieve each level of education. In doing so, the analysis provides a vivid illustration of existing inequalities, with a strong correlation between economic disadvantage and poorer results.

[5] The analysis considered a range of estimates on earnings premiums from published research as well as internal analysis for the Sutton Trust. See for example: Hussain, McNally, Telhaj, March 2009 CEEDP0099. Also ONS, Chevalier and Conlon. DFES, BoE, KPMG, Centre for Research of the Wider Benefits of Learning, PWC, BCG analysis. The estimated earnings premium for attending a leading research university compared with another higher education institution was £103,000 over a working lifetime.

**Chart 3: Achievement levels by pupil background and school type**




1. Defined as Russell Group or equivalents
2. Good GCSES defined as 5 Grades A-C, No GCSEs if this was not attained
Source: BCG Analysis. UCAS, Sutton Trust, DCSF, ONS

So while 23% of all state school pupils do not achieve five good GCSEs (or the level 2 equivalent by age 19), the same is true of 47% of those entitled to free school meals (the poorest 14% of children). And while 7% of all pupils go to an elite university, only 2% of those on free school meals do the same. At the most privileged end of the spectrum, 96% of those young people educated in independent schools progress to university, but just 16% of youngsters eligible free school meals and one third of students overall.

The crux of the project, then, was to identify the most cost-effective policies or programmes that could bring the performance of pupils on free school meals closer to that of the average state school pupil – and raise the achievement of both those groups nearer to the high benchmarks set by the independent sector.

**Expanding university places**

An important assumption in this model is that there is no future 'displacement effect' resulting from encouraging more disadvantaged pupils to go to university (particularly leading research universities) as they will 'deny' places to students from more privileged backgrounds who would otherwise have secured those places. Universities are of course simply interested in the candidates with the best academic promise and credentials, irrespective of their background. Nonetheless, the displacement argument can be used to

suggest that the overall benefits of increased social mobility are neutral – one person's gain is another's loss. This argument comes into sharper focus in the current climate, in which – after decades of consistent growth - there has been a freeze on university expansion and more competition for a finite number of places.

Yet it is our view that the expansion of educational opportunities – i.e. university places - is a pre-requisite for improving social mobility in absolute terms in the UK, a goal shared by all the major political parties. Indeed, the Sutton Trust has showed that recent gains in the uptake of places at research-led universities by disadvantaged students have been made possible by the growth in overall places at these universities: no students have been displaced as a result of fair access efforts[6]. Moreover, despite this increase in places, the wage premiums associated with having a degree have continued.

For absolute social mobility to improve in future years, there will need to be a continued increase in the number of university places to make it achievable – and particularly in those universities and courses which are so valued by the labour market. Future growth will be required to keep pace with current and potential competitors in higher education. Despite the recent expansion of places, the overall university participation rate in the UK still lags behind many nations, while rapid growth is being witnessed elsewhere.[7]

The future funding system for English students is currently being considered by Lord Browne's review, against a backdrop of Government funding constraints due to the current economic downturn.[8] The challenge for the funding review, as far as the goal of improving of social mobility is concerned, will be to create a sustainable state support system that allows expansion of universities to continue. While this BCG analysis is not concerned with the details of this particular policy debate, one likely implication is that any future approach is likely to mean greater private contributions from graduates themselves.

Finally, it should also be noted that the future decline in the numbers of children in the population mean that a temporary fall in university demand over the next two decades is forecast. So – beyond the short term constraints of the current economic downturn – there will be an even greater need to nurture academic talent from children from all backgrounds in the future.

[6] See: http://www.suttontrust.com/reports/martin_harris.pdf

[7] See: http://www.oecd.org/dataoecd/41/25/43636332.pdf

[8] See: http://hereview.independent.gov.uk/hereview/

## Chapter 3 – The programmes

The next step of the analysis was the identification and development of innovative policies and schemes to include in the review. To narrow down the field from the hundreds of possibilities, BCG spoke to a wide range of people in the policy and education world and looked at examples of international best practice both in the UK and overseas, drawing in particular on ideas from the US, Australia and Canada. The BCG team looked at programmes already being piloted in the UK, considered a wide range of educational research, and drew on expertise across the international consultancy's global network. They applied known effects from other disciplines, including behavioural economics, to aspects of the education system.

From this preliminary work, an initial list of 40 policies was developed. These were filtered down to a shortlist of 16 through a consideration of a number of key factors: the potential number of pupils / children reached; the potential ease of rollout; likely operating costs; the availability of good research and impact evidence; and a qualitative assessment of the strength of assumptions underlying each policy. Issues such as political palatability were also considered as was the fit of the policy with the Sutton Trust's mission and previous work. Importantly, for each of the short-listed policies, BCG considered how the estimated costs of the programme could be met within current budgets, either by a refocusing of priorities or by stricter targeting (please see Appendix 2 for more details).

Some of the 16 policies outlined below already enjoy Sutton Trust support, while others represent international best practice or measures widely believed to support social mobility. More details of the schemes can be found in the Appendices.

**EARLY YEARS**

**1. Comprehensive Early Years Programme:** There has been increased funding for early years education, Sure Start children's centres and parenting classes in recent years. But there have been concerns that these programmes do not sufficiently reach the most disadvantaged youngsters[9]. For this analysis, BCG looked at a more coherent, targeted programme that combined extended nursery care for poorer families (25 hours a week for 2-4 year-olds from the 15% most disadvantaged families) with new parent-child sessions (based on a UK programme run by the Peers Early Years Partnership[10]) and regular home visits focussed on parenting skills and cognitive development. Most of the £687 million costs involved in delivering this model could be achieved by re-prioritising funding the

[9] See for instance http://www.guardian.co.uk/education/2010/jan/13/sure-start-fails-poorest
[10] http://www.peep.org.uk/

Government currently has earmarked for increasing free education for all 3 and 4 year-olds from the current 12.5 hours a week to a 15 hour entitlement in 2010.

**SCHOOL-AGE CHILDREN**

**2. Extra-curricular programmes linked to school engagement:** Football can be a great incentive to re-engage boys with education – particularly white working class boys, who are prone to underachievement. The Government's Playing for Success programme currently focuses on improving literacy among 10-14 year-olds. But it does not provide the intensive targeted support of some successful international programmes. For this study, BCG analysed how a programme based on an idea developed by the Clontarf Foundation in Australia (which focuses on young Aboriginal men through Australian Rules Football) could work in a British context. The scheme, which would be run with top UK football clubs, would combine coaching and development from successful players and managers. To take part, pupils would need to attend school, maintain good discipline, remain engaged with lessons and show progress in results. In return, they would gain not only football skills but benefit from wider life-skills, mentoring and support into employment. For the analysis, the BCG team considered the impact of providing 50 football academies at 50 disadvantaged secondary schools, each working with 100 11-16 year-olds, at the relatively high cost of £25m a year.

