

Centre Piece

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Universities
Apprenticeships
Second homes

Industrial strategy
Teaching assistants
Aid effectiveness



**SOCIAL MOBILITY
IN BRITAIN:**
A TALE OF TWO DAVIDS

CentrePiece



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■

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Editorial

Nearly a quarter of a century ago, during the early years of transition for the formerly planned economies of Eastern Europe, a researcher at the Centre for Economic Performance (CEP) published a study of foreign aid, which has become one of our most requested and most downloaded papers.

Peter Boone's work was critical of donors throwing development assistance at poor countries without proper assessment of its effectiveness in improving people's lives – and for the past decade and more, he has put his money where his mouth is by leading a series of health and education programmes in some of the poorest parts of the world.

Effective Intervention, the charity that Boone heads and which CEP has supported, has set up schools and provided maternal and child healthcare facilities in India and West Africa, all established in a way that makes it possible to conduct rigorous evaluations of their impact. This

issue of *CentrePiece* magazine recounts some of the successes and failures – and draws one clear lesson: while financing is an issue in aid projects, it is by no means the most important one for saving lives or educating young children.

Our cover story returns to another longstanding theme of CEP research: social mobility in Britain. CEP's director Stephen Machin has teamed up with Lee Elliot Major, chief executive of the Sutton Trust, to write a book about how likely we are to climb up – or fall down – the economic ladder of life. They conclude that without radical policy action, today's younger generations face a bleak future: lower relative wages, shrinking opportunities, greater income divides and wider gaps in access to the housing market.

Other research reports summarised here also touch on potential policy responses to low and falling social mobility – and the broader challenge

of getting the country onto a path of inclusive and sustainable growth.

In a set of studies published to inform the government's industrial strategy, Sandra McNally focuses on apprenticeships; Anna Valero explores the contribution of universities to human capital, innovation and regional development; and Henry Overman and Naomi Clayton outline key principles that should underpin effective industrial strategies at the local level.

Just like Peter Boone's work on aid – indeed, just like a great deal of CEP research – the emphasis in these studies is on conducting careful evaluations, gathering scientific evidence and helping to design future programmes of public policy that are both cost-effective and effective in improving people's lives. As ever, your feedback would be welcome.

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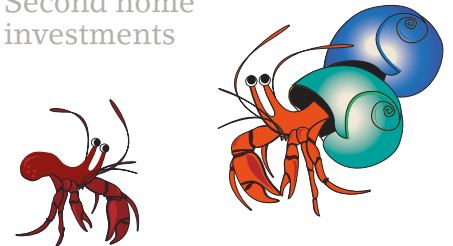


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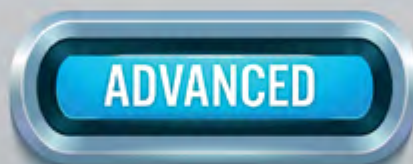
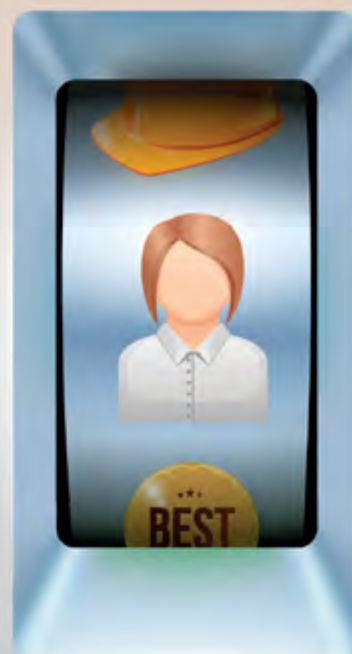
Aid: it's not just about the money

Peter Boone shows that while financing is an issue in foreign aid projects, it is by no means the most important one for saving lives or educating young children

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Second home investments

Christian Hilber explains why banning new second home investments in desirable locations may end up hurting rather than helping local residents



Increasing the quantity and quality of apprenticeships is high on the policy agenda in England. Research on this issue is a central focus of the Centre for Vocational Education Research (CVER). **Sandra McNally** summarises some of the most significant findings to date.

Apprenticeships in England: what do we know?

An apprenticeship is usually thought of as a programme of work and study for young people as they make the transition from full-time education into the labour market. But this is not true for about half of those starting an apprenticeship in England: they are over 25 years old. Most of these people are already working for their employer before they start an apprenticeship.

Since 2008 (and more especially from 2010), there has been a huge rate of growth in apprenticeship starts. But this has been driven by starts among those aged 25 and older (from zero in 2007), and to a lesser extent among those aged between 19 and 24. The number of apprenticeship starts for young people aged between 16 and 18 has been fairly stable since 2003.

England's apprenticeship system differs from that in other European countries

and not only because of the different age profile of apprenticeships. Steedman et al (2011) show that compared with Austria, Germany and Switzerland, apprentices in England are more likely to be trained at a lower skill level, for a shorter time period and receive only one third of the hours of 'off-the-firm' training compared with the 'apprenticeship countries'.

Most apprentices in England are either classified as Intermediate ('level 2' - equivalent to GCSEs in the qualifications framework) or Advanced ('level 3' - equivalent to A-levels). But the apprenticeship system in England is slowly changing as new standards come into force, with a lower share of Intermediate Apprenticeships and a higher share of Advanced and Higher Apprenticeships.

Burnsall and Speckesser (2017) document very recent changes. For example, Higher (and degree) apprenticeships now

account for about 10% of total starts, and this is where growth is expected following the reforms. Whether this is good, bad or neutral for social mobility depends on who is able to access these apprenticeships.

For example, if the new apprenticeships only engage those who would otherwise go to university – rather than the 60% who don't go – then it will be merely changing the type of education and training available for a particular sub-section of the population.

Is there a quantity-quality trade-off?

The decline in the number of apprenticeship starts since the introduction of the Apprenticeship Levy in April 2017 has been blamed on a number of issues, and it isn't clear to what extent these are mainly to do with transition to a new system and are thus temporary.

In most countries, apprenticeships are more geared towards training new entrants, not, as in England, retraining those already in the workforce

But research by Nafilyan and Speckesser (2017) suggests that reforms that involve an increase in quality can actually lead to a fall in apprenticeship starts. They analyse this outcome for the 2012 reform, which introduced a minimum duration (of one year) for all apprenticeships. This changed the duration of Intermediate apprenticeships in many sectors.

The study focuses on 19-24 year olds who experienced a genuine increase in apprenticeship duration as a result of this reform. The researchers find that the reform reduced apprenticeship starts in the sectors affected (by 13-33%), increased dropout rates (by three to five percentage points) and reduced achievement of the qualification by four to seven percentage points.

But there was also an increase in earnings that can be associated with the reform (of about 7% compared with the counterfactual). The researchers argue that a plausible reason for the latter finding is because the reform improved the match between young people and available employment opportunities.

This is an example of where a reform directed at improving quality (by increasing duration) actually involved a reduction in apprenticeship starts. It is not difficult to imagine why: make something harder and some individuals and employers will lose interest. But this is not necessarily a bad thing to the extent that 'poor quality' apprenticeships are the ones likely to be done away with.

What is the value of an apprenticeship?

One way to establish the 'value' of an apprenticeship is to estimate the extent



to which doing one leads to better employment prospects in the longer run (for example, through earnings). This tells us something about how employers value the skills acquired as a result of the apprenticeship process.

Cavaglia et al (2017, 2018) evaluate the earnings differentials to starting an apprenticeship for those who finished their GCSE exams in 2003. They follow them as they progressed through education and into the labour market using administrative data.

The effect of completing an apprenticeship on earnings is two to three times larger for people aged 19-24 than for those over 25

They control directly for many important observable characteristics that may influence both selection into apprenticeships and labour market outcomes. These include test scores at primary and secondary school, demographics and the secondary school attended. Although the set of controls is extensive and likely to absorb much of the pre-existing differences among those who start an apprenticeship and those who do not, the researchers also make use of other techniques to probe the question of causality.

The results suggest a positive earnings differential from starting an apprenticeship in many contexts – and that this has a causal interpretation. But there is a huge range of estimates. For example:

- For men, the differential is very high on average, especially for Advanced apprenticeships. For women, the differential is roughly half the size and is especially modest for Advanced apprenticeships by the age of 28.
- For men, there is very high concentration in sectors where the returns to an apprenticeship are high (such as engineering), whereas women specialise in areas where the returns to having an apprenticeship are much lower (such as child development).
- Within vocational sectors, it is usually better to have an apprenticeship (than not) at age 23. But at age 28, this is no longer the case for many of the sectors in which women specialise. This includes having an apprenticeship in service enterprises (such as hairdressing) for women educated to level 2 or level 3 and childcare at level 3.

McIntosh and Morris (2018) ask whether the earnings differential to an apprenticeship for the older age group (25 and above) is any different from undertaking one when younger (19-24). They find that:

- The effect of completing an apprenticeship on earnings is two to three times larger for the 19-24 age group than for the older group.
- For Intermediate apprentices (and women on Advanced apprenticeships), this is mainly because older workers gain less from apprenticeships within the same Apprenticeship Framework. This may be because older apprentices are more likely

Whether apprenticeships 'add value' depends on the sector and the circumstances of the people who take them on

to be existing employees before their apprenticeship and, on average, have shorter apprenticeships.

- For men on Advanced apprenticeships, the main reason for the lower earnings differential for older people is that they tend to undertake apprenticeships in areas where the earnings differentials available are much smaller, such as in business administration.

These studies suggest that whether apprenticeships really 'add value' depends on the sector within which they are located and the circumstances of the people who take them on. In most countries, apprenticeships are geared towards training new entrants to the workforce – and not for retraining those already in the workforce, much less the same company.

In interpreting the changing number of apprenticeship starts in England (whether up or down), as much attention needs to be given to the nature of those apprenticeships as to their volume. Furthermore, people need to be properly informed about the predictable prospects associated with doing one type of apprenticeship rather than another.

This article summarises the following publication, as well as making reference to more recent findings: 'Apprenticeships in England: What Does Research Tell Us?' by Sandra McNally: CVER Briefing Note No. 8 and CEP Industrial Strategy Paper No. 2 (<http://cep.lse.ac.uk/pubs/download/is02.pdf>).

Sandra McNally of the University of Surrey is director of the Centre for Vocational Education Research (CVER) and of CEP's education and skills programme.

Further reading

Matthew Bursnall, Vahe Nafilyan and Stefan Speckesser (2017) 'An Analysis of the Duration and Achievement of Apprenticeships in England', CVER Briefing Note No. 4 (<http://cver.lse.ac.uk/textonly/cver/pubs/cverbrf004.pdf>).

Matthew Bursnall and Stefan Speckesser (2018) 'Apprenticeships are Changing: The Levy a Year In', CVER blog post (<http://cver-blog.blogspot.co.uk/2018/03/apprenticeships-are-changing-levy-year.html>).

