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Bad locations
Eurozone crisis
Crime economics

Neighbourhood effects
Long-term unemployment
Manufacturing and services



Does
domestic
violence
rise in a
recession?

CentrePiece



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■

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Editorial

One of the many criticisms of economic research and teaching in the wake of the financial crisis is a seeming absence of historical awareness. In a recent volume of commentaries called *What's the Use of Economics? Teaching the Dismal Science After the Crisis*, HSBC chief economist Stephen King says that 'Too few economists newly arriving in the financial world have any real knowledge of events that, while sometimes in the distant past, may have tremendous relevance for current affairs.'

Although there is no specific programme on economic history at the Centre for Economic Performance (CEP), many researchers look back into the past for evidence to inform contemporary policy debates. In this *CentrePiece*, for example, CEP's director John Van Reenen reflects on the decline of British manufacturing since 1979 and its relevance for industrial policy today; Giuseppe Berlingieri considers similar structural changes in the US economy over

the 60-plus years since the Second World War; and Guy Michaels and Ferdinand Rauch return to Roman and medieval times to explore how cities can be trapped in bad locations, a big issue for modern urban planners.

Much of CEP's work on education, wellbeing and the labour market is focused on the life histories of individuals – and in particular how the circumstances and experiences of people's childhood and early adult years influence their later outcomes. Here, Steve Gibbons and colleagues outline the findings of a longstanding research programme on links between the kinds of neighbours with whom children grow up and their subsequent educational achievements. Surprisingly perhaps, any significant effects of 'neighbourhood quality' have proved hard to detect.

That is certainly not the case with young people's experiences of joblessness: it is now widely understood that the 'scarring' effects of long periods

without work on future earnings, employment and happiness can last a lifetime. Hence the importance of trying to discover what works in tackling long-term unemployment, an issue addressed here in Barbara Petrongolo's review of the research evidence on which 'carrots' and 'sticks' are likely to be most effective as active labour market policies.

Our cover story focuses on a potential consequence of unemployment: an increase in domestic violence. Again, the results may be surprising, with contrasting impacts of male and female unemployment. Finally, Olivier Marie discusses the economics of crime more broadly – and how a body of research that began with Nobel laureate Gary Becker nearly 50 years ago is contributing to crime-fighting policy. History, including the history of economics itself, can deliver valuable lessons.

Romesh Vaitilingam, Editor
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After the fall of the Roman Empire, urban life in France became a shadow of its former self, but in Britain it completely disappeared. **Guy Michaels** and **Ferdinand Rauch** use these contrasting experiences as a natural experiment to explore the impact of history on economic geography – and what leads cities to get stuck in undesirable locations.

Can cities be trapped in bad locations?

The world is rapidly urbanising, but some of its growing cities seem to be misplaced. Their locations are hampered by poor access to world markets, shortages of water or vulnerability to flooding, earthquakes, volcanoes and other natural disasters. This outcome – cities stuck in the wrong place – has potentially dire economic and social consequences.

When thinking about policy responses, it is worth looking at the past to see how historical events can leave cities trapped in locations that are far from ideal. We have done that in a study that compares the evolution of two initially similar urban networks following a historical calamity that wiped out one, while leaving the other largely intact.

As Paul Krugman has kindly noted in a short piece on our research, we address one of the central themes of the 'new economic geography' that he pioneered: 'the role of cumulative causation, and its tendency to lock in urban locations. Economic geography models stress the importance of various kinds of agglomeration economies, which give an advantage to firms or people who locate close to other firms or people. Such

economies clearly lead to urban persistence: once there's a clump of activity somewhere, it tends to stay there unless a big enough shock comes along.'*

The setting for our analysis of urban persistence is northwestern Europe, where we trace the effects of the collapse of the Western Roman Empire more than 1,500 years ago through to the present day. Around the dawn of the first millennium, Rome conquered, and subsequently urbanised, areas including those that make up present day France and Britain (as far north as Hadrian's Wall). Under the Romans, towns in the two places developed similarly in terms of their institutions, organisation and size.

But around the middle of the fourth century, their fates diverged. Roman Britain suffered invasions, usurpations and reprisals against its elite. Around 410CE, when Rome itself was first sacked, Roman Britain's last remaining legions, which had maintained order and security, departed permanently. Consequently, Roman Britain's political, social and economic order collapsed. Between 450CE and 600CE, its towns no longer functioned.

Although some Roman towns in France also suffered when the Western Roman Empire fell, many of them survived

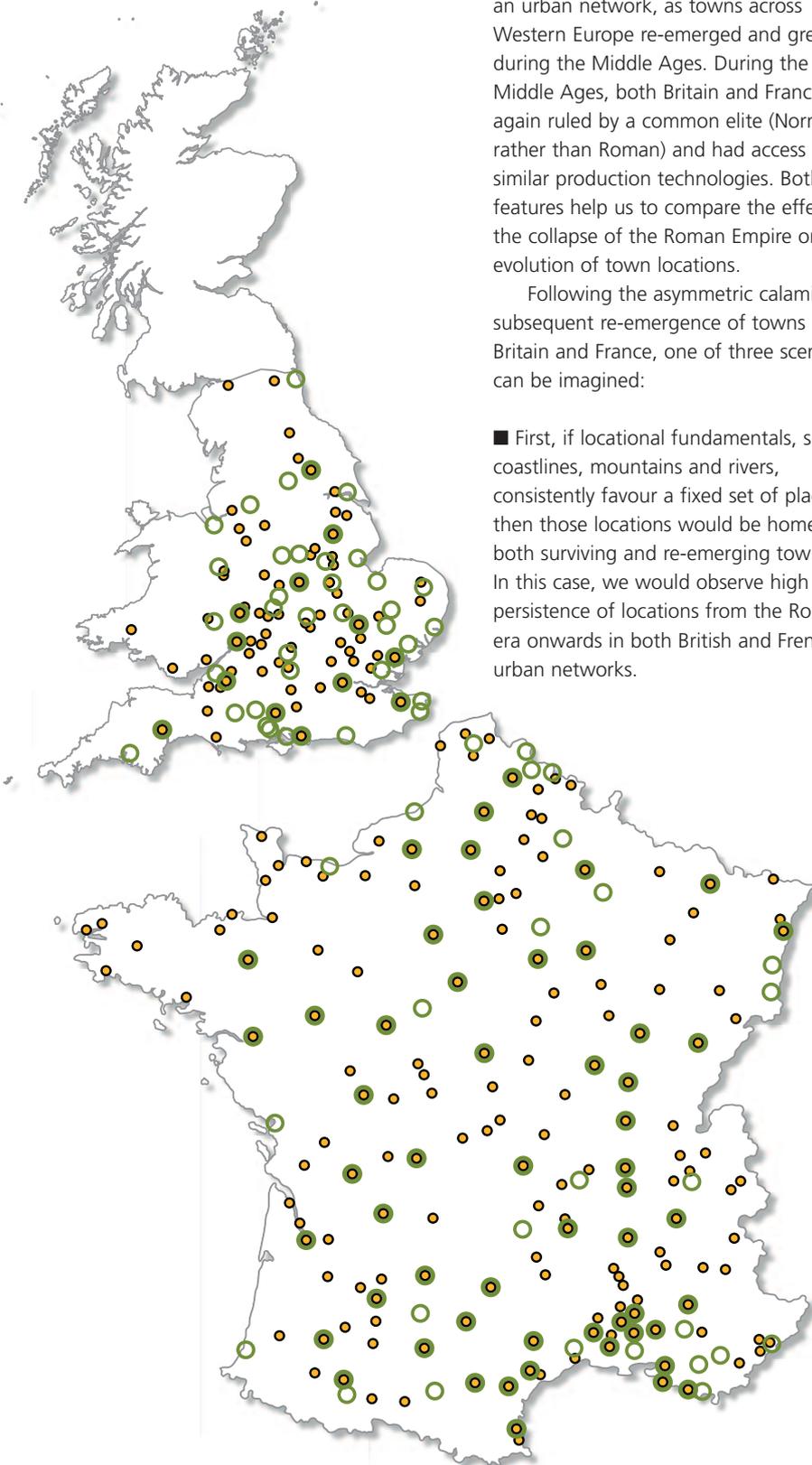


Medieval towns in France were much more likely to be located near Roman towns than their British counterparts

* <http://krugman.blogs.nytimes.com/2013/12/09/the-dead-hand-versus-the-invisible-hand-urban-edition/>

Figure 1:
Roman towns and medieval towns in Britain and France

- Roman town
- Medieval town
- Medieval town on site of Roman town



and were taken over by Franks. So while the urban network in Britain effectively ended with the fall of the Western Roman Empire, there was much more urban continuity in France.

The divergent paths of these two urban networks allow us to study the spatial consequences of the 'resetting' of an urban network, as towns across Western Europe re-emerged and grew during the Middle Ages. During the High Middle Ages, both Britain and France were again ruled by a common elite (Norman rather than Roman) and had access to similar production technologies. Both features help us to compare the effects of the collapse of the Roman Empire on the evolution of town locations.

Following the asymmetric calamity and subsequent re-emergence of towns in Britain and France, one of three scenarios can be imagined:

■ First, if locational fundamentals, such as coastlines, mountains and rivers, consistently favour a fixed set of places, then those locations would be home to both surviving and re-emerging towns. In this case, we would observe high persistence of locations from the Roman era onwards in both British and French urban networks.

■ Second, if locational fundamentals or their value change over time (for example, if coastal access becomes more important) and if these fundamentals affect productivity more than the concentration of human activity, then both urban networks would similarly shift towards locations with improved fundamentals. In this case, we would observe less persistence of locations in both British and French urban networks relative to the Roman era.

■ Third, if locational fundamentals or their value change, but these fundamentals affect productivity less than the concentration of human activity, then we should see 'path-dependence' in the location of towns. The British urban network, which was reset, would shift away from Roman-era locations towards places that are more suited to the changing economic conditions. But French towns would tend to remain in their original Roman locations.

Our empirical investigation finds support for the third scenario, where town locations are path-dependent. As Figure 1 shows, medieval towns in France were much more likely to be located near Roman towns than their British counterparts.

These differences in urban persistence are still visible today; for example, only three of the 20 largest cities in Britain are located near the site of Roman towns, compared with 16 in France. This finding suggests that the urban network in Britain shifted towards newly advantageous locations between the Roman and medieval eras, while towns in France remained in locations that may have become obsolete.

But did it really matter for future economic development that medieval French towns remained in Roman-era

Only three of the 20 largest cities in Britain are located near the site of Roman towns, compared with 16 in France



The best locations in Roman times were no longer so in the Middle Ages, when coastal access became key

locations? To shed light on this question, we focus on a particular dimension of each town's location: its accessibility to transport networks.

During Roman times, roads connected major towns, facilitating movements of the Roman army. But during the Middle Ages, technical improvements in water transport (Blair, 2007; and Fleming, 2010) made coastal access more important. This technological change meant that having coastal access mattered more for medieval towns in Britain and France than for Roman ones.

We find that during the Middle Ages, towns in Britain were roughly two and a half times more likely to have coastal access – either directly or via a navigable river – than during the Roman era. In

contrast, in France, there was little change in the urban network's coastal access.

