Research in Public Policy

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CMPO MARKS 10 YEARS’ ESRC FUNDING
A RETROSPECTIVE

Social mobility:
Is it worse than we think?

Higher education reform and student choice

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2014 sees CMPO celebrate 10 years as an ESRC Centre. To mark this milestone, Centre Director Simon Burgess shares his views on CMPO’s achievements in advancing academic research on public service reform, and on how the Centre’s research has influenced policy and public debate.

Simon’s article illustrates how understanding the roles of markets and incentives, and information and choice have been consistent themes of CMPO research across a range of public services. New research at the Centre will extend this to higher education, where the 2012 increase in tuition fees at English universities, combined with opening up the market for students with high A-level grades is likely to have significant effects, both in terms of student choices across providers and courses, and how universities themselves respond to the ‘marketization’ of the sector. We consider the role of managerial practice within universities and its relationship with performance rankings. If good management can influence performance, then this has implications for how universities might be able to engineer organisational responses to the new environment.

Also in this edition we report on research presented at a recent conference on intergenerational mobility and children’s life chances. New findings on lifetime measures of intergenerational economic mobility raises the prospect that social mobility in the UK is worse than we think and another study explores the benefits that attending private school brings in terms of accessing top occupations, alongside the role of professional and educational networks.

Helen Simpson and Sarah Smith
2014 will mark a decade of ESRC funding for CMPO. Over this time CMPO has become an indispensable voice in the policy-making world. In education, healthcare, and welfare reform, CMPO researchers are amongst the most powerful analysts and commentators. The Director, Simon Burgess, takes a look at how the Centre has become the first port of call for analysis and insight on the fundamental issues underlying public service reform.
“In education, health, social security and in many other areas of public service reform, CMPO delivers timely, applied, research that has a direct relevance to current policies. Without it, the debate around them would be far poorer, the decisions taken less good.”

Nicholas Timmins, Public Policy Editor, Financial Times
“CMPO have an impressive track record of producing high quality, policy relevant research that pushes the boundaries of our understanding…Their work forms a substantial and vital part of the evidence base informing policy in the Department for Education. They continue to be a key partner in delivering the innovative evidence we need to make more effective and value-for-money policy.”

Carole Willis, Director of Research and Analysis, Department for Education
“Charities are increasingly focused on demonstrating their effectiveness and the new Capacity Building Cluster at Bristol will play an important role in helping charities do this.”

Martin Brookes, Chief Executive of New Philanthropy Capital
not-for-profit might be better, and the relative value for money of different models. More recently, CMPO has been at the forefront of analysing the increasing role of the voluntary sector in providing public services. This is the start of a key new trend in public service reform and we aim to provide the evidence on its impact.

CMPO research is informed by an emphasis on outcomes for disadvantaged families and communities. This is exemplified by the major contributions the Centre has made to the analysis of intergenerational mobility, and the importance of the ‘early years’ for the emergence of lifetime inequalities. The transition from school to work is another key moment and we have produced a lot of evidence on the scarring effect of youth unemployment, and the consequent lessons for youth unemployment policy.

One particularly noteworthy aspect of our empirical research has been our path-breaking work using large-scale administrative data, for example education and healthcare records. This is now a major focus of national funding and activity, but CMPO began this work ten years ago and it remains a major focus of our publications.

**Dissemination: telling the world**

While producing strong and interesting research is a necessity, it is only the start. Using our evidence to make an impact – to change the world – is part of the ethos of CMPO, and was so before ‘impact’ changed from just a word to a metric. There are many specific high-level examples of impact from CMPO members (Burgess on education; Gregg on welfare; Grout on private finance of public services; Propper on healthcare; Smith on charitable giving). But the greater achievement is that this is now an integral part of what CMPO does. This is one of the reasons that young researchers want to join the Centre.

We are an academic research centre, so naturally respect and interest from scientific peers is a key gauge of achievement. CMPO has delivered this, publishing papers in the profession’s leading journals and being asked to speak at the leading conferences.

Building on that, we have invested a great deal of our time in communicating the findings of our research very broadly, adding our views to the always-lively debate on public services. One primary channel for this is the magazine you are reading, the long-standing Research in Public Policy, which reaches 1400 desks in Whitehall and the media.

The Centre has always been innovative in setting up new channels of communication: we were among the very first UK research centres to set up a podcast series (now numbering over 50 interviews), and more recently we launched a Youtube channel and a blog.

The blog has now been viewed about 38,000 times and illustrates the strength, relevance and diversity of CMPO’s research: the top five most-viewed posts are: ‘What are free schools for?’, ‘Who fails wins – the impact of failing an Ofsted inspection’, ‘Who gets the best jobs? The economics evidence’, ‘The Health Bill, the NHS and the facts’; and ‘Disability Benefits Claims’.

