Improving education in two extremely poor regions: triumph and tragedy
Over the next few months, the United Nations will be finalising a fresh set of targets for the world’s development agencies, a successor to the Millennium Development Goals (MDGs). Policy interventions to reduce extreme poverty, which will inevitably remain at the heart of the post-2015 agenda, have long been a concern of Peter Boone, a research associate of the Centre for Economic Performance (CEP) for more than two decades. In the cover story of this issue of CentrePiece, he reports on primary school education projects in two of the poorest parts of the world: one, in rural India, has been spectacularly successful and reveals a previously unmet demand for quality education; the other, in West Africa, has been severely constrained by attempted extortion and illustrates the large potential hurdles to providing quality education.

Closer to home, two articles examine the impact of immigration on UK residents, a longstanding focus of CEP research but considered here in relation to two specific niches: overseas students and wealthy foreigners. Stephen Machin and Richard Murphy show that the rapid influx of international students into UK universities over the past two decades has expanded the number of places available for domestic postgraduates. And Sir David Metcalf, chair of the government’s Migration Advisory Committee and a CEP stalwart, restates the benefits of his controversial idea of auctioning visas as part of the ‘investor route’ to permanent UK residence.

A second pair of related articles explores emerging questions of the internet age. Tobias Kretschmer and Christian Peukert investigate whether digital sales of songs and albums via iTunes suffer from videos of the material being freely available on YouTube: their findings suggest that we need not worry too much about today’s equivalent of the old slogan ‘Home taping is killing music’. And in an analysis of the editing activities of Wikipedia users, Aleksi Aalto and Stephan Seiler demonstrate the benefits of a collective process of knowledge production.

Beyond the magazine’s three broad themes of the internet, immigration and international development, we feature recent studies of the planning system in London, the visual impact of wind farms and the viability of manufacturing in advanced economies. We also discuss policy for better mental health, as advocated in Thrive: The Power of Evidence-Based Psychological Therapies, the new book co-authored by CEP’s founder director Richard Layard. As ever, your comments on any of these reports would be welcome.

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Has the rapid influx of international students into UK universities over the past two decades reduced or expanded the number of places available for domestic UK students? **Stephen Machin** and **Richard Murphy** find that domestic undergraduate numbers have been unaffected while domestic postgraduate numbers are up.

**Overseas students:**
the impact on domestic student numbers
Over the past 20 years, the total number of overseas students in UK universities has quadrupled. There are now 266,000 full-time international students in the UK – and that number excludes a further 110,000 from the rest of the European Union (EU) who are counted as home students for financing purposes.

The postgraduate sector has seen the biggest growth in overseas students in terms of both proportions and absolute numbers. There are now over five times as many overseas postgraduates on taught courses as there were in 1994, an increase from 28,000 then to 140,000 by 2011/12 (see Figure 1). They represent 48% of students on masters programmes – and 60% when including non-UK EU students.

Overseas students bring a considerable amount of money into UK universities in the form of higher tuition fees. The fees from overseas students contribute well over a tenth of the total income of the higher education sector. Moreover, their tuition fees make up 39% of all fee income despite only accounting for 15% of all student places.

So an important question for policy is what impact this rapid influx of international students has had on the number of places available for domestic UK students? Have universities taken them on at the expense of domestic students – an outcome that economists call ‘crowding out’? Or have universities used the increased funding to expand the number of places available for domestic UK students – ‘crowding in’?

Notes: Domestic students are all students domiciled in the UK paying home fee levels. Overseas students are all non-UK students paying non-home fees. All totals are rounded to nearest 100. Undergraduates in 1994/95: 854,300 domestic; 37,600 overseas; in 2011/12: 1,165,700 domestic; 123,500 overseas. Taught postgraduates in 1994/95: 59,100 domestic; 15,000 overseas; in 2011/12: 77,700 domestic; 96,900 overseas. Research postgraduates in 1994/95: 27,900 domestic; 12,000 overseas; in 2011/12: 37,300 domestic; 25,800 overseas.
This question is important not only in the UK. The number of international students globally has increased rapidly with 4.3 million currently registered as studying abroad. Universities in English-speaking countries, such as Australia and the United States, have been in a prime position to recruit these students as they are generally considered to be of a high quality and English is the lingua franca of business and academia. Thus, the UK ranks second after Australia in the percentage of enrolled university students who come from overseas; and second after the United States in the total number of students.

To test whether overseas students lead to crowding in or crowding out, we can study correlations between changes in the number of domestic students and changes in the number of international students within universities over time. A negative association corresponds to crowding out (or displacement) and a positive one to crowding in (or subsidisation).

This is not unlike the approach taken in studies of immigration and the labour market, where researchers look for possible displacement of native workers by immigrants. But as with labour markets, we need to be careful about outside factors that may affect the numbers of both domestic and international students and so potentially bias the correlations.

For universities, these factors may include new buildings or university rankings, which can affect the supply and demand for places for both domestic and overseas students simultaneously. This would typically lead to an upward bias to the results as both would be positively or negatively affected by the same ‘shocks’. To address this issue of common university shocks, our research looks at the variations caused by factors that would only affect the number of overseas students.

The first variations we use are national changes in the number of students from a particular country and the historical university attendance patterns of students from that country. For example, if Turkish students historically were more likely to study physics at university A than university B, then if the total amount of Turkish students increases nationally, we expect the number of overseas students to increase more at A than B.

Using this method, we find that there is no significant positive relationship between the changes in the numbers of domestic and overseas undergraduate students from 2001/02 to 2011/12. This means that the increase in the number of overseas students has neither increased or decreased the number of domestic students.

But we do find a positive relationship with taught and research postgraduate students. For each additional overseas student attending a university, we see approximately one additional domestic student. This is evidence indicating that universities use the additional fees from international students to subsidise postgraduate places.

The second source of variation we use is a change in China’s visa rules for its citizens, which made it considerably easier for students to fund their studies abroad. These reforms, which took place in 1999, are reflected in the total number of Chinese students, which doubled each year between 1999 and 2005. Chinese students also appear to have a strong preference for business and management subjects (see Figure 2). The number of

Figure 2:
Growth of full-time Chinese students by subject in UK higher education
Chinese students taking these subjects, which could be counted in tens until the late 1990s, had increased to 15,000 by 2005 and 30,000 by 2012.

If there were displacement or subsidisation by overseas students, we would expect to see it among domestic students of business and management. Using the change in visa rules as a shock to the number of overseas students in business and management departments over the period 1994/95 to 2011/12, we find the same results as before: the number of domestic undergraduate students is unaffected but the number of domestic postgraduate students is positively affected.

So why have the undergraduate and postgraduate numbers reacted differently? The likely explanation is that throughout this period, the government had strict quotas in place on the number of undergraduates a university could take. Indeed, universities could be fined if they exceeded their maximum student allowance.

Our findings constitute suggestive evidence that these quotas have impeded undergraduate growth. Despite this, the increased number of overseas students combined with their higher than average fees would still have resulted in higher funding per domestic student. For postgraduates, who had less restrictive quotas or none at all, increases in the number of overseas students in a department were associated with more places being taken up by domestic students.