We also show that having coastal access did matter for towns' subsequent population growth, which is a key indicator of their economic viability. Specifically, we find that towns with coastal access grew faster between 1200 and 1700, and for towns with poor coastal access, access to canals was associated with faster population growth. The investments in the costly building and maintenance of these canals provide further evidence of the value of access to water transport networks.

Our conclusion is that many French towns were stuck in the wrong places for centuries, since their locations were designed for the demands of Roman times and not those of the Middle Ages. They could not take full advantage of the improved transport technologies because they had poor coastal access.

Taken together, our findings show that urban networks may reconfigure around locational fundamentals that become more valuable over time. But this reconfiguration is not inevitable, and towns and cities may remain trapped in bad locations over many centuries and even millennia. This spatial misallocation of economic activity over hundreds of years has almost certainly induced considerable economic costs.

Our findings suggest lessons for

today's policy-makers. The conclusion that cities may be misplaced still matters as the world's population becomes ever more concentrated in urban areas. For example, parts of Africa, including some of its cities, are hampered by poor access to world markets due to their landlocked position and poor land transport infrastructure. Our research suggests that path-dependence in city locations can still have significant costs.

This article summarises 'Resetting the Urban Network: 117-2012' by Guy Michaels and Ferdinand Rauch, CEP Discussion Paper No. 1248 (<http://cep.lse.ac.uk/pubs/download/dp1248.pdf>).

Guy Michaels is associate professor of economics at LSE and a research associate in CEP's labour markets programme. **Ferdinand Rauch** of Brasenose College and the economics department at the University of Oxford is a research associate in CEP's globalisation programme.

Further reading

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Many French towns were stuck in obsolete locations for centuries

in brief...

Tough choices for a troubled euro

Nobel laureate **Christopher Pissarides** was once a passionate believer in the benefits of European monetary union. He now thinks that either the euro should be dismantled or the direction of economic policy dramatically reversed so as to promote growth and jobs and avoid creating a lost generation of educated young people.

One of the most exciting things about working at the LSE is that we get to hear some of the world's top thinkers and policy-makers. One occasion that I recall vividly is the visit of two great Europeans – Valéry Giscard d'Estaing and Helmut Schmidt. Europe had already completed the single market, the Berlin wall had fallen and the European Union was preparing to embrace new members and adopt a single currency.

I was completely sold on the idea. In 2000, I joined the Cyprus Monetary Policy Committee to help bring the euro to my home country; and I worked on the teams in Britain and Sweden on the implications of the euro for the labour market.

Back then, the euro looked like a great idea as a key step in the process of European integration. But it has now

backfired: it is holding back growth and job creation; and it is dividing Europe. The present situation is untenable: we need something similar to the rallying calls of Giscard d'Estaing and Schmidt to restore the euro's credibility in international markets. We need charismatic European leaders who will restore the trust that Europe's nations once had in each other. Regretfully, I do not see either materialising.

The euro should either be dismantled in an orderly way or the leading members should do the necessary as fast as possible to make it growth- and employment-friendly. We will get nowhere plodding along with the current line of *ad hoc* decision-making and inconsistent debt-relief policies. (Compare, for example, Cyprus and Greece, where the source of the problem was similar but the solution very different.) The policies pursued now to steady the euro are costing Europe jobs and they are creating a lost generation of educated young people. This is not what the founding fathers promised.



Bringing Europe back to life requires brave action in both monetary and fiscal policy

Doing the necessary to bring Europe back to life requires brave action in both monetary and fiscal policy. It might well require U-turns from those who thought austerity would have only short-term setbacks and it is likely to cost votes in the rich countries of northern Europe. My fear is that we do not have the European leaders who can take this on. Mrs Merkel and Mr Hollande are *national* leaders, not *European* leaders. And Mr Schäuble's economic assessment in the *Financial Times* (16 September 2013) makes me wonder if he ever realised that the eurozone extends south of the Alps.*

The monetary union that we got with the euro created the European Central Bank (ECB) as a central bank in charge of monetary policy but not supervision. The lesson of recent events in Europe is that the split between fiscal and monetary policy is untenable. Under present arrangements, national governments need to recapitalise their banks and insure their deposits. This involves fiscal spending and build-up of debt. Poor bank supervision can lead to a deteriorating fiscal balance.

Current plans to turn the ECB into a supervisory authority must go ahead speedily. We need a single supervisory authority that can dissolve banks when necessary, recapitalise them and insure their deposits. Anything less than that will involve continued short-term tinkering by national governments and lead to more disasters.

The supervisory authority should be well funded and not have to rely on transfers from governments and the International Monetary Fund (IMF) when the need arises. If a Cyprus-style 'bail-in' is the answer, the ECB should say so and face the likely flight of large deposits – Singapore and Hong Kong's gain; Europe's loss. As a Cypriot who experienced first-hand the impact of the decision to plunder deposits over €100,000 to recapitalise bankrupt banks and insure smaller deposits, I dare not think what the consequences of such a capital flight would be for the eurozone as a whole.

We also need at least some central control of individual countries' fiscal finances. Fiscal transfers are already taking place, through the structural funds and the stability

mechanisms. But large fiscal transfers are unpalatable to European voters and with some central control over national budgets, they should not be necessary.

Many in Europe think that there is no future without fiscal union – that is, without a US-style federal budget. Fiscal union certainly could do the job: the American west developed with a heavy dose of fiscal transfers from the east via the federal budget. But for present-day Europe, I think this is going too far.

Fiscal supervision is necessary. The European Commission does some but it will be more credible if it is done by an independent body – a Brussels-based 'fiscal policy council' (FPC). Some fiscal transfers will always be necessary but they will be minimised if there are early warning signals from an independent FPC. More and more countries in Europe are finding that an FPC contributes to domestic fiscal stability. A central FPC would do a similar job for the whole eurozone: its role would be complementary to that of the national FPCs and they should work with each other.

Meanwhile, fiscal austerity is destroying jobs. The rest of the world is coming out of crisis and taking on new challenges; and Europe is being left behind, powerlessly watching the rise in unemployment. The troika – the Commission, the ECB and the IMF – and national governments should be softer on austerity. Austerity has created a two-tier Europe: Germany and the smaller northern countries, for which the ECB's monetary policy stance is about right; and the south, for which it is far too tight.

We need more investment in Europe. We should learn how to do our fiscal accounts better and exclude investment projects from the one-year horizons of national budgets. Because governments will be tempted to classify too much spending as investment, we need a European 'growth council' to evaluate which policies are growth-enhancing and exclude them from the budget. It can be as generous or as strict as required by the European Council; either way, it will be a big improvement on the current situation.

We need a single supervisory authority that can dissolve banks when necessary, recapitalise them and insure their deposits

Sir **Christopher Pissarides**, co-recipient of the 2010 Nobel Memorial Prize in Economic Sciences, is the Regius Professor of Economics at LSE, European Studies Professor at the University of Cyprus and Chairman of the Council of National Economy of the Republic of Cyprus. Between 1999 and 2007, he was director of CEP's macroeconomics research programme; and he is now Chairman of the new Centre for Macroeconomics at LSE.

* <http://www.ft.com/cms/s/0/e88c842a-1c67-11e3-a8a3-00144feab7de.html>

What have economists contributed to our understanding of criminal behaviour and crime control? In the introduction to a new book he has co-edited, **Olivier Marie** explains the economic approach to crime and its importance in the analysis, design and evaluation of crime-fighting policies.



Lessons from the economics of crime

As we approach the fiftieth anniversary of Nobel laureate Gary Becker's seminal contribution (Becker, 1968), it is fair to say that the economics of crime is part of the standard portfolio that makes up the discipline. On both sides of the Atlantic, a critical mass of academic economists has specialised in the study of crime and its control. For example, a series of CEP studies has contributed to making sense of the UK's 'riddle of peacefulness' (Draca, 2013) and analysing which policies can be most effective in reducing crime (Marie, 2010).

Of course, social scientific study of crime was well established by the time of Gary Becker's contribution. Prior to that, from the 1920s, the dominant disciplines were sociology and psychology, and that continued as criminology departments and schools were established in the post-war period. Becker chose to bypass rather than engage with that tradition, stating that 'a useful theory of criminal behaviour can dispense with special theories of anomie, psychological inadequacies, or inheritance of special traits and simply extend the economist's analysis of choice.'

With this bit of disciplinary imperialism

as a guide, subsequent contributions from economics tended to adopt the view that crime research was virgin territory. Economists were initially not so welcome in criminology and, for the most part, were unconcerned, feeling that they had little to learn from the 'natives'. More recently, that separation between economics and criminology has begun to break down, an encouraging trend that can be traced in part to the growth of multi-disciplinary public-policy programmes and think-tanks.

In a new book, we examine what economists have contributed to the study of criminal behaviour and crime control and identify four key strands:

- A normative framework for evaluating criminal law and crime prevention.
- The application of sophisticated quantitative methods to analyse the causes of crime and the effects of crime-control measures in this framework.
- The conception of criminal behaviour as individual choice, influenced by perceived consequences.
- The aggregation of individual choices into a systems framework for understanding crime rates and patterns.