Sometimes all that is needed is to contribute a few facts to the public debate. This seemingly modest ambition can have powerful consequences in a world where opinion and intuition often rule, detached from reality. We believe that this is an...
important role for an ESRC research centre, and CMPO has done its fair share of slaying myths with facts. Examples include: the low levels of charitable giving relative to the great hopes for it embodied in the ‘Big Society’; the very highly skewed access to jobs in the professions for those from private school relative to state schools; the impressive educational attainment of ethnic minorities, and the realisation that white boys were a major problematic group; the low levels of exercise taken by the British despite all the publicity about obesity and the beneficial role of physical activity; and the feasibility of school choice and hospital choice.

Last, but definitely not least, is the CMPO website. This has seen three major re-designs over the last ten years, driven by corporate requirements from the University of Bristol or the ESRC, as well as by changes in tastes and technology. While the design has changed, it has always grown, and now has a remarkable depth and richness of content. All of our publications are there, all of the papers and presentations from all of the conferences, all of the events and interviews and projects, all free to access. The depth of material is a very graphic illustration of the amount of knowledge that ten years of ESRC funding can generate.

People: training the next generation
One of CMPO’s greatest achievements has been the cadre of young people we have trained to become the next generation of sophisticated quantitative researchers. Over our history as a Centre, more than 70 young people have passed through CMPO, many going on to work as academic researchers, in the policy world, or in economic consultancy.

This is a very strong contribution to the UK’s research capacity in a priority area. It also attests to the ‘draw’ of working in a research-intensive and policy-focussed centre like CMPO. In the policy world, CMPO alumni have worked in HM Treasury, Cabinet Office, Department for Work and Pensions, the Department for Education, and the Department of Health; others have held visiting positions at the Sage Foundation in New York, and at Harvard; yet others now work at the IFS, the National Foundation for Educational Research, and Cambridge Econometrics among others.

CMPO could not run with researchers alone. We have been lucky enough to have benefited from the most able, determined and imaginative administrators. Just like the research assistants, many are attracted to work in a fast-paced and innovative organisation that is clearly making a difference to the world.

Broader scientific contributions
One of the things that a Centre with long-term funding can do is to make broader scientific contributions that complement its core remit. CMPO members have done this in many ways, raising significant additional funding for the work of the Centre. We won funding for an ESRC Capacity Building Cluster in third sector provision of public services; as well as enabling more research, this facilitated useful links between academics and the voluntary sector, and, as the name implies, started to build capacity within the sector itself. With a small amount of seed-corn funding, we set up in 2006 a user group for administrative data in education, which has become an important

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asset for the education research community as well as for the Department for Education, and can be seen as a precursor to the very major funding now going in to supporting the use of administrative data in research. We won an ESRC Large Grant to study inequalities in childhood using the ALSPAC dataset, a major programme of research including researchers in many disciplines and many institutions which substantially advanced our understanding of the genesis of inequality. We won funding from the Department for Education for a Centre for Understanding Behaviour Change, also a multidisciplinary centre, which added the emerging insights of behavioural science to economic analysis to inform and improve policy on schools.

Looking forward
Over the next five years we hope to address a lot of new issues. Some are whole new fields for CMPO, such as the market for higher education, described elsewhere in this edition. Some are new questions arising in our core fields. What happens when services are contracted out to not-for-profit organisations? What is the inter-play between government funding for such services and voluntary contributions? Crudely, are they substitutes or complements? We hope to describe for the first time the mix of local provision of public services, and see how it relates to community characteristics such as inequality. We will also consider how new models of choice and competition for public services work and evaluate the provision of information for choice.

Other developments include new methodologies and new people. We will give increasing emphasis to the use of randomised control trials in field experiments, and also lab experiments. These hold great promise in understanding “what works”, enabling us to robustly identify the causal impact of particular policies. CMPO has already been active in field experiments in charitable giving and education, and we hope to progress rapidly from this start.

While the centre of gravity of CMPO will remain in Bristol, we are building new links that strongly complement our programme. These include Professor Michèle Belot in Edinburgh, an expert in lab and field experiments in health and education, and Professor Abigail Payne from McMaster who is a leading international figure in not-for-profit organisations.

Shiny new technology always appeals as the answer to service delivery problems, and undoubtedly it can help (when done well). In the field of public service reform too, there are many possibilities such as remote diagnosis tools in healthcare, or apps and websites for school choice. But the underlying issues of human motivations and the rules and structure of markets will always be relevant, and will themselves influence how useful the new technology is. In ten years we have transformed the understanding of public service reform in the UK, but there are always new questions to answer. There’s more to do.