**3. Personalised performance data:** There has been an explosion in the data available to teachers about their students, much of it allowing them to compare how pupils of similar abilities and backgrounds perform in other schools. Much of that data will soon be available online to parents, and some schools already share it with them. However, there is no systematic approach to using the data to engage parents and pupils with positive and challenging targets that could raise their aspirations and highlight possible education and career goals. Yet when people are better informed – and their performance is placed in context - it can have a profound effect on human behaviour. For the purposes of this study, BCG looked at a system of providing timely and accurate information packs to parents and young people that could encourage talented disadvantaged pupils to aim higher. The information in these packs could, for example, explain how pupils achieving similar results and from similar communities have gone to university or into the professions. These engagements would occur at key transition points, aged 5, 7, 11, 14 and 16. The administrative cost would be £9m a year.

**4. Summer camps:** Summer camps have been a long-standing American tradition. More recently, there are a growing number of programmes that combine an academic focus with the sporting and cultural activities that have traditionally characterised US camps. A good example is the BELL (Building Educated Leaders for Life) programme that works with over

4,000 children in five US states[11]. In England, there have been literacy and gifted and talented summer schools in some areas since 1997, many of them focused on 11-16 year-olds. For this analysis, BCG looked at the US format where participants aged between six and ten would attend a four week summer programme that mixed learning with fun. The camps would be located at sites in disadvantaged communities and be staffed with local community workers and university staff. An important benefit of the US camps is that they have shown substantial improvements in participants' reading scores, helping to overcome the 'learning loss' that many young people experience during the summer and which disproportionately impacts on those from lower socio-economic groups[12]. The programme would be targeted at the 15% lowest income families at a cost of £69m a year.

**5. 'No-excuses' schools:** The Knowledge is Power Program (KIPP) schools, along with a number of other 'no excuses' charter schools in the US, use a combination of academic rigour, longer school days (7.30-5pm), and Saturday and holiday classes, to boost the performance of young people from low income families and prepare them for higher education. There are currently 82 KIPP schools in 20 states with around 20,000 pupils. The latest evidence shows that 80% of KIPP alumni go to college. While some of these features are present in some schools and academies in England, few – if any – combine all the elements which contribute to KIPP's success. For this analysis, BCG considered the impact of developing the 'no excuses' model at 30 secondary schools, all in disadvantaged areas (piloting it initially in two or three academies). The extra £22 million per year cost of the programme could be met from a pupil premium – as proposed by the Conservatives and Liberal Democrats - or the existing academies budget.[13]

**6. Teacher performance, development and incentives programme:** There has been a cultural change in English schools in recent years, as performance management and appraisal have become an integral improvement strategy for most schools. Currently, new teachers who spend three years at National Challenge[14] schools, where less than 30% of pupils achieve five good GCSEs, receive a one-off payment of £10,000 to encourage them to stay. Some schools go further and undertake regular observations of their staff, sometimes involving students in the process, to provide regular and comprehensive feedback to help improve their performance. The BCG analysis considered the impact of introducing a more comprehensive feedback and performance management system, based on a model working effectively in Victoria, Australia, with loyalty payments for new teachers who remain at least two years in disadvantaged schools and incentives that are paid only to the top 30% of

[11] http://bellnational.org/education/bell_summer_programs.php

[12] BCG analysis, 'Lasting consequences of the summer learning gap', Alexander, Olson, Entwisle

[13] The costs per policy used in the BCG analysis are generally the full costs of delivering a policy / programme. The KIPP schools model is an exception to this, in that BCG used only the *extra* cost of KIPP schools compared to conventional schools - on the basis that the state would already be meeting the costs of educating these children.

[14] www.dcsf.gov.uk/nationalchallenge

teachers. Schools would choose an approach to feedback that they felt best met their needs, but a feedback culture would be an essential part of the programme which could be targeted at the 500 poorest performing schools at a cost of £75m a year. BCG propose that this could be funded through redirecting resources from the existing continuing professional development and teacher pay budgets.

**7. Teacher residencies:** Teach First[15] is currently recruiting many of the best graduates to spend at least two years teaching in urban schools; the National Challenge pays £10,000 to teachers staying three years in underperforming schools; and the Graduate Teacher Programme[16] allows career-changers to take home a salary while training as a teacher in schools. A new combination of these approaches, based on a successful US scheme[17], aims to encourage some of the most able and highly qualified career changers, community figures and graduates to work in disadvantaged schools. Participants would be paid while they train in the school, but would be expected to commit to work at the school for at least three years. The programme would provide individual mentors, and could initially be piloted in one city, perhaps as part of the City Challenge programme[18]. It could also form an important part of the 'Teach Next' programme that the Sutton Trust and others have proposed as a way of making teacher training more attractive to high-fliers through more school-based programmes. The estimated cost of £92m a year could be funded through redirecting existing teacher training funding and 'golden hello' payments.

**8. Reduced class sizes:** Reducing class sizes is one of the most popular political approaches to school improvement. A maximum infant class size of 30 has been introduced in England, and the Scottish government has been trying to reduce this to 18. Research has suggested benefits in lower class sizes during the first year at school and in the earlier phases. But many parents and teachers believe that reduced class sizes generally would bring real educational benefits. For this analysis, BCG looked at a £5.2 billion programme that would reduce the average class size from 26.2 in primary schools and 20.6 in secondary schools to an average of 15 in all schools.

**9. Individual enrichment sessions for bright disadvantaged children:** Many countries use Reading Recovery and similar programmes to improve literacy among those in need to 'catch up' to expected levels. 'Every Child A Reader'[19] is the version currently supported in England and has been shown to improve 82% of non-readers to an age appropriate level with less than 40 hours of teaching time, and to deliver lasting benefits. Meanwhile, there have been concerns that the Gifted and Talented Programme is patchy, too poorly focused

[15] www.teachfirst.org.uk
[16] www.tda.gov.uk/Recruit/thetrainingprocess/typesofcourse/employmentbased/gtp.aspx
[17] http://www.utrunited.org/
[18] http://www.dcsf.gov.uk/citychallenge/
[19] *www.everychildareader.org*

and fails to reach bright disadvantaged pupils, who are at risk of falling out of the highest performance bands.[20] BCG looked at a programme of enrichment sessions that would prevent bright disadvantaged pupils from falling behind in the first place. This £105m programme would target 14,300 students – the highest performing 20% of disadvantaged students aged 11, 12 and 13 each year – with intensive thirty minute lessons every day for up to 20 weeks.