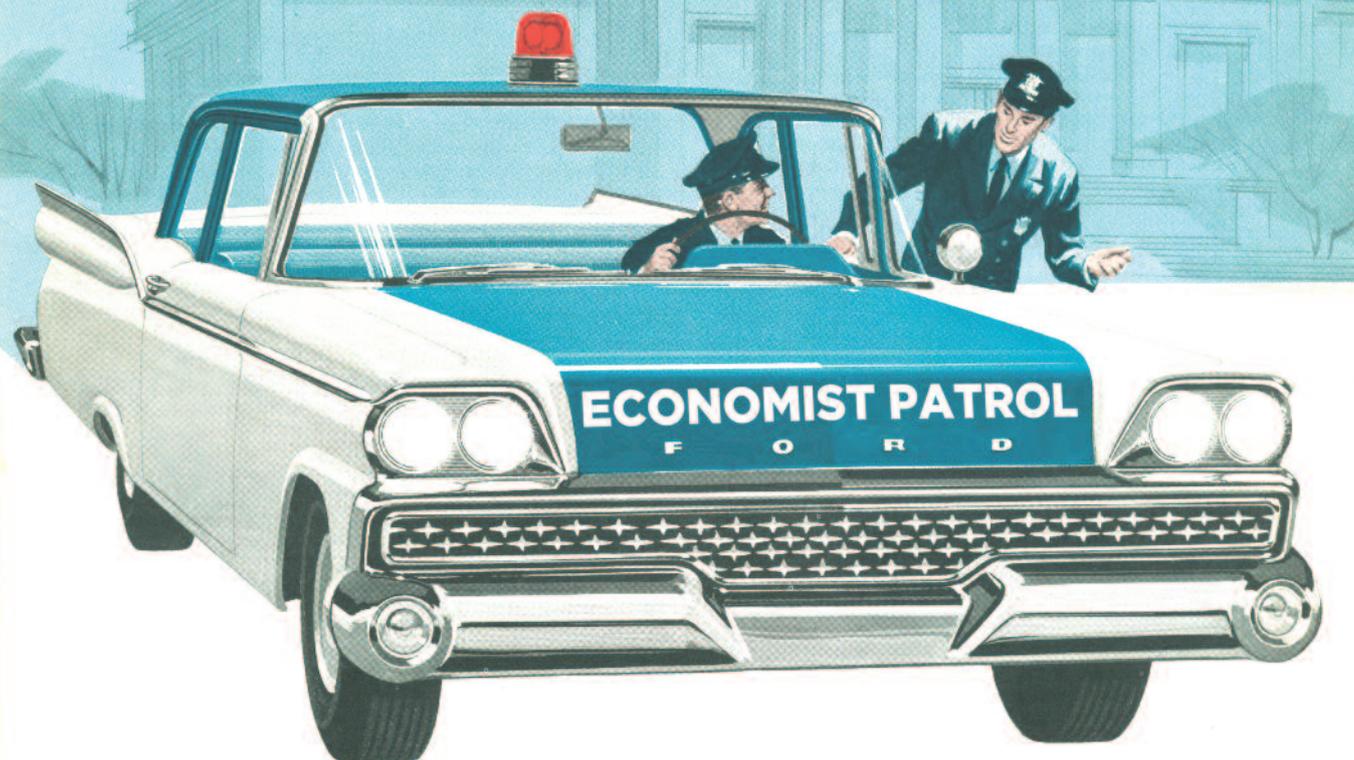
Policy choice

During the tumultuous years of the 1960s, with riots in US cities and escalating rates of crime and drug abuse, Congress created several high-profile commissions to assess the underlying problems and recommend effective reforms. When these commissions turned to the prominent criminologists of the day, they offered their opinions but had little in the way of relevant evidence. The political scientist James Q Wilson was a critical observer of criminology at the time and observed that its sociological orientation did not lend itself to evidence-based policy recommendations.

Crime was understood to be caused by culture and social structure. An analysis of these 'root causes' of crime provided little guidance for policy-makers, whose ability to change structural aspects of society was very limited. Moreover, the sociologists were highly sceptical of deterrence, denying a role for the criminal justice system in controlling crime. In Britain, the lack of connection between criminology and policy was perhaps even greater, since the dominant ethos was against policy engagement, in part because of its heavier focus on the social context of crime.

Among the social sciences, economics

Crime can be analysed using the same apparatus routinely applied to education and health



tends to be best suited for addressing issues relevant to policy design. The economic model presumes that observed behaviour is not the inevitable result of underlying social conditions, but rather results from individual choices influenced by perceived consequences. If government policy can change those consequences, then behaviour change will follow. Furthermore, uniquely among the social and behavioural sciences, economics incorporates a well-developed normative framework that defines the public interest and lends itself to policy prescription.

Indeed, Becker's contribution was primarily in the normative realm. He pointed out that the social costs associated with crime are the sum of the direct costs of victimisation (and the threat of victimisation) and the indirect costs of efforts to control and prevent crime. If the goal is to minimise total social costs, then the optimal amount of crime is unlikely to be zero, since at some point the marginal costs of additional prevention will exceed

the marginal benefit of an additional reduction in crime. And just because crime rates are declining does not mean that the 'crime problem' is less overall – crime-control costs, such as large increases in the prison population in most countries, especially the United States, must be considered.

The normative framework also provides guidance for evaluating specific interventions. The economic question is not limited to 'what works?' in crime control, but 'what is worthwhile?' Cost-benefit analysis provides a set of rules for answering that question, and more generally encourages a comprehensive approach to evaluation.

Quantitative methods

The other important feature of the application of the normative framework has been the contribution by economists of using advanced and innovative statistical methods. As economists have increasingly embraced the use of natural and field

experiments, they have developed a much more robust understanding of what causes crime and are now able to generate good estimates of the efficiency of different policy tools.

One economist who has been particularly creative in finding ways to identify the causes of crime is the University of Chicago's Steven Levitt, whose research (and subsequent emergence as a celebrity, thanks to his 2005 *Freakonomics* book) has done much to inspire subsequent cohorts of graduate students in economics. Massive improvements in data quality and availability have also made possible great progress in statistical investigations into the causes of crime and what works to reduce offending.

Crime as a rational choice

A simplistic but common understanding of crime is that the population can be divided neatly into two groups: good guys and bad guys. In this view, the bad guys commit crime unless they are incapacitated, and the

good guys are reliably law abiding. The economic model of crime shifts the focus from character to the choices available to individuals. While certain aspects of character (or what economists are inclined to call 'preferences') are surely not irrelevant, criminal activity represents a choice or set of choices that is available to everyone.

The choice of whether to commit crime is driven by the consequences, which differ among individuals depending on the opportunities available to them. For example, a school dropout will have relatively poor opportunities to earn a legitimate living, but lack of schooling is no barrier to larceny or robbery. For that reason alone, we expect dropouts to be over-represented among active criminals.

This perspective leads naturally to a presumption that deterrence works – that crime rates will be inversely related to the likelihood and severity of punishment. But the economic model also incorporates the idea that programmes to improve legitimate life opportunities may have a deterrent effect through increasing the opportunity cost of time spent in criminal activity or prison.

People with something to lose are less likely to view criminal participation as attractive, and crime reduction can therefore be achieved by influencing the life opportunities of potential offenders. For example, some recent studies have shown that education has a large crime-reducing effect on cohorts of individuals that were forced to stay longer at school because of changes in minimum school leaving age legislation.

The economic focus on choices and consequences does not preclude the possibility that character is also important in influencing criminal involvement. Efforts to rehabilitate criminals may focus on either increasing the quality of legitimate opportunities (typically by improving human capital or clearing away barriers to earning a legitimate living) or changing cognitive

Criminal behaviour results from individual choices influenced by perceived consequences

processes and capacities, such as self-control, empathy and rationalisation.

While there have been myriad evaluations of specific programmes intended to reduce rates of recidivism, there still remains considerable uncertainty about the overall effect of a spell of imprisonment on subsequent behaviour.

Feedbacks and interactions

Economics is a social science. The theory of individual behaviour serves as a building block for a theory of aggregate outcomes. The interacting systems that connect crime-related choices by individuals to aggregate outcomes have not been fully worked out by economists, but the research literature provides a start on this project.

Criminal activity may be viewed as produced by individuals (active criminals) at a rate that is limited by the activities of the criminal justice system and private security measures. The electorate chooses through the political process how much public resource to devote to the criminal justice system, and households and businesses make myriad individual choices about how much private effort to devote to crime prevention and avoidance. A further complication is that the effectiveness of the criminal justice system is very much dependent on private (often voluntary) inputs, such as reporting crimes and providing information and testimony during investigations.

There are at least three noteworthy feedback loops in this system:

- First, the capacity of the criminal justice system to control crime may be diluted by an increase in crime rates, which then causes a reduction in the likelihood or severity of punishment – resulting in further increases in crime.
- Second, an increase in the crime rate may raise the political salience of crime, leading to increased criminal-justice budgets and stricter sentencing, which may then rein in the crime rate.
- Third, an increase in crime may induce greater private efforts at prevention and avoidance of criminal victimisation, including actions ranging from locking up valuables and carrying a weapon, to hiring guards or relocating commercial activity to safer neighbourhoods.

Observed crime rates are thus the outcome of a complex interactive system,

which may frustrate the goal of making unambiguous predictions or even keeping track of all the relevant mechanisms.

Crime economics

Economists are here to stay in the study of crime, the criminal justice system and crime prevention. They have brought with them a strong presumption that criminal behaviour can be modelled using the same conceptual apparatus that has been developed for risky decision-making, labour supply, consumer and firm behaviour, and even market structure and performance.

What's more, criminal law and crime-prevention programmes can be evaluated using the same normative apparatus that is routinely applied to education, health and environmental regulation. This 'technology transfer' to the criminal domain, initiated by Gary Becker in 1968, has proven productive for both scholars and policy-makers.

This article introduces *Lessons from the Economics of Crime* edited by Philip J Cook, Stephen Machin, Olivier Marie and Giovanni Mastrobuoni, published by MIT Press (<http://mitpress.mit.edu/books/lessons-economics-crime>).

Philip J Cook is at the Sanford School of Public Policy at Duke University. **Stephen Machin** is professor of economics at University College London and CEP's research director. **Olivier Marie** is at Maastricht University. **Giovanni Mastrobuoni** is at the University of Essex.

Further reading

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Contrary to popular belief, the incidence of domestic violence in Britain does not seem to have risen during the recession. But according to research by **Jonathan Wadsworth** and colleagues, men and women have experienced different risks of unemployment – and these have had contrasting effects on the level of physical abuse.

Unemployment and domestic violence



Domestic violence hurts. Aside from the obvious physical and psychological harm to the victims, it also damages the economy. The annual cost placed on hospitals, police, the criminal justice system, schools and workplaces has been estimated at £5.8 billion.*

According to the British Crime Survey (BCS), around 560,000 women report some form of domestic abuse in any year – that’s 6% of the female population of working age. The charity Refuge estimates that two women a week die as a result of domestic violence. About 93% of defendants in domestic violence court cases are men; and in the data

we have analysed, roughly 70% of victims are women.

In public discussion of domestic violence, there is a widespread perception that its incidence varies with the economic cycle and that rising unemployment could provide a ‘trigger’ for violent situations in the home. Newspaper headlines of recent years include ‘Growth in violence against women as recession hits’ (*The Guardian*, 2009) and ‘Recession blamed for increase in domestic violence’ (*Daily Mirror*, 2011).

But from an economic perspective, it is far from clear that unemployment influences domestic violence in the way that many commentators expect. Indeed, our research suggests that there are significant gender differences: high or

rising unemployment among men is associated with falls in domestic violence, while high or rising unemployment among women is associated with increases in domestic violence.

Figure 1 shows the pattern of unemployment rates for men and women in England and Wales since 2005. Unemployment went up for both sexes at the start of the downturn in 2008, but more so for men. Since then, the rates for the two sexes have followed rather different patterns, levelling off for men after 2009, but continuing to rise for women. The unemployment rate for men remains higher than that for women.

Figure 2 documents the incidence of all forms of reported domestic violence and physical abuse on women over the same period, using BCS data. It is far from clear that the incidence of domestic violence rose after the economy went into recession. If anything, the opposite seems to be the case, particularly for the rate of physical abuse, which fell during the downturn. So rates of reported domestic violence fell in a period when unemployment was rising.

What might explain these patterns? Economists tend to think of human relationships in terms of costs and benefits. Partnerships can convey economic benefits – not just in terms of possible gains from pooling resources and sharing consumption but also from other intangibles – but they may also incur costs if the relationship is in trouble. Partnerships then break down if the costs are greater than any benefits.