Professor Simon Burgess is Director of CMPO.
REFORMS IN HIGHER EDUCATION = HIGHER QUALITY PROVISION AND BETTER-INFORMED CHOICE?
The 2012 reforms gave HEIs scope to increase course fees up to £9,000 per annum and allowed greater flexibility in student recruitment, with no restrictions on the number of students admitted with high A-level grades. Many institutions chose to set fees close to this level. For entry in 2012 30 per cent of institutions submitting an ‘Access Agreement’ to the Office of Fair Access had an average fee of £9,000, with the average across all institutions standing at nearly £8,400.1

Since graduates are now bearing more of the financial costs this might change their incentives and mean they place more emphasis on the overall benefits of higher education when choosing between alternative courses and providers. At the same time as student contributions increased, HEIs saw a significant reduction in funding for teaching provided through the direct grant from the Higher Education Funding Council for England (HEFCE). This shift in the source of funding for universities together with the lifting of recruitment caps, which for some universities will cover a significant fraction of their student population, should act to make providers more responsive to student demand. Hence, encouraging student choice and greater competition in this way raises two immediate questions: 1) how do students make their choices? and; 2) how are HEIs responding to the incentives created by the new environment?2

In October 2013 the Office of Fair Trading (OFT) announced a call for evidence into the working of choice and competition in this market. Among the issues on which they asked for information are ‘how universities compete between themselves for students in order to deliver value for money, including how they go about setting fees, deciding which courses to offer and how they should be delivered.’ And ‘whether students can access relevant and accurate information about courses and universities to enable them to make a properly informed choice.’3

The OFT call also raises further issues of both policy and academic interest, around whether existing regulations and the applications process, for example not being able to apply to both Oxford and Cambridge, might be acting to restrict choice and competition, and on the effects of HEI closures on students as well as the role of provider exit (and entry) in the competitive process.

Trends in applications and acceptances
Although the final figures for 2013 university applications are not available at the time of writing, we can learn about the initial effects of the reforms on student applications for entry in 2012, the first year of higher tuition fees. 2012 saw a dip in overall applications and acceptances to UK HEIs (Figure 1),
although the data that are available for 2013 do suggest a bounce back in applications. While the 2012 data might not be reflective of the longer-term aggregate trend in demand, they can shed light on changes in the pattern of demand across courses and types of provider.

**Home residency and choice**

Each of the devolved administrations within the UK adopted a different policy approach, which can be used to provide insights into how students and HEIs have responded to the new environment. The reforms had quite different implications for applicants who live in, and HEIs located in, different countries within the UK. For example, for students resident in England the tuition cost of pursuing a degree at a university throughout England, Wales, Scotland and Northern Ireland increased substantially, whereas for a student resident in Scotland the cost only increased at HEIs outside Scotland, substantially strengthening a pre-existing financial incentive towards choosing a Scottish provider. A similar ‘home bias’ exists for students who live in Northern Ireland, and for those in Wales the only change was an increase in the costs of studying in Scotland. UCAS data on acceptances shed light on where students eventually chose to study, although this is of course conditional on obtaining an offer, hence does not purely reflect demand.

Figure 2 shows that while HEIs in England and Wales saw a decline in acceptances in 2012 from UK resident students, HEIs in Scotland and Northern Ireland saw acceptances go up. Investigating what underlies this, we find that for English HEIs there was a fall of around seven per cent in acceptances from students resident in England, which reflects the overall fall in places accepted by this group. There were also falls in acceptances at English HEIs from students resident in Scotland and Northern Ireland, of 11 per cent and 17 per cent respectively, with students shifting towards accepting places at home-country institutions. All three of these student groups saw an increase in the cost of studying at an English HEI relative to 2011, and students resident in Scotland and Northern Ireland had a stronger incentive to study at home. But there was an increase in acceptances at English HEIs from students resident in Wales who had the fee increase at English HEIs absorbed by the Welsh Assembly Government. This variation in the costs faced by different groups of students can be used to better understand a range of dimensions of choice, not just whether or not students choose to enter higher education and where, but in terms of the type of course they choose and the ‘quality’ of the provider.

**Subject winners and losers**

With students bearing an increased financial burden from continuing in higher education, one immediate question is whether there is a change in the courses they choose to study, with a potential orientation towards courses with a higher perceived
A look at the UNISTATS website, which provides detailed information to help students choose between courses, shows differences in average salaries at six months after graduation, although these figures will obviously reflect other graduate characteristics as well as the course of study and provider.

Recent research for the Department of Business Innovation and Skills (BIS 2013) reports that academic studies that try to control for graduate characteristics have tended to find that graduate earnings are typically higher for those that have studied STEM subjects (science, technology, engineering and mathematics) and for law, management and economics compared to subjects in arts and humanities. One question is whether students are responding to this type of information and other statistics on graduates from different courses, such as the percentage in employment or further study six months after graduation. Potentially indicative of such a response are figures from HEFCE (2013), which show that between 2011 and 2012, for HEIs in England, acceptances to modern foreign languages programmes fell by 14 per cent and to arts, humanities and social sciences by five per cent, with clinical subjects and STEM subjects exhibiting the smallest declines of two per cent or less.