**10. Extending summer schools to more leading universities:** The Sutton Trust pioneered the idea of summer schools that enable bright sixth form pupils to spend time at a research-led university before they decide on their futures. The summer schools mix lectures, tutorials and social events to provide a taste of university life. The idea has been extended through Aim Higher[21] in the English system, but these summer schools are targeted at a younger age group and have the more general aim of encouraging young people to progress to higher education. There is good evidence that professional success and earnings are greater among those who attend a leading research university, so there is a rationale for a scheme which has the explicit aim of widening access to these types of universities.[22] The Sutton Trust already works with five universities, including Oxford and Cambridge, with real success in increasing applications from disadvantaged young people.[23] BCG looked at the impact of enabling many more bright young people to attend a Sutton Trust-style summer school at a Russell Group university, which would require the scheme to expand to all the Group's 20 members. The proposal would see the scheme extended from 800 to over 2,500 pupils each year at a total cost of £1.6m.

**11. Independent careers and education advice service:** Recent legislation has given young people the right to impartial careers advice. However, there remain concerns about the quality and impartiality of advice provided both by schools and the Connexions service. BCG analysed the impact of a bespoke careers and education advice service with a stronger emphasis on aspiring students, and a network of 4,600 professional advisers attached to individual secondary schools and working across several primaries. The advisers, who would provide both group and one-to-one sessions, could draw on national support and specialist advice as required. The service would organise speakers to talk to primary and secondary age pupils about their jobs, as well as providing more specific advice on careers, college and university options from the age of 14. Pupils would be advised of the financial value of different degrees and the benefits of taking certain subjects which are more highly-valued by universities and employers. The programme, which reflects the recommendations of the

[20] A recent Ofsted report on the scheme can be read at www.ofsted.gov.uk/Ofsted-home/News/News-Archive/2009/December/Focus-on-gifted-pupils-and-the-whole-school-benefits
[21] The Higher Education funding council's main programme to widen HE participation
[22] For a list of the 20 Russell Group universities, visit www.russellgroup.ac.uk
[23] See www.suttontrust.com/applyingtouniversitysummerschools

Milburn review on access to the professions,[24] would use £150m of the budget for Connexions, the Government's current advisory service for young people.

**12. Means-tested fees at independent schools:** In conjunction with the Girls' Day School Trust, the Sutton Trust ran a successful experiment at the Belvedere independent girls' day school in Liverpool, where all students were admitted on merit rather than ability to pay fees.[25] Roughly one third of those admitted paid full fees, one third paid partial fees, and one third received free places. Under the scheme the school achieved its best ever GCSE results and 95% of pupils, many eligible for free school meals, went to university – the majority to research led universities. BCG analysed the costs and benefits of initially opening up 12 independent schools through a similar Open Access initiative, assuming that 70% of pupils had some or all of their fees paid in each school. If successful, the programme could extend to over 100 independent schools. The cost of covering 12 schools would be £15-£25m a year, rising to £110m for 100 schools through a combination of parental contributions and government funding.

**13. Increasing poorer pupils at high performing state schools:** The Sutton Trust has shown that bright pupils do better, all other things being equal, in the highest-achieving comprehensives, gaining better GCSE results, often in core academic subjects[26]. But pupils from low-income homes are under-represented in the highest-performing state schools[27]. A key factor in this disparity is the school admissions process, which largely uses proximity to the school to determine which children get in. The government's Schools Admissions Code[28] allows schools to use banding and ballots to decide some or all the places in an over-subscribed school, but these have been controversial. Poorer parents are more likely than middle class parents to choose convenience over standards in picking a school and some do not express any preference for which school their children attend, despite the efforts of Choice Advisers[29]. BCG looked at an alternative approach: instead of having to actively apply for a high-performing school, a proportion of pupils from low income homes would automatically be admitted to the highest-ranked school in their area unless they opted-out and chose differently. Since the law requires local authorities to fund free transport for poorer pupils to any of the three nearest secondary between two and six miles away from their home, there would be no additional cost for parents. The only cost would be around £8m to manage the administration of the scheme.

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[24] See www.cabinetoffice.gov.uk/newsroom/news_releases/2009/090721_accessprofessions.aspx
[25] See http://www.suttontrust.com/reports/BelvedereEval.pdf . The school has since become an academy.
[26] http://www.suttontrust.com/reports/Attainment_deprived_schools_summary.pdf
[27] http://www.suttontrust.com/reports/FreeSchoolMeals.pdf
[28] www.dcsf.gov.uk/sacode
[29] Although less than 2% nationwide, in some LAs this is over 7% of parents - http://www.dcsf.gov.uk/research/data/uploadfiles/DCSF-RR020.pdf

**UNIVERSITY AND BEYOND**

**14. University admissions test support:** Leading universities often use additional tests or interviews in addition to A levels to decide which students to admit, particularly on law and medicine courses where there are many applicants with perfect scores. There is some evidence that these tests and interviews can place bright non-privileged pupils at a disadvantage because their schools do not have the capacity to prepare them for the tests and may be unfamiliar with the test format. The Sutton Trust has previously funded a four-day Easter school designed to support 70 state school students with offers to read Mathematics at Cambridge in the STEP test. This led to substantial improvements in the pass rate. BCG looked at providing similar tuition in other tests for 1,600 young people each year, based at leading universities or in regional centres. Tuition might take place either at Easter or in the February half-term break. The cost of the scheme is estimated at £820,000 a year.

**15. University access schemes linked to contextual admissions:** It is common in some parts of the United States for State universities to offer guaranteed places to the top performing students in each of a number of High Schools. The Sutton Trust is piloting a programme with Leeds and Exeter universities where high performing but disadvantaged pupils are identified pre-GCSE and guided towards top university places. The scheme offers a three-year access programme from the age of 15 and a guaranteed pathway to a place provided they show commitment to the programme and achieve particular A level grades, which may be slightly lower than those generally required for a course.[30] BCG looked at the impact of extending such a scheme to 30 highly selective universities, with 100 able but disadvantaged pupils offered places on each university's scheme. The cost is estimated to be £4m a year.

**16. Extending student finance to internships:** Work experience and internships – often unpaid - have become an accepted route for graduates to gain entry to the professions, including the media. While middle class students may be able to draw on family support and networks to subsidise their time on such an internship, poorer graduates may not be able to afford the luxury of a period of unpaid work, especially in London. The result can be that good graduates are forced to take less productive work, reducing their chances of entering some careers or limiting their potential to progress in them – meaning that the professions are even more exclusive than the leading universities. BCG sought to provide a way for all students to undertake unpaid internships regardless of their financial circumstances. To assess the costs and benefits of such an initiative, BCG assumed a 5% take-up rate and that graduates could extend their student loan by four months to cover maintenance costs in London during an internship. They estimated the cost of such a programme at £6m a year.