Chiara Cavaglia, Sandra McNally and Guglielmo Ventura (2017) 'Apprenticeships for Young People in England: Is there a Payoff?', CVER Discussion Paper No. 10 (<http://cver.lse.ac.uk/textonly/cver/pubs/cverdp010.pdf>), also published in *Better Apprenticeships*, Sutton Trust.

Chiara Cavaglia, Sandra McNally and Guglielmo Ventura (2018) 'Do Apprenticeships Pay? Evidence for England', CVER Discussion Paper No. 15 (<http://cver.lse.ac.uk/textonly/cver/pubs/cverdp015.pdf>).

Steven McIntosh and Damon Morris (2018) 'Labour Market Outcomes of Older versus Younger Apprentices: A Comparison of Earnings Differentials', CVER Discussion Paper No. 15 (<http://cver.lse.ac.uk/textonly/cver/pubs/cverdp016.pdf>).

Vahe Nafilyan and Stefan Speckesser (2017) 'The Longer the Better? The Impact of the 2012 Apprenticeship Reform in England on Achievement and Other Outcomes', CVER Discussion Paper No. 6 (<http://cver.lse.ac.uk/textonly/cver/pubs/cverdp006.pdf>).

Hilary Steedman (2011) 'Apprenticeship Policy in England: Increasing Skills versus Boosting Young People's Job Prospects', CEP Policy Analysis No. 13 (<http://cep.lse.ac.uk/pubs/download/pa013.pdf>).

Teaching assistants are employed in most primary schools in England, but until now, little has been known about what contribution they make to educational outcomes. **Sandra McNally** and **Jenifer Ruiz-Valenzuela** assess the impact of a carefully designed programme of small group tuition for five-year-olds that enables teaching assistants to be used more effectively to improve literacy.

Improving literacy through teaching assistants



decades of scientific psychological theory and evidence from a series of meta-analyses of 'what works' in literacy.

Programme and methodology

The programme can be delivered in an information and communications technology (ICT) format (ABRACADABRA or ABRA) or in a more traditional paper format (non-ICT). The core part of the intervention is the training of teaching assistants who are already employed by the school, followed by the implementation of small group teaching (which takes place outside core literacy classes). Specifically, pupils are put together in small groups (between three and five pupils) and receive 15 minutes of teaching four times per week over 20 weeks.

The study is conducted as a 'randomised control trial'. Schools are randomly assigned to receive the 'treatment'. Within treated schools, pupils are randomly assigned into three groups: the ICT programme (ABRA); the non-ICT programme (paper equivalent of ABRA) and a control group. Within treatment schools, teaching assistants are also randomly assigned to receive training in the ICT and non-ICT formats, and therefore to teach pupils in one or other group within their school.

This design of the intervention makes it possible to distinguish between the effects of the underlying pedagogy (which is common to both) and the effects of the mode of intervention (technology or paper-based). It also enables us to observe whether 'spillovers' occur within treated schools by comparing results with different control groups of pupils who are not receiving the treatment in treated schools; and pupils who are not receiving the treatment because they are in control schools.

Results

We consider the effects of the intervention at the end of the school year in which it was implemented and also one year later. Our results show a large initial effect of the programme.

There is a positive effect from both types of intervention, but it is higher for the non-ICT intervention – of the same magnitude as the literacy gap between pupils eligible to receive free school meals and other pupils. But there is substantial fade-out of the effect one year later – to

about one third of the initial effect – although this is in line with other education programmes (such as the American programme for pre-school age children called Project STAR).

There is a significant effect for the non-ICT treatment if one considers administrative measures of performance the following year (as measured in Key Stage 1 teacher assessments). Pupils assigned to the non-ICT treatment are more likely to achieve the 'expected level' in reading by six percentage points (which may be compared to an average of 74% in the control group).

As well as positive effects on reading, the intervention leads to improvements in writing and, to a lesser degree, mathematics. Looking at whether the interventions work more for some types of pupils than others, we find that they have bigger effects for disadvantaged pupils.

When we look at spillover effects, we find that although there are some in the same year of the intervention, none are evident for any outcome one year on. We examine various possible reasons why the spillover only arises in the initial period.

The most plausible explanation is that since the teaching assistants are better trained, they are generally able to do a better job than previously, thus affecting all pupils. Most teaching assistants on the project were drawn from those working with Year 1 pupils. As the pupils did plenty of other literacy activities outside the intervention time, there would have been opportunities for teaching assistants to use any new skills they had learned to help pupils informally at other times.

Feedback from teaching assistants given in the context of the process evaluation was that they perceived it to

Teaching
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screens

There is still a big literacy problem in England. Despite much effort to improve basic skills in England, around 11% of children leave primary school without having achieved the 'expected level' set out in the national curriculum. And according to an international study (Kuczera et al, 2016), about a fifth of adults in England have low levels of literacy. What's more, unlike in most other countries, the problem has not improved among young adults compared to older generations.

Gaps in cognitive ability emerge early in life, and intervening during this period allows children to build later skills more effectively (Cunha et al, 2006). Such arguments are often used to promote greater investment in early years education. But what matters is not only how much is invested but also what it is used for.

There is plenty of evidence to show that the quality of teachers is very important for educational outcomes, and there is a small but growing body of research showing how interventions can boost teachers' skills. Less is known about the effect of teaching assistants on educational outcomes, even though they are used in most primary schools in England.

In recent research, we evaluate how teaching assistants might be used more effectively to improve the literacy outcomes of young children. The intervention is not to replace core literacy instruction, nor to have a substantial effect on the resources available to schools. The point is to assess how teaching assistants are actually used.

The context of the study is a carefully designed programme of small group tuition for five-year-old pupils in schools in England. This has been developed by a team of educational psychologists as a balanced, structured reading programme. The underlying pedagogy is based on four

have improved their skills in small group tuition. Moreover, data from a post-treatment survey (answered by more than 70% of the teaching assistants) show that 74% of them had a better or much better understanding of phonics after the intervention, and 69% of teaching assistants were confident or very confident about delivering small group teaching after the intervention.

ICT versus non-ICT?

Why was the ICT version less effective than the paper equivalent? Although one might think that technical problems could jeopardise the ICT intervention, in practice any technical problems with implementing the ICT intervention were minor and occasional. Furthermore, the process evaluation finds that both interventions were extremely popular with both teaching assistants and pupils.

The training for interventions was also equally well received. The process evaluation finds that the non-ICT intervention was perceived to have greater adaptability to different ability levels by teaching assistants. This may lie at the heart of the difference in effectiveness because it is consistent with the fact that the non-ICT intervention shows stronger effects throughout the ability distribution.

Thus, it might be that when confronted with different levels of ability and progression, the teaching assistants and pupils find it easier to use books and magnetic letters to advance learning rather than the medium of a computer screen. This is consistent with a large body of research suggesting that computer-aided instruction is not in and of itself any better than what it replaces.

Cost-effectiveness

This study shows how teaching assistants can be made more effective with good training and a well-designed pedagogy. Furthermore, given that both interventions were delivered by teaching assistants who are not highly paid and whom are already employed by the schools, the per pupil costs of delivering this intervention were modest. We estimate that the per pupil cost (including the training of teaching assistants, support provided during the project, etc.) was about £25.

This low per pupil cost implies that effects do not have to be very large before the intervention becomes cost-effective.

Although there is some evidence of fade-out, the one-year follow-up does suggest that the effects endure (at least beyond the year of the intervention). This is most evident with respect to the effect of the non-ICT intervention on the probability of being at or above the 'expected level' at age 7 in teachers' assessments of reading and writing.

Finally, this is an intervention that disproportionately benefits pupils from lower socio-economic backgrounds. Although this is most evident for short-term outcomes, it is also true for outcomes measured one year later. Thus, using teaching assistants effectively in the context of an intervention like this can help to level the playing field between pupils from different socio-economic groups.

Using teaching assistants effectively can help to level the playing field between pupils from different socio-economic backgrounds



This article summarises 'Teaching Assistants, Computers and Classroom Management: Evidence from a Randomised Control Trial' by Helen Johnson, Sandra McNally, Heather Rolfe, Jenifer Ruiz-Valenzuela, Robert Savage, Janet Vousden and Clare Wood, CEP Discussion Paper No. 1562 (<http://cep.lse.ac.uk/pubs/download/dp1562.pdf>).

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Jenifer Ruiz-Valenzuela is research coordinator of CVER and a research economist in CEP's education and skills programme.

Further reading

Flavio Cunha, James Heckman, Lance Lochner and Dimitriy Masterov (2006) 'Interpreting the Evidence on Life Cycle Skill Formation', in *Handbook of the Economics of Education, Volume 1* edited by Eric Hanushek and Finis Welch, North Holland.

Malgorzata Kuczera, Simon Field and Hendrickje Catriona Windisch (2016) *Building Skills for All: A Review of England*, OECD.

The UK's higher education sector is a source of national strength with the potential to contribute to all areas of the government's industrial strategy. **Anna Valero** and colleagues review the evidence on how the positive economic effects of universities on individuals and the economy can be maximised.

Universities and industrial strategy in the UK

The UK has a world leading university sector and this has a key role to play in moving the country onto an inclusive and sustainable growth path. Universities can make important contributions across the five foundations that underpin the government's industrial strategy:

- Universities support the productivity and prospects for 'people' through the education of students and the nurturing of researchers.
- Via their research activity, universities

generate innovation or 'ideas' that create spillovers for businesses in the economy.

- There is a strong element of 'place' as universities have an impact on their local economies via the production of human capital and innovation, and by other forms of interaction with local industry.
- Universities therefore affect the 'business environment' implicitly via these mechanisms; they can also affect it explicitly through schemes such as university incubators.
- Finally, universities have a role in

producing the innovation required to underpin modern, resilient and sustainable 'infrastructure' across the country.

Moreover, the research conducted in universities, in many cases in collaboration with businesses, will be crucial for addressing the four 'grand challenges' of artificial intelligence and the data economy, clean growth, the future of mobility and an ageing society.

While few would dispute the potential contribution of universities in all these areas, it is less clear how this can be



maximised. The sector has witnessed a number of reforms in recent years, and there is much debate about future policy, in particular with respect to its financing and accessibility, expansion, globalisation and economic impact. Today, universities also face considerable uncertainty arising from the potential effects of Brexit.

Tuition fees, admissions processes and accessibility

Matching workers to jobs that make best use of their talents is a key driver of productivity and growth. Therefore, allowing young people from all backgrounds to realise their potential is important not just on equity grounds and for improving social mobility, but also in terms of improving the UK's overall economic performance. In recent years, there have been substantial improvements in university participation among students from disadvantaged backgrounds.