Stephen Machin is CEP’s research director, professor of economics at University College London and a member of the Low Pay Commission. Richard Murphy is an assistant professor of economics at the University of Texas at Austin and a research associate in CEP’s education and skills programme.
For the past few years, Peter Boone and his colleagues at Effective Intervention have been running primary school education projects in two of the poorest parts of the world – the rural villages of Andhra Pradesh, India, and Guinea-Bissau in West Africa. As he recounts here, the experiences and outcomes could not have been more different.

Improving education in two extremely poor regions: triumph and tragedy
Education in ‘pockets of poverty’

For several years, we have been working on two primary school education projects (as well as child and maternal healthcare projects) – one in poor villages in the Indian state of Andhra Pradesh; and the other in remote villages in Guinea-Bissau, a small country in West Africa. As elsewhere in the world, in each of these places, reported primary school enrolment has shot up to near 100%. But closer inspection shows that the actual outcomes are poor.

In India, the Pratham Institute helps coordinate an Annual Status of Education Survey (ASER, 2013) testing children’s numeracy and literacy. In rural India, they found that only 40% of children in Grade 3 (ages 8 to 9) could read a Grade 1 text. In arithmetic, 59% of children in Grade 4 could not subtract two numbers.

We conducted a similar survey in Guinea-Bissau, covering 20% of the country’s small and medium-sized villages. We tested 9,947 children aged 7-17 for literacy and numeracy competency.

The children’s learning outcomes can only be described as dire. The tests are quite simple: for numeracy, children are asked if they can recognise single digit numbers; if they can, we then asked if they could add two single digits. If so, they were asked to subtract, then multiply and finally divide. The reading test started with recognising letters, then words, reading a sentence and then a paragraph.

According to the national curriculum, the children should have been able to complete both tests by the age of 10, yet only one 10 year old in the whole country successfully completed both tests. We found that only 27% of children who were tested were able to add two single digits; and in reading, 81% were unable to comprehend beyond a single word. While reading required knowledge of the national language, Portuguese, the maths tests (which were not written) could be completed in tribal languages.

Figure 2 shows the pattern of learning in maths for an average child. They obviously learn very little, but the reason is difficult to know. Children do go to the schools – in our spot checks, we found that 86% of teachers were attending class and 72% of enrolled children were present. And a majority of the schools provided school lunches funded by the United Nations. The equipment and facilities were generally poor, but we did not find learning outcomes were much better for well-equipped schools, nor for private, community or missionary schools.

In general, the results showed that despite going to school, very few children were learning anything anywhere. This pattern of high enrolment ratios yet little learning, especially in the ‘pockets of poverty’ we seek out, is common in our experience. The regions typically suffer from problems that would suggest schools offer little learning (poor equipment and texts, high teacher and student absenteeism, lack of supervision, etc.), as well as reasons to think parents and...
Children in Indian villages benefitting from two years of extra education scored significantly higher on tests

children may not demand, or seek out, quality schools (child labour, little use for reading and maths in remote villages, etc.). The relative importance of such explanations for poor education outcomes is less clear.

It is tempting to assume that demand factors are driving poor outcomes in Guinea-Bissau given the uniformly poor outcomes across many school types and villages. But we also surveyed parents and they claimed to put a high value on education for their children. There is substantial evidence that the returns to education are high in Africa. Guinea-Bissau is unlikely to be an exception. There is also little need for child labour in these remote villages. The children do attend schools, but they simply do not learn much.

Supply factors are an alternative explanation. When the state is incapable or unwilling to provide quality education, it is not easy for local villages to provide a substitute. Parents who themselves are uneducated cannot easily judge the quality of teaching. They need to coordinate many activities: raising regular funding, buying textbooks and other school materials, finding good teachers willing to live in the village and ensuring that the teachers actually teach and the children attend.

Spectacular success in India

In India, we partnered with the Naandi Foundation to run an aid programme where we hoped both to improve children’s outcomes and to get a better grasp of what is causing poor school outcomes. We worked in 214 villages, randomly assigning half of them to receive an after-school supplementary education programme. The programme involved training young local residents educated up to Grade 11 (age 16) to provide children with two hours of daily extracurricular numeracy and literacy training.

We implemented the programme for two years. At the start and finish, we invited all children in the villages for testing, with independent groups implementing the tests. We compared the outcomes of children in the intervention and control villages.

The results of Naandi’s programme were nothing short of spectacular (Lakshminarayana et al, 2013). The children who were living in villages offered the programme scored significantly higher on tests after two years of quality after-school training compared with the controls. This sort of increase is important if it can be sustained.

While there are no good Indian studies, various international comparisons and US studies show that such changes could lead to a 5-21% rise in average annual income over a lifetime. Higher test scores are also correlated with growth. A series of studies show that the quality of education outcomes, rather than the years of schooling, is most important when explaining differences in cross-country growth rates (for example, Hanushek and Woessmann, 2007).

Our experience in this study suggests that there is large, unsatisfied demand for quality education in poor villages in India. The school programmes were well attended, the villages greatly appreciated them and average test scores of the whole village rose sharply. Based on these findings, we have expanded the project area to cover more than 400 villages, and we will provide the schooling to children for five more years. If India could manage to provide better education to similar villages across the country, they will probably take it up voraciously.

Attempted extortion in Guinea-Bissau

Our experience in Guinea-Bissau has been far less positive although it has provided some important insights into the challenges of making improvements in very poor parts of the world (Boone et al, 2013). Given the extremely poor test outcomes, in agreement with the Ministry of Education in Bissau (the country’s capital), we decided it was best to create full-time quality schools for children.

The first hurdle in Bissau is finding teachers. Facing a shortage of teachers, the government asked that we train new teachers adequately for this programme. We advertised across the country for candidates who had been educated to at least Grade 11 and received approximately 1,000 applications. We then tested and interviewed candidates, reducing the acceptable number to 98 (although we had hoped for more).

We partnered with one of the leading Portuguese teacher training institutions to manage a one-year programme where

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Figure 2: Numeracy test score outcomes from 9,477 children in villages in Guinea-Bissau
candidates were trained to instruct children in Grades 1-4. In the end, just 48 managed to complete the teacher training. Our plan was to start with them teaching Grade 1 and then follow children up to Grade 4, providing additional teacher training along the way.

With just four months until the schools were to open, our 48 candidate teachers arrived with demands that would have tripled their previously agreed salaries and substantially reduced our ability to supervise their work. They had formed a committee with a presidium and they wanted to change the terms of the contracts with us to which they had previously agreed.

At this stage, we had paid for one year of their training and provided them with a living allowance. We had informed them in their first interviews that if they were offered an employment contract, we would pay them roughly double the wage of existing teachers in Guinea-Bissau. The government had pressured us to not offer more so as to keep any programme sustainable and to avoid conflict with other teachers.

The candidates demanded a pay package that would mean their wages rising to over four times those of the average teacher and more than the pay received by public sector doctors, as well as cabinet ministers. They also demanded that we reduce the ‘monitoring period’ in the contract to a few weeks, making it near impossible to dismiss those who were not performing well enough at teaching the children. Even if we had agreed to their demands, they would have had the opportunity to raise more in the future.