[30] For more on this subject, see http://www.suttontrust.com/reports/20090713.pdf

## Chapter 4 – Levels of return

Each of the short-listed policies were analysed by the BCG team in quantitative and qualitative terms. The individual benefits and costs were considered in detail, as well as the overall budget implications and the number of students that would benefit, alongside the ease with which the programme could be piloted or rolled out more widely. The team also considered the strength of the assumptions made in their analysis, as well as anticipating the potential downsides to each policy. Each proposal was accompanied by proof that it is a reasonable concept, case studies showing its possible impact and an examination of the pros and cons of different means of implementation. There is also consideration of existing initiatives and ideas for how money could be used more effectively, as well as outstanding issues which require further investigation.

**Summer camps for primary pupils – an example**

There is a real concern in the UK that poorer children fall behind their peers during the long summer holidays. Similar concerns in the United States have prompted the BELL programme to provide a new type of summer camp that focuses on the core curriculum (literacy and numeracy particularly) in the morning, with sports, culture and other enrichment activities after lunch. Translating the idea to the UK, BCG proposed that the 'camps' would operate on weekdays during the school holidays with pupils continuing to live at home, and would be targeted at children aged 6-10 from the 15% of families with the lowest incomes. The assumption is made that a fifth of the target group would attend, giving a total of 18,000 children who would be catered for across a number of sites. Based on the costs of the BELL scheme, a cost of £3,800 per child is assumed for the full five years of the programme.

**Chart 4: The analysis of summer camps for 6-11 year olds**

| | % of pupils Prepolicy | % of pupils Postpolicy | NPV of earnings (£B) Prepolicy | NPV of earnings (£B) Postpolicy |
|---|---|---|---|---|
| Below GCSEs | 47% | 31% | 2.8 | 1.8 |
| Good GCSEs | 29% | 26% | 2.2 | 1.9 |
| A-Levels | 8% | 8% | 0.7 | 0.7 |
| University | 14% | 34% | 1.5 | 3.7 |
| Elite University | 2% | 2% | 0.3 | 0.3 |
| Total | 100% | 100% | 7.5 | 8.4 |
| Total No. | 18,000 | 18,000 | | +12% |
| Benefit | £910m | | | |
| Benefit / Cost | 13.2 | | | |
| Ease of roll out | L | | | |
| Assumption Strength | M | | | |

**Detailed assumptions**

Uses results from Teach Baltimore as a basis for uplift

Assume only 50% of Teach Baltimore impact, as most of targeted children will not attend all 5 years of camps

Assume number of people at university increases in line with Teach Baltimore study to national average
- Number of people at elite university remains constant

Assume number of people leaving below GCSEs decreases at rate of "High School dropouts" in Teach Baltimore study

Estimates of benefits need to be treated with care:
- No proof that US outcomes from summer camps are applicable in UK
- Direct mapping of school results difficult between US and UK
- Scalability remains an issue for full realisation of benefits

Source: BCG Analysis, "Lasting consequences of the Summer Learning Gap" Alexander, Olson, Entwisle; "Independent evaluation of BELL summer programme" Urban Institute; BELL annual report 2009, Teach Baltimore, ONS

The BELL camps have shown a significant improvement in reading scores over the summer months. As can be seen from the chart above, by linking these improvements to the likelihood of better results and improved university access, BCG estimate that – even if the UK programme had only half the impact of the US scheme - the proportion of participants leaving education with no good GCSEs would fall by sixteen percentage points to 31%, while the scheme would result in 36% of the cohort going to university, rather than the 16% who currently do so. The cumulative benefit to those young people in terms of increased lifetime earnings is calculated at £910m. With expenditure of £69m, this suggests that the benefits are 13 times the cost. In providing the estimates, BCG recognises that there may be differences between the US and UK which cannot be allowed for, and that there may be further issues associated with scaling up the benefits to a much larger scheme.

**Ranking the policies**

A similarly detailed analysis was undertaken for the other 15 policies and programmes – and a summary of the results and assumptions can be found in Appendix 1. The headline findings of the analysis, however, are outlined in the table overleaf, ranked by the cost-benefit ratio.

The first thing to note from the BCG analysis is that almost all of the policies show good ratios of costs to benefits. Investing in mobility clearly makes economic sense when viewed through the medium to long term lens of increased wage returns in later life.

The analysis also shows a clear trade off between the scale of a project (in terms of the total earnings benefit and numbers of pupils reached) and the cost-benefit ratio. Highly targeted initiatives emerge well on the cost-benefit scale, particularly when these are strongly focussed on entry to elite university. University access programmes, summer schools and test support result in individual financial benefits for every £1 invested of £52, £43 and £26 respectively. But, being highly targeted, these initiatives are relatively small scale, reaching a few thousand students each year out of the 600,000 or so young people in a cohort.

Larger scale projects inevitably cost more and their impact is spread more thinly – broader or universal participation often means that fewer students will realise maximum advantage from the scheme. But on the plus side, the potential of these initiatives to reach tens or hundreds of thousands of young people - and to generate large absolute sums in return - is such that overall impact on social mobility is significant. So one of the most expensive interventions the BCG team looked at – the introduction of an independent careers service at £150m a year – reaches well over half a million people and could generate over £1 billion in additional wage returns; but at 7:1 its cost benefit ratio, while very positive, is towards the lower end of the 16 policies considered.

In addition, those interventions which are earlier on in the education chain inevitably suffer from a weakness in predicting what will happen to students at GCSE, A level and university, which are the key markers of mobility in the BCG model. So the comprehensive early years model has one of the largest reaches (90,000 children) and the highest absolute financial benefits (£2.5 billion) but one of the lowest cost-benefit ratios (at 4:1), because of the need to be cautious about the strength of the link between an intervention at age 3 and better outcomes at age 16, 18 and in adulthood.

**Chart 5: Summary of analysis**

| POLICY | Pupils reached per cohort | Cost of policy per cohort | Total benefit per cohort | Cost-benefit Ratio |
|---|---|---|---|---|
| University access programme linked to contextual admissions | 3,000 | £4m | £212m | 53:1 |
| Summer schools at leading universities | 3,000 | £1.6m | £69m | 43:1 |
| No excuses / KIPP schools | 6,000 | £22m | £584m | 27:1 |
| University admissions test support | 2,000 | £0.8m | £21m | 26:1 |
| Teacher performance, development and incentives programme | 68,000 | £75m | £1,227m | 16:1 |
| Summer Camps for primary children | 18,000 | £69m | £910m | 13:1 |
| Teacher residencies | 68,000 | £92m | £1,227m | 13:1 |
| Independent careers and education advice service | 560,000 | £150m | £1,035m | 7:1 |
| Increased low income children at high performing state schools | 5,000 | £8m | £58m | 7:1 |
| Personalised performance data | 730,000 | £9m | £52m | 6:1 |
| Individual enrichment sessions for bright children in KS3 | 14,000 | £105m | £474m | 5:1 |
| Comprehensive Early Years programme | 90,000 | £687m | £2,528m | 4:1 |
| Financial support for internships | 13,000 | £6m | £25m | 4:1 |
| Means-tested fees at independent schools | 6,000 | £110m | £365m | 3:1 |
| Extra-curricular programme to boost school engagement | 1,000 | £25m | £79m | 3:1 |
| Reduced class sizes | 560,000 | £5.2bn | N/A | NA |

*N.B. all costs are in 2009 pounds. BCG's judgement of the strength of the assumptions behind each policy can be found in appendix 1.*

Of course, cost-benefit is not the whole story. The BCG team also assessed each programme according to the confidence it had in the assumptions in each analysis and the

ease with which programmes could be rolled out. They also looked again at the political palatability of the policies for the main parties and the extent to which each policy fitted with the mission of the Sutton Trust.