Figure 1:
Male and female unemployment rates in England and Wales

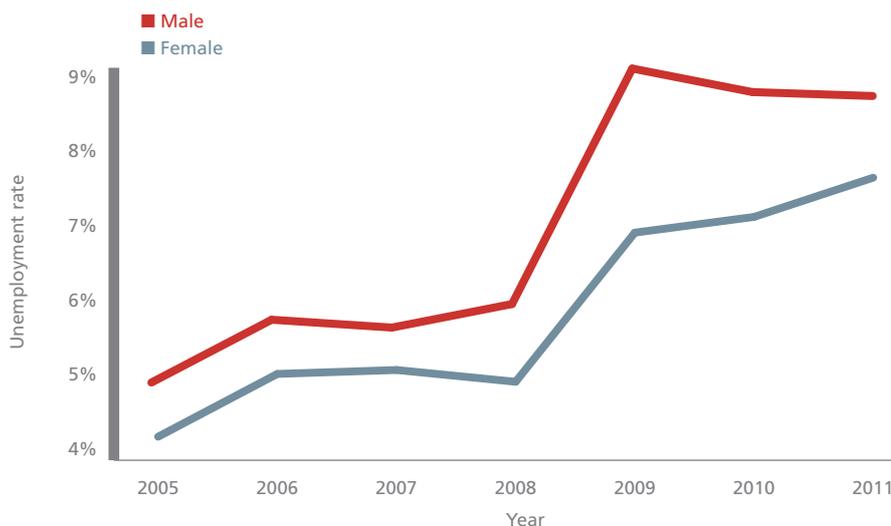
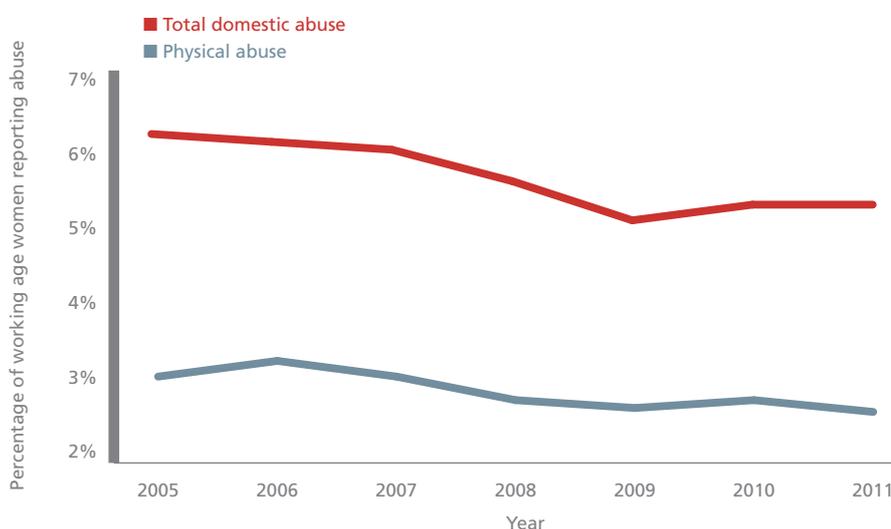


Figure 2:
Domestic violence in England and Wales



Female unemployment increases the risk of domestic abuse; male unemployment reduces the risk

* ‘The Cost of Domestic Violence: Update 2009’ (<http://www.avaproject.org.uk/media/60461/costs%20of%20dv%20by%20local%20authority.pdf>)

Domestic violence can be seen in a similar way. Some people may perpetrate abuse if the costs of doing so are smaller than any perceived gains. And some may endure some level of abuse if the costs of enduring it are perceived to be less than the alternative costs incurred in ending the relationship.

Unemployment influences both the costs and benefits of partnerships. If unemployment is low, then the chances of finding a job or keeping a job are high and so the potential income gains from a partnership are raised. If unemployment is high, then the chances of losing a job are high, lowering the gains from a partnership over and above any additional stresses that a raised prospect of job loss may bring.

But what if unemployment is unevenly distributed across men and women? According to our framework, this will introduce differential costs and benefits to a partnership. A higher risk of unemployment for men may act to deter violence in the home, since the contribution of the man to any partnership is reduced. If the man values the partnership, a higher risk of his own unemployment may temper any abusive intentions.

For women, a higher risk of unemployment is also likely to reduce their chances of finding a job should the relationship break down, but it may, in certain cases, be associated with continuing in an abusive relationship. So our theory predicts that high or rising unemployment among men will be associated with falls in domestic violence, while among women it will be associated with increases in domestic violence.

Is there any evidence to support this idea? To test it, we matched data on unemployment rates among men and women across the 43 police force areas in England and Wales that are reported in each year of the BCS. Each survey includes interviews with around 12,000 women of working age who are asked whether they have suffered any abuse over the past 12 months, ranging from being repeatedly belittled to having a weapon used against them.

Self-reported incidences of abuse in surveys are less likely to suffer from lower recording rates in official statistics that might be prompted by women's fear of the consequences of reporting domestic





violence. The BCS is currently looking at whether isolating the respondent from the interviewer also changes response rates.

Figure 3 plots the yearly change in physical abuse against the yearly change in unemployment rates for men and women in each police force area. The red line in each chart summarises the relationship between domestic violence and unemployment: for men, it is negative, while for women, it is positive. If we plot the change in domestic violence against the change in the aggregate unemployment rate – not split by gender – we find no effect.

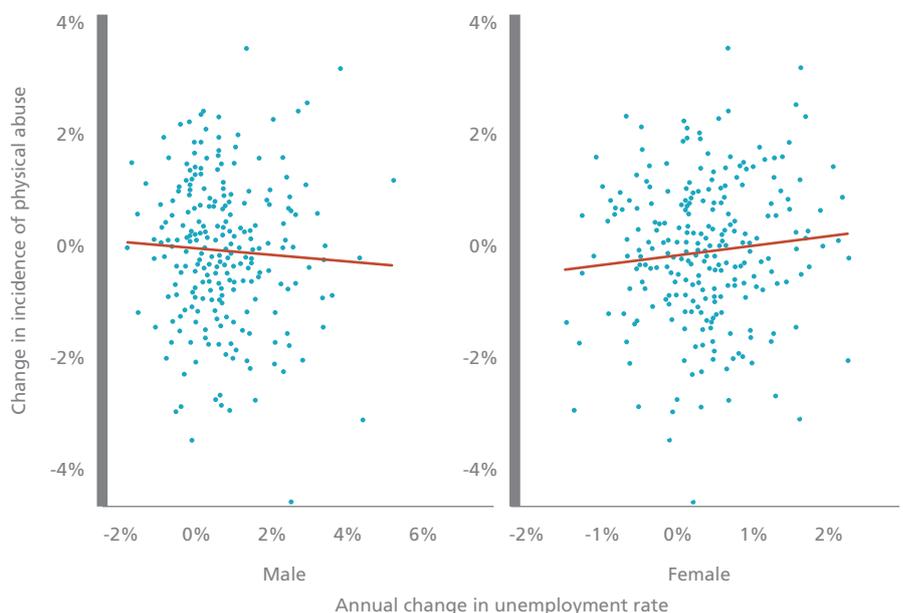
So while we find no evidence to support the hypothesis that domestic violence increases with overall unemployment, male and female unemployment rates have opposite effects on domestic violence. Higher unemployment for women increases the risk of domestic abuse; higher unemployment for men reduces the risk. From a policy perspective, it is therefore conceivable that measures designed to enhance women’s job security could be an important contributor to a reduction in domestic violence.

This article summarises ‘Unemployment and Domestic Violence: Theory and Evidence’ by Dan Anderberg, Helmut Rainer, Jonathan Wadsworth and Tanya Wilson, CEP Discussion Paper No. 1230 (<http://cep.lse.ac.uk/pubs/download/dp1230.pdf>).

Dan Anderberg and **Tanya Wilson** are at Royal Holloway, University of London. **Helmut Rainer** is at CESifo, University of Munich. **Jonathan Wadsworth**, professor of economics at Royal Holloway, is a senior research fellow in CEP’s labour markets programme.

Policies that enhance women’s job security could contribute to a reduction in domestic violence

Figure 3: Changes in domestic violence and unemployment rates for men and women



Getting research into policy requires patience and keeping it simple and intellectually honest

Steve Gibbons, director of the Spatial Economics Research Centre, reported his work on the impact of student satisfaction scores (as measured by the National Student Survey, NSS) on the number of applications a university receives. This shows that NSS scores do have an impact on the demand for places, and that these effects are larger for courses that are taught at many institutions.

Louisa Darian of *Which?*, the consumer product-testing and campaigning charity, said that while measures of student satisfaction – and other elements of university league tables – are important drivers of demand for particular universities, the way that the information is presented is also important. Her organisation has recently launched a student guide to higher education (<http://university.which.co.uk/>); and audience debate at our conference compared such specialist independent surveys with other channels of information, such as the government's Key Information Set (<http://unistats.direct.gov.uk/>).

CEP's Georg Graetz presented his research on the financial returns to degree class, which combines LSE undergraduates' exam results with data from a survey of their incomes after graduation. He finds that the average first wage premium for a First compared with a 2:1 is small at around £1,780, although there is a larger difference between a 2:1 and 2:2, which is worth about 7% higher wages. These results are driven by men, as there are no significant gains for women getting a better degree.

CEP research director Stephen Machin has been investigating the rise of postgraduate qualifications and its impact on wage inequality and social mobility. He noted that the supply of UK and US postgraduates has been increasing, as have the returns to a postgraduate qualification, a combination that reflects increasing demand for highly skilled labour. But the recent widening across social groupings of participation in higher education at undergraduate level has not been happening in the postgraduate sector, which remains socially segregated. Given the increasing returns to

postgraduate qualifications, this has negative repercussions for social mobility.

During the discussion at our conference, it was asked why there should be increased government support for postgraduate students, considering that both the numbers and returns are rising. Conor Ryan of the Sutton Trust pointed out that without financial support for underprivileged students, the higher returns will only be available to those who can afford the courses.

CEP's Esteban Aucejo outlined affirmative action policies in elite US universities, showing that students from certain ethnic minorities have considerably lower entrance exam scores than their white counterparts. His research shows that without continued support throughout their time at these institutions, the outcomes for these students are not necessarily improved.

Tessa Stone of the Brightside Trust, whose goal is to improve access to universities for underprivileged children, applied these findings to England, where contextual data are increasingly being looked at as a way of having a 'fairer' admissions process.

Gill Wyness and Richard Murphy are researchers in CEP's education and skills programme.

The Economics of Higher Education website (<http://economicsofhe.org/>; Twitter: @EconomicsofHE) is open to quantitative researchers wishing to post short, non-technical summaries of recent work on higher education. Please send submissions to Gill Wyness (g.wyness@lse.ac.uk) or Richard Murphy (r.j.murphy@lse.ac.uk).

How much of the structural transformation of modern economies from manufacturing to services is a shift in organisational boundaries, in which work that was previously done within manufacturing firms is now outsourced to specialised service providers?

Giuseppe Berlingieri looks at changes in the US economy over the past 60 years.

Outsourcing and the shift from manufacturing to services

We are constantly told that we live in a service economy. Over the past few decades, the reported share of services in the economy has certainly experienced a sharp increase in most countries. In the United States, for example, the service sector today accounts for more than 83% of total employment, a considerable increase from its share of 60% in 1947. On the other side of the coin is the widely lamented decline of the manufacturing sector.

But what if both sides of this 'structural transformation' of the US economy can in part be explained by the domestic outsourcing of service inputs – for example, manufacturing firms outsourcing work on their annual tax returns to specialised accounting firms? In recent research, I analyse the production side of the economy and the role of firms in shaping the reallocation of labour across sectors.