Our local employees (who were responsible for the management of both our education and health programmes) were shocked by the demands. At the time, Guinea-Bissau had just suffered a military coup and many official donors were cutting back on programmes. Some thought the candidate teachers wanted to ‘grab all they could early’ in case we left too. Our employees in unison advised us to refuse any of the demands and government officials in the Ministry of Education did similarly. We told the candidates that we would be prepared to hire anyone who wanted the original terms on offer, but we could not do more. The candidates decided to stick together and refused en masse.

For the next six months, we watched as the 48 candidate teachers marched across Guinea-Bissau’s political map to try to extort a cash award from us. They met the Minister of Education, the Minister of Foreign Affairs, the Prime Minister, National Assembly leaders and many lawyers. Each time they managed to convene meetings that we were asked to attend and when all the facts were made clear, the candidate teachers received no support. But they did succeed (mysteriously) in convincing a judge to impose an injunction so that we were prevented from hiring any new employees for a period of six months (until it was lifted on appeal in a higher court).

In these situations, the troubles of countries in regular political turmoil become clear. We are aware of cases where, under previous governments, public officials used biased courts or trumped up complaints effectively to confiscate assets of foreign NGOs as well as official donors. We were lucky that no one in the government or upper echelons of the military took the candidates’ side. The international community, such as the United Nations and World Bank, strongly supported us. We had good legal advisers.

The teachers had many ‘shots’ at the goal and they might have easily won powerful backing along the way. There is also always the looming concern that violence could be used given the fragile security of the state. We repeatedly told all officials who we met that we would need to leave the country if we could not work according to the law of the land and be free from such heavy-handed pressures.

When a little education hurts

In simple economic models of extortion, the extorter benefits most when there are valuable assets that can be grabbed or incomes that can be appropriated regularly – and the assets/incomes need to be fixed in place. One advantage of education and health programmes is that there are few assets, apart from some vehicles and computers. The children gain human capital that cannot be taken away and that they can use anywhere.

Had the 48 candidates thought clearly, they would have realised that any pliant government or military officials would hardly see benefit from closing down our operations to gain such small amounts (and the candidates surely should have realised little of those gains would have
gone to them in any case). Perhaps if we had had visible valuable assets in situ, the candidates might have had more success.

Lant Pritchett (2001) has made the provocative argument that sometimes education can hurt a country – for example, if better educated persons get employed in failing state-supported industries or if educated people tend to resort to 'rent-seeking' rather than socially productive works, the country could be worse off with education. But in our case, perhaps, if we had educated our candidate teachers on the economic benefits of extortion, they might have realised early they were backing a dead horse and needed to change course!

The tragedy of this is that no one wins. The children miss their chance of better schooling. The teachers lost the opportunity of a job. We, public officials and the courts all wasted our time. It also points out the difficulty of investing in these countries. The short time horizons of all the actors (including the government where ministers change frequently and the army where coups regularly topple generals) mean that people don’t value long-term relations, businesses and institutions that only pay a return on the investment slowly.

Our experience fits well with Paul Collier and Anke Hoeffler’s (2005) empirical work on ‘coup traps’, where they report that countries that suffer a coup tend to grow less quickly and are more likely to have further coups. Most businesses prefer to invest and grow elsewhere if they are threatened with extortion. But if you want to mine the minerals or your mandate is to work with troubled regions, you can’t simply move.

Future directions
We haven’t given up in Guinea-Bissau. We have instead hired 26 trained teachers, reduced the size of the programme, given them a rapid training programme and began pre-school activities in the spring of 2014. As with our tests in India, we will be comparing the outcomes of children in randomly selected villages who have been offered the quality schools with children in villages who continue to receive the standard programme. In a few years, we should learn whether there is strong, unfulfilled demand for education in these villages or whether some other factors can explain the consistently dismal educational outcomes across the country’s rural areas.

The contrast between our experiences in India and Guinea-Bissau could hardly be greater. In 1945, just before Korea’s civil war began, adult literacy rates were 22%. Despite three years of war, 70% of adults were literate by 1970 and nearly 100% are literate today. UNESCO’s latest data show 63% of Indian adults are literate, up from 48% in 1991. What’s more, given the voracious demand for education that we and others have observed, literacy rates should rise rapidly in coming decades, similar to South Korea.

In Guinea-Bissau, our experience anecdotally illustrates the large hurdles to building quality education. It will be very interesting to learn whether, if we can break down the barriers to providing education, there is a strong underlying desire for quality education there too.

Further reading


Many organisations are developing open platforms to create, store and share knowledge. **Aleksi Aaltonen** and **Stephan Seiler** analyse editing data by Wikipedia users to show how content creation by individuals generates significant ‘spillover’ benefits, encouraging others to contribute to the collective process of knowledge production.

**Wikipedia:** the value of open content production

Facebook, YouTube, Twitter and Wikipedia are among the world’s most popular websites – and all of them are based on user-generated content. While some platforms of this kind are primarily used to share individually produced content, others are based on a more direct interaction between users in the production of content.

Wikipedia is the leading example of this type of joint production. The online encyclopaedia contains almost 4.4 million individual articles in the English language version alone, which have been edited by more than 20 million users since its inception in 2001. Wikipedia has largely displaced the former market leader, Encyclopaedia Britannica, which is based on a more traditional process of content production (Devereux and Greenstein, 2009).

Wikipedia (and open source production more generally) constitutes a marked departure from traditional modes of production within organisations. Rather than using a fixed set of procedures to arrive at a pre-specified output goal, open source is characterised by commons-based peer production, a process that is ‘decentralized, collaborative, and non-proprietary; based on sharing resources and outputs among widely distributed, loosely connected individuals’ (Benkler, 2006).

Despite a rising number of products and online platforms relying on this type of production process, we still have relatively little understanding of what drives the growth of content in such environments. Lessons from what makes Wikipedia successful can inform open source projects and ‘wiki’-style platforms in a wide range of public and private sector organisations involved in research, education and innovation.

Without ‘spillover effects’, the growth in Wikipedia editing activity between 2002 and 2010 would have been halved.
Spillovers in content creation
Our study analyses a central question in the context of open content production: does individual content creation ‘spill over’ onto subsequent content creation by other users on the platform?

In contrast with traditional modes of production, it is in the nature of the Wikipedia production process for spillovers between users to occur. Having a large pool of potential editors allows individual contributors to add small pieces of information to an article and rely on subsequent users to develop the content further. How important such effects are quantitatively is the empirical question that our research aims to address.

In contrast to a more traditional editorial process, a Wikipedia user does not need to provide the entire content on a particular topic. Relying on a managerial structure explicitly to organise and coordinate the editing activity is also unnecessary. Instead, a large set of anonymous users interacts in the creation of content. A change in article content might influence other users by providing new information about a topic or by making potential areas for further contributions salient to them, thereby inspiring them to contribute further to the article.

In our research, we estimate the magnitude of these spillover effects and quantify their role in the growth process of Wikipedia content. We are able to do this because of the availability of very detailed information on editing behaviour on Wikipedia. The platform stores the entire history of edits on every article, which allows us to track the evolution of content over time.

We focus our attention on Wikipedia articles that mirror the efforts of more traditional encyclopaedias, namely the incorporation of a given level of knowledge into online content. To this end, we analyse the subset of Wikipedia articles in the ‘Roman Empire’ category, for which knowledge is presumably relatively stable over time.