As a result of this process, BCG recommended to the Trust six policies which would be good candidates for further piloting and development in the UK, and six more that should be priorities for the Trust to advocate to others (particularly Government).

**Pilot Programmes**

1. Summer camps for primary school children
2. Developing 'no excuse' / KIPP style schools in the UK
3. Teacher residencies in urban schools
4. Enrichment sessions for gifted children in Key Stage 3
5. University admissions test support (building on an existing Sutton Trust programme)
6. Access programmes linked to contextual university admissions (currently being piloted in two universities).

**Recommendations for Government and other funding bodies**:

1. Comprehensive and targeted early years programme
2. Personalised performance data for pupils and parents
3. Summer schools at leading research universities
4. Independent careers and education advice service
5. Means-tested fees at independent schools
6. New ways to encourage poorer pupils to go to top state schools (with more modelling needed).

**LOWER PRIORITIES:**

BCG identified two policies as being lower priority for the Trust: changing the performance feedback and incentives for teachers (seen as requiring considerable resource and expertise) and football academies and other extra-curricular programmes linked to school engagement (which it was felt needed further development to ensure it was well targeted and delivered, and was a little outside the Trust's core mission).

**NO CLEAR EVIDENCE**:

Smaller class sizes were seen as a high cost reform with no sure evidence of any impact beyond the primary phase, bearing in mind the significant costs and the associated workforce and recruitment issues. BCG also suggested that further analysis of methods for

supporting interns is needed before a scheme could be recommended – particularly in light of recent Government announcements on this issue[31].

[31] http://www.cypnow.co.uk/Archive/973148/Pre-Budget-Report-Internship-support-disadvantaged-students/

## Chapter 5 – Taking the recommendations forward

The Sutton Trust has used BCG analysis before in evaluating the effectiveness of its own programmes, and is keen to take forward the recommendations that are made in this new analysis, including further development of the ideas and policies that emerge as particularly promising.

The Trust's model has always been to act as a 'do tank': to develop projects based on research, to pilot them, evaluate their impact and to encourage others – particularly Government – to roll them out. This analysis from BCG fits exceptionally well with this approach, giving the Trust a list of potentially highly-effective programmes to work-up to a pilot phase, and a second list of priorities for our advocacy work, armed with new data on efficacy and examples of programmes which have been successful elsewhere.

**New pilot programmes**

The Trust has already supported a promising pilot project offering university admissions test support to students with offers to read maths at Cambridge University, and this is something we would like to extend to disadvantaged students sitting other university tests, possibly through existing delivery mechanisms (the summer school programme for instance).

Two universities – Leeds and Exeter – have recently begun to pilot the Sutton Trust Academic Routes (STAR) programme: an access programme linked to a contextual admissions scheme for bright disadvantaged young people. The Trust is investing in a randomised control trial (the first of its kind in the UK) to asses the impact of this scheme and to explore the potential of extending the pilot to other universities. With such a high cost-benefit score, this is one clear priority going forward.

In terms of the other initiatives, we have already started researching the possibility of developing the KIPP-style school model in the UK and is examining ways in which summer camps for primary-aged children could be introduced in a pilot phase in 2011. Providing the highest quality teachers to the poorest schools has always been a central concern too, so we are also keen to explore the potential of teacher residencies in the UK and how this may fit with initiatives like Teach Next and Future Leaders. The Trust is also interested in exploring intensive one-on-one sessions for gifted and talented 11-13 year olds, as a way of improving the performance of such students and overall outcomes – particularly in light of the recent demise of the Government's gifted and talented programme.

**Wider policies and programmes**

There are real challenges in this report for the main political parties too, with an election due in the UK before the summer.

The Trust believes it is particularly important that they consider seriously the six proposals that the BCG analysis shows could make a strong impact on the choices and attainment of disadvantaged young people whose talents might otherwise be wasted or under utilised. The six proposals in question could all be largely developed within existing funds by reprioritising resources (see Appendix 2).

- A more joined-up and targeted early years programme could reach the families who stand to benefit most, and would see the government's network of children's centres used as a base for a portfolio of effective childcare and education, intensive parenting support and regular home visits.

- A small part of the budget currently used for supporting summer schools for year 10 and 11 students should be targeted specifically at Russell Group (or equivalent) universities, so that able but disadvantaged sixth formers maximise their chances of attending those universities where individual lifetime returns are some £100,000 higher.

- The new right to impartial careers advice should be complemented by an overhaul of the Connexions service to provide more appropriate, expert and tailored advice on job and educational options to all young people, particularly those of high ability who are often let down by the present system. In our view, the most effective means of delivering a service with the necessary impartiality and expertise is through a dedicated, independent careers service and we will be working up our proposals to Government on this front over the coming months.

- In addition to developing more academies and other new models of independent state schools, the parties should consider the more cost effective and academically effective option of supporting pupils at independent schools through a state-led system. The example of Open Access at the Belvedere School, Liverpool, shows the way forward.

- All the parties support non-selective education. But the existing admissions system makes it hard for those whose families cannot afford big mortgages or who cannot negotiate complex faith criteria to get into some of our highest-performing state schools. Children in care already get guaranteed places in the admissions round. There should be a consideration of an 'opt-out' approach for disadvantaged families, whereby their children automatically apply to their nearest high performing school unless they positively make a decision otherwise. Further, the parties should consider whether to introduce a locally-adjusted ceiling on the proportion of Free School Meal students permitted in each state school, to ensure that no one school

faces very high levels of deprivation while another has few such students. Again, the Trust will be developing these ideas further over the coming months.

- New technology and data supplied by organisations like the Fischer Family Trust are making it much easier for schools to share individual information with parents and pupils. That information should systematically be used to show students and parents what can be achieved, raising aspirations in the process and demonstrating what is possible.

This combination of measures could help transform social mobility in the UK. The challenge to the parties is to take them forward in the next Parliament, despite the various financial and political obstacles that will present themselves. This relies on the vision to look beyond a five-year term and the budgets of individual departments and spending rounds – to see that investment now will make a difference later on, and the rewards will be reaped by individuals, society and our economy.