Other measures for choice
Long gone is any romantic notion that students might base their university choice purely on the attractions of a city's social scene. Faced with a wealth of information to guide choice, students will very likely place more weight on a subset of performance indicators, for example results from the National Students Survey (NSS) on course quality, summary measures such as rankings in university league tables, and broad indicators such as membership of the Russell Group. Figure 3 above shows that while applications to non-Russell Group providers fell in 2012, applications to Russell Group universities rose marginally.

A natural question to ask is what characteristics of these institutions, (such as the courses they offer), and the type of students they typically attract, (for example part-time versus full-time, proportion of mature students etc.) are underlying the differential application patterns. If university rankings matter, (a recent study by Gibbons et al. (2013) suggests they have some effect pre-2012, particularly for courses with more local competition), it would be interesting to know whether student choice displays increased sensitivity to these rankings in the era of £9,000 fees.

How might institutions respond?
A number of questions are raised by the shift in the balance of university funding away from being grant-based towards ‘student pays’. If universities can identify which performance measures students focus on when making course choices, they will clearly have strong incentives to target these and improve their performance on these metrics. HEIs can also vary entry tariffs and fee levels, although both might themselves act as a signal of course quality.

There might be potential for the reforms to result in a shift in resources away from research and towards teaching. But if the performance indicators on which students make choices in practice primarily reflect research quality, this might not be likely. Further questions include whether increased competition will lead to greater innovation in the way higher education is delivered, for example through MOOCs, and whether there will be a substantial shake-out in the sector in response to falling demand for some subjects and at some institutions. Clearly the 2012 reforms raise a number of questions where, for now, we must wait for the answer.

1 OFFA Access Agreements 2012/13.
2 Another important issue is obviously that of the effect of tuition fee reforms, in combination with widening participation initiatives, on fair access and on which individuals choose to pursue higher education.

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Further reading
BIS 2013, The impact of university degrees on the lifecycle of earnings: some further analysis, BIS research report 112.
Gibbons et al. (2013), ‘Student satisfaction, league tables and university applications’ SERC discussion paper 0142.
HERDING CATS?
MANAGEMENT AND UNIVERSITY PERFORMANCE
In our study of university management, we address a number of questions: Are some university departments better managed than others? Does management in universities matter? Is better management associated with better performance?

To measure management quality, we used a tried and tested survey tool that has previously been applied to over 10,000 organisations in manufacturing, hospitals, schools and even social care organisations (Bloom et al 2012). It involves a structured interview around (a) research and teaching processes, (b) performance measurement, (c) targets and (d) flexibility and use of incentives in recruitment and retention. We interviewed around 200 heads of departments in Business, Computer Science, Psychology and English departments in over 100 universities in the UK in the summer of 2012. We complemented this with interviews with the HR department heads in the universities to get a measure of the quality of management at the university central administration level.

The interview is a set of structured questions designed to allow the interviewer to score each of 17 indicators (grouped into the four areas). For example, in relation to rewarding good performers, the managers are asked to describe the appraisal system for deciding pay and say how much flexibility there is to reward the best performance (including financial and non-financial rewards). An example of a low score is the manager who replied that a good performance would get a congratulatory mention and a piece of cake. An example of a high score is the manager who said that they actively identify and reward their top performers. The interviews were carried out by a team of five undergraduate and postgraduate students.

We first examined variation in management scores across and within universities and then examined the relationship between the management scores and externally validated measures of performance. We used the Complete University Guide, an independent UK guide.

The 2012 higher education reforms are likely to lead to more intense pressure on university performance. In a recent paper, John McCormack, Carol Propper and Sarah Smith examined the extent to which good management in universities is an important factor. There is a commonly held view that managing academics is possibly like herding cats: difficult and ultimately pointless. But this view contrasts with growing evidence that good management practices increase productivity – evidence from the public sector as well as the private sector, and from many different countries across the world.
Better management contributes to better performance in both research and student satisfaction.

which provides rankings that students, parents and universities themselves use to compare the relative performance of UK universities. We also examined research performance. In the UK the government carries out a comparative assessment of university research every five years or so: we used the Research Assessment Exercise of 2008. The government also publishes a national ranking of student satisfaction (the National Student Survey scores) and we also used these as a measure of performance.

Management quality varies across the sector
We found the following. First, in contrast to multi-plant manufacturing firms or even hospitals, university management is relatively decentralised. One department within a university can have good management practices whilst another has poor ones. Looking beyond internal differences in management practice we find that there are significant differences in the quality of management practices across the universities that took part in the study.