Analysing Wikipedia edits
Analysing these data over an eight-year period, we look at how weekly editing activity, measured by the number of weekly users, is influenced by cumulative past editing activity, measured by article length at the beginning of the respective week. We find a positive effect of article length on editing activity that is statistically significant and economically important.

Using the predictions implied by our framework, we quantify growth in editing activity in the absence of the spillover effect to assess its role in the overall growth process. Removing the spillover, we find that the growth in editing activity between 2002 and 2010 would have been halved (see Figure 1, which shows increases in the number of users relative to the first week in the sample in 2002).

More specifically, articles created in 2002 (the only ones that experienced the full growth process) would have had a substantially lower number of weekly users per article in the absence of the spillover. The difference in the growth trends becomes more pronounced over time as articles grow longer and it is strongest at the end of our sample period.

Moreover, article length leads to more editing activity by increasing the number of users editing a particular article. But we find no evidence that the length of edits changes as articles grow. Edits on longer articles are more likely to involve deletion of content and they are more likely to be

Figure 1: Growth in the number of weekly Wikipedia users with and without the ‘spillover’
This article summarises ‘Quantifying Spillovers in Open Source Content Production: Evidence from Wikipedia’ by Aleksi Aaltosen and Stephan Seiler, CEP Discussion Paper No. 1275 (http://cep.lse.ac.uk/pubs/download/dp1275.pdf).

Aleksi Aaltosen is an assistant professor of information systems at Warwick Business School. Stephan Seiler is an assistant professor of marketing at Stanford University's Graduate School of Business and a research associate in CEP's productivity and innovation programme.

Leveraging spillovers for greater productivity
What are the implications of understanding the growth dynamics and importance of editing spillovers on open platforms beyond Wikipedia? Many firms, including Intel (Intelpedia) and British Telecom (BTpedia), are using internal wiki platforms to create, store and share knowledge within the company. Other public open source projects, such as online dictionaries and a collection of open source teaching material, use the same technological platform as Wikipedia.

There are similar initiatives in the realms of medicine – for example, the ‘Open Source Drug Discovery for Malaria Consortium’ and ‘OpenEMR’, an electronic health records and medical practice management application – and science and engineering – for example, the ‘Science Commons’, which allows the dissemination of scientific work outside academic journals. And there are growing numbers of open source projects that involve the production of physical products: one example is Threadless.com, which relies on a large community of over 500,000 people to design and select T-shirts.

Our findings on the impact of spillovers on Wikipedia suggest the value of all such platforms providing incentives for users to contribute content or to ‘pre-populate’ articles with content so as to trigger further contributions. Since we also find evidence that the magnitude of the spillover effect varies with the total number of users active on the platform, it seems that achieving a larger mass of potential contributors is important for these platforms to benefit from a stronger spillover effect.

Further reading


A larger mass of potential contributors to an online platform will generate bigger spillovers

Providing incentives for early users to contribute content will trigger further contributions
in brief...
Policy for better mental health

Treating mental illness should be a top national priority, especially as proven psychological therapies effectively cost nothing. Richard Layard explains how CEP research has led to a new deal for mental health – but much remains to be done.

As the general election approaches, the issue of Britain’s national priorities becomes ever more critical. What are the most important factors affecting wellbeing in our society? And what low-cost ways do we have of improving wellbeing at a time when ‘all the money’s gone’?

In our recent book, David Clark and I argue that mental health is crucial for wellbeing and that modern evidence-based ways of treating mental health problems have no net cost to the Exchequer. It is a fundamental mistake to think that our life satisfaction depends only on our current external circumstances. CEP research shows that previous mental health explains much more of the misery in our society than is explained by poverty or unemployment.

The most common problems are depression and chronic anxiety disorders – and these can now be effectively treated by modern psychological therapies such as cognitive behavioural therapy (CBT). The evidence is that Mental illness has much greater economic costs than physical illness.
Evidence-based ways of treating mental health problems have no net cost to the Exchequer

half of all patients treated will recover: their misery will go. In addition, many will be able to work who could not otherwise do so.

If someone is on sickness benefit rather than working, it costs the government £650 a month. This is the same as the cost of therapy, averaged over the range of treatment for mild to severe cases. So providing therapy costs the government nothing if the patients treated work on average one month more than they otherwise would: they do.

This is the argument that the CEP’s Mental Health Policy Group put to the government in its Depression Report in 2006. In response to this lobbying, in 2008, the government launched a completely new service to provide psychological therapies for depression and anxiety disorders – Improving Access to Psychological Therapies (IAPT).

The IAPT service is now treating over 400,000 people a year – a major organisational triumph, based on a national training programme, rigorous outcome monitoring and a progressive roll-out of new services across the country.

But the task is only half done. There are seven million adults suffering from depression and anxiety disorders and we should be treating at least a million a year. So we need another doubling of the programme over the next parliament. But today’s NHS is much more decentralised than in 2008. What happens is largely up to local commissioners. Savings on disability benefits are of no interest to them. But that is where a different form of savings becomes relevant – the savings on physical healthcare.

Worldwide evidence reveals a striking fact: mental health affects physical health and the use of physical healthcare facilities. Suppose we take two people with the same type and degree of physical illness, but A also has depression or an anxiety disorder. Then A will need 50% more physical healthcare than B – partly because of the physiological effects of mental illness, partly because of unhealthy habits and partly due to extra levels of anxiety.

In Britain, this costs an extra £2,000 a year per patient. So if we treat a physically ill person for their mental illness, we can expect to save up to £1,000 a year on physical healthcare (due to the 50% recovery rate). This compares with the one-off cost of £650 for the psychological therapy. This is a powerful argument to put to commissioners and we are doing our best to make sure they hear it.

So there are two arguments here. The first is natural justice. People with mental health problems should have the same access to therapies recommended by the National Institute for Health and Care Excellence (NICE) as people who are physically ill: at present, they do not. That is the greatest health inequality in our society. It ought to be remedied even if it would cost money.

But second, it would cost nothing: whereas most physical illness is a problem of old age, most mental illness is a problem of working age. Indeed, up to the age of 45, there is more mental illness than physical illness in rich societies. So mental illness has much greater economic costs than physical illness. And, by the same token, treating mental illness relieves those costs and in net terms costs nothing. We should go for it.

This column discusses the central messages of Thrive: The Power of Evidence-Based Psychological Therapies by Richard Layard and David M. Clark (Penguin, 2014).

Professor Lord Richard Layard is director of CEP’s research programme on wellbeing. David M. Clark is professor of psychology at Oxford University.

The 2006 report by the CEP’s Mental Health Policy Group – The Depression Report: A New Deal for Depression and Anxiety Disorders – is available here: http://cep.lse.ac.uk/textonly/research/mentalhealth/depression_report_lyard2.pdf
Wealthy foreigners looking for a quick way to get permanent residence in the UK can take the ‘investor route’. Sir David Metcalf, chair of the government’s Migration Advisory Committee and an active CEP researcher for three decades, explains how simple reforms to the system, including visa auctions, would benefit UK residents.

The ‘investor route’ to UK citizenship

For two decades, the UK has provided ‘indefinite leave to remain’ (ILR or settlement, often leading to UK citizenship) for high net worth individuals and their families. Many other countries have similar schemes. But the purpose of this immigration route is not set out anywhere: what is in it for UK residents?