# Appendix 1 – Policy summaries

## Comprehensive early years programme

### Description

Improve early years development through three policies
- Targeting nursery care at disadvantaged families
- Introducing facilitated, multi family parent-child sessions (proposal based on PEEP)
- Introducing home visits, up until school age, to improve parenting education/skills

Target initiatives at lowest 15% income families

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £687m |
| Individual benefits[1] | £2.5B |
| Benefit / Cost | 3.7 |
| % Income gain | 10% |
| Ease of roll out | L |
| Assumption Strength | L |

### Key assumptions

Assume Early Year uplifts broadly follow two American studies
- High/Scope Perry Preschool Study
- The Abecedarian Study

Assume uplift is only to university, and has no effect on elite university achievement

Major costs expected to be gov't budget neutral
- Move funding from less targeted initiatives

### Conclusions and further questions

- Early years programs can have large benefit to individuals, families and society
- Potentially budget neutral to government
- Opportunity to create virtuous circle between policies
  - i.e. If you sign up for Parent-Child sessions you get more free nursery time
- Is 15% of child population a feasible scale to maintain high quality?

1. Scaled benefit – reduced due to issues of implementation of a pilot model
Source: BCG Analysis, The Abecedarian Study – Early Learning and Later Success, High/Scope Preschool study, Sure Start Centres – Family Information Service, ONS, "Income related gaps in school readiness in the US and UK", Waldfogel and Washbrook, Sutton Trust, National Audit Office

## Extra-curricular programs to boost school engagement

### Description

**Football coaching programme as reward for good attendance, progress and discipline at school**
- Participation contingent on school attendance, behaviour and/or results
- Target underprivileged 11-16 year old boys
- Very high quality programme required to create sufficient incentives
  - i.e. involve high profile ex-footballers/coaches

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £25m |
| Individual benefits | £79m |
| Cost-benefit ratio | 3.2 |
| % gain in individual earnings | 21% |
| Ease of roll out | M |
| Assumption strength | L |

### Key assumptions

Sufficient numbers of clubs and ex-professionals can be recruited to deliver a high quality programme at scale

Sustained participation in the programme will improve GCSE pass rates from 44% to 80%

Cost of £4,964 per pupil per year for 5,000 participants

### Conclusions and further questions

Highly effective in improving economic outcomes for underprivileged and disenfranchised youths, however very costly on a per pupil basis

Could be financed through corporate sponsorship

Key questions
- Programme options other than football?
- What selection mechanism if oversubscribed?
- Ways to keep costs down: use of school grounds, council support

## Personalised data for pupils and parents to judge performance and potential

### Description

Information packs assessing pupils relative to their peers
- Goal is to provide personalised information to help raise pupils' and parents' aspirations

Provide positive targets
- x% of people at your level went to a top university
- People at your level go on to professions XYZ
- By going on to university you can increase your lifetime earnings by £x

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £9m |
| Individual benefits | £52m |
| Cost-benefit ratio | 5.7 |
| % gain in individual earnings | n/m[1] |
| Ease of roll out | H |
| Assumption strength | L |

### Key assumptions

1% of high achieving students who never reach university will move up an educational level

All UK pupils/parents are contacted with five packs
- At ages 5,7,11,14 and 16

The total cost is £9m a year

### Conclusions and further questions

Relatively low cost way of encouraging higher education participation
- Will disproportionately benefit gifted, low income pupils who are much more likely to choose not to continue education despite being capable of continuing

What is the right delivery mechanism?
- Are schools doing this already?

What do you do for poor performing students?

1. n/m stands for 'not meaningful', since it is uncertain it is not clear how many people will be directly affected by the policy.

## Summer camps for primary-aged children

### Description

Summer camps for lowest income families during primary school years
- Based upon US formats (e.g. BELL summer camps)
- 4 weeks w/ focus on improving both academic and non academic skills
- Aim that students attend camps for five years
- Reaches 18,000 students per cohort

Aim to lessen impact of achievement gap created by "Summer learning loss"

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £69m |
| Individual benefits | £910m |
| Benefit / Cost | 13.2 |
| % income gain | 12% |
| Ease of roll out | L |
| Assumption Strength | M |

### Key assumptions

Assumptions based upon long term impact of Teach Baltimore programme

Assume 50% of effect of Teach Baltimore program, as all children will not attend all 5 years of summer camps

Program will not improve results above the national average for % of students attending university

Costs in line with BELL summer camps in US

### Conclusions and further questions

- Widespread benefits but high cost per student
- Is it feasible for children to attend summer camps every summer?
- Can we replicate the US camps in the UK? (Cost, timing)
- Is the programme length (4-6 weeks) correct?

Source: BCG Analysis, "Lasting consequences of the Summer Learning Gap" Alexander, Olson, Entwisle; "Independent evaluation of BELL summer programme" Urban Institute; BELL annual report 2009, Teach Baltimore, ONS

## Introduce KIPP / 'no excuses' type schools in UK

### Description

Schools focused on preparing disadvantaged pupils for university entrance, reforms include:

- Lengthening the school day to 7.30am-5pm and adding Saturday and summer classes

KIPP schools in the US have shown extremely positive outcomes for disadvantaged children.

- More hours learning and less time spent in disruptive environments

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £22m |
| Individual benefits | £584m |
| Cost-benefit ratio | 26.5 |
| % gain in individual earnings | 22% |
| Ease of roll out | M |
| Assumption strength | M |

### Key assumptions

Policy is targeted at 1% of schools all in disadvantaged areas, and runs for five years from age 11-16

Number of students attending university rises to 50%, remainder's achievement is uplifted to national average

Education cost increases by 16% - but calculations exclude the cost of educating average pupil in a state school (£4320pppy)

### Conclusions and further questions

Potentially highly effective

- Cost-benefit ratio of 26.5
- KIPP model a proven success
- Could be budget neutral if pupil premium is implemented

Further questions

- How sustainable it is for staff and head teachers?
- How scalable is it?
- Will it work as well in a UK culture?

## Teacher performance, development and incentives programme

### Description

Teacher quality is a key influence on educational outcomes

Disadvantaged schools in UK suffer from high teacher turnover & high levels of temporary staff – target bottom 500 schools

Policy targets recruiting and retaining teachers by using:

- Loyalty payment on joining
- Comprehensive feedback and performance mgmt system
- Incentive system (once feedback culture is accepted)

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £75M |
| Individual benefits | £1,227M |
| Cost-benefit ratio | 16.4 |
| % gain in individual earnings | 4% |
| Ease of roll out | L |
| Assumption strength | M |

### Key assumptions

Assume benefits inline with US longitudinal studies on teacher reward and quality

Assumed to be targeted at 500 worst performing schools

- But expect to pilot both at smaller scale (~10 schools)

Costs are modelled in line with normal ratios associated with 950 pupil school

### Conclusions and further questions

Conclusions

- High cost benefit – ratio
- However implementation difficulty and effort high
- Not mutually exclusive from Residencies – potential to maintain feedback but introduce residency programme instead of sign on bonus

Key Questions

- Is the policy politically palatable?
- How would teachers' unions react?