In particular, I focus on two relatively unexplored mechanisms that can help to explain the rise of services and the fall of manufacturing: first, changes in the composition of intermediate inputs, the

goods or services that are used in producing final outputs (for example, tyres bought by car manufacturers or accounting and cleaning services used by most firms); and second, changes in how those intermediate inputs are sourced domestically. I use the standard definition of outsourcing as 'the acquisition of an intermediate input or service from an unaffiliated supplier' (Helpman, 2006).

What is driving the rise of the US service sector?

Most explanations of structural transformation focus on final demand, with one of the central ideas being that when societies become richer, they prefer to consume more services (see Herrendorf et al, 2013, for a review of this body of research). But two basic facts that emerge from a simple analysis of US industry data suggest that final demand is not the only driver of the rise of services.

First, three industries – finance; real estate; and professional and business services – account for a very large share of the growth of the service sector. The last category includes accounting, engineering, consulting and legal services as well as less

skilled work such as security, maintenance and janitorial services.

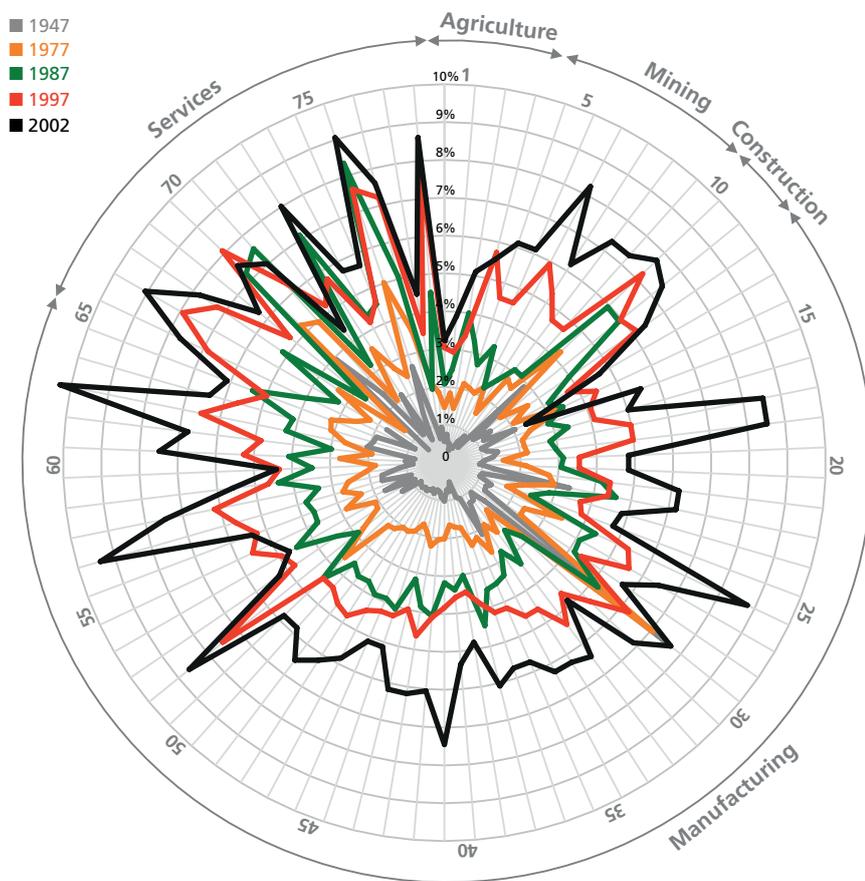
Second, these industries are highly specialised in the production of intermediate inputs, with firms rather than individual consumers demanding the goods and services they provide.

In particular, professional and business services have increased their share in total employment by 9.2 percentage points, accounting for roughly 40% of the total growth of the entire service sector, the biggest contribution among all industries. Moreover, 91% of the output of this industry is sold to firms as intermediate inputs or used for investment, compared with 53% for the economy as a whole. Final consumption and net exports account respectively for just 7% and 2% of the sector's output.

A changing input-output structure

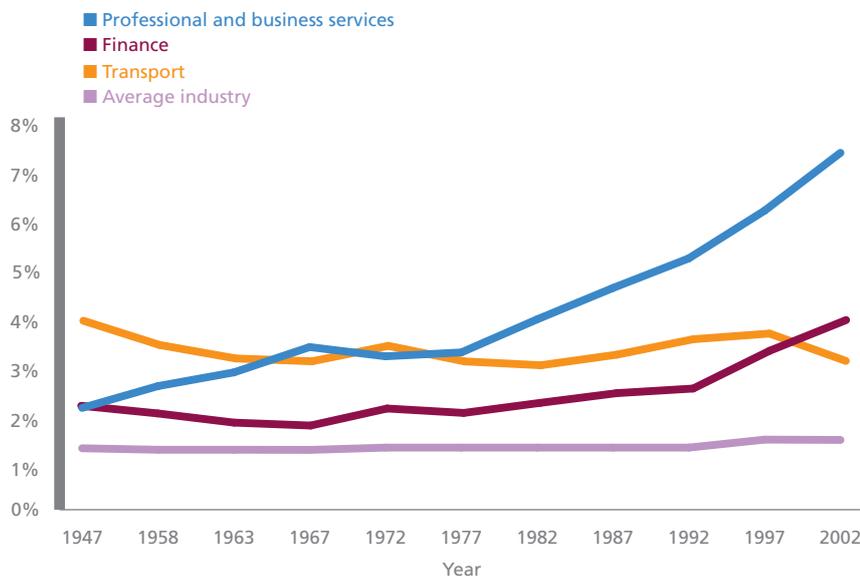
The specialisation of the professional and business services industry in intermediate production combined with its strong growth is reflected in a parallel change in the input-output structure of the economy. This can be analysed using

Figure 1:
The total use of professional and business services (PBS) in the US economy, 1947-2002



Note: This figure displays, for each year, the share of PBS in the total requirements of all commodities.

Figure 2:
Average forward linkage over time for selected industries



Note: This figure plots, for each industry, the total forward linkage divided by the number of commodities. In a given year, the share displayed for PBS is the average along a circle of Figure 1.

‘total requirements’ tables, which show the inputs required from all industries in the economy to produce a dollar of output of a certain commodity. The transactions captured in the tables include indirect inputs (those purchased from a certain industry via a third industry) as well as direct inputs.

The main change in the US economy between 1947 and 2002 was a significant increase in the use of professional and business services (industry 73) in the production of all other commodities, and to a smaller extent an increase in the use of finance (industry 70).

Figure 1 shows for all commodities in the economy the increase in the share of professional and business services in total requirements. Summing up this share over all commodities (around each circle) gives the ‘forward linkage’, a measure of the interconnection of a sector to all other sectors through the supply of intermediate inputs. A sharp rise in the forward linkage of professional and business services implies that the industry has greatly increased its influence on the rest of the economy (Acemoglu et al, 2012).

Figure 2 shows the evolution of the average forward linkage for a selection of industries. Professional and business services have become the industry with the biggest influence on the rest of the economy, overtaking industries with traditionally high forward linkage, such as transport (industry 65), and overshadowing fast growing industries, such as finance.

Professional and business services account for 40% of the growth of the service sector

Structural change: the role of intermediate inputs and outsourcing

My study looks at the changes in demand for intermediate inputs in a simple growth accounting model that captures the fully-fledged input-output structure of the US economy. In this setting, not only do sectoral labour shares depend on consumption shares as in a standard value added model, but also on the input-output structure of the economy. For example, employment in the accounting sector depends on household demand for accounting services as well as demand from firms.

Changes in demand for intermediate inputs therefore induce a reallocation of labour across sectors. I find that when final demand is kept constant over time, the evolution of the input-output structure of the economy alone accounts for 33% of the total increase in service employment and 22% of the fall in manufacturing.

What drives the changes in the use of intermediate inputs over time? One of the key forces is outsourcing. The intuition is simple: if a manufacturing firm outsources part of its headquarter services, the intermediate use of services will increase because it is likely that these inputs will be purchased from firms specialising in services.

Given the high share of intermediate production and the high substitutability that characterises professional and business services, previous research usually identifies the rise of this industry as an increase in outsourcing. I take a similar approach and improve on it by controlling for production within the boundaries of the firm.

In principle, input-output data do not clearly distinguish the boundary of the firm. But in the case of professional and business services, most in-house production is classified in auxiliary units (that is, headquarters, which include administrative, accounting, legal services, etc.), which can be excluded. I then quantify how much of the change in intermediate use is due to the outsourcing of professional and business services with a simple counterfactual exercise, which fixes the demand for professional and business services to its 1947 level and keeps it constant over time.

I find that had firms produced all of

Professional and business services have become the industry with the biggest influence on the rest of the economy

their professional and business services in-house, the employment share of the service sector would have been 3 percentage points smaller, which is equivalent to 14% of the total increase in the share of services. On the other hand, the share of manufacturing would have been 2.9 percentage points larger, accounting for 16% of its fall.

The focus on professional and business services is justified by their importance and by the fact that I can correctly account for outsourcing. But note that many other services have been outsourced over the period, and these percentages could therefore be a lower bound, especially in more recent years.

A ‘servitisation’ of manufacturing? Evidence from occupational data

A potential concern might be that overall service activity has increased both outside and inside the firm. Yet a deeper analysis of industry data shows that most of the transactions take place across the boundaries of firms, and they are not matched by a parallel increase of services produced inside firms. Table 1 shows that the share of total employment accounted for by auxiliary units is remarkably constant over time, and cannot explain the increase in the share of professional and business services.

Moreover, an analysis of data that classify workers by both their occupation and industry shows that, to a first approximation, the overall composition of professional and business services has not changed over time. This result supports the view of organisational change with a reallocation of activities across the boundaries of the firms.

I select a list of occupations employed in the professional and business services industry (‘PBS Occupations’) and plot their share in total employment over time. Figure 3 shows that their share has been almost constant. According to the baseline definition (Definition 1), the share of workers classified within PBS Occupations went from 24.2% of total employment in 1950 to 28.2% in 2010, but it has been essentially flat from 1970 onwards.

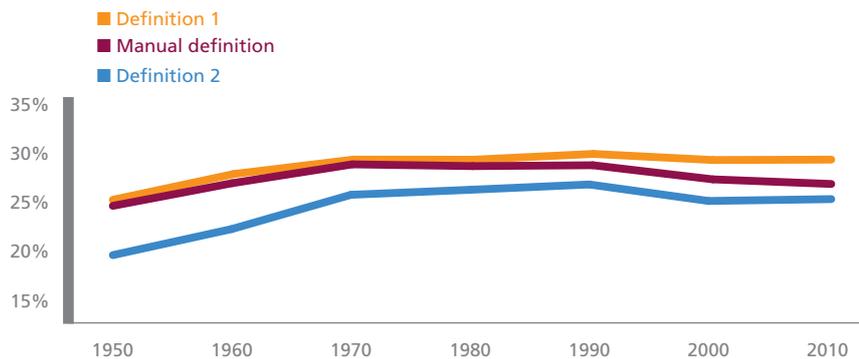
It is in the second half of the period that outsourcing has played a much more important role, as Table 1 shows. So professional and business services increased more sharply in a period when the share of workers classified within PBS Occupations was constant. Given the rising share of the professional and business services industry in total employment, we would expect workers to move to specialised professional and business services firms, or at least for these firms to employ disproportionately more workers over time.