UK universities can be split into “old” (pre-1992) and “new” (post-1992) universities. Old universities tend to compete nationally and internationally for students, whilst the new ones often have a more local market. Each of the two groups can be further split in two, reflecting the (relative) volume of research that takes place in each. This gives four types: the most research intensive old universities, who receive around 75 per cent of all research income of the whole UK university sector (known as the Russell Group); Other Old Universities; the Former Polytechnics and Other New Universities, the last of which do very little research and recruit locally.

The research found that the management scores of the Russell Group universities were the highest, followed by Other Old, the Former Polytechnics and the Other New Universities. This is almost entirely linked to differences in the scores in relation to incentives. Performance in terms of targets and monitoring are much more similar. And, although there are differences in resources across the types of universities, this does not explain the results (i.e. Russell Group universities do not do better in terms of incentives simply because they can pay more).

Academics don’t need managing?
Yes, they do. Our second key finding is that departments which are better managed also have better performance. Performance is better not only in terms of research but also in terms of student satisfaction. Figure 1 shows the relationship between the overall CUG ranking, research performance and student satisfaction. The better the management score, the better the outcomes. Further analysis shows

Figure 1
Management score and university performance

Note to Figure 1: All rankings are expressed relative to the mean. CUG_rank refers to the department’s Combined University Guide ranking (reversed such that a higher number indicates a better ranking). RAE_rank refers to the department’s ranking in the Research Assessment Exercise (reversed such that a higher number indicates a better ranking). NSS_rank refers to the department’s ranking in the National Student Survey (reversed such that a higher number indicates a better ranking). The x-axis measures the department’s overall management score (aggregating 17 individual indicators). The overall management score is from 1 – 5; no department scored less than 2.
that this relationship holds conditional on university type, resources and past performance. Again, the positive correlation is driven mainly by incentives which matter for both research and teaching. Monitoring and targets are much less important in explaining performance. And interestingly, the department level matters most for performance: the score of HR departments at the same university adds nothing.

**Good management is good for all**

Our third key finding is that it does not seem to be the case that there is one management style which is appropriate to the highly research intensive universities and another to universities which focus more on teaching and educating local students. Management matters in the same way at new universities as it does at old universities. In other words, good practice with respect to recruitment, retention and promotion improves rankings for universities that were former FE and HE colleges just as much as for Russell Group universities.

On reflection this all makes sense: while universities deploy large bits of kit (science labs, and even in some cases run hospitals) they are nevertheless people dominated organisations. So, getting it right with respect to staff, matters.

More broadly, the research fits with a couple of recent studies looking at the drivers of university performance. Aghion et al (2010), in a cross country study, show that universities which face greater autonomy and competition (taken together) have better performance. Goodall (2009) argues that higher quality university leadership is associated with better performance. Our research shows that management within the university also matters for performance. The next step is to examine how management interplays with the external environment. To this end our aim is to compare the relationship between management and performance within universities located in different countries where they face different levels of competition.


All authors are based at the University of Bristol: John McCormack is a Teaching Fellow in Management, Carol Propper and Sarah Smith are Professors of Economics.

**Further reading**


Incentives (attracting, promoting, retaining talent) are the most important element in overall management performance.
SOCIAL MOBILITY IN THE UK: IS IT WORSE THAN WE THINK?
To fully understand social mobility, researchers would have to observe family income throughout childhood and then observe all earnings attained in adulthood for the same person. This is very data intensive and requires a huge time window as one would have to wait until people reached age 65 to complete the picture. So previous work has often measured family income once in late childhood and earnings at a point in time, typically when a person has reached their 30s in the UK. We know from international studies that these point-in-time based estimates have biases that lead to an understating of the persistence of inequality across generations. Fortunately the UK has a number of birth cohort studies where children born within a small time window are followed for the rest of their lives. These are very valuable for exploring intergenerational mobility as they hold detailed information on a large sample of families over a long period of time. The children from the first two studies, the 1958 National Child Development Survey (NCDS) and 1970 British Cohort Study (BCS), are now well into adulthood. These data allows us to track the experience of children through to ages 50 and 38 in the NCDS and BCS respectively and draw a fuller picture of lifetime earnings by family background. Earnings measures are available at ages 23, 33, 42, 46 and 50 in the NCDS and ages 26, 30, 34 and 38 in the BCS. Retrospective employment histories are also available between sweeps of the survey from age 16 up to 50 in the NCDS and 38 in the BCS. Family income measures are available at age 16 in the NCDS and 10 and 16 in the BCS. As is standard in studies of intergenerational income mobility we focus here on male cohort members to avoid issues of selection into work.