But there remains a significant gap between disadvantaged students and their advantaged peers, particularly at the most selective universities. Figures from UCAS, the Universities and Colleges Admissions Service, show that the most advantaged applicants are six times more likely to enter higher quality institutions compared with the most disadvantaged.

The participation gap is driven primarily by prior attainment, but even when this is taken into account, state school students are still significantly under-represented at leading universities. The real or perceived cost of university to the students and their families, and the admissions process itself are likely to be explanatory factors.

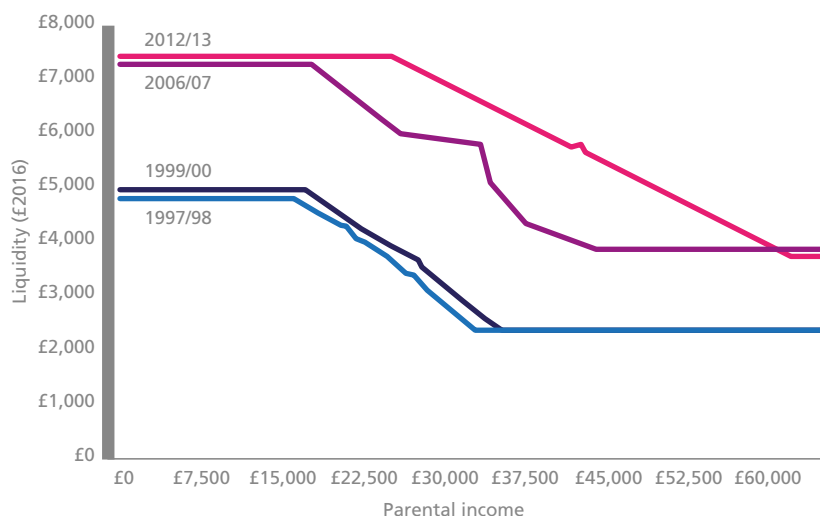
University finance has become one of the most hotly debated public policies of recent times, following a number of reforms including the introduction of fees (in 1998), subsequent increases (in 2006 and 2012) and the conversion of university maintenance grants to loans (in 2016).

Despite the controversy, research finds little impact of these reforms on the enrolment rates of students from different socio-economic backgrounds, including those from more disadvantaged backgrounds. The design of the payment system might explain this. Although all students were obliged to pay tuition fees from 2006 onwards, there was progressivity in upfront costs through increases in means-tested grants.

Moreover, there was a release in

Figure 1:

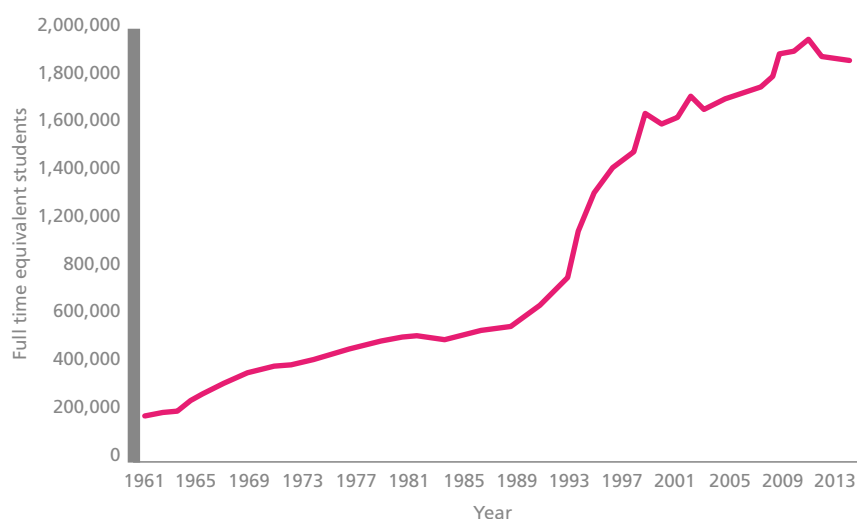
Net liquidity (grants plus maintenance loans – upfront fees) by parental income and fee regime



Notes: Based on analysis in Murphy et al. (2017) using data from Student Loans Company, 1991-2015. Figures expressed as amounts per year. The unweighted average liquidity for students between £0 and £60,000 parental income was 1987/88: £3,321; 1999/2000: £3,430; 2006/07: £5,520; and 2012/13: £6,241.

Figure 2:

Full-time equivalent (FTE) enrolments over time



Notes: Statistics for 1961-2002 are taken from Carpentier (2004) and Statistics for 2002-2014 from Higher Education Information Database for Institutions. FTE enrolments contain all student types (full-time, part-time, postgraduate, undergraduate, UK, EU, overseas); increase in 1994 is partly due to students entering higher education from former polytechnics.

As the higher education sector expands, it is important to improve accessibility for poorer students and address variability in teaching quality

financing constraints with access to additional loans and protection against personal bankruptcy due to student loans. Figure 1 shows, by parental income, that students experienced an increase in liquidity over time.

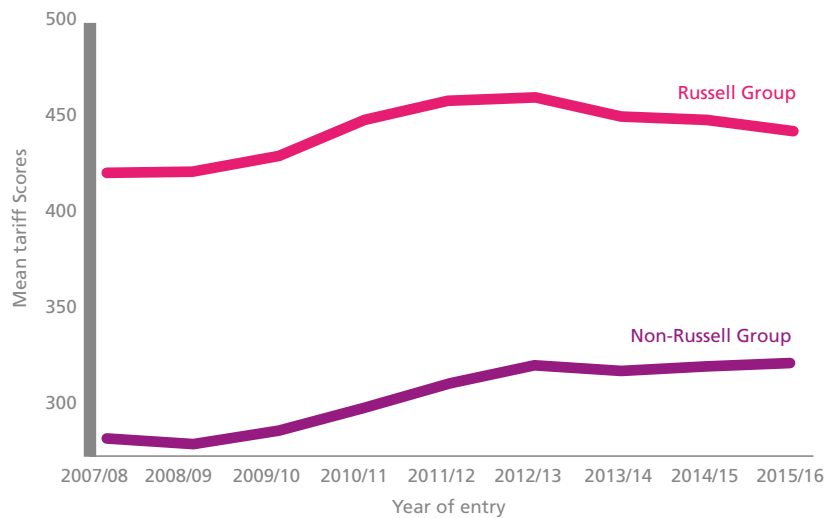
It is still too early to assess the impact of the conversion of maintenance grants to loans, but this policy is regressive by its nature, as it implies that students from poor backgrounds will now graduate with higher debt. Therefore, it is important to consider how to mitigate any potential negative effects (for example, through strengthening careers services and information provision for those likely to be affected).

The evidence suggests that a number of features of the UK university admissions system might be putting students from poorer backgrounds at a disadvantage, leading them to make sub-optimal choices and to end up at institutions that are less selective than they could attend based on their grades. Better information is likely to help to address this, but research suggests that this is more likely to be effective if it is individually tailored and targeted.

Expansion of the university sector: quality versus quantity?

University enrolments have expanded considerably in the UK since the 1960s (see Figure 2), including during the period covering the introduction of and increases in fees. Recent evidence suggests that this growth may be slowing, with enrolments down slightly over the past two years, driven by falls in students from both the UK and the European Union (EU), particularly older students. Nevertheless participation is

Figure 3:
Average entry tariff scores by university type



Notes: Weighted average of student entry qualifications. For A-levels, the points are A* 140, A 120, ...E 40. For AS-levels, the points are A* 70, A 60.... E 20. All qualifications are counted, even those that are not part of the entry requirement, for example, General Studies and AS-levels in unrequired subjects.

at record levels, with 49.3% of 17-30 year olds participating in higher education.

Current policy aims to continue this expansion: controls on student numbers were completely removed in 2015, and the government is also keen to encourage new entrants to the sector. It remains to be seen whether these moves will generate further expansion, though early analysis shows an increased offer rate, as well as falling entry grades among Russell Group institutions (see Figure 3).

The impact of university expansion on quality is a question that has been raised since the Robbins Report in 1963, when one in 100 students went to university.

Better information and advice for prospective university applicants could help close the participation gap



It remains a concern today, with fears of an over-supply of students, and graduates ending up in low-skilled jobs.

The latest analysis suggests that these fears have yet to materialise. Labour market returns to degrees remain strong on average. But recent evidence points to considerable variation in earnings, with some subjects (such as law and economics) providing high returns (particularly if studied at certain institutions) and some (such as the creative arts) perhaps more of a risky bet in terms of future wages.

To alleviate these concerns, the government has made moves towards further monitoring of quality. The new Teaching Excellence Framework has been criticised for failing to capture adequately what goes on in lecture rooms. And moves to link this to tuition fees were blocked by the House of Lords, putting the brakes on a key government strategy.

Other moves to regulate quality (for example, the new Office for Students) are at too early a stage to be assessed. But in the absence of externally marked degrees or a system of testing that is applicable to all universities and courses, it is likely that assuring quality at university will continue to be a tough nut to crack.

Universities and international talent

Recent years have seen increased internationalisation of higher education systems across the globe, both in terms of students and academic staff. Almost one in five students in the UK higher education system comes from overseas, and of these, 30% are from the EU. Currently, EU students are treated in the same way as UK nationals in terms of tuition fees and access

More can be done to improve the commercialisation of research and the diffusion of existing technologies

to government-funded student loans, but after Brexit, this is unlikely to be the case.

The evidence suggests that increased costs will induce a fall in demand, leading either to a reduction in tuition fee income (and therefore reduced resources to be spent on students) or a reduction in the quality of students admitted to courses (to fill the spare capacity).

A fall in the number of EU students after Brexit will also lead to a fall in the non-academic benefits that they bring to the domestic economy, via spending on goods and services while at university, and their propensity to work in the UK and contribute to the economy after graduation. There are also anticipated negative effects on the ability of the UK to attract and retain academic staff from the EU, and access international research collaboration or funding.

Ultimately, the impact of Brexit on UK universities will depend directly on government policy. Will research funding currently available through the EU be matched by the UK after Brexit? Will international collaborations be fostered? Will students and faculty count towards immigration targets? Will there be

continued financial support for EU students?

The answers to these questions will have large effects on the productivity and efficiency of the sector, and the wider economy.

Universities and their local economies

Universities have an important role in national and regional growth strategies worldwide, as producers of graduates (human capital) and innovation, both key inputs into economic growth. Since the 1990s, in the UK and overseas, there has also been increased focus on the so-called 'third mission' of universities, giving them an explicit role in socio-economic development.