## Teacher Residencies in urban schools

### Description

Target "National Challenge" 500 schools

Propose to introduce "Residencies" to the UK
- Recruit and retain non-teachers (career changers / community member / graduates) to work in urban disadvantaged areas
- Intense 1 year training programme – focusing on mentoring and peer to peer learning
- Residents must remain in school for next 3 years
- Based on successful US schemes

### Cost – benefit summary

| | |
|---|---|
| Cost | £92M |
| Individual benefits | £1,227M |
| Cost-benefit ratio | 13.4 |
| % gain in individual earnings | 4% |
| Ease of roll out | M |
| Assumption strength | M |

### Key assumptions

Assume benefits for both policies inline with US longitudinal studies on teacher reward and quality

Assumed to be targeted at 500 lowest performing schools
- Expect to pilot both at much smaller scale (~10 schools)

Costs based on US costs for Urban Residencies (~£23K)

### Conclusions and further questions

Conclusions
- High cost benefit ratio
- Not mutually exclusive from Performance, development & feedback. Potential to add feedback/development to residency schools (would reduce cost-benefit ratio to ~10)

Key Questions
- Is it politically palatable?
- How would teacher's unions react?
- Can this run along side Teach First?

## Reduced class sizes

### Description

Reducing average class sizes from
- 26.2 in primary school
- 20.6 in secondary schools

to 15 in all schools

Very popular with parents and teachers

Targets a key UK government metric

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £5.2b |
| Individual benefits | n/a |
| Cost-benefit ratio | n/a |
| % gain in individual earnings | n/a |
| Ease of roll out | M |
| Assumption strength | H |

### Key assumptions

Size of class reduced to 15

Costs are increased by 18%
- In line with US research
- Based on average class size only

### Conclusions and further questions

Academic evidence on impact of reducing class size on outcomes is inconclusive

Unlikely to be a cost effective policy since it is very expensive with uncertain outcomes

May be some benefit from targeted reductions
- Early years
- Remedial classes

## Individual enrichment sessions for able disadvantaged children

### Description

Individual tuition to ensure that bright disadvantaged students reach their full potential

- Targeted at top 20% of disadvantaged students aged 11, as assessed on standard Key Stage 2 tests
- Three sets of sessions aged 11, 12 and 13
- Intensive one on one sessions
- 30 mins a week for 12-20 weeks

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £105m |
| Individual benefits | £474m |
| Cost-benefit ratio | 4.5 |
| % gain in individual earnings | 7% |
| Ease of roll out | M |
| Assumption strength | L |

### Key assumptions

Individual tuition reduces the achievement gap between top FSM students and average students from 50% to zero

Costs are based on existing individual literacy and numeracy catch up sessions for 6 year olds

### Conclusions and further questions

Individual tuition sessions have been shown to be effective for poorly performing pupils aged 6

- Every child a reader / every child counts 'catch ups'

Will sessions be as effective for our target group?

- Targeted at high performing students

Is 11-13 the appropriate age - will gains be sustained?

## Extending Sutton Trust summer schools to leading universities

### Description

**One week summer schools at each Russell Group University to raise pupils' aspirations**

- Insight to university life with lectures, tutorials and busy social schedule
- Selection on basis on merit and interest from underprivileged backgrounds

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £1.6m |
| Individual benefits | £69m |
| Cost-benefit ratio | 43.1 |
| % gain in individual earnings | 4% |
| Ease of roll out | H |
| Assumption strength | H |

### Key assumptions

- Likelihood of pupils applying to Russell Group universities increases by 28%
- Probability of acceptance at Russell Group universities increases by 25%
- Costs similar to existing Sutton Trust summer schools
- Existence of alternative summer schools does not erode benefits of a Sutton Trust summer school

### Conclusions and further questions

Highly effective way to raise pupils' aspirations and increase applications and acceptances of gifted but underprivileged pupils

Further questions

- How do Sutton Trust schools tie in with existing AimHigher schools?
- Should ST aim to provide extended, post summer school support to pupils?
- Russell Group universities used for analysis purposes – but could target a wider group

## Independent careers and education advice service

### Description

Providing a high quality, integrated network of independent careers advisors
- Refocusing careers advice with a stronger emphasis on aspiring students
- Professional advisors linked to all primary and secondary schools
- Class and one to one sessions
- Supported by central department providing information and resources to individual advisors

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £150m |
| Individual benefits | £1,035m |
| Cost-benefit ratio | 6.9 |
| % gain in individual earnings | 0.4% |
| Ease of roll out | L |
| Assumption strength | L |

### Key assumptions

Based on a network of 4,600 advisors and small central office

Higher salaries for advisors to attract and retain high calibre people

2% of all students are uplifted one educational level
- 10% of all students in the top quintile at each educational attainment level

### Conclusions and further questions

Clear need for high quality careers advice
- Key driver of social mobility

Service should focus on two key aspects
- System of advice giving
- High quality information

Can be funded using current £200m Connexions budget

## Means tested fees at independent schools

### Description

Opening up top independent day schools to talented pupils from non privileged background

Allocate places at selected schools on the basis of merit alone, with parents paying a sliding scale of fees according to means

Based upon Sutton Trust pilot at the Belvedere Academy in Liverpool

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £110m |
| Individual benefits | £365m |
| Cost Benefit Ratio | 3.3 |
| % earnings gain | 10% |
| Ease of roll out | H |
| Assumption Strength | H |

### Key assumptions

Policy is targeted at initially opening up 12 independent schools to an Open Access initiative; 70% of pupils funded in each school

Number of students attending university and elite university will increase in line with historic Open Access scheme
- 95% of students attending university

~£2m cost / school in line with Belvedere Academy pilot

### Conclusions and further questions

- Policy proven by exceptional Belvedere pilot results
- Would be relatively easily scalable to 100 schools
- However, cost-benefit is on the lower end of the range of policies evaluated
- How politically palatable is this policy currently?