Intergenerational persistence across the lifecycle
Work by Haider and Solon (2006) and Grawe (2006) has drawn attention to the issue of life-cycle bias. This emerges because individuals’ earnings trajectories are not the same across the life-cycle for all people and more specifically vary by education level achieved and family background. People’s earnings tend to rise through their 20s as they gain experience and move into more senior positions. For those with less education this process stalls in their early 30s but for those with more education, this earnings growth continues well into their 40s. These differential growth rates in earnings by background mean that the window in which we view the snapshot of data for each generation may not be representative of lifetime incomes. US studies have shown that the result is a downward biased assessment of persistence in inequalities across generations (intergenerational elasticities) when measurement occurs early in people’s working lives until their early 40s. It is not certain though that the extent of this bias is...
the same across countries or across time within a country. The main UK studies on intergenerational economic mobility to date have compared mobility across these cohort studies at relatively young, although similar ages, when the cohort members are in their early 30s.

Figure 1 updates this evidence presenting new estimates of intergenerational persistence at later age: age 42, 46 and 50 in the NCDS and age 34 and 38 in the BCS. As can be seen from the figure, this overestimating of mobility (and therefore underestimating of inequality persistence) can be observed in the measures, from age 33 for NCDS and age 30 for BCS, used in previous studies: the intergenerational elasticity continues to rise in the NCDS until age 42 and is increasing up to age 38 in the BCS. This effect is similar for both of the cohort studies, meaning that the central finding of declining mobility is unchanged. In the NCDS at age 42, the estimated intergenerational persistence in inequality is 0.290 and in the BCS by age 38 this is 0.385. That indicates that 29 per cent of income inequality between rich and poor parents in the first cohort who left school in mid-1970s is still there when their children are adults. For children leaving school in the late 1980s the income inequality between rich and poor has risen to 38.5 per cent.

**Estimating lifetime earnings**

Using the information from all ages we can start to explore measures for lifetime earnings. We use information on cohort member’s earnings at various ages to plot a linear trajectory of their monthly earnings over the lifecycle. Taking an average of all months across the period (ages 23-50 NCDS and 26-38 BCS) we, thus, move towards a measure of average monthly lifetime earnings. Of course neither cohort has yet to reach retirement age and so these measures are capturing one half to two thirds of lifetime earnings currently. We also consider a comparable period in the NCDS of 26-38 to compare with the BCS cohort. This exercise highlights another issue that to date has generally been ignored: people are not always in work and those who are not working come disproportionately from poorer families.

To consider this issue, our sample is built in three stages using the information from records of employment histories: first, we look at only people who are always employed. Second, we add in people who have experienced limited spells out of work (less than two years) over the entire window. Finally, we add in people who rarely report earnings because they are out of work for longer periods of time (more than two years).

Figure 2 shows that in the NCDS, the intergenerational elasticity from age 23-50

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**Figure 1**

Intergenerational persistence across the life-cycle

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Between 1970s and 1980s income inequality between rich and poor increased from 29% to 38.5%.
Intergenerational persistence across the life-cycle is substantially higher than previous estimates found.

is 16 per cent for those who are always in employment and increases to 18 per cent as we add in people with periods of worklessness. If we focus on a comparable window from age 26-38 in the NCDS the results are similar with the intergenerational elasticity ranging from 17 per cent for those who are always employed to 19 per cent including those who experience spells out of work. In the 1970 Birth Cohort Study, the average lifetime elasticity from age 26-38 is 24 per cent if we focus on those who are always in work and rises to 26 per cent when including those who experience a lot of workless spells. The main point here is that inclusion of those who are often missed in point-in-time studies tends to understate inequality persistence, even before considering the effect of not working on lifetime earnings.

Including spells out of work
This average measure of lifetime earnings still does not tell us the complete picture. It fails to account for the fact that there are individuals in columns two and three of Figure 2 (some / majority workless) who experience spells where they earn nothing. These workless spells are not random in terms of family background: those who are always employed came from families with an average family income of £351.10 a week in the BCS compared to those who are out of work for over two years who came from families with an average family income of £273.50 a week. Using the monthly work histories available in the cohort studies we can observe these months where the cohort members will have zero earnings and include this in our average lifetime earnings measure.

There are also an additional group of people that need to be considered when we start to think about including periods out of work: those cohort members who never report earnings and genuinely have a very low lifetime earnings because they are rarely in work. They are also from the poorest families with an average family income at age 16 in the BCS of £245.20 a week.

Figure 3 plots the estimated intergenerational elasticity using lifetime earnings as the outcome including periods of worklessness where the cohort members earn nothing. In addition to building up the sample as in Figure 2, we also include a fourth column where those with no earnings because they rarely work are included. The addition of periods of zero earnings substantially increases the scale of inequality in the cohort members’ earnings (standard deviation increases from 0.5 to 1.4 in the BCS). As can be seen from the figure, this substantially increases the estimated
intergenerational elasticity in the BCS from around 25 per cent to 48 per cent when considering the full sample including those with no reported earnings.