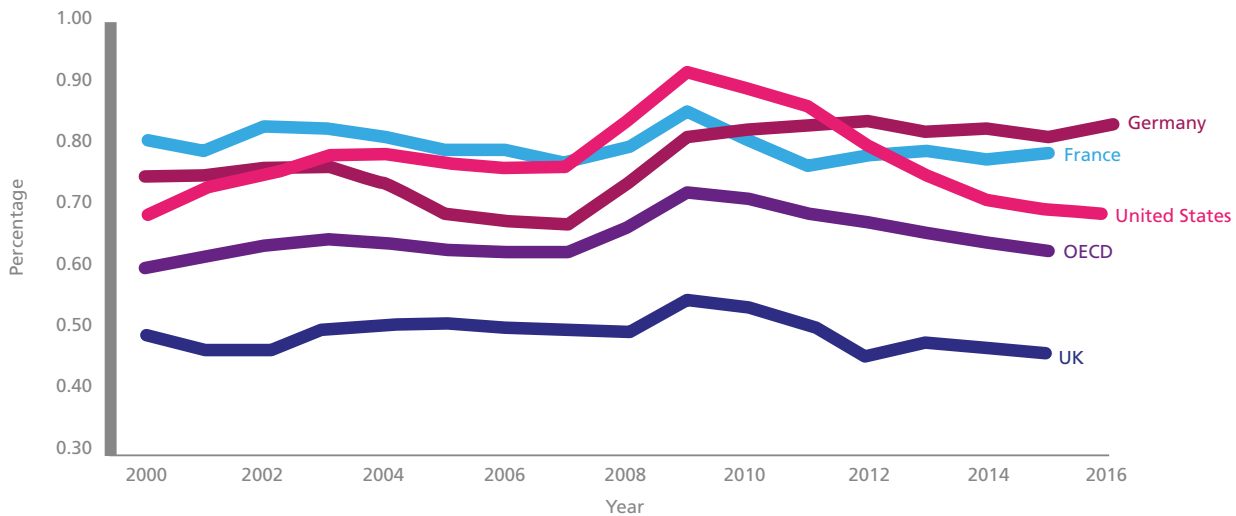
Based on international data on regional economic growth, it has been shown that an increase in the number of universities in a region is robustly associated with higher GDP. Analysis based on UK universities finds that growth in enrolments appears to generate start-up activity in nearby areas, including in the innovative high-tech sectors.

The evidence on the continued wage premium for graduates suggests that expansion of the university sector will continue to generate valued human capital, assuming that quality is maintained. But there are more challenges: employers consistently report skills gaps in areas such as languages and STEM (science, technology, engineering and mathematics); and rapid technological change will give rise to new skill demands, and a need for up-skilling the workforce. Universities (and further education colleges) will need to play an important role here.

The government recently pledged



Figure 4:
Government-financed R&D as a share of GDP



Notes: Government-financed GERD (gross expenditure on R&D) as a percentage of GDP, sourced from OECD MSTI.

to raise publicly financed research and development (R&D) over the coming years (this has lagged other advanced economies as a share of GDP for some time – see Figure 4). Increased funding for university R&D is good news as this research generates innovation, and also creates spillovers for firms.

A number of mechanisms, institutions and government schemes seek to maximise these spillovers through support for collaboration, knowledge exchange and technology transfer. In addition, the most recent assessments of research quality are placing increased emphasis on impact.

Also in development is a new knowledge exchange framework to benchmark universities' performance in knowledge exchange and commercialisation. While all these efforts are needed, they should not all be solely focused on the supply side (universities). There could be scope for providing explicit support for business-university research collaboration within the R&D tax credit system (a mechanism that has been shown to be effective in stimulating demand for R&D among smaller firms).

Moreover, in addition to generating and growing innovation hubs that boost firms at the technological frontier, there is potential for universities to play more of a role in the diffusion of existing technologies or organisational practices via targeted

business support programmes, thereby increasing the productivity of lagging firms (particularly small and medium-sized enterprises), which are a drag on UK productivity. But there is little evidence on the impact of university business support activities where they do occur. New schemes and policies, particularly those involving government support, should be designed with evaluation in mind.

Conclusions

The UK's university sector is a source of national strength and it has the potential to contribute to all areas of the government's industrial strategy.

To ensure that young people in the UK are able to realise their productive potential, it is important to improve the accessibility of the university system for poorer students, and to address variability in the quality of teaching (particularly as the sector expands).

Financing reforms to date have not harmed accessibility, but a fairer maintenance system together with better information and advice for prospective applicants could help close the participation gap.

Universities are a core part of the UK's innovation infrastructure, but more can be done to improve the commercialisation of research, and the diffusion of existing technologies.

Finally, UK universities must remain open to talented international students and staff, who make a key contribution to the quality of the sector and its potential impact.

This article summarises 'Universities and Industrial Strategy in the UK: Review of Evidence and Implications for Policy', by Ghazala Azmat, Richard Murphy, Anna Valero and Gill Wyness, CEP Industrial Strategy Paper No. 6 (<http://cep.lse.ac.uk/pubs/download/is06.pdf>).

Ghazala Azmat of Sciences Po is a research associate in CEP's growth and labour markets programmes. **Richard Murphy** of the University of Texas at Austin is a research associate in CEP's education and skills programme. **Anna Valero** is a research fellow in CEP's growth programme.

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UK universities
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Local governments in the UK have been writing economic development plans for decades, mostly with limited success. So can the latest drive to boost national productivity through local efforts show that this time is different? **Henry Overman** and **Naomi Clayton** have looked at a wide range of evidence to draw up a set of principles for local policy-makers seeking to design an effective industrial strategy.

Developing an effective local industrial strategy

The UK's poor productivity performance has been the source of much debate and policy focus over the last few years. Without an increase in productivity, we won't see rising wages or higher standards of living. Against a backdrop of continued wage stagnation and huge variations in productivity across the country, the government has invited local leaders up and down the country to come up with strategies to address sluggish productivity in their areas.

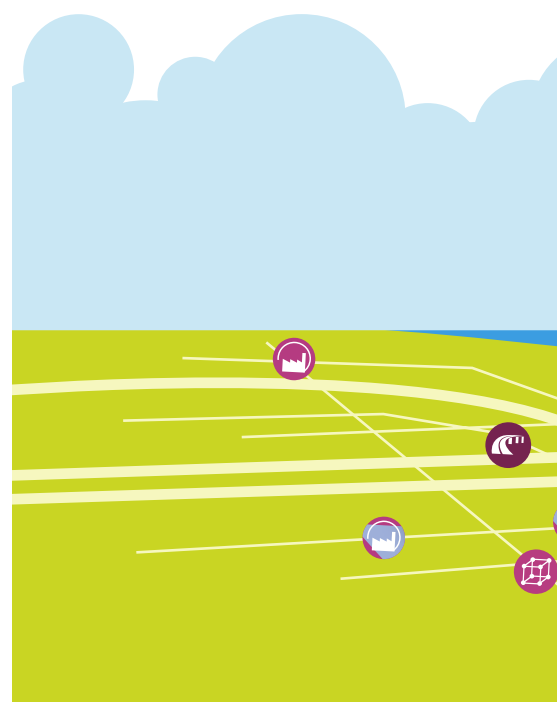
But the reality is that local leaders have been writing similar economic development strategies for decades, with mixed success. How can they ensure that the new local industrial strategies succeed in boosting productivity where others have failed?

To help answer this question, the What Works Centre for Local Economic Growth has published a report on the

'do's and don'ts' of economic strategies. We've drawn on a wide range of economic research (in particular, Rodrik, 2004, and Tirole, 2017), one-to-one and group meetings with local areas, discussions with central government and the team's many years of experience in advising local government.

We have used this collective knowledge to develop a set of principles that we think local policy-makers should consider when designing local strategies, starting with a clear understanding of the state of the local economy through to evaluation and feedback mechanisms to ensure that the emphasis is on 'what works'.

Strategy development needs to involve consideration of how the economy is evolving. Technological change, globalisation and demographic change, among other trends, will continue to have transformative effects on local economies.



Most of the
time 'build it
and they will
come' strategies
don't work

A good local
industrial strategy
will help areas
understand trade-
offs and prioritise
future investment



But this doesn't mean that places should spend lots of money on complicated economic analysis. We're seeing a worrying tendency for many areas to spend considerable amounts of money commissioning consultancies to develop models that can supposedly predict the future impact of different policies for their places.

Unfortunately, these models produce spurious accuracy, but precious little insight as to the likely effect of many policies. Scenario planning is likely to be a more useful way of structuring thinking about the future. It is also important to find a balance between fostering new ideas and supporting existing economic activity, while working with existing and potential employers.

The trade-offs involved in these decisions are illustrated by Luton Borough Council's recent £3.2 million investment

package with local employer Peugeot to help save the town's Vauxhall van factory. While this may safeguard the factory's 1,400 jobs for now, it comes at the opportunity cost of not being able to spend as much on other activities whose benefits to the economy would need to be comparatively assessed if an informed decision is to be made.

A good local industrial strategy will help areas understand trade-offs and prioritise future investment. Whatever the intervention, it needs to be based on a clear rationale. What's the market failure, and can it be usefully addressed by the public sector?

There are some problems that local policy will not be able to address and some policies won't work. We know, for example, that most of the time 'build it and they will come' strategies – essentially supply-side policies to generate demand – don't work. A relatively recent example includes the £100 million investment in technology incubators in Wales in the 2000s: some had occupancy as low as 4% and overall costs per job were around £200,000.

One area where the rationale for intervention is often clearer than others is skills. We know that area-level differences in skills are one of the most important factors driving differences in local economic performance. We also know that firms may not provide enough training if they worry that trained workers will leave, benefiting firms other than the ones that pay for the training. As a result, firms and individuals are likely to under-invest in skills and employment training.

Improving skills within a local area can be achieved either by raising the skills of existing residents and workers, or by attracting in more high-skilled workers. Places need to identify the range of options and compare expected costs and benefits.

Interventions to improve the skills of existing residents may involve a focus on the early years and school performance. Work in progress in this area includes efforts by the Early Intervention Foundation, the Education Endowment Foundation and the 'opportunity areas' to develop a better understanding of what works to improve the quality of teaching, literacy and numeracy, careers and mentoring.

Apprenticeships can improve skills levels and stimulate further training among

the existing workforce – and the new local industrial strategies offer an opportunity to pilot and test solutions to raise demand for them (both from firms and workers).

An alternative approach is to attract more skilled workers from elsewhere. Places will need to think about the feasibility and cost-effectiveness of a range of options that might affect both the demand and supply side of the market for skills. In the space available, we can only consider a few examples, but our report provides more detailed discussions of different alternatives and their possible impacts.

On the demand side, the relocation of public sector employment, such as the BBC's move to MediaCityUK in Salford, can increase the overall market for skilled

workers. Accelerator and incubator spaces may also have an impact providing that they are addressing the growth challenges actually faced by local firms (rather than wishful thinking about those barriers, as in the example of the Welsh tech incubator); so too could efforts to address issues with improved access to finance.