This is precisely what has happened. The share of workers within the selected PBS Occupations employed in manufacturing has fallen over time, while the share employed in the professional and business services industry has risen. Figure 4 shows the latter share for six aggregate categories of PBS Occupations. Despite the fact that the total share of PBS Occupations has been roughly constant over time, there was some heterogeneity across these six main categories.

Table 1: Professional and business services (PBS) – share of total employment

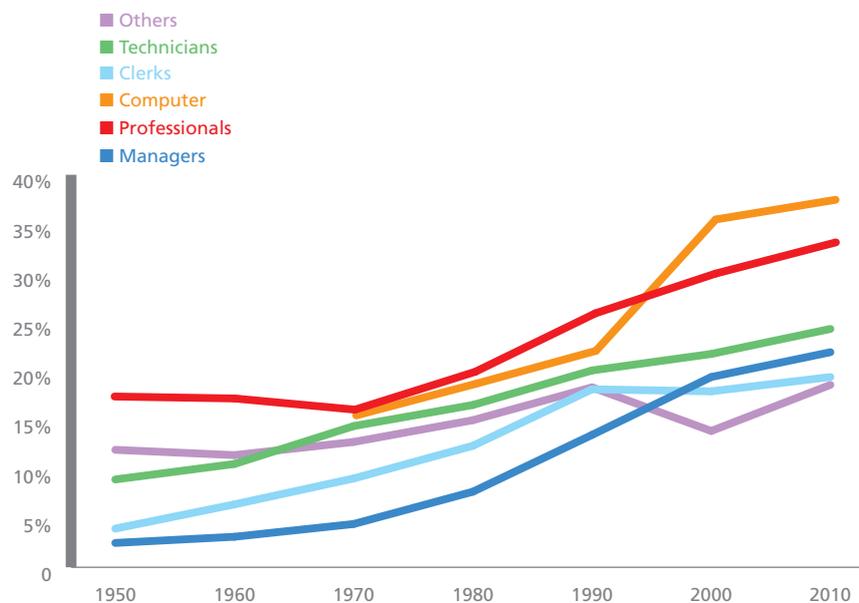
	1948	1957	1967	1977	1987	1997	2007
PBS	3.34%	3.88%	4.82%	6.13%	9.18%	12.01%	12.56%
Auxiliary units	1.13%	1.12%	1.09%	1.10%	1.15%	1.27%	1.29%
PBS minus Aux.	2.21%	2.76%	3.73%	5.03%	8.03%	10.74%	11.26%

Figure 3:
Share of PBS Occupations in total employment



Notes: Definitions 1 and 2 select the occupations that have at least 9% or 10% of their workers employed in PBS. In the Manual definition, occupations are handpicked on the basis of their job description.

Figure 4:
Main categories of PBS Occupations – share of workers within occupation employed in the PBS industry



Having analysed these patterns in more depth, I find suggestive evidence about other changes. For example, outsourcing might not take place through the mere substitution of the very same task from inside to outside the firm, but it could entail the substitution of an old superseded task with a new, more technologically advanced one. In this sense, outsourcing could be a way of accessing new technologies that would be too costly to produce in-house (Bartel et al, 2012).

One example would be the substitution of computer specialists employed in specialised services firms for clerks employed internally. At the same

time, the share of workers in the PBS occupation of professionals has also risen over time, suggesting an increase in the need for specialised knowledge.

Conclusions

These findings have two significant implications. First, from the demand side, manufacturing is still more important than the simple industry data suggest: thanks to intermediate consumption, the demand for manufacturing goods triggers higher output in many upstream sectors.

Second, services have become much more important from a supply point of view, a point that does not seem to be sufficiently appreciated in policy

discussions. Given the intermediate nature of many services, they have a very high influence on the productivity of downstream sectors.

Efficient professional and business services are nowadays of paramount importance for most countries. Lamenting the decline of manufacturing misses the fact that future growth and export competitiveness will depend more and more on the service sector. So for example, in the European context, a single market for services cannot wait any longer.

Outsourcing often entails substitution of an old superseded task with a new, more technologically advanced one

This article summarises 'Outsourcing and the Rise in Services', by Giuseppe Berlingieri, CEP Discussion Paper No. 1199 (<http://cep.lse.ac.uk/pubs/download/dp1199.pdf>).

Giuseppe Berlingieri is a research associate at CEP.

Further reading

Daron Acemoglu, Vasco Carvalho, Asuman Ozdaglar and Alireza Tahbaz-Salehi (2012) 'The Network Origins of Aggregate Fluctuations', *Econometrica* 80(5): 1977-2016.

Ann Bartel, Saul Lach and Nachum Sicherman (2012) 'Technological Change and the Make-or-Buy decision', *Journal of Law, Economics, and Organization*.

Elhanan Helpman (2006) 'Trade, FDI, and the Organization of Firms', *Journal of Economic Literature* 44(3): 589-630.

Berthold Herrendorf, Richard Rogerson and Ákos Valentinyi (2013) 'Growth and Structural Transformation', in *Handbook of Economic Growth Vol. 2B* edited by Philippe Aghion and Steven Durlauf, Elsevier.

in brief...

Mrs Thatcher's industrial legacy

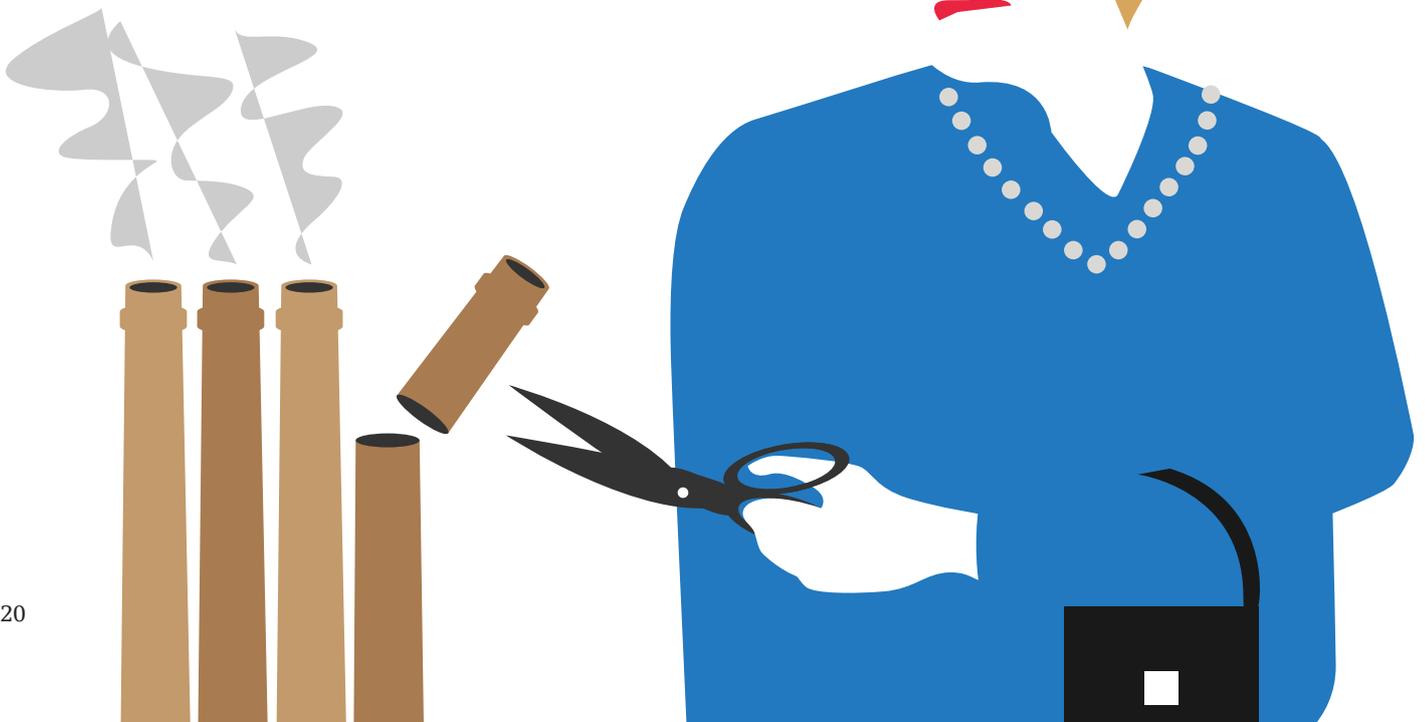
Manufacturing's share of national income has fallen from a quarter when Mrs Thatcher entered Downing Street in 1979 to just over a tenth today. **John Van Reenen** asks how much this long-term 'unbalancing' of Britain's economy should be a cause for concern.

The death of Mrs Thatcher in 2013 prompted a re-examination of her economic legacy. In retrospect, her two great failures were a huge increase in inequality and excessive faith in monetarism, which prolonged the early 1980s recession. But her big successes were 'supply-side' reforms that made labour and product markets more competitive. These were continued under subsequent administrations and helped to reverse a century of relative economic decline.

In 1870, GDP per capita in Britain was a fifth higher than in the United States and over 40% higher than in continental Europe. By the late 1970s, US GDP per capita was 40% ahead of Britain; and France and Germany were 10-15% ahead. But over the next three decades, Britain overtook France and Germany once more and significantly closed the gap with the United States.

There is substantial evidence that policies underpinned these economic gains. They included the withdrawal of industrial subsidies; a movement to effective competition in newly privatised sectors with independent regulators; and increases in labour market flexibility through restrictions on union power and tougher conditions for receiving unemployment benefits.

The impact of Thatcherite policies on the decline of manufacturing was modest



Today, however, it is often argued that the economy is 'unbalanced' and that because manufacturing is export-intensive, it needs to grow as a share of the economy. Coupled with this is the idea that finance became too large and that Britain's success over the last 30 years was built on an unsustainable bubble. Are these views right?

The global financial crisis of 2008-09 certainly revealed a huge failure of financial regulation that is only now being addressed. But it is wrong to believe that finance was mainly responsible for Britain's growth. In fact, financial services only accounted for about a tenth of the growth in aggregate productivity between Mrs Thatcher's 1979 victory and the eve of the crash in 2007. Most of the productivity growth was in areas such as business services, retail and manufacturing.

What's more, there are many strong manufacturing firms in Britain, including Rolls Royce, Glaxo and GKN. There has also been a renaissance in car-making. People fret that the firms are foreign multinationals such as Toyota and Tata, but surely this does not matter so long as high-quality jobs are created for local workers. An economy that is attractive to foreign capital – both physical and human – is a good model.

Manufacturing's share of GDP fell from 25.5% in 1980 to 11.4% in 2010. This trend is common across the rich world as the production of goods is offshored to places like China and India where wages are much lower. Yet this would have mostly happened regardless of the change in policy direction after 1979. For example, in France, where there was a much more activist industrial

policy, the fall in manufacturing's share of GDP was not much smaller than Britain's. The impact of Thatcherite policies on the decline of manufacturing was modest.