Of course, those who experience spells out of work are often entitled to some benefits as compensation in the UK. If we assume that spells out of work are compensated at an average earnings replacement rate (around £325–350 a month as reported in this data) then we still see a marked increase in our estimates of intergenerational persistence, although not as striking as for zero earnings. For the full sample, the estimated elasticity is 21 to 23 per cent for those in the NCDS and 30 per cent in the BCS. Note that these estimates will understate true lifetime inequalities as gaps are smaller when people are younger compared to when they are prime working age. Also the studies do not yet capture the decline in working as people move toward 65 as health issues limit employment and some people start to retire.

Conclusions

Previous estimates of intergenerational mobility have focused on earnings of sons at a point in time, often fairly early in the life-cycle when returns to education have not yet been fully realised in the labour market. We document that income inequality rises as expected up to age 42 in the earlier NCDS cohort (born in 1958) and is continuing to rise at the latest observed age of 38 in the more recent BCS (born in 1970). By introducing a new concept of lifetime earnings we start to build a picture of persistence in inequalities across the whole of life in the UK. We show that intergenerational persistence can be measured across a range of ages and in doing this we can start to account for spells out of work that are not randomly experienced by family background. When this real inequality in earnings is accounted for our estimates of intergenerational persistence across the life-cycle are substantially higher than previous estimates, indicating that the mobility problem may be significantly worse than we had previously thought in the UK.

Including individuals who experience periods of worklessness increases this estimate further.
Lindsey Macmillan, Claire Tyler and Anna Vignoles, investigate the relationship between graduates’ family background and their access to high status occupations. The UK government has stated that its aim is to create a society in which each individual, regardless of background, has an equal chance of realising their potential (Cabinet Office, Opening Doors Breaking Barriers: A Strategy for Social Mobility). This research attempts to unpick the complex mix of factors that could contribute to graduates’ entry into top jobs, including the role played by social and professional networks.
High status occupations by family background

This analysis of entry into high status occupations uses the Destination of Leavers from Higher Education (DLHE) longitudinal surveys carried out by the UK Higher Education Statistical Agency (HESA). This tracks graduates leaving higher education in 2006/07 and follows them up until three and a half years after graduation in 2010. Information is available on the family background of the graduate, including their parents’ class, the average participation in higher education in their neighbourhood (POLAR3) and whether they were state or privately educated in secondary school. It also gives the occupation of the graduate three and a half years after graduation.

A high status job is defined as a top NS-SEC (National Statistics Socio-economic Classification) occupation. For this analysis we also consider differences in occupations within the top NS-SEC, grouping together higher managerial jobs (NS-SEC 1.1), those entering into business, legal or life-science professions and those working in other professions including scientists, educational occupations and built environment jobs (architecture, surveyors).

A benefit of the linked HESA-DLHE data is that there is a wealth of information on the higher education of the graduates including their degree classification, the subject they chose to study at university, their UCAS tariff point score (A-level grades) and the university they studied at. This is particularly important for ascertaining whether entry into the top occupations by background is primarily driven by selection into certain subjects or universities at 18 or whether a socio-economic gradient in access remains when allowing for differences in prior attainment and institution attended.

The private school advantage

Figure 1 presents the additional advantage of attending a private school compared to a state school in terms of the likelihood of working in a top NS-SEC occupation 3.5 years after graduation. The five columns build the model in stages, initially reporting the raw association only, accounting for other family background measures (parental class and neighbourhood higher education participation quintiles) before allowing for other factors including gender and ethnicity, prior attainment differences (UCAS tariff, degree subject and classification), institution effects (which university they attended and in what region) and finally post-graduate qualifications.

In the first model, privately educated graduates are 9.5 percentage points more likely to work in a top NS-SEC occupation 3.5 years after graduation (baseline 30 per cent) compared to a state educated graduate. Controlling for gender and ethnicity does little to reduce this effect, but adding prior attainment reduces this to six percentage points. Even when accounting for differences in how well the graduates have done in terms of attainment there is still a sizeable difference in entry to top occupations by the type of school attended.

A privately educated graduate is 2.5 percentage points more likely than a state-school graduate to be working in a top occupation 3.5 years after graduation.

Figure 1
Relationship between private school attendance and working in a top NS-SEC occupation

![Figure 1](https://example.com/fig1.png)
went to university reduces this estimate by another 45 percent: the choice of institution is clearly a large part of the story of why more private school graduates work in top occupations. However, even after allowing for institution, there is still a significant difference in the predicted probability of working in a top occupation for private school graduates compared to state school graduate.

Comparing a like-for-like privately educated graduate to a state school graduate with the same prior attainment from the same institution and the same post-graduate qualifications, the private school graduate is 2.5 percentage points (on a baseline of 30 per cent) more likely to work in a top NS-SEC occupation 3.5 years after graduation than a similarly well-educated state school graduate.