On the supply side, lowering the cost of living for skilled workers by tackling housing and transport problems is likely to have an impact on location decisions. Again, our report provides more detailed discussion of the role that local areas might play in solving these problems.

But many policies aimed at changing the distribution of skilled workers are 'zero-sum' – a worker who moves to an

Area-level differences in skills are one of the most important factors driving differences in local economic performance



area has to come from somewhere else. And only a limited number of places are likely to see significant relocation of government jobs. Interventions to improve the skills of existing residents are more likely to deliver direct benefits to disadvantaged residents, supporting the inclusive growth agenda.

Running through all of this is the need to work with the private sector to design and deliver interventions. Engaging with employers can help to develop a more granular understanding to identify where the barriers to growth lie – and what types of intervention are most likely to remove them.

Some of the most successful employment training initiatives involve employers throughout and are more successful as a result. Take the Per Scholas WorkAdvance programme, which delivered information technology training and employment support for low-income individuals in the Bronx.

Evaluated through a rigorous randomised control trial (RCT), it was found to have significant impacts on employment and wages. Each component of the programme – from initial screening to post-retention and advancement services – required providers to be more employer-facing than traditional programmes.

Direct involvement of the private sector in these types of intervention – either in the decision-making process or by getting them to co-fund programmes – helps to ensure that employers have some ‘skin in the game’. Sharing the cost may be a more efficient way to allocate scarce resources and help to ensure that interventions respond to employer demand, leading to better outcomes.

But it's important to find the right balance. The real challenge for ‘mayoral combined authorities’ and ‘Local Economic Partnerships’ is to find a way of developing relationships with the private sector, while being careful to avoid ‘capture’ by local vested interests. Consulting only the local biggest employer could result in advocating a training focus that benefits them but not the wider business base, and which does not give workers the transferable skills they need. Consulting widely with a range of businesses and representative bodies, and using independent panels to scrutinise the evidence and strategies, can help to avoid this.

And finally, as new programmes are implemented, we need to evaluate them and embed what works into future strategies. It's unlikely that places are going to be able to put full-scale evaluations in place for every intervention. But focusing efforts on key, scalable interventions could teach us a lot, and there is a growing number of ‘gold standard’ RCTs that can tell us about the causal impacts of a diverse range of interventions. Our web page describes dozens of real world examples, including RCTs, in our series of evaluation case studies (freely available at: www.whatworksgrowth.org/resources/).

Using evaluations
to make future
investment
decisions can
ensure that
industrial strategy
is more effective
over the
longer term

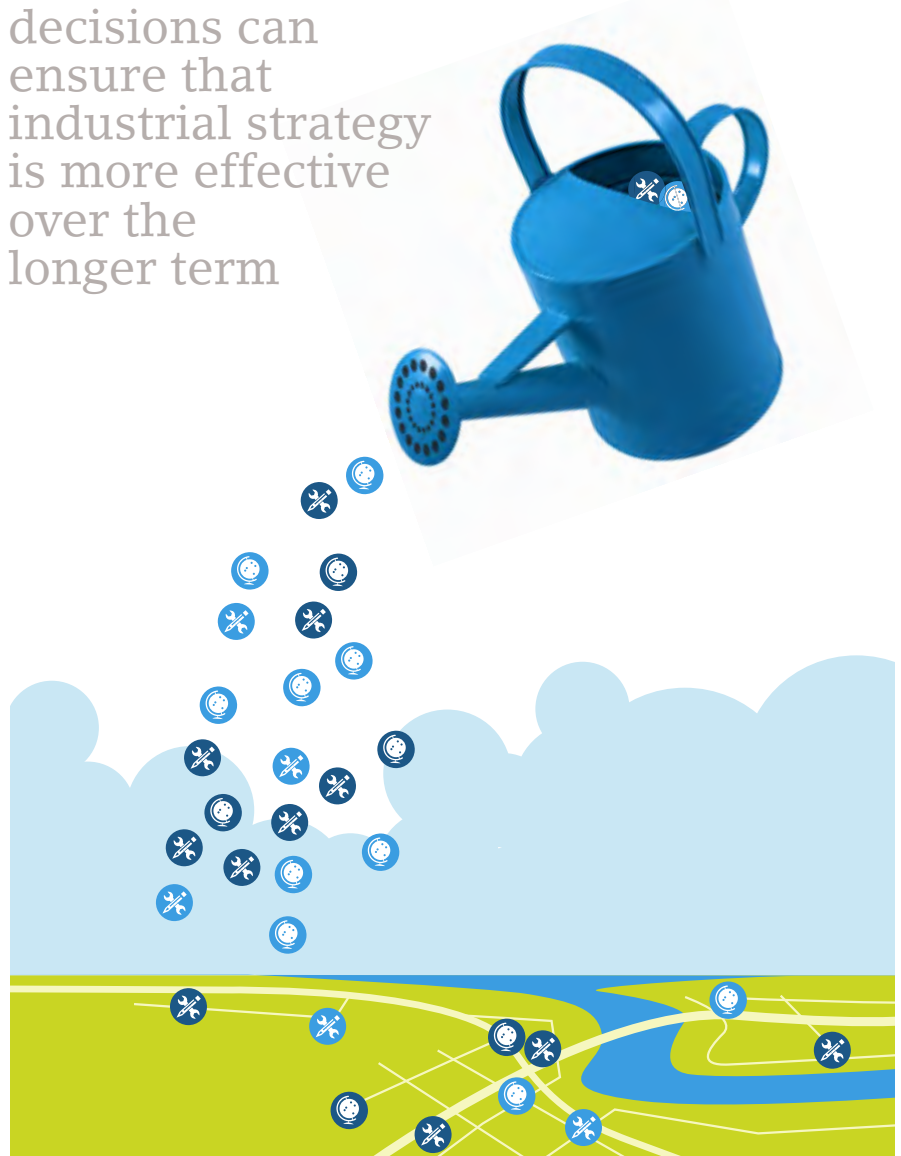
This article summarises ‘Developing an Effective Local Industrial Strategy’, published by the What Works Centre for Local Economic Growth (<http://www.whatworksgrowth.org/resources/developing-an-effective-local-industrial-strategy/>).

Henry Overman is professor of economic geography at LSE, a research associate in CEP's trade and urban programmes and director of the What Works Centre for Local Economic Growth. **Naomi Clayton** is deputy director of the centre.

Further reading

Dani Rodrik (2004) ‘Industrial Policy for the Twenty-first Century’, Centre for Economic Policy Research Discussion Paper No. 4767.

Jean Tirole (2017) *Economics for the Common Good*, Princeton University Press.



Increasingly it seems that the rich and poor of Britain are destined to stay on the same rungs of the economic or social ladder for successive generations. A new book by **Lee Elliot Major** and **Stephen Machin** calls for an alternative model of social mobility, one that develops all talents, not just academic, but vocational and creative too – and which creates opportunities across the whole country, not just in London.



Social mobility and its enemies

One David was born in a terraced house in East London, his father a kitchen fitter, his mother a hairdresser. The other David grew up in an idyllic village in the English countryside, his father a stockbroker, his mother the daughter of a baronet. The first David left school at 16 without any qualifications; the second studied at Eton and Oxford. One married an Essex girl; the other married the daughter of a wealthy aristocrat.

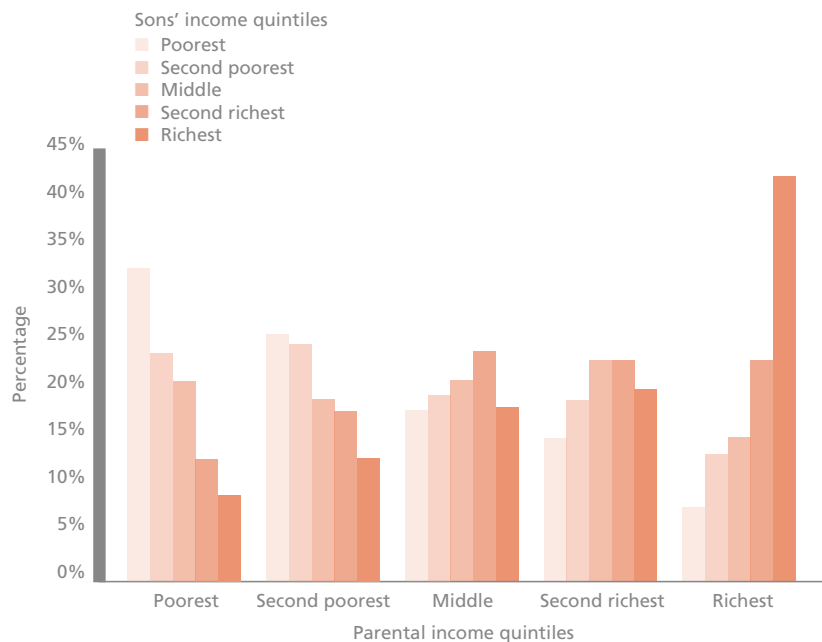
Both Davids in their own way highlight Britain's social mobility problem. David Beckham's meteoric rise is a rare occurrence: few children born to poor parents climb the income ladder of life. Meanwhile, David Cameron continued a tradition that has seen successive generations of social elites retain their grip on the country's most powerful jobs: he is descended from King William IV who ruled in the 1830s.

Social mobility tells us how likely we are to climb up (or fall down) the economic or social ladder – and too many of us are destined to end up on the same rungs as our parents. That's what we conclude in our new book – after reviewing the evidence.

The analysis confirms how Britain became less mobile – particularly at the top and bottom of society. A quarter of sons born in 1958 from the poorest homes remained among those on the lowest incomes as adults, while 32% of those born into the richest families stayed among the top earners when they grew up.

Rather than opportunities getting better for more recent cohorts, they have got worse. Around a third of sons from a cohort born 12 years later in 1970 from the poorest background remained among those on the lowest earnings as adults. And over 40% of those born into the richest

Figure 1:
Intergenerational mobility in the 1970 British Cohort Study



fifth of society remained there themselves as adults. This strong U-shape of social mobility with people stuck at the top and bottom of the distribution across younger generations is shown in Figure 1.

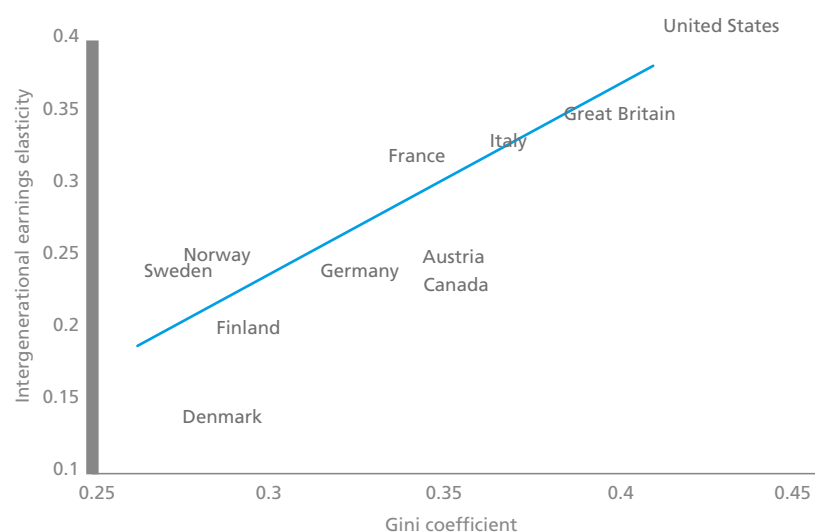
What's more, today's younger generations face a bleak future: greater income divides, wider gaps in abilities to enter the housing market, lower relative wages and shrinking opportunities.