But even if different policies could have increased the share of manufacturing, should they have been implemented? British manufacturing has grown more high-tech and knowledge-intensive, which plays to the country's comparative advantage. And services themselves are increasingly exported – not just finance but also business services such as law, accounting, consultancy, design and marketing.

As China and India grow richer, their demand will switch from machine tools that power manufacturing (made in Germany and Japan) towards high-value services. If Britain is open, confident and entrepreneurial, this is a major market opportunity.

A modern industrial policy does not fixate on manufacturing but looks to where potential lies and constantly searches for areas of future growth. Governments need to focus on removing barriers to the growth of these capabilities, regardless of whether they produce heavy goods or 'weightless' services like research and teaching.

Britain has a major strength in higher education, for example, that is being hamstrung by the absurd government target of reducing net immigration to fewer than 100,000 people a year and the cumbersome visa regime that accompanies it. This must change if the country is to seize the growth opportunities of the next 30 years.

A modern industrial policy does not fixate on manufacturing but constantly searches for areas of future growth

John Van Reenen is director of CEP.

A detailed analysis of the change in Britain's relative economic performance since 1979 is in Chapter 1 of *Investing for Prosperity: A Manifesto for Growth* edited by Tim Besley and John Van Reenen, the book produced by the LSE Growth Commission (<http://www.lse.ac.uk/researchAndExpertise/units/growthCommission/home.aspx>).

There are large disparities between the achievements, behaviour and aspirations of children in different neighbourhoods – but does this mean that the place where you grow up determines your later life outcomes? **Steve Gibbons, Olmo Silva and Felix Weinhardt** outline the findings of a series of CEP studies of ‘neighbourhood effects’.

Everybody needs good neighbours?

How much should parents be concerned about the influence of their children’s neighbourhood peer group? If they have read past research on so-called ‘neighbourhood effects’, they might be very worried about the potential impact of other families in the area. Many of these studies show a correlation between the kind of neighbours with whom a child grows up and their subsequent behaviour and educational achievement.

Such findings have been very influential on policy-makers. Many area-based policies – measures to encourage mixed communities, for example – are predicated on the idea that young people’s outcomes can be causally linked to the characteristics of their neighbourhood and to their social interactions with the children and adolescents who live around them. If such effects are real, neighbourhood segregation – in which rich and poor families live in largely separate communities – could imply a long-term process of increasing inequality and reduced social mobility.

But our recent research on the effects of neighbours on pupil performance in England’s schools tells a very different

story (Gibbons et al, 2013). It turns out that the characteristics of neighbourhood peers make no difference at all to how well children perform at school: their test score progression in secondary education is unrelated to changes in the social composition of the place where they live. Neighbours seem to have some impact on children’s attitude towards school and their propensity for anti-social behaviour, but the effects are very small and weak.

The study is the latest in a longstanding research programme at CEP and the Spatial Economics Research Centre (SERC), which explores the links between place of residence, neighbourhood environment and individual outcomes in England. The overall conclusion of this body of work is that neighbourhood segregation

is the outcome – not the cause – of inequalities in income and wealth. It is individual characteristics and ‘sorting’ of people across space that explain these inequalities.

The implication is that if the policy goal is to reduce spatial inequalities, it should be done by targeting resources at individuals or households – or the institutions that can bring about changes at the individual and household level. This could be done, for example, by improving schools and, later in life, by providing better adult education opportunities. Trying to address spatial inequalities by directly targeting places and manipulating neighbourhood composition is unlikely to have any long-term effects.

Detecting neighbourhood effects

Why is so much previous evidence based on correlation best taken with a pinch of salt? Because detecting the causal link between neighbourhoods and individual outcomes presents serious challenges. First, it is well-established that parents ‘sort’ into neighbourhoods according to both their preferences and, most importantly, their incomes.

Differences in housing costs across neighbourhoods mean that this leads to

The quality of your neighbours makes no difference to your child’s educational outcomes



segregation in a variety of socio-economic dimensions. The central problem in finding evidence of 'neighbourhood effects' on children's outcomes is that the observed correlation between neighbourhood characteristics and household characteristics is just a statistical artefact resulting from this general segregation.

This correlation leads in turn to a correlation between neighbourhood characteristics and educational outcomes, because children's achievements are very dependent on parental background and income. Parental sorting will hence automatically produce some degree of segregation in children's outcomes. Empirical research has to control carefully for this selection to make claims about causality.

Research on neighbourhood effects is further complicated by ambiguity about what constitutes a neighbourhood. Empirical studies have used very different spatial aggregations to define the unit of analysis, ranging from blocks of a few houses with only a handful of people in each area to census tracts of over 4,000 inhabitants.

It is unclear how changing the spatial scale of analysis affects estimates of neighbourhood effects. And even after

Neighbours may make some difference to children's attitude to school and their propensity for anti-social behaviour

defining the unit of analysis, we do not know whether everyone in that area is relevant: are social interactions and possible role-model effects driven just by other children of a similar age or by the general characteristics of adults in the neighbourhood?

It is also important to distinguish between direct effects – those originating in the neighbourhood and stemming from interactions with a child's neighbourhood friends and role models – and other effects related to having access to a good school, a good library and other local services, where residential location matters to a lesser extent.

School quality, for example, becomes

an issue if where you live determines which school you can attend. Oversubscribed schools in England can select pupils based on how close they live to the school, so children living near good schools will, on average, have better educational outcomes. This is another source of correlation between neighbourhood characteristics and children's outcomes.

But parents in England still have some degree of school choice and this weakens the link between residential location and school quality. The link is far looser than in some other countries, such as the United States, where children in the same neighbourhood all tend to go to the same school.

For example, the average secondary school in England enrolls children from each of 65 different 'census output areas' (small neighbourhoods) in any given admissions year. The five or so children in each of these neighbourhoods who are in the same school year typically enrol in two to three different secondary schools. These institutional features mean that there is some scope for studying the separate effects of neighbourhoods and school quality in England.

With these issues in mind, CEP and SERC researchers have examined the influence of neighbourhoods on children in great depth.

Neighbourhoods and social mobility

CEP researchers pioneered the investigation of neighbourhood effects on children's educational outcomes, producing one of the first studies to look at the implications for social mobility between generations in England. An early study (Gibbons, 2002) used data on a cohort of children born in 1958, who had been followed at four to ten year intervals over their lifetime, to examine whether the characteristics of their childhood neighbourhood had affected their final level of qualifications.

The research looked particularly at the effects of neighbours on children in social housing, because the parents of these children were likely to have had relatively little choice about exactly where they lived, and income differences would have made little difference to the quality of their neighbourhood. Using this approach, the study found some evidence that

neighbours' educational qualifications made a difference to children's own qualifications, but that they determined only a very small proportion of the variation in individual outcomes. Family background mattered much more.

These early results showed that teenagers from the top 10% of neighbourhoods (ranked by the proportion of adults with A-levels and higher qualifications) were five to seven percentage points more likely to get A-levels themselves than children with similar family backgrounds living in neighbourhoods ranked in the bottom 10%. This implies that children brought up in a neighbourhood ranked at the bottom of the educational hierarchy would have needed parents educated to degree level to give them the same educational opportunities as another child from an average background.

Children from educationally advantaged communities were also less likely to end up with no qualifications. These effects did not operate purely through the quality of local schooling or through association with peer-group pupils from better backgrounds attending the same school: neighbourhood had an impact above anything related to local secondary school performance.

Another early study (Overman, 2002) also found evidence of neighbourhood effects, this time on drop-out rates of Australian teenagers. In this case, there were differences in the effects according to neighbourhood size, and the effects seemed to be driven more by local labour market opportunities than by the direct influence of neighbours.

A limitation of both these cross-sectional studies is that they compared

different individuals from different families living in different neighbourhoods. This made it difficult to rule out the possibility that it was differences in family background rather than neighbourhood differences that generated the observed effects.

More recent work has refined the analysis, using a large administrative dataset on children in England – the National Pupil Database (NPD) – which makes it possible to track cohorts of individuals through their educational careers. These data also provide much greater detail on pupils' home location and which schools they attended.

Social housing neighbourhoods

One study examines the short-term effect of living in a deprived high-density social housing neighbourhood on the educational attainment of teenagers (Weinhardt, 2013). This research uses the long waiting lists for social housing in high-demand areas to ask if there is a causal relationship between neighbourhoods and school results. The idea is that future tenants cannot directly influence the timing of their move into public housing as this depends on waiting for availability. On the other hand, children who move into social housing at some point in their education careers are very similar in terms of general characteristics, most notably family background.

The research documents the stark underperformance of children in England who move into high-density social housing neighbourhoods between the ages of 11 and 16. All of these children underperform in national tests. For example, in key stage 3 (KS3) tests at age 14, they score an average of 34.3 points across all subjects, when a score of about 50 represents average performance.

But the analysis also shows that children perform equally poorly independent of whether they have already lived in a highly deprived

neighbourhood up to three years before taking the KS3 test, or whether they moved into these neighbourhoods after the test. Since future neighbourhoods cannot causally affect the scores of teenagers who have not yet moved into them, the study concludes that none of their poor performance can be causally linked to neighbourhood quality during these formative years.

Test scores and behaviour

Another of our recent studies uses the NPD to look at the effect of the characteristics of neighbouring children of a similar age on children's test scores and behavioural outcomes in secondary schools (Gibbons et al, 2013). Specifically, we focus on impacts on children who do not move neighbourhood between the ages of 11 and 14, investigating how their test scores and behaviour change over time as other similar-age children of different types move in and out of the neighbourhood.

We estimate the effects of changes in the mix of boys and girls, changes in the average ability of neighbours (measured by test scores at age 7) and changes in the proportion of neighbours who are on free school meals (a standard proxy for low income) or have special education needs.

The main questions we explore are first, to what extent these changes in the mix of neighbours influence a child's test score gains between the ages of 11 and 14; and second, to what extent these changes affect a child's behaviour – including attitudes towards school, truancy, drug use and anti-social behaviour?

The size of the NPD and its detail on home and school location allow us to be much more careful than previous work about the way we define neighbour groups. We can also be much more careful about the way we control for potentially confounding influences, such as school quality, other local amenities and general trends in neighbourhood status brought about by gentrification. In particular, we are better able to discern the causal influence of neighbour characteristics by looking not only at how changes in the mix of neighbours over time affect a child in a given age cohort, but also at the difference in this pattern between different cohorts.

As in previous studies, we find

Neighbourhood segregation is the outcome – not the cause – of inequalities in income and wealth



strong 'raw' associations between neighbourhood characteristics and children's outcomes. But once we move to our causal approach, all previously significant estimates become close to zero. In a nutshell, our main finding is that characteristics of neighbours do not affect the test scores of teenagers. But we find some weak evidence that neighbourhood characteristics affect behaviour. In particular, there are some differences between boys and girls in terms of their attitudes towards school and anti-social behaviour: boys are significantly more affected than girls by a worsening of the neighbourhood's social composition.