The Migration Advisory Committee (MAC) was asked to examine this investor route and suggest improvements. The MAC reported in February 2014 and our essential conclusion was very straightforward: the present system is designed to maximise the gains to the immigrant investor and minimise the gains to UK residents. As The Economist (1 March 2014) put it: ‘The present system is deeply flawed’.

How does the present system work?

In the present system, migrants who invest £1 million in gifts or in UK registered companies can apply for permanent residence (ILR) after five years. An investment of £5 million reduces the waiting time to three years and £10 million to two years. The migrants need not speak English and they can bring their families.

Such investor numbers have increased rapidly in recent years. Between 2008 and 2013, 1,647 out-of-country visa applications were granted, with 560 in 2013 alone. Half go to Russian and Chinese nationals. Each main applicant has, on average, two dependants. There

The controversial idea of auctioning visas would be ‘selling settlement’ but at present the UK is giving it away
are also in-country applications, totalling 402 in 2013. These are typically extensions of the existing investor visa or a switch from the student route (Tier 4) to the investor route (Tier 1).

Three unsatisfactory features of the present system need emphasising:

- First, the ‘investment’ is a loan, not a gift. Indeed, UK residents pay the migrant interest for investing in gilts!
- Second, the basic £1 million investment threshold has remained unchanged for 20 years.
- Third, the main gains go to the migrant not to UK residents. For example, the investor gets the rule of law, property rights, access to efficient capital markets and an excellent education system for their children. What do UK residents get?

**How might UK residents gain from the present system?**

Most individuals who use this scheme invest in gilts: they loan the government £1 million for five years. But we do not need such investment to fund the deficit.

We are selling around £300 million of gilts every day – the capital market is working very efficiently. At present, the annual aggregate loan via the investor route is £1 million or £10 million investment in gilts – little used at present. Therefore the MAC suggested an alternative: a limited number of slots might be auctioned. At present, it is not possible to determine the optimal price – investment threshold – for a visa under the investor route.

One approach to determine the price would be to auction a certain number of slots, say 100, with a reserve price somewhat above (say £2.5 million) the proposed investment threshold of £2 million. The government would receive the excess over the £2 million. This surplus could go to a ‘Good Causes Fund’ similar to National Lottery spending.

To encourage investors to enter the auction, the MAC recommended that two incentives be provided:

- First, investors who gain an auction slot should receive accelerated settlement after two years.
- Second, the residence requirements for such investors should be relaxed such that they had to spend fewer days in the UK than at present.

**Why the idea of visa auctions is controversial**

Proposals to auction some investor visas – NOT passports or citizenship – turned out to be highly controversial. By and large, economists are supportive and other commentators hostile.

The MAC’s proposed method – a sealed bid auction – was endorsed by Professor Paul Klemperer, the Oxford University auction theorist: ‘A revenue maximizing government should prefer an auction based on single sealed bids… [over] an ‘English’ auction, where bids are public. This would play on applicants’ fears of missing out, encouraging high rollers to bid closer to what they are willing to pay, rather than just a fraction

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A reformed investor route could benefit UK residents and signal that the country is open
more than their competitors... To keep people guessing, and prices high, the government could keep the winning bids secret (The Economist, 1 March 2014). Will Hutton also endorsed the proposal in The Observer – and my LSE colleagues Alan Manning and David Webb were strong supporters when giving evidence to the MAC.

Four main objections were advanced to the MAC’s auction proposals: selling settlement; lack of due diligence; administrative complexity; and the need for ‘certainty’.

Auctioning visas does indeed involve ‘selling settlement’ (but NOT passports or citizenship). The critics who make this objection should stand back and ask the economist’s basic question: what is the alternative? At present, the UK is giving away settlement. Indeed, we are paying the investors interest on their gilts. So these critics – including the Home Affairs Select Committee of the House of Commons – may wish to ponder why achieving a contribution to a good causes pot is worse than paying Russian oligarchs to come to the UK.

Some commentators assumed that the highest bidders would automatically achieve settlement. This is not so. As the MAC report stated, there will always be due diligence. Whether this is undertaken prior to, or after, the auction is an important administrative question for the Home Office. It was very noticeable during the MAC consultations on investors that wealth managers and legal representatives are super-sensitive to the need for due diligence, lest they lose their licence to practice.

It was claimed that the auction proposal would be ‘administratively complex’. This is wrong. The bids are submitted and ranked. Say there are 100 slots available (perhaps 25 a quarter): the highest bids achieve settlement, subject to due diligence. Nothing could be simpler!

Most wealth managers and legal representatives suggested that their clients want ‘certainty’. The problem is that at present, no one knows the optimal ‘certain’ price of a UK investor visa – an auction would determine this price.

One way round this, to accommodate the concern of stakeholders, would be to set a ‘certain’ price for the premium route – say £5 million. At £5 million, £2 million would be the standard investment threshold amount and £3 million for the good causes pot. If there were many more applicants than expected next time, the £5 million benchmark could be raised, and vice versa. But such an arbitrary amount is inferior to allocation by auction. As yet, the government has not decided on its response to the MAC proposals.

Conclusions
The present investor route confers more modest benefits on UK residents than is commonly supposed. But there is a case for retaining it – particularly if the MAC’s reform proposals are accepted – to signal that the UK is open and welcoming to those who wish to contribute to the wellbeing of UK residents. But it would be injudicious for the UK to enter a ‘race to the bottom’, matching special offers recently introduced by Antigua, Malta and Portugal.

Finally, the distribution of income matters as well as the level of income. And the investor route – like other routes – has an impact on the distribution. For example, it is plausible that because the supply of housing is inelastic, house owners gain – particularly in London – whereas non-house owners do not. The distribution of income needs to be factored into any evaluation of this route.

Sir David Metcalf is an emeritus professor at LSE, a research associate in CEP’s labour markets programme and chair of the government’s Migration Advisory Committee.

What effects do freely available online music videos have on digital sales of songs and albums? Tobias Kretschmer and Christian Peukert investigate the impact of YouTube samples on iTunes purchases, using a performing rights controversy in Germany that led to far more videos being blocked there than elsewhere.

Do free samples threaten sales of the full product – or do they encourage consumers to go on to buy the real thing? In a recent study, we explore the effect of sampling of music videos via YouTube on the iTunes sales performance of two related products: single songs and albums containing the song.

Two countervailing effects are possible here. People may fall in love with a song after watching a video clip and then decide to buy it. Alternatively, because watching the music video is not much different from owning the song, they may stick to YouTube and not buy the song at all.

We find that making video clips of a song unavailable on YouTube – as has happened on a large scale in Germany – has no effect on sales one way or the other. This suggests that either YouTube availability and iTunes sales are unconnected or that the promotion effect and the displacement effect cancel each other out.

But looking at album sales, where the displacement effect is likely to be smaller because the song in question is just one part of the full product, we find that there is indeed a promotion effect. An additional video that becomes unavailable on YouTube results in 1-3% lower album sales on iTunes.

Our findings suggest that different digital channels interact in intricate ways and that availability on one can have an impact on success on other channels. This means that copyright agreements – and estimations of the economic loss (or gain)
from copyright infringements – have to consider both the promotion and displacement effects arising from (legal and illegal) sampling.