The dream of just doing better, let alone climbing the social ladder, has been dying.

The well-known 'Great Gatsby curve' (pictured in Figure 2) reveals a strong link between countries' Gini coefficients (which measure income inequality) and their intergenerational earnings elasticities (which measure immobility).

There is mounting evidence to suggest that wide gaps between the rich and

Figure 2:
The Great Gatsby curve



Sources: Jo Blanden (2011) 'Cross-country Rankings In Intergenerational Mobility: A Comparison of Approaches from Economics and Sociology', *Journal of Economic Surveys* 27: 38-73.

Today's younger generations face a bleak future: greater income divides, falling wages and shrinking opportunities

poor lead to more rigid societies. And the problem for Britain is that, as in the United States, we have high inequality and low mobility. It does not bode well. By much more than earnings, wealth – financial investments and property – sets the elites (including the two Davids) apart from the rest of us.

Meanwhile, workers' wages have declined sharply in real terms. In the decade from 2008, median wages fell by 5% in real terms. Employees are now worse off than their equivalents ten years earlier. In contrast their parents, three decades earlier, were enjoying rising real wages compared with the generation before. Just as their counterparts in the United States have been for some time, our young are now facing falling levels of absolute social mobility.

Enemies

We all agree that talent and hard work rather than background should determine success in life. Yet the enemies of social mobility are powerful and plentiful: 'opportunity hoarders', privileged parents playing or cheating the system to stop their children sliding down the social ladder; exploitative employers failing to invest in their staff; and detached ruling elites, vowing to work for the many, but pursuing policies for the few.

We persistently cling onto the hope that education can act as the great social leveller, enabling children from poorer backgrounds to overcome the circumstances into which they were born. But the evidence shows that on average

schools and universities have failed to live up to these lofty expectations. It's an impossible task when inequality is so wide outside the school gates.

We estimate that hundreds of thousands of young people continue to leave school without the basic numeracy and literacy skills to get on in life. Meanwhile, private school alumni have maintained their stranglehold on our political and professional elites, as well as leading positions in other areas of public life, including the film and TV industry, the arts, music and sport.

Low mobility incurs economic, social and political costs. It leads to greater regional divides and to polarised and populist politics. Elites have become regionally concentrated and more detached from, and uninterested in, the rest of society. Marginalised voters feel left behind and are more likely to vote for extreme parties.

Failure to do something will only store up greater problems for the future. Life prospects will be linked not just to the status of your parents, but also to that of your great-great-great-grandparents as multi-generational mobility becomes stickier.

A new model of social mobility

Britain desperately needs a new model of social mobility that develops all talents, not just academic, but vocational and creative – and creates opportunities across the whole country, not just in London. Employers need to treat employees as a long-term investment, and offer training and skill

development that can raise productivity. Britain's booming gig economy has created an employment underclass lacking security, training, progression or rights, stuck on short-term and temporary contracts (or 'gigs').

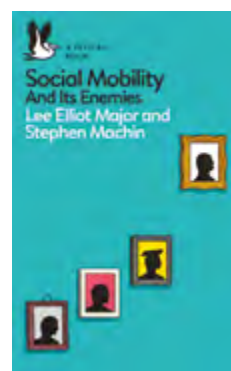
We could also do more to open up access to the top employers and universities. All work experience placements and internships at elite firms, for example, should be paid and openly advertised.

Bombarded by thousands of A-grade candidates, sought after universities are resorting to 'hyper-selectivity' – ever more refined but unreliable ways of selecting the 'very best' academic talent. They could instead identify the minimal grades that are good enough to get in. Undeniably, the most equitable way to allocate places to equally deserving candidates would then be to pick them randomly. 'Losers' could be guaranteed a place at another university. Overnight, we could diversify student intakes.

Meanwhile, the government could raise inheritance tax and close the tax loopholes that allow the super-wealthy to entrench their privilege. But such moves require political courage, not empty rhetoric.

David Cameron's advisers came up with a clever phrase for the then prime minister to demonstrate his aspirations for a classless society: 'It's where you're going to, not where you're from that counts.' But that mantra was a fallacy. In Britain, it has become increasingly the case that where you come from – whom you are born to and where you are born – matters even more for where you are going to.

More needs to be done to open up access to the top employers and universities



Social Mobility and Its Enemies by Lee Elliot Major and Stephen Machin is published by Penguin.

Lee Elliot Major is chief executive of the Sutton Trust. **Stephen Machin** is director of CEP.

For more than a decade, CEP research associate **Peter Boone** and his colleagues at Effective Intervention have been running health and education programmes in some of the poorest parts of the world. As he recounts here, there have been successes and failures – but the one clear lesson is that while financing is an issue in foreign aid projects, it is by no means the most important one for saving lives or educating young children.

Aid: it's not just about the money

As a result of significant increases in foreign aid under recent governments, the UK is now the largest donor in the G7 in terms of share of GDP. But this is not something that should necessarily be comforting for taxpayers. We lack hard evidence that aid does much to reduce poverty: indeed, the most salient examples of success – elimination of smallpox, global vaccination programmes and campaigns to reduce HIV/AIDS – actually cost very little money compared with global aid budgets. More money may not be the issue.

To explore whether foreign aid can work better, in 2006, a small interdisciplinary group formed Effective Intervention with CEP's assistance. Rather than revisiting past aid failures, we undertook to create examples of aid programmes that might show success. Our focus was two-fold:

- First, we wanted to stick to simple, measurable goals, ones that directly related to helping people escape from extreme poverty. For that reason, we focused on children's health and education in some of the world's most impoverished regions.
- Second, we decided it was critical to

measure outcomes carefully. We designed our projects as randomised control trials (similar to those used for testing medical drugs) so that we could learn whether our clients, the aid recipients, truly benefitted from these projects.

We've now completed three major programmes and will have results from two more in the next few months. At their peaks, our Indian and African interventions provided roughly 20,000 children with daily after-school numeracy and literacy courses, as well as offering maternal and child health programmes to a population of 450,000. We have also created

and run 23 schools in one of the most impoverished regions of West Africa, and we're embarking on major new projects in northern India soon.

We've had successes and failures – and the contrasts between them are important. We've repeatedly learned that financing is an issue, but not the most important one. The cost of saving lives or educating young children can be kept very low.

What matters most is breaking down the myriad of obstacles that prevent both public and private education and health services from taking hold in these regions. The obstacles vary by nation and region, so there is no magic bullet, and there is much to learn from failure and success.

Our biggest failure was in Guinea-Bissau, where we implemented a three-year trial aimed at reducing child deaths. Guinea-Bissau is a lovely nation with a history of reckless management. Top officials let the country become an entrepôt for the drug trade between Latin America and Europe. There is a regular pattern of coups, 'on-again-off-again' foreign assistance, and non-payments of salaries and benefits in the public sector.

In rural regions, the public health clinics and schools hardly function and provide

The problems of
extreme poverty
today don't have
simple monetary
solutions

little in the way of basic services. Over one in ten children die before the age of five. And based on a survey of 9,947 children in rural villages, we found that only 27% of children aged seven to seventeen (almost all of whom had been enrolled in schools) were able to add two single digits, while just 19% could read and comprehend a simple word (Boone et al, 2013).

Health education in Guinea-Bissau

Our first project in Guinea-Bissau aimed to reduce child deaths in a sustainable way. With politics in regular turmoil and a public sector that was paid low and irregular salaries, there was no reason to believe health clinics would operate reliably in the future. So we worked with local experts to design a programme that would improve care in villages, with parents and village health workers at the centre of the solution.

We ran health education programmes to teach parents the symptoms of key

diseases that cause child deaths, and we trained health workers to provide first-line treatments for those diseases. Nurses visited villages regularly to supervise health workers, keep tabs on pregnancies and newborns, and monitor the distribution of first-line treatments for respiratory infections, malaria and diarrhoea.

To measure results carefully, we ran the programme as a randomised control trial, with experts from the London School of Hygiene and Tropical Medicine advising on the overall design and statistical analysis. After three years of running this trial, where 73 randomly selected villages (clusters) received the intervention, and 73 others were left with existing standards of care, we 'unblinded' the results. The conclusion was devastating: there was no statistically significant difference in deaths (Mann et al, 2009).

This result was a huge surprise to all of us: on the ground, it seemed like the project was running beautifully, and the members of the communities that received the interventions were pleased. Even

the health minister was convinced: she prodded us to roll out the interventions to the controls well before the trial was complete because, as she put it, she saw with her own eyes how successful it was. It would have been easy to describe this programme as a great success to donors and recipients, yet our rigorous measurement proved otherwise.

While we can't be sure of the reasons for the failure, one clear possibility is that first-line treatments are not enough. Children in these regions often have symptoms of dangerous diseases: our surveys suggest a child will be sick 10 to 20 times per year.

If the child has co-infections and becomes weak, they can quickly die. It may be that intravenous fluids and other second-line treatments are required to prevent these rapid deaths. Sadly, given the inability of the state to organise healthcare, and the lack of any private sector services in the region, families had no opportunities for reliable second-line care.



Training teachers in Guinea-Bissau: once trained for a year, the prospective teachers formed an ad hoc union and demanded sky-high salaries and lax performance conditions.

Research team 'enumerators' employed in the Indian trial villages – these colleagues monitored all women in their villages, tracking pregnancies and deliveries, so that we obtained accurate mortality statistics – the photo represents 50% of the team.



Healthcare and education in India

In India, we've worked on two large trials that did achieve their goals. The first was a programme to reduce neonatal deaths. In rural regions of Andhra Pradesh in the south east of the country, we randomly allocated 232 villages to receive interventions aimed at helping pregnant women and reducing neonatal deaths, with another 232 villages acting as controls.

The intervention villages received a comprehensive package of measures designed by the NICE Foundation, a local expert organisation in the health of mothers and newborns. The intervention measures included services that both the private and public sector offer, but NICE felt that women were not able to seek out required care adequately (due to lack of knowledge, costs and the difficulty of assessing the care providers).

