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CentrePiece

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Benefits of competition
Youth unemployment
Team performance

Chernobyl
University fees
Land use planning

WHAT FUTURE FOR THE DOLLAR?

CentrePiece

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Editorial

The UK government's proposed reforms of the National Health Service are the subject of heated debate, not just among healthcare professionals, the media and the wider public but even seemingly within the cabinet itself. At the heart of these disagreements is the desire of the secretary of state for health to promote greater competition among providers of healthcare – and the equally strong desire of his opponents to row back on the choice and competition agenda that began under the Labour administration.

For believers in evidence-based policy, the dispute will be something of a disappointment. A growing body of research – much of it done at the Centre for Economic Performance (CEP) – demonstrates quite clearly that under the right circumstances, hospital competition provides tangible benefits. As Zack Cooper explains in this *CentrePiece*, that does not mean that everything is right with Andrew Lansley's bill, but it does support the goal of making further progress on the Blairite agenda of public services reform.

One stream of research finds that after greater patient choice was introduced into the NHS in 2006, hospitals that faced more competition had reduced death rates and greater efficiency. A second stream of research shows that hospitals exposed to more competition became much better managed – and better-managed hospitals have improved clinical outcomes, lower costs and higher patient satisfaction.

These results chime with what CEP researchers have found in many other parts of the economy. Continuing this issue's theme of the benefits of competition, CEP's director John Van Reenen describes the Centre's long-running research programme on productivity growth – and how competition drives that ultimate measure of economic performance by improving management practices.

John's article is the latest in a series taking stock of CEP's own performance over the 21 years of its life so far, looking back at the big ideas that have emerged from the research and the stories of their subsequent impact on policy. The earlier surveys – covering unemployment, inequality, social mobility, education, the minimum wage and economic geography – are all available on the website (http://cep.lse.ac.uk/_new/publications/bigideas.asp) alongside new videos of CEP's directors discussing growth and inequality and of a series of 21st birthday lectures.

Elsewhere in this magazine, there are articles on several other topics of current controversy in the UK, including high levels of youth unemployment, the trebling of university fees and planning restrictions on supermarkets – as well as our cover story on an issue of global concern: the future of the dollar as the world's pre-eminent reserve currency. While the facts that CEP research uncovers may not always determine the outcome of public policy debates, at least the careful analysis and sifting of evidence that lies behind them should shed more light than heat.

Romesh Vaitilingam, Editor
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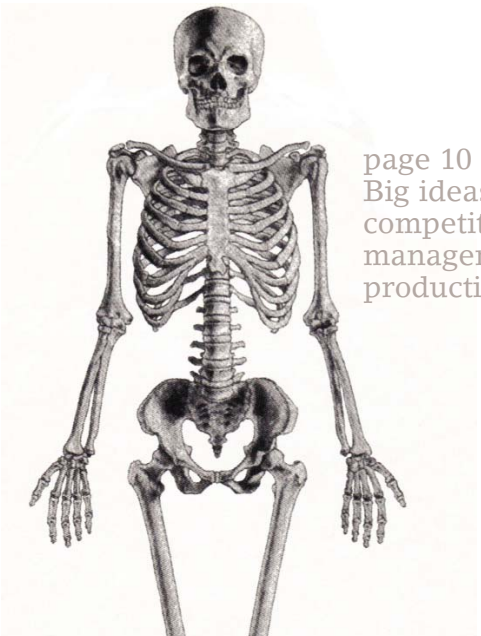

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Big ideas: how competition improves management and productivity

Joblessness among the UK's younger generation is currently at very high levels, but the rise in youth unemployment began in 2004, well before the onset of recession. **Barbara Petrongolo** and **John Van Reenen** consider potential explanations.

Youth unemployment

The UK economy has experienced the worst recession since the war in terms of loss of output, yet the overall unemployment rate is 8%, lower than the peak of the 1980s and 1990s recessions. Youth unemployment, however, has risen dramatically, and because of the 'scarring' effects of joblessness on an individual's later life, has become a key policy concern. But to tackle the problem, it is important to understand how youth unemployment typically responds to a cyclical downturn and why, this time, it started to rise well before the recession began.

Figure 1 shows the unemployment rates for the working age population (people aged 16 to 64) and for three subgroups – prime age (25-49), young (18-24) and teenagers (16-17). The prime age group follows the general pattern of the aggregate labour market, but it is clear that the young are much more sensitive to the state of the business cycle. The unemployment rate is higher for the younger groups and the magnitude of this disadvantage widens during a recession.

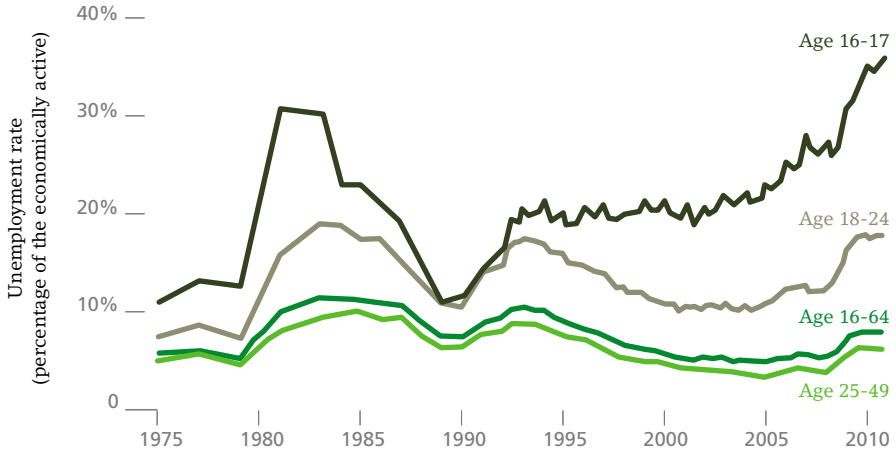
This is unsurprising as employers will be reluctant to lose more experienced workers who have firm-specific skills and greater redundancy costs. So the burden of adjustment typically falls on low-wage workers such as young people. Minorities and the less educated also tend to fare worse during downturns.