**Try before you buy**

If prospective consumers can find out before buying whether a product matches their tastes or will deliver the promised quality, sampling is unnecessary. Simply providing information about the objective product characteristics will help match consumers to products.

But if consumers have to experience the good to be really sure they like it, no amount of upfront information will ensure a satisfactory match. Many products and services have the characteristics of ‘experience goods’: think of an expensive bottle of Bordeaux that may or may not be to your taste, despite what the label – and the price! – tell you. Even advertising or signalling through price will not resolve this, especially if there is an element of matching personal preferences on top of unobservable product quality.

This means that consumers will look to recommendations from others (ideally with similar preferences), they will look for cues from related products or, given the opportunity, they will try the product, or parts of it, before they buy. Clearly, the more that consumers get to sample the complete product, the more certain they will be that they like it. But offering a larger sample has an obvious downside in many cases: if we let consumers sample the full product, they may not need to buy it.

Sometimes, firms cannot even choose whether (and how much) to offer samples. Many digital products, including music and books, can be copied easily and without the consent of their creator. Moreover, they are often copied in their entirety and without any losses of quality. This often illegally distributed (pirated) content is frequently considered a threat to the revenues of content producers as it is a near-perfect substitute and consumers might end up not purchasing original content any more.

This argument has been around for a long time, at least since the anti-copyright infringement campaign by the British Phonographic Industry with its striking slogan ‘Home taping is killing music – and it’s illegal’. But the substitution of legal by pirated content may only tell one part of the story: pirated content may also serve the positive function of a promotional sample of the full version.

**YouTube disputes in Germany**

YouTube is rife with cat videos, compilations of ‘fails’ and countless ‘how-to’ films. But about one third of what’s available is music videos – official clips, user-generated, cover versions, live versions, etc. Many of the clips are uploaded by users, mostly without permission. As such, YouTube functions as a sampling device for the songs uploaded, though clearly some users may watch a song for free on YouTube instead of purchasing it either online or offline.

Aware of this possible displacement effect, GEMA, a performance rights organisation in Germany, entered into negotiations with YouTube about royalties for their members (virtually all German artists and, because of international cooperation of national collection societies, virtually all artists worldwide). Negotiations were unsuccessful, with YouTube arguing that GEMA was asking for unreasonably high fees. An agreement was made even more difficult as GEMA had a statutory duty to make any agreement with YouTube public, while YouTube would only enter a private agreement.

As a result, YouTube started blocking virtually all videos containing music in 2009. The consequence was a fundamentally different YouTube experience for German users than for those in other countries. Measured in the number of restricted videos, no other country in the world has less access to popular content on YouTube than Germany – not even South Sudan or Afghanistan. Figure 1 illustrates the number of blocked videos per song in Germany and compared with the United States.

**Figure 1:**

**Blocked videos on YouTube in Germany and the United States**

![Graph](image-url)

Number of blocked videos in Germany
Mean: 9.36, median: 8, min: 0, max: 43

Number of blocked videos in the United States
Mean: 0.10, median: 0, min: 0, max: 20

Number of unique videos that show up in the top 25 search results across all countries, except Germany (the United States) but are blocked in Germany (the United States) – referring to search query “Artist – Song” on international YouTube sites. Note that the scale of the right-hand graph is five times the scale of the left-hand graph.
The impact on sales of individual songs and albums

Our research makes use of the differences between YouTube in Germany and other countries to estimate the impact of YouTube as a promotion (or displacement) channel on music sales.

We analyse data on the iTunes sales ranks of more than 67,000 songs (and the corresponding albums) in 10 countries, including Germany. Using variation both across countries (YouTube also blocks some – but far fewer – videos elsewhere) and over time (clips are not always blocked immediately after uploading), we find that blocking clips extensively seems neither to reduce nor increase the sales rank of the corresponding song.

A non-result? Maybe so, but it could be that two effects – promotion and displacement – are cancelling each other out. To dig deeper, our analysis looks at the sales performance of the corresponding album. We would expect the displacement effect to be weaker because a clip only shows one song from a collection on an album, while the promotion effect should stay intact – at least to the extent that one song tells us something about the rest of the album.

We find that blocking clips of a specific song on an album has a significant effect on album sales: blocking one clip containing the song leads to a reduction in sales of 1-3%. This is not a trivial number – and it is not surprising that some high-profile German artists have started publicly calling for YouTube and GEMA to find an agreement so that the promotion effect kicks in for them.

Writing on their Facebook page in March 2012, the electro/hip-hop band Deichkind said:

‘Whether it’s the record label, YouTube or GEMA, whoever’s responsible. We want our videos to be seen. Finally get your sh*t sorted out and do your homework! You are a barrier to evolution and you are irritating the cr*p out of us.’

Just how irritating the loss of an important promotion channel can be to artists is shown by our research – which means that the accepted wisdom on home taping and its successors in the digital age may finally have become outdated.


Tobias Kretschmer, professor of management at Ludwig-Maximilians-Universität Munich, is a CEP research associate. Christian Peukert is a senior research associate at the University of Zurich.

Different digital channels interact in intricate ways and availability on one can influence success on another
in brief...

Trophy architects and the ‘dark matter’ of London’s planning system

In the highly uncertain world created by the UK planning system’s decision-making method, employing an architect who has already won a lifetime achievement award – and whose work thus has the imprimatur of ‘iconic design’ – can get a London developer a valuable extra 19 floors on a representative site. Paul Cheshire and Gerard Dericks explain the costs to society of these incentives to ‘game’ the system.

Property is very local – and one result is that everyone everywhere tends to assume that the way their rules regulate development (or tax it) are the universal norm, more or less determined by nature. But of course, the reality is different. Rules and the way they are imposed are also very local – and a peculiar feature of the UK’s planning system is that we make decisions by something called ‘development control’.

This means that the proposer of any project legally defined as ‘development’ needs to apply to a committee of local politicians who can say yes or no. In making their decision, they are guided by the local plan (when there is one) but frequently ignore it and the advice of their professional planners. If the developer thinks they may have a chance of overturning the initial decision, then they can go to the quasi-judicial process of appeal. Even after that, they can make a further appeal to the Secretary of State.

All this costs a lot of resources and the further a developer pursues the case, the more it costs. But its most important cost is a kind of ‘dark matter’, invisible to scrutiny: the cost of the resulting uncertainty and extra delay.

The uncertainty is translated into an additional ‘risk premium’, which means that the more uncertain the ultimate decision is, the higher the expected rate of return on the project will need to be for it to be worthwhile. In reality, this means that less is built because a whole tranche of projects get ruled out. This probably applies differentially to bigger projects because decisions on these are even more uncertain.

As earlier research has shown, our planning system imposes tight constraints on the supply of office space in UK cities (Cheshire and Hilber, 2008). Put together, these facts mean there is a big potential payoff to developers if they can ‘game’ the system to get permission for a project otherwise likely to be rejected. The uncertain process of development control gives them scope to do this.

In new research, we demonstrate at least one mechanism they can use. This is to employ what we call a ‘trophy architect’ (TA) – someone who, before applying for permission to build, has won a globally recognised lifetime achievement award.