Minimal neighbourhood effects

So what explains the discrepancy between our consistent findings of minimal neighbourhood effects and some of the previous evidence? The key reason is that people choose where to live, subject to their incomes and the cost of housing. Any correlation between children's outcomes and neighbours' characteristics comes about mainly because children from richer families live next to other children from rich families, while children from poor families live next to other children from poor families. On average, children from rich families tend to do better at school. This generates a spurious correlation between individuals' achievements and those of their neighbours.

Researchers can use statistical methods to try to 'control' for these differences using data on income and other variables predicting sorting, but this approach has previously had limited success. By looking at what happens to a given child as their neighbours move in and out over a number of years or by studying what happens to children who move into social housing before as opposed to right after national tests, our latest studies circumvent the worst of these problems.

Our research findings do not stand alone. The best evidence emerging from the United States and elsewhere using experimental methods (for example, the Moving to Opportunity experiment) leads to similar conclusions. The quality of neighbours – good or bad – makes no difference to a child's education or other

High residential turnover may disrupt the educational achievement of local teenagers

outcomes related to economic self-sufficiency. Neighbours may, on the other hand, matter for physical health and mental wellbeing – but as yet there is limited evidence on this for England.

Neighbourhood stability

All of these studies share a focus on some measure of 'neighbourhood quality': is it a nice, safe place to live? Are the pupils in the neighbourhood doing well at school? And do they come from a rich or poor background? The research to date has focused on these aspects to understand if there are knock-on effects from peers' characteristics and behaviour on other neighbours.

But what if it is neighbourhood stability that matters rather than the quality of the area or the characteristics of its inhabitants? If there is a great deal of mobility in and out, it will be harder to get to know your neighbours. Sociologists have long argued that neighbourhood stability is an important requirement for building up friendships, networks and ultimately the 'social capital' that is known to be important for educational and labour market outcomes.

CEP research in progress (Gibbons et al, 2014) is looking directly at the effects of neighbourhood turnover on pupil outcomes. Preliminary results indicate that high levels of mobility have detrimental effects on the test scores of teenagers who do not move themselves. In particular, pupils' test score progression in secondary school is negatively affected by a higher fraction of their peers joining and leaving the neighbourhood. This suggests that while the quality dimensions of neighbourhoods do not seem to matter much, there may be important effects associated with turnover.



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Olmo Silva is research director of SERC and associate professor of real estate economics and finance at LSE. **Felix Weinhardt** is an Economic and Social Research Council post-doctoral fellow at CEP.

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The UK's long-term unemployed face tougher requirements in return for their benefits – community work, training programmes or daily visits to the Jobcentre. To assess the likely success of the Chancellor's strategy, **Barbara Petrongolo** surveys the evidence on the effectiveness of the 'sticks' and 'carrots' of active labour market policies.

Tackling long-term unemployment: the research evidence

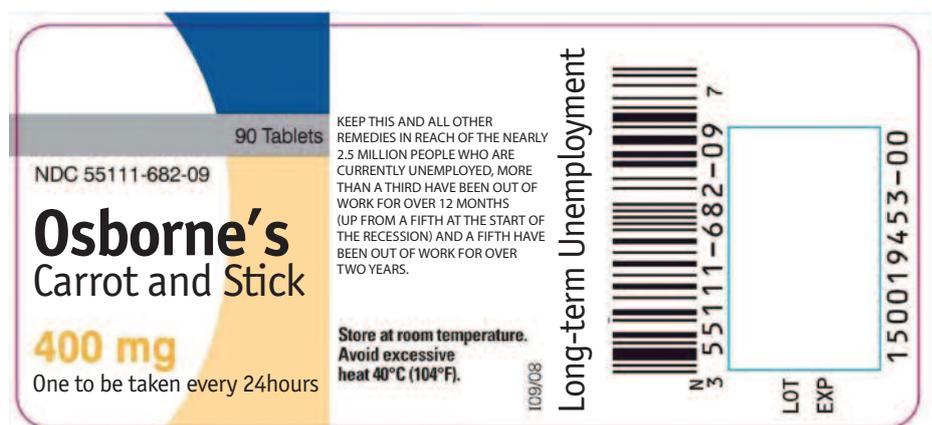
During the Great Recession, UK unemployment increased from about 5% to 8%, with a disproportionate increase in the number of long-term unemployed. Of the nearly 2.5 million people who are currently unemployed, more than a third have been out of work for over 12 months (up from a fifth at the start of the recession) and a fifth have been out of work for over two years. The rising incidence of long-term unemployment is a distinctive feature of virtually all recessions, as job-finding rates tend to remain persistently low even after the first signs of a recovery.

Long-term unemployment is a perennial policy concern for several reasons. First, it tends to have detrimental effects on the individuals involved. Workers' human capital (whether actual or perceived by employers) may deteriorate during a spell of unemployment, and the time devoted to job search typically declines. Both factors imply that the chances of leaving unemployment fall the longer it goes on. More generally, long-term unemployment adversely affects people's mental and physical wellbeing and it is one of the most significant causes of poverty for their households.

Second, insofar as the long-term unemployed become gradually detached from the labour market, they play a reduced role in the competition for jobs. This means that unemployment is less effective in curbing wage pressure, potentially leading to even further increases in unemployment and its persistence (Machin and Manning, 1999).

These and related considerations have motivated a wide variety of policies to address the problem of long-term unemployment. Policy interventions combine elements of 'stick' and 'carrot'. They involve job search requirements and sanctions to promote sufficient search

Job search requirements of the Jobseeker's Allowance failed to raise search efforts among the unemployed



effort; or direct assistance to the unemployed, including help with their job search process and training provision. In addition, governments may provide wage subsidies to firms that hire the long-term unemployed.

A number of social experiments in the United States provide evidence on the effects of job search assistance and stricter search requirements. The combination of these two policies often leads to a reduction in the time spent on unemployment benefits. At the same time, this does not necessarily mean that everyone coming off benefits is being employed in a new job (Card et al, 2010).

Similar conclusions have been highlighted for the UK (Manning, 2009; and Petrongolo, 2009). And a potential side effect of these and other active labour market policies is displacement of jobseekers who do not receive targeted intervention (for example, the short-term unemployed), as they face stronger job competition from those who do (Crépon et al, 2013).

The US evidence on the effects of training programmes for welfare recipients and employment subsidies is, at best, mixed. The overarching conclusion is that these programmes – at least in the short term – are often ineffective at improving the re-employment chances of the unemployed and in several cases would not pass a cost-benefit test (Heckman et al, 1999).

On the other hand, longer-term evaluations tend to be more favourable than short-term ones, and substantial heterogeneity in the impact of these programmes implies that they may generate significant benefits for certain groups. It should also be noted that the provision of job search assistance typically

has a more beneficial impact than training programmes, especially in the short term (Card et al, 2010). The evidence for Europe is thinner, but it broadly replicates lessons from the US experience.

In some cases, the policy impact is unsatisfactory because resources allocated are limited relative to the scale of the unemployment problem. But in other cases, even adequately funded intervention may fail to give programme recipients what they feel they need (Heckman et al, 1999).

For example, UK and US studies show that benefit recipients are typically not keen on compulsory training schemes or, more generally, on repeated interaction with the employment service. Indeed, some are so against it that they respond to targeted intervention by stopping claiming benefits with the effect of reducing the number of claimants but not increasing the number getting back into work (Manning, 2009; and Petrongolo, 2009).

Transitions from claimant unemployment into inactivity could actually lead to worse outcomes. While they reduce expenditure on unemployment benefits, they may lead to further deterioration in the labour market prospects of those who drop out of the benefit system since by ceasing to be attached to the labour market, their job finding rates may decline further. If they then become eligible for other benefits, the resulting impact on total benefit spending could be an increase rather than a reduction.

Concerns about the consequences of long-term unemployment and the evidence from previous policy evaluations provide a useful framework for assessing

The long-term unemployed are unlikely to become more effective jobseekers by being forced to visit a Jobcentre daily

NDC 68180-235-01

Jobcentre

2 mg

100 Tablets

209152

N 68180123501 9

10 x 18 mm

LOT NO.

EXP.

Dosage and Administration
Daily, instead of once every two weeks.

Side effects
Workers' human capital (whether actual or perceived by employers) may deteriorate.

the strategy that George Osborne has proposed to tackle long-term unemployment. According to his announced plan, unemployment benefit claimants who have spent two years on the existing system of support, work experience and training (the Work Programme) have three options available to retain their benefits:

- First, community work for 36 hours a week, plus 10 hours of job search activity.
- Second, an intensive training programme for claimants with such problems as mental health issues, drug addiction or illiteracy.
- Or third, attend the Jobcentre daily, instead of once every two weeks.

Community work – including preparing meals for the elderly, cleaning up litter or working for local charities – is primarily intended as a way for unemployed claimants to pay back some of the benefits they receive. But this initiative may not be as cost-effective as it is hoped, if engaging individuals who have been out of work for years in useful tasks for the community requires a substantial amount of supervision.

Mandatory training for the very low-skilled is intended to tackle the specific reasons for the failure of the long-term unemployed to find jobs. But given the lack of strong evidence of positive effects of training for the unemployed, the contribution of these programmes to the cognitive skills of the 'hard to reach' may be even lower than for the average unemployed. Nevertheless, the programmes may have a chance of improving basic non-cognitive skills, such as self-discipline and reliability, by imposing a daily training or work routine on recipients.

Finally, the option of attending a Jobcentre daily is highly unlikely to boost job finding, and it will also have high administration costs. Such intervention is meant to encourage stronger competition for a given set of jobs by stimulating search efforts among the long-term unemployed. But fiercer competition for jobs is hardly going to increase transitions into work at a time when the number of available Jobcentre openings has reached a historical low of one job posting for every eight jobseekers.

It is also doubtful that the long-term unemployed are going to become more effective jobseekers simply by being forced to visit a Jobcentre daily. Back in 1996, when the Jobseeker's Allowance was introduced, the requirement to visit a Jobcentre every two weeks and provide detailed evidence of active job search did not raise overall job search effort among the unemployed. If explicit job search requirements were not effective in a period of rapidly growing labour demand and falling unemployment, there is no good reason to expect them to be effective in the aftermath of a severe recession.

Fiercer
competition for
jobs will not
increase
transitions into
work when there
are so few
openings

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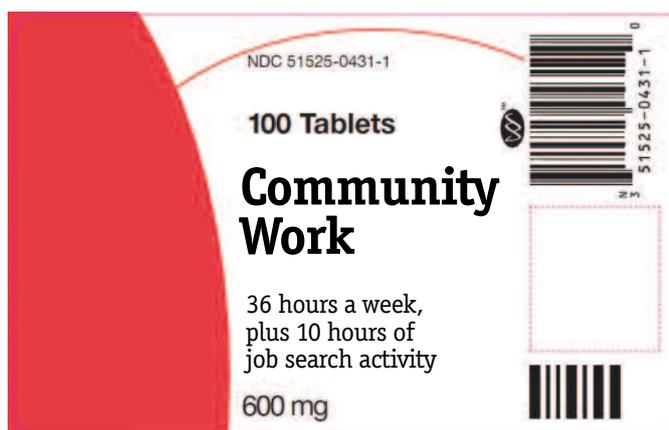
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