We trained village health workers to monitor pregnant women in their villages. Nurses were hired to visit the villages bi-monthly and provide basic antenatal care as well as teaching pregnant mothers about issues surrounding safe delivery and care for their babies.

We also took advantage of ambulance services for pregnant women offered by the local government, encouraging women to use these early when needed. We worked with private clinics, which were more than happy to contract delivery services for high-risk women in our trial. In return, they implemented a protocol for treatment that NICE supervised.

At the end of the trial, the medical statisticians calculated that there were 24% fewer neonatal deaths in the intervention villages compared with the controls (Boone et al, 2017).

We embedded a second trial in this same project. Instead of providing nothing to the control villages, which is usual in randomised control trials, we offered them an education package for children attending years 2, 3 and 4. The intervention was designed by the Naandi Foundation – one of India's leading NGOs, which supports children's education.

Despite very high enrolment rates at school, children's education outcomes are poor, and Naandi is convinced that poor functioning of schools (partially driven by the lack of incentives for teachers) is the core of the problem. Since the teachers report to the state and not Naandi,

they did not feel they could change the schools directly. Their opinion was that the simplest way to raise children's literacy and numeracy outcomes was to provide classes outside regular school hours.

In our intervention villages, we trained young adults with a high school education to teach after-school classes for these children six days a week. At the end of two years of intervention, the children in the intervention villages rose approximately 25 percentiles in the scores distribution on a composite reading and numeracy test (Lakshminarayana et al, 2013).

The test was designed and implemented by an independent assessor group, and children from all control and intervention villages were tested. To put it simply, a child that was at the median in their school now rose to be in the top quartile of the distribution.

As a result of this success, we expanded both these projects to cover intervention and control villages for a further five years. While we no longer measured outcomes in comparison to randomised control villages, so we cannot be as confident of impact, our measures of outcomes did show neonatal mortality rates continuing to fall, and children seemed to perform well in classes.

Since the expanded projects were on a much larger scale – we provided 15,000 children with the after-school services, and we covered a population of 400,000 with services for pregnant women and newborns – we were particularly pleased that the cost proved to be similar to those estimated by the trial. The total cost was around £1,600 per village with a population of 1,000.

There are
few incentives
in the aid
industry to
measure outcomes
properly

Lessons for foreign aid

What does this teach us about foreign aid? A lot.

First, the problems of extreme poverty today don't have simple monetary solutions, and they vary with the context, but they can be alleviated. In Guinea-Bissau, if we want to reduce child deaths sharply, we (probably) need to find an entity capable of building and maintaining a well-managed health system for many years. There simply aren't groups around that have the funding and managerial capacity to do this, and, as a result, more than 10% of children continue to die there before their fifth year.

Even though India is growing fast, and there is a functioning private and public health system, nearly one in 14 newborns die in the region in which we work. We are now embarking on another project in northern India where mortality is even higher. There are surely many routes to bring deaths down, including harnessing the benefits of the public and/or private actors, but this will require well-designed interventions.

The cost of the project we implemented – resulting in a 24% reduction in neonatal deaths, and a 25% lift in numeracy and literacy outcomes, is not large compared with global foreign aid budgets today. If we roughly assume that a population of 300 million could benefit from similar projects to improve children's education and reduce neonatal deaths in India, then the total costs based on the trials outlined above, would be around £500 million annually – this is less than one half of 1% of the global bilateral aid budgets today. It is a tiny sum compared with the potential relief.

There is a second important lesson in the education sector. Economists typically ask a simple question: if there is growing wealth and demand for education, why don't markets provide a solution?

In India, as opposed to where we work in West Africa, markets do provide solutions. In our trial region, there were plenty of private schools, and communities typically felt private services were better than public ones. But most parents either could not afford these schools, or they decided they were not worth it compared with the free state education.

Schools in Guinea-Bissau

Compared with rural India, there are no 'private schools' in the rural regions of

Guinea-Bissau in which we work. There are missionary schools, NGO-financed schools and schools created as co-operatives by adults in some villages. But our surveys suggested that none of them functioned any better than the very poor public schools. The underlying problem seems to be the myriad of difficulties encountered when attempting to create and maintain functioning schools.

Our experience when attempting to manage schools in Guinea-Bissau was sobering. Given the schools were not functioning, we agreed with the government to manage an experiment where we would open several dozen schools, with high school educated teachers similar to those in our Indian project and learn whether a carefully monitored project could provide children with a significantly better education than the state system.

This sounds simple, but we soon suffered a rollercoaster of problems. After weeding through hundreds of applications from high school trained students who wanted to become teachers, we selected around 100. We hired a teacher training organisation in Portugal to travel to Guinea-Bissau and work with these potential teachers for one year. The students received a stipend to cover living expenses, and we had an implicit agreement they would teach in villages afterwards for at least three years.

When our training course finished, we selected 48 candidates to be teachers. Then we received a shock. These candidates formed an informal union and demanded wage levels significantly higher than had been previously agreed. They also insisted that we dispense with any probationary periods in the classroom, such that low-performing teachers could not be let go.

Their wage demands amounted to three times the salary of a government minister. They visited politicians, lawyers, courts and anyone else that would listen, hoping to extort higher salaries or financial payoffs. We, fortunately, received strong support from the government and refused to entertain their demands, but it meant we lost all 48 candidates. We did eventually find alternative teachers, but we only opened half the schools we intended, and with the case mired in courts for several months, the schools took a year longer than planned to start.

So why don't markets provide a solution in Guinea-Bissau? Faced with the difficulties outlined above, imagine how hard it is for an illiterate group of parents, in a small rural village, to find a trained teacher for their children, and be confident that the teacher is actually doing a good job. Private school organisers prefer to work in urban settings where a large pool of students is available, it is easier to find and supervise teachers, and incomes are higher.

Foreign donors can help, but financial assistance is not the key ingredient. Teachers' wages are manageable, and actual school costs can be kept very low using local materials. The true hurdle is the myriad of problems encountered when attempting to create schools, as well as the long hard slog of maintaining the organisation and supervision required to run a good school over many years. Unless there are aid organisations dedicated to finding solutions to this, financial assistance probably won't amount to much.

The need for rigorous measurement

Our last lesson is that rigorous measurement is essential, and it needs to be done properly. Unfortunately, there are few incentives in the aid industry to measure outcomes properly.

Donors are at the core of the problem, as they often treat aid as a consumption good: it feels good to give money to needy causes, and this is enough to satisfy them. Even when agencies report that they measure outcomes carefully, a closer look at the reports usually shows serious flaws, along with conflicts of interest (because the assessor is selected and paid for by the agencies), which reduce the credibility of the findings.

As we learned in Guinea-Bissau, it would have been far more convenient, both as donors and implementers, to stick with reports from our implementation team, as well as observers and government assessors, which suggested that our programme was a remarkable success.

It isn't easy to learn about failure. It was only because we employed a large, independent research team, and managed the intervention as a rigorously designed randomised control trial, that we learned it was not providing the recipients – pregnant mothers and their children – with what we had set out to achieve.

Peter Boone is the executive chair of Effective Intervention (<http://www.effint.org>).

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Investment in second homes has been surging around the world. **Christian Hilber** explores the underlying causes of this boom and the political backlash against wealthy investors. His analysis explains how one increasingly popular policy – banning new second home investments in desirable tourist locations – may end up hurting rather than helping local residents. It may even lead to a further rise in wealth inequality.



Second home investments

Second homes – properties that are not used as a primary residence, bought for leisure or investment purposes or a mix of the two – are in strong demand among investors, especially in superstar cities and places rich in natural amenities. Such investments are growing globally.

The data are patchy but the surge seems to have emerged during the mid-1990s. It has been dramatic in some countries, more moderate in others. The UK and China belong in the former category. The number of second homes in the UK more than doubled between 1995 and 2013 alone (English Housing Survey). In China, the number of investors surged from 6.6% of urban households in 2002 to 15% in 2007 (Huang and Yi, 2011).

The United States and Canada have seen more moderate expansion: between 1995 and 2005, the number of second homes in these countries increased by 20% and 22%, respectively (Belsky et al, 2007; Canadian Survey of Financial Security).

What explains this marked increase in second home investments? Growing income and wealth inequality with a staggering amount of wealth accumulation among a growing cohort of ‘top earners’

have certainly contributed.

As housing is a ‘normal good’, a rise in income and wealth implies greater housing consumption. And one way that this manifests itself at the top end of the income and wealth distribution is in growing consumption of second homes.

But housing is also an ‘investment good’: a strongly growing cohort of wealthy individuals implies disproportionately more investment in second homes. A lack of attractive

alternative investment opportunities further reinforces the boom.

The surge in second home investments has not gone unnoticed. In fact, it has ultimately triggered a serious political backlash in many countries, especially in tourist areas and superstar cities. The backlash has at least in part been driven by legitimate concerns, such as ever more unaffordable housing, destruction of areas of natural beauty or creation of ghost towns during large parts of the year.

Figure 1:
Newspaper coverage of sentiments against second home investors



Sources: BBC News; Guardian; Evening Standard

The crucial question is how politically to address these legitimate concerns. Some countries, such as the UK, and cities, such as Vancouver, have introduced substantive transaction taxes on the purchase of second homes.

Another policy that has become increasingly popular, also in the UK, are constraints or outright bans on the construction of new second homes. The latest example is the Cornish seaside town of St. Ives. Other local communities in Cornwall and across the rest of the country have signalled interest in including similar policies in their own Neighbourhood Plans.

What are the economic impacts of such bans on local housing and labour markets? This is the question that my co-author, Olivier Schöni, and I explore in a recent CEP study that features both theoretical and empirical analysis (Hilber and Schöni, 2018).

In our theoretical analysis, we illustrate the underlying mechanisms and reveal under what conditions we should expect constraints on second home investments to have positive or negative effects on local housing and labour markets.

One key insight of our analysis is that competing effects are at play. First, a ban on the construction of new second homes may help to preserve the local character and beauty of the area and ease congested roads and overcrowding of other local infrastructure during the tourist season. This ‘amenity effect’ – and its anticipation – should be positively capitalised into the

value of both primary and second homes.

Second, a ban on the construction of new second homes renders the supply of new second homes perfectly unresponsive to price increases. In a dynamic setting, this ‘supply effect’ should raise the price of second homes, all else equal.

Third, a ban on the construction of new second homes adversely affects local construction and other local economic activity – importantly tourism. This ‘local economy effect’ lowers prospective earnings or, to the extent that local wages are sticky downwards, increases unemployment. In turn, it adversely affects local demand for primary homes and, all else equal, ultimately is negatively capitalised into the price of primary homes.

In a setting where primary and second homes are perfect substitutes (that is, the two types of properties are very similar in style, quality and location, and thus equally suitable for primary residents and second home investors), the price of primary and second homes must move in the same direction, but it is theoretically ambiguous whether the positive or the negative effects on the price dominate. It depends on their relative importance.