Planning makes it worth risking a fortune to ‘game’ the system and get more space when you are successful.
factors that influence the size of buildings is the power of TAs to bend London’s planning system. Provided the site is not in an absolutely height-restricted area, employing a TA gets the developer an extra 19 floors: a 27-floor building on average compared with the eight storeys of buildings designed by conventional architects.

The selling price per square metre is not increased by using a TA (rents may be slightly higher but TA buildings seem to take longer to rent out and have more special rent deals and higher maintenance costs) so there is no evidence that commercial users put a special value on the design. But of course, the extra rentable space means that the value of the site is hugely increased. Allowing for the extra construction costs associated with TA design, on an average site in the City, the TA adds around £73 million (130%) to estimated site value.

At first sight, this looks like a staggering profit. But most economists tend to assume there are very few large denomination bank notes lying around on city streets waiting to be picked up. So a more plausible interpretation of this figure is that it is a glimpse of that dark matter of ‘rent acquisition by design’: the underlying but not really visible costs of having a decision-making system so uncertain in its outcome that it is worth risking a fortune to game it and get more space when you are successful.

As the then Secretary of State, John Prescott said in 2003 when over-ruuling the planning inspectors to give permission to build the Shard:

‘(I) will only approve skyscrapers of exceptional design. For a building of this size to be acceptable, the quality of its design is critical… the proposed tower is of highest architectural quality.’

And he knew this was true because the designer was a TA. What a waste of resources this suggests is going on. As Anne Krueger (1974) showed in her famous article on ‘rent-seeking’ 40 years ago, rent acquisition of this type represents a ‘deadweight loss’ to society.

It is not even that our data suggest there is any social payoff from TA design although we cannot prove there is none: tourists might value their iconic design even if their owners apparently do not – except of course as a gambler’s way of maybe getting those valuable extra 19 floors.


Paul Cheshire is professor of economic geography at LSE and a SERC researcher. Gerard Dericks is a SERC research associate based at the Smith School of Enterprise and the Environment at the University of Oxford.

Further reading


A quarter of London’s skyscrapers are designed by trophy architects compared with just 3% in Chicago
Wind turbines are generally popular as a source of green energy but face considerable opposition from the people who have to live near them. **Steve Gibbons** uses local property markets as a way to value the visual impact of wind farms and finds significant negative effects on house prices in postcodes where the turbines are visible.
Gone with the wind

Since the mid-1990s, there has been rapid growth in the number of wind turbine developments in many parts of Europe and the United States. These wind farms promise the global environmental benefits of reduced carbon emissions and slower depletion of natural energy resources; they also offer benefits for local communities, including shared ownership schemes, community grants and rents to landowners.

But in the UK (where there are around 4,400 turbines in operation) and elsewhere in Europe, wind farms have faced strong opposition, both from local residents and from other stakeholders with interests in environmental preservation. At the same time, opinion polls generally show majority support across Europe of around 70% for green energy, including wind farms; and 70% of people in the UK agree that they ‘would be happy to have a wind farm built in their local area’.

This apparent contradiction has led to accusations of ‘nimby’ (‘not in my backyard’) attitudes, on the assumption that it is the same people who support wind farms in principle but oppose them in practice. But this is misleading since most people – and hence most people responding to nationally representative surveys – live in cities, where turbines are never likely to be built and where tall physical structures are commonplace. Most people who oppose wind farms live in the rural communities where the turbines are being built.

So what are their objections to wind farms? Just like any other infrastructure for power generation and transmission, the plant, access services and transmission equipment have an impact on the local environment. The problem is particularly acute with wind farms because the sites that are optimal in terms of energy efficiency are typically in rural, coastal and wilderness locations. These have many natural environmental amenities, including wilderness habitats, outdoor recreational opportunities and the aesthetic appeal of the landscape.

The opposition to wind farms suggests that these environmental considerations may be important. The visual impact of the turbines may be especially important as they are often on high ground with extensive visibility and, for a given power capacity relative to traditional technologies, the infrastructure is widely spread. In addition, residents very close to operational wind turbines have reported health effects related to visual disturbance and noise.

Although views on the aesthetic appeal of wind turbines are mixed, there is evidence of considerable dislike of their visual impact on the landscape. For example, 23% of respondents to a 2010 YouGov poll of 1,001 residents of Scotland were reported as agreeing or strongly agreeing that wind farms ‘are, or would be, ugly and a blot on the landscape’.

My research aims to put a value on the visual impact of wind turbines by exploring their effects on house prices. These are important in their own right given that effects on house sales have underpinned local opposition, with homeowners complaining that they have to sell at a large discount or are unable to sell at all when their properties are blighted by wind farms or planning applications to build turbines.

Looking at the effects on prices also has a strong academic pedigree and follows a long tradition in environmental and urban economics, where the method has been used to value all kinds of environmental amenities, ‘dis-amenities’ and local public goods and services. The idea is that house prices trace out households’ willingness to pay to locate close to desirable things and keep away from those that are less desirable.

But simply comparing house prices in places where there are wind farms with those without them would be a hopelessly inadequate approach. Places targeted for turbines (which are typically upland, windy and rural) are not comparable with those that are not (cities and valleys, for example). Comparing prices or price changes in such different locations would
not be informative about the specific effects of wind farms. So my analysis only uses postcodes in England and Wales that either had a wind farm close by at the beginning of the period I study (in 2000) or ended up with a wind farm close by at the end of 2011. I compare the average house price changes that occurred in a postcode close to a wind farm around the time it became visible and operational, with price changes in postcodes elsewhere, which were already close to wind farms or would be in the future.

To isolate the specific impact of wind farm visibility, I compare the price changes that occurred when a wind farm was built and became visible with the price changes that occurred in places that were just as close to newly operational wind farms but where the turbines were not visible. Visibility can be determined using modern Geographical Information Systems techniques coupled with computer ‘digital terrain model’ data from space shuttle missions that record elevation for the entire surface of the UK.

The analysis is based on around two million records of house sales within 14km of operational turbines in England and Wales, linked to information on wind farm locations provided by the trade association Renewable UK. The housing data are from the Land Registry (the official registry of housing transactions) so they cover almost all sales over the period and, by identifying the exact postcode of each house being sold, they provide a high level of geographical resolution. That makes the study the most detailed, comprehensive and rigorous analysis of the impact of wind farms to date.

All the results point in the same direction. Wind farms reduce house prices in postcodes where the turbines are visible; and they reduce prices relative to postcodes close to wind farms where the turbines are not visible.

Averaging over wind farms of all sizes, prices fall by around 5-6% within 2km, by less than 2% in the range 2-4km and by less than 1% at 14km, which is the limit of likely visibility. Small wind farms have no impact beyond 4km, while the largest wind farms (those with 20 or more turbines) reduce prices by 12% within 2km and by small amounts right out to 14km (by around 1.5%).

There is evidence of some small (below 2%) increases in neighbouring prices where the turbines are not visible. This uplift may indicate some local benefits from wind farms, for example, community grants or rents to landowners for land on which the turbines are built. But the price increases could also be explained by displacement of demand by those seeking houses in these areas towards places where the wind farms are hidden. Offseting price effects in neighbouring places where turbines are visible and where they are not may help to explain why previous studies that focus only on the distance of houses from wind farms fail to find significant effects.