Privately educated graduates are also far more likely to work in top professional jobs (business, legal and life-science) than state school graduates with raw differences of 6 percentage points (baseline 10.5 per cent). Most of this relationship however is accounted for by the prior attainment of these graduates and the institution that they attended, although there remains a significant advantage to attending a private school in terms of working in one of these top professions even after controlling for these factors and post-graduate qualifications.

Interestingly, if we consider the other professions in the top NS-SEC (such as scientist, architect or head teachers), graduates in these jobs were more likely to be state school educated than those working in lower NS-SEC occupations. This could indicate that the highest-attaining state school pupils are selecting into different types of careers compared to privately educated graduates (differing intrinsic motivation) or they are sorted into these alternative professions due to the increased likelihood of the privately educated graduates getting the higher managerial and top professional jobs.

**The role of networks**

To assess the role that networks play in helping graduates access top occupations, we can see how the graduate found out about their current job. We consider three specific networks: professional networks (professional,
work or educational contacts), personal networks (family, friends or social networks) and previous work experience compared to using any other form of information.

When we add networks to our model we see that they do have a positive and independent effect on the likelihood of working in a top NS-SEC occupation 3.5 years after graduation. Access to networks, particularly professional networks, matters over and above graduate’s family background: those using a professional network are 5.3 percentage points more likely to work in a top NS-SEC occupation at 3.5 years after graduation.

Looking specifically at privately educated graduates, networks do have a positive effect, but it does not remove the private school effect which remains identical indicating that networks are not the main reason why private school graduates have an additional advantage over state school graduates.

However, observation reveals that the types of networks that graduates have access to have some influence on the type of top occupation that the graduate is in 3.5 years after graduation. Figure 3 shows that personal networks and previous work experience matter more for higher managerial occupations, whilst professional networks are significant predictors of working in a lower profession.

Conclusions
This research suggests that attending a private school has an additional advantage, over and above, demographic differences, the prior attainment of graduates, their choice of institution and selection into post-graduate education.

These findings are stark: note that we are comparing the private school graduate to a more a-typical state school graduate in that they would have already selected into a particular group of A-levels, a particular degree subject and a particular institution to make them comparable with the privately educated student. Although networks do not account for this difference, they have an independent effect over and above this private school advantage.

This leaves questions unanswered as to why there is this additional and persistent advantage to attending a private school. We suggest that possible explanations may include differences in unmeasured human capital (non-cognitive skills), differences in cultural capital (conversation topics in interviews) and differences in financial capital allowing the privately educated graduate a longer period of job search.

Networks matter but are not the main reason why privately educated graduates are more likely to enter top jobs.
SCHOOLS CHARITY CHALLENGE

On 8th November, seven teams of sixth formers from local schools gathered for the first Schools Charity Challenge. Part academic workshop, part Apprentice-style event, the afternoon’s challenge for the students was to come up with new ways to encourage take-up of workplace giving schemes. The aim was to give them an insight into behavioural economics and into the more practical side of academic research.

The afternoon was part of the annual University of Bristol Thinking Futures Social Science festival. It consisted of a series of short presentations on the economics and behavioural economics of charitable giving including the workplace giving trials that have been run by CMPO PhD student Michael Sanders, and the practical side of encouraging giving from Richard Dutton (Charities Trust), Jeremy Colwill (Payroll Giving in Action) and Dave Erasmus (Givey.com)

The challenge focused on how to increase levels of giving in a large retail firm where participation in the payroll giving scheme is currently less than two per cent. Working in teams, the students thought up a wide range of interesting and innovative ideas. There were catchy slogans (Three Cheers for Charity, 2016 for 2016 and Going for Gold) and ideas such as, including desktop short-cuts, special name badges for employees who signed up, regional competitions and personalised rewards.

The winning team from Backwell School was chosen on the basis of delivering a well-thought out portfolio of interventions which included a social hour to allow employees the opportunity to learn about and sign up to the scheme, involvement of local charities, a tiered matching scheme and a workplace totaliser. The team from Redland Green School were also given a prize for what was felt to be the single, most innovative idea – a sophisticated matching scheme in which an employee could choose to pass on the employer’s match to a nominated co-worker in an attempt to spread take-up. Judging the presentations, Michael Sanders, Richard Dutton, Jeremy Colwill and Dave Erasmus, felt that both the totaliser and the match scheme were ideas that they could see working in practice with real effect.

Seven Bristol schools took part in the Schools Charity Challenge:

- Backwell School
- Bristol Grammar School
- John Cabot Academy
- Queen Elizabeth’s Hospital School
- Redland Green School
- Royal Wootton Bassett Academy
- St Mary Redcliffe

There is a Youtube film about the day from David Erasmus, founder and CEO of Givey.com http://bit.ly/HQMdqR #TF2013
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