If primary and second homes are poor substitutes (think of two types of buildings traded in the same town but in separate sub-markets: wooden chalets near ski lifts suitable for second home investors and concrete buildings close to the local school and the supermarket suitable for primary residents), then we demonstrate that under realistic conditions, the price effects can

The negative effect on local economies of banning second home construction outweighs the positive effect of preserving local amenities

be expected to go in opposite directions: positive for second homes and negative for primary homes. Labour market effects are unambiguously negative, either in the form of lower wages, higher unemployment or a mix of the two.

In our empirical analysis, we exploit a unique quasi-natural experiment, the Swiss Second Home Initiative (SHI), to test these theoretical predictions and identify causal effects of a ban on the construction of new second homes.

Popular initiatives – such as the SHI – are common in Switzerland as instruments of direct democracy that allow citizens to modify the country's constitution. Initiatives must be approved by both the majority of voters and the majority of regional jurisdictions, known as cantons.

The SHI requested that construction of new second homes be banned in

Figure 2:

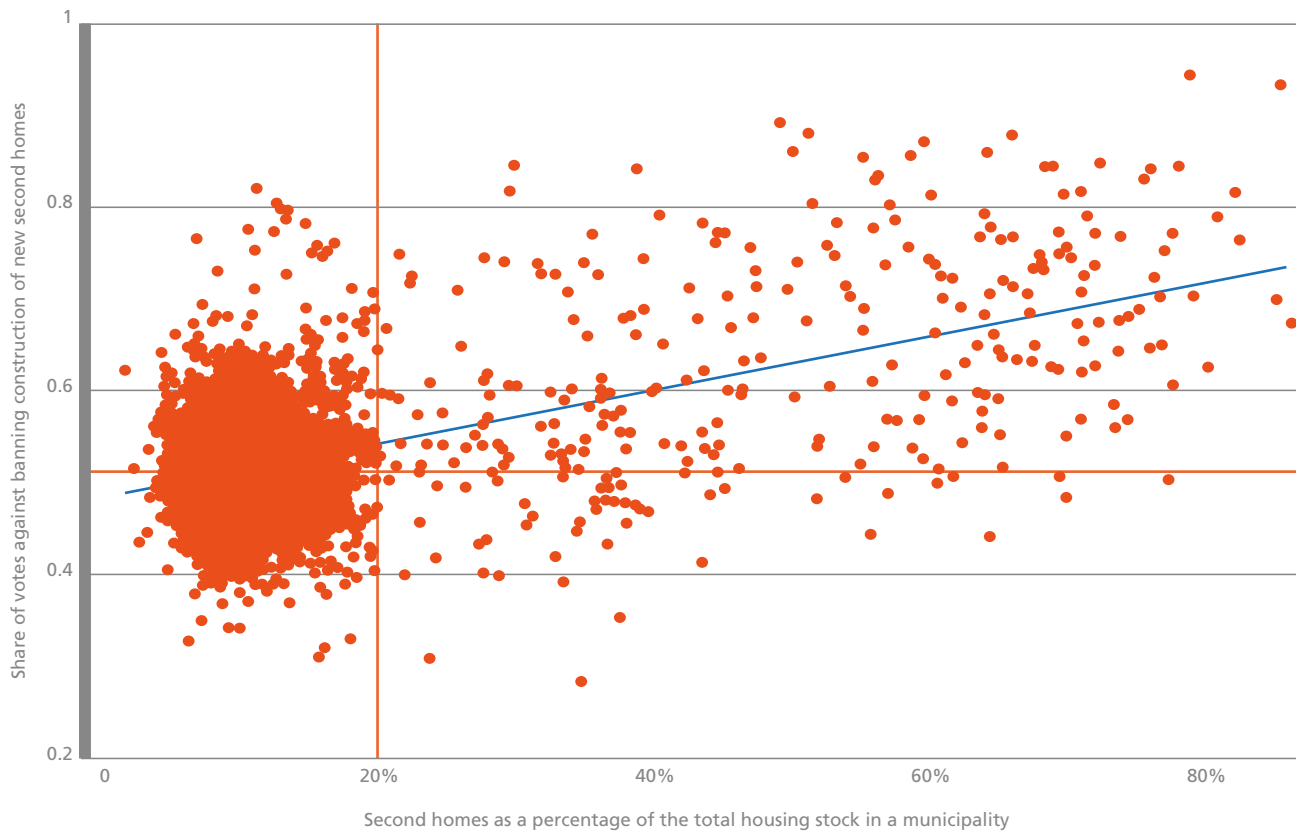
Yes and No campaigns in the Swiss Second Home Initiative:



Sources: www.zweitwohnungsinitiative.ch and INFOsperber. Yes campaign: We must stop setting our landscape in concrete; versus No campaign: Approving initiative would destroy your dream of a second home.

Switzerland's ban on the construction of new second homes lowered the price of primary homes but raised the price of second homes

Figure 3:
Second home share and opposition to the Swiss Second Home Initiative



Sources: Hilber and Schöni (2018).

municipalities where such homes represent more than 20% of the total housing stock. The SHI was approved by the narrowest of margins – 50.6% of votes and 13.5 of 26 cantons – in March 2012. It came into force in January 2013.

Voters in tourist municipalities with very high shares of second homes were heavily opposed (see Figure 3), presumably due to fears about adverse effects on the local economy. This contrasts with voters in the larger Swiss cities who favoured the initiative.

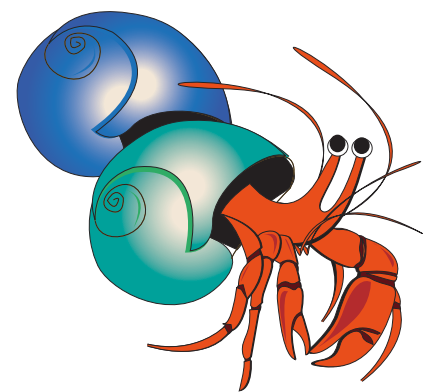
So what were the effects of banning the construction of new second homes in desirable Swiss tourist locations? Consistent with our theoretical framework and a setting where primary and second homes are rather poor substitutes (so are traded in different sub-markets), we find that the effects on the prices of primary and second homes go in opposite directions.

The ban on the construction of new second homes lowered the price of primary homes, adversely affecting local homeowners, but increased the price of

second homes, further raising the wealth of existing – typically already wealthy – second homeowners. We also find that the policy increased unemployment rates, thus harming the local labour force.

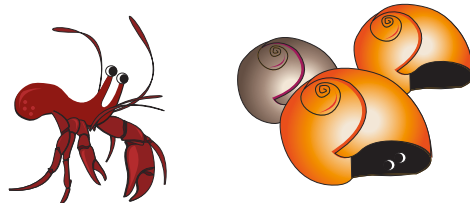
All in all, our findings suggest that the local economy effect (affecting primary house prices negatively) outweighed the amenity-preservation effect (affecting primary house prices positively), resulting in an overall fall in the price of primary homes. They also suggest that constraining the construction of new second homes reinforces rather than reduces wealth inequality, at least in a setting like the Swiss one (and many other tourist places rich in natural amenities) where primary and second homes are quite imperfect substitutes.

One fascinating puzzle is the following: whereas in Switzerland, local voters in affected tourist areas voted heavily against a ban on the construction of new second homes, in St. Ives in Cornwall, local residents overwhelmingly supported the policy. How can we make sense of this?



Constraining
the construction
of new second
homes reinforces
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inequality

An annual local tax on the value of second homes would be a much superior policy response to an outright ban



One plausible explanation is that in the particular case of St. Ives, the pivotal local voter may actually have benefited from the ban. This could be because St. Ives consists of a high share of wealthy retirees who own their homes and may care little about the local construction industry or tourism sector but far more about preserving the landscape and character of the seaside town.

In other words, local workers who depend on the tourism and construction industries may be in a political minority. Then, to the extent that primary and second homes are reasonably close substitutes and the amenity effect outweighs the local economy effect, the ban on new-build second homes may actually cause the price of both primary and second homes to increase.

So there may be an important difference here with the Swiss case: the pivotal local voter may be made better off by the ban, at least in the short run. Importantly though, this will come at the cost of younger renters – would-be buyers who are priced out of stepping onto the owner-occupied housing ladder – who work locally, typically in the adversely affected industries.

It is this group that is arguably critical for the livelihood of the seaside town in the longer run. Or put differently, the main effect of the ban on new-build second homes in St. Ives may have been to limit overall housing supply even more tightly, helping existing local homeowners to protect their accumulated capital gains (which arose from tight planning regulations in the first place), at the cost of the younger generation of local people.

Ultimately, the crucial question is whether there are better policy options for places rich in natural amenities and heavily

dependent on tourism, such as the Swiss Alps or UK seaside towns or superstar cities, such as London or Vancouver. The answer is an unequivocal yes.

If the primary goals are to make housing more affordable, prevent vacant homes and ghost towns, generate more local tax revenue and reduce local wealth inequality, then an annual local tax on the value of second homes (or better even: the value of their land) would be a much superior policy response to an outright ban.

An annual local tax would also be superior to a one-time transaction tax (stamp duty) as the latter generates a mismatch in the housing market (Hilber and Lyytikäinen, 2017) and does not provide any incentives to keep houses occupied.

An annual tax wouldn't be an entirely 'free lunch' of course. This is because the local tourism and construction sectors and their workers are still bound to be hit by the comparable lack of investment as a consequence of tax-induced disincentives to build new second homes.

More generally, second home investors – especially foreign ones – are often really just a popular scapegoat. In England, for example, the housing affordability crisis is predominantly driven by an extremely inflexible and dysfunctional land use planning system and a tax system that provides virtually no incentives to local authorities to permit residential development (Cheshire, 2014; Hilber, 2015; or Hilber and Vermeulen, 2016).

Banning the construction of new second homes or imposing transaction taxes on second home purchases may be politically popular policies in the short run. But they won't do anything to cure the underlying causes of the problems.

This article builds in parts on a published interview given to Hites Amir from the International Monetary Fund: The Unassuming Economist, *Global Housing Watch Newsletter*, July 2018 (<http://unassumingeconomist.com/2018/07/the-surge-in-second-home-investments-causes-consequences-and-cures/>).

Christian Hilber is professor of economic geography at LSE and a research associate in CEP's urban programme.

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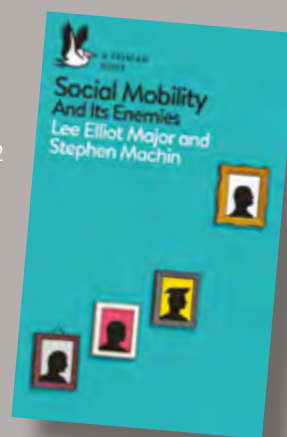
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