Rough calculations using these estimates suggest that households are willing to pay £600 a year to avoid having a wind farm of small to average size visible within 2km. They would pay around £1,000 a year to avoid a large wind farm visible at that distance and around £125 a year to avoid having a large wind farm visible in the 8-14km range.

This means that the implied amounts required per wind farm to compensate households for their loss of visual amenities is fairly large: about £14 million on average to compensate households within 4km. The corresponding values for large wind farms will be much higher as their impact is larger and spreads over much greater distances.

This evidence does not mean that we should not build wind farms. But it does draw attention to the fact that there are environmental costs as well as benefits. Planning policy should continue to take account of these considerations when deciding where wind farms should be built – and to what extent local people should be offered compensation.


Steve Gibbons is director of SERC and professor of economic geography at LSE.

Households are willing to pay £1,000 a year to avoid a large wind farm visible within 2km
in brief...
Fiat Chrysler and the future of industry

Is there a future for industry in Europe and North America? Giorgio Barba Navaretti and Gianmarco Ottaviano use the example of the newly merged transatlantic car-maker Fiat Chrysler to debunk a number of myths about the nature of manufacturing and its viability in the mature economies of the West.

In the aftermath of the financial crisis, several national leaders have shown a renewed enthusiasm for manufacturing. For example, in 2011, US president Barack Obama said ‘Today, I’m calling for all of us to come together – private sector industry, universities and the government – to spark a renaissance in American manufacturing and help our manufacturers develop the cutting-edge tools they need to compete with anyone in the world… With these key investments, we can ensure that the United States remains a nation that ‘invents it here and manufactures it here’ and creates high-quality, good paying jobs for American workers.’

A few months later, UK prime minister David Cameron welcomed new investments by a Japanese car-maker, stressing its contribution to the creation of a ‘more balanced economy, one with manufacturing, innovation and exports at its heart… The automotive sector is leading the way in helping us achieve this – it is an extraordinary success story’.

Conventional wisdom has long maintained that the costs of manufacturing in mature economies (for which, read ‘the West’) are prohibitively high and hence most if not all production will have to be ‘offshored’ to emerging economies (for which, read ‘the East’, ‘the BRICs’ or, more often, simply ‘China’). On the other hand, with news of rising wages in China and some Western manufacturers ‘in-shoring’ jobs back home, there have recently been signs of more positive sentiment.

But both the pessimists and the optimists are often influenced by misconceptions about the nature of manufacturing and its viability in mature economies. Looking at the car industry and, in particular, the recent journey of Fiat and Chrysler ‘to hell and back’ helps debunk some of those myths.

The first myth is that the crucial cost parameter is the wage bill and that the only way to achieve sustainable cost compression is lower wages together with poorer working conditions.

It is true that new industrialising countries have often started from labour-intensive industries (such as clothing and shoe-making) and that the abundance of cheap and laxly regulated labour has represented a formidable initial advantage. Yet the geography of manufacturing follows complicated patterns that are only partially related to cheap factors of production. Drivers such as market size, consumer preferences, transport costs and ‘agglomeration economies’ (the benefits of companies in related businesses being in close proximity to one another) all interact with the costs of labour in explaining the location of industrial activities.
The restructuring of Chrysler inevitably involved considerable cuts in wages and benefits, but these had reached levels that were untenable even when compared with other car-makers in the United States.

The second myth is that only extreme cost compression can sustain prosperous manufacturing in the West.

Containing production costs is obviously important. In car-making, it traditionally materialises in an obsession with scale. But scale is only one of the pillars on which the joint restructuring of Fiat and Chrysler has been based. Another key pillar is what allows a company to sell more cars for a given price and command a higher price for given costs: ‘quality’. As Chrysler, Fiat and several other car-makers have learned the hard way, cost compression does not work if it entails poor quality. And quality rather than low cost is where mature economies generally (though not always) lead, not least because they are still setting standards.

The third myth is that there is no limit to automation and that only fully automated factories are viable in high-wage countries.

Machines cannot fully replace people even in car-making, one of the industries with the highest technological content. Assembling cars requires several manual operations that machines cannot replicate. Precisely because there is a limit to automation (and to wage compression), industries in high-income countries must find other ways to reduce the incidence of labour costs. Increasing quality and exploiting economies of scale are both ways of doing so. Another way is to reorganise workflow at the plant level.

A visit to a Fiat Chrysler plant immediately reveals an obsession with reducing waste and dead time according to the rules of ‘World Class Manufacturing’, the company’s own version of lean manufacturing. Workers are fastidiously organised in teams along the assembly line, with rotating well-defined tasks within the team and very detailed performance targets. Tasks may change radically in the rotation and any worker must be able to perform a broad set of them. Some tasks are at the upper limit of, or even above, the worker’s traditional skill level. Workers also contribute to improving and redesigning the process, which is of course a cognitive rather than manual task.

All this raises the educational requirements for new recruits and these are now generally above high school levels for Chrysler’s US plants. It also makes their jobs less ‘offshorable’ to countries with cheap labour. When teams of workers succeed in achieving considerable cost reductions by jointly performing a combination of complex complementary tasks, it is not easy to replicate the same working conditions elsewhere, even if wages are lower.

The last myth is that supporting manufacturing means preserving the status quo.

During economic downturns, it is obviously necessary to preserve enough capacity to maintain the knowledge base and keep alive the agglomeration economies that made industry viable in the first place. At the same time, shedding excess capacity through the closure of weaker and inefficient parts of the industry brings it back to a size that is compatible with the volume of demand.

Though painful, this is healthy adjustment and a precondition for future growth. It is like consolidating losses when restructuring a bank: if you do not, the balance sheet keeps being burdened by bad debt.

This approach has underpinned the successful policy actions taken by the US administration to support and restructure car-making in 2008-09. In contrast, Europe has always been more careful about protecting jobs and avoiding painful adjustments. As a consequence, adjustment has been delayed, with most mass market producers still keeping their European plants working below capacity, using temporary layoff schemes where available, but reporting losses for their European operations.

Together with the asymmetric recovery of demand on the two sides of the Atlantic, the different speed of reaction of policy-makers goes a long way towards explaining why, in the aftermath of the financial crisis, manufacturers like Fiat Chrysler started to make profits again in the United States much earlier than in Europe.

This article summarises Made in Torino? Fiat Chrysler and the Future of Industry, a book by Giorgio Barba Navaretti and Gianmarco Ottaviano, published in Italian by Il Mulino in May. The analysis is based on fieldwork performed by the authors together with Maria Teresa Trentinaglia in Turin and Detroit benefitting from unique access to Fiat Chrysler data sources, executives, managers, engineers and workers on both sides of the Atlantic.

Giorgio Barba Navaretti is professor of economics at the University of Milan. Gianmarco Ottaviano is professor of economics at LSE and director of CEP’s research programme on globalisation. Maria Teresa Trentinaglia is a PhD candidate at the University of Milan and visited CEP in 2012.

The authors presented the book at the Trento Festival dell’Economia on a panel with Fiat Chrysler’s chief executive officer Sergio Marchionne, at Unindustria in Turin on a panel with the Mayor of Turin Piero Fassino in the presence of Fiat Chrysler’s chairman John Elkann; and at the Italian senate in Rome on a panel with Pier Carlo Padoan, Minister of Economy and Finances.
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