Source: BCG Analysis
"Open Access – A Practical Way Forward" Sutton Trust June 2004,
"Five Years On, Open Access to Independent Education" Smithers and Robinson
"The educational and career trajectories of assisted place holders" Power, Whitty and Wisby

## Increasing low income pupils at high performing state schools

### Description

Increasing percentage of FSM pupils at top performing state schools to reflect local population
- Possible methods include: ballots, banding, quotas, opt-out applications, or ceilings

FSM students are under-represented even at top comprehensive schools
- 6.0% of pupils in schools on FSM
- 13.7% of pupils in schools' postcode areas on FSM

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £8m |
| Individual benefits | £58m |
| Cost-benefit ratio | 7.2 |
| % gain in individual earnings | 5% |
| Ease of roll out | H |
| Assumption strength | M |

### Key assumptions

50% of FSM pupils who would otherwise not have attended a top school do so under an opt-out application system

Top schools reduce FSM pupils' achievement gap by 32%

Implementation requires 1 FTE at each LEA to administer

### Conclusions and further questions

Overall, this is a relatively costless way to reduce the achievement gap

Propose opt-out applications for FSM pupils to top schools
- Analysis reflects this option
- But need more modelling of how it might operate

Other innovative solutions may also be politically palatable
- Cap on numbers of FSM students in any school
- Allowing schools to expand by taking FSM students

## University admissions test support

### Description

**One week "exam tuition" residential schools at each Russell Group university with major entrance exams**
- One school per university per subject
- Offered to 1600 year 12 pupils[1]
  - High performers from underprivileged backgrounds
- Heavily content oriented tuition
- At least one day on application and interview preparation

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £0.8m |
| Individual benefits | £21m |
| Cost-benefit ratio | 26.3 |
| % gain in individual earnings | 2% |
| Ease of roll out | H |
| Assumption strength | H |

### Key assumptions

- Probability of applicants receiving offers increases by 15%
- Number of applications to Russell Group Universities with entrance exams increases by 10%
  - Due to increased availability of support
- Cost per applicant similar to STEP Easter school

### Conclusions and further questions

Effective way to support gifted but underprivileged children in obtaining places at Russell Group universities
- But relatively limited scope £21M benefit for 208 students
- Could be integrated with summer school programme?

Further questions
- What is the most effective degree of centralisation?
- Should students previously attending summer schools be targeted?
- Should schools target best performers or average mix of non privileged applicants?

1. Refers to pupils who have finished year 12 and are about to start their final year at school.

## University access programme linked to contextual admissions

### Description

Proactively identifying high performing disadvantaged pupils in low performing schools and guiding them to elite universities
- Enriched 15-18 curriculum
- Advice sessions
- Reduced offers to reflect personal circumstances

Based on Sutton Trust pilots at Exeter and Leeds
- Scale up to 30 highly selective universities
- 100 pupils per university

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £4m |
| Individual benefits | £212m |
| Cost-benefit ratio | 53 |
| % gain in individual earnings | 12% |
| Ease of roll out | M |
| Assumption strength | M |

### Key assumptions

Cost of £1,367 per student
- Based on Sutton Trust proposals at Exeter and Leeds

Benefits are uncertain
- Assumes all participants will reach A-Levels
- Assume that 15% of students leave with A-Levels, 30% of students reach university and 55% reach elite university

### Conclusions and further questions

Highly targeted at high performing disadvantaged pupils
- Good fit with core Sutton Trust philosophy

Excellent cost benefit ratio

Further questions
- Needs monitoring to assess participants' later university performance
- Will all highly selective universities participate?

## Extending student finance to internships

### Description

Extending student finance to internships after graduation
- Unpaid internships prerequisite for accessing some professions
- Means-tested loans for graduates taking unpaid internships between 1 and 6 months long

Relatively limited impact on overall student finance budget
- Only affects a small number of students for a few months

### Cost – benefit summary

| | Estimate |
|---|---|
| Cost | £6m |
| Individual benefits | £25m |
| Cost-benefit ratio | 4.0 |
| % gain in individual earnings | 0.13% |
| Ease of roll-out | M |
| Assumption strength | L |

### Key assumptions

Cost of £485 per student for c13,000 meeting criteria
- Based on existing cost of student finance
- Assuming average internship lasts for 4 months

Benefits are highly sensitive to modelling assumptions
- Assumes participants' incomes are uplifted by 2.31%
  - 45th to 50th percentile of graduate earnings
- Offsetting loss of earnings during internship
- Assume loan is taken up by 5% of graduates

### Conclusions and further questions

Individual earnings benefits highly sensitive to assumptions
- Plausible scenarios where earnings benefit is negative
- However, less tangible benefits still significant

Extending access to internships is important, but current proposal may create perverse incentives
- Could exacerbate problem by gov't subsidising internships

There may be better ways to tackle the issues
- Commercial loans
- Minimum wage legislation / gov't incentives

## Appendix 2 – Meeting the cost of reform

Many of the policies proposed by BCG have a relatively small cost attached to them – a number can be delivered for less that £10m per cohort, and so may be funded from simple efficiency savings or reductions in areas such as communications. The cost of the majority of the others can be found through a reallocation or reprioritising of existing budgets.

| Policy | Cost (£M) | Budget Neutral? | Rationale |
|---|---|---|---|
| Comprehensive early years programme | 687 | ✓ | • £622M Nursery care paid by focusing on disadvantaged<br>• £65M PEEP & home visits from reallocating Sure Start |
| Extra-curricular programmes linked to school engagement | 25 | ✓ | • Private or corporate sponsorship of scheme |
| Personalised data for pupils and parents | 9 | ✓ | • Small portion of Connexions budget or efficiency savings |
| Summer camps | 69 | ✓ | • Re-allocate Conservative budget for camps at age 16<br>• DCSF efficiency savings, reduction to DCSF comm. budget |
| Introduce KIPP-type schools in UK | 22 | ✓ | • Use pupil premium to fund or existing Academies budget |
| Performance, development and incentives for teachers | 75 | ✓ | • £45M sign on incentives already in budget<br>• Remainder from the pupil premium fund |
| Introducing teacher residencies to urban schools | 92 | ✓ | • Use proposed pupil premium or existing training budgets |
| Reduced class sizes | 5200 | ✗ | • Additional resources required in government budget |
| Enrichment sessions at KS3 | 105 | (✓) | • Gifted and talented budget; from within schools grant<br>• But may need dedicated funding |
| Summer schools at Russell Group universities | 2 | ✓ | • From Aimhigher budget or paid for by individual universities |
| Independent careers and education advice | 150 | ✓ | • Reallocation of portion of Connexions budget |
| Means tested fees at independent schools | 110 | ✓ | • Costs same as state school place once parental contributions accounted for |
| Increasing FSM pupils at top state schools | 8 | ✓ | • Efficiency savings<br>• Reductions in DCSF communications budget |
| University admissions test support | 1 | ✓ | • Aim Higher budget or paid by individual universities |
| Contextual university admissions | 4 | ✓ | • Aimhigher budget |
| Extending student finance to internships | 6 | ✓ | • Small increase in portion of current student maintenance grant that is means-tested |