The fact that teenagers do not appear to have experienced the same fall in unemployment after the 1990s recession as older groups can be explained by important concealed 'selection effects' as increasing numbers of teenagers without jobs stay in education. Indeed, if instead of focusing on unemployment figures we use information on the proportion of young people who are 'not in employment, education or training' (NEETs), the trend for 18-24 year olds is very similar to the trend in unemployment, while there has been a decline in the 16-17 year olds NEET rate.

Has the latest recession hit young people much worse than in the past? Figure 1 shows that the unemployment rate for the young has increased by more (in absolute terms) than the unemployment rate for older groups since the onset of the recession. Moreover, there has been a significant fall in hours worked by young people compared with older groups, while wages have flattened or fallen for younger workers. Both of these facts indicate that young people are faring worse during the downturn than other groups.

But it could be said that this has been the general pattern in all recessions. The

Figure 1:
Unemployment rates by age group, 1975-2010



Source: Labour Force Survey (annual data 1975-91, quarterly data 1992-2010)

unemployment rate for young people is about the same as at its 1990s peak and better than the 1980s peak, despite the fall in GDP being deeper. (The higher absolute number of young unemployed is due to the larger labour force and so is not really a relevant comparison.) The growth in youth unemployment relative to prime age unemployment in this recession looks no worse than in previous recessions. In fact, if anything, it looks slightly better.

So the data do not suggest that there is a special problem of youth unemployment in this recession compared with past experience. The fact that young people suffer more during downturns is quite consistent with what has happened in previous recessions in the UK and elsewhere. A bigger problem is what was happening before the recession.

Figure 1 shows that prime age unemployment has been falling dramatically since the early 1990s, and then rose again in 2008. Youth unemployment had also been falling since the early 1990s, and by 2004 it had dropped to about 9%, below its 1989 level. But then it started rising in 2004, several years in advance of the recession.

So there seems to be a component of the differential between adult and youth unemployment that is not explained purely by the stronger impact of cyclical downturns on young people. Despite several forces that may be related to the poor performance of the youth labour market in recent years, the bulk of the rise in youth unemployment in the period 2004-08 remains largely unexplained. What might be behind this increase? We look at six possible culprits.

Rising migration

As the rise in youth unemployment dates back to 2004, the year of the European Union's enlargement to take in eight Central and Eastern European countries (plus Cyprus and Malta), it would be natural to think that the increase in youth unemployment is related to stronger competition from immigrant labour.

The UK has experienced a record increase in immigration in the past few years. The proportion of foreign-born population was below 6% in the early 1990s, but is currently about 10%. In London, this proportion rose from 28% to the current level of around 40%. Those immigrants who are less skilled than natives will be closer substitutes for inexperienced young people and may hurt young people more than adults.

Some simple evidence on this can be provided by looking at the correlation between youth unemployment and the migration rate across UK regions over time, controlling for the business cycle. Evidence shows that a one percentage point increase in the proportion of foreign-born in the working age population is associated with an increase in youth unemployment of 0.43 percentage points, holding the state of the business cycle constant.

So it might be concluded that foreign migration harms the job prospects of young people. But this result is largely driven by differences between London and the rest of the country, as the capital experienced particularly high rates of immigration and a relatively higher increase in unemployment. Excluding London from the sample, the correlation between youth unemployment and the migration rate is basically zero.

It could be argued that the simple correlation underestimates the impact of migration, as immigrants will go to areas where the labour market is strong. But we suspect that other factors may explain this correlation. Consistent with research showing that immigrants do not seem to have large harmful effects on the labour market outcomes of natives overall (for example, Card, 2005), there is no compelling evidence of a strong causal impact of higher migration on youth unemployment.

Changing structure of welfare-to-work benefits

The poor showing of the youth labour market since 2004 is particularly disappointing given the considerable policy reform to the Employment Service (especially for young people) in the last two decades. Jobseeker's Allowance (JSA) was introduced in 1996 as the main form of unemployment benefit and greatly increased the job search requirements for receiving benefits. Although it appeared to reduce the claimant count, few of those leaving seemed to find sustainable jobs: not only did JSA not seem to improve the overall employment rate significantly (Manning, 2009), it may even have reduced it for the young (Petrongolo, 2009).

While the claimant count and unemployment as measured by the Labour Force Survey (LFS) were very close until October 1996 for people over 18, LFS unemployment (which includes people who report that they are looking for a job but not finding one) remained well above the claimant count in the post-JSA period. Thus there is evidence of increasing

Compared with the 1980s and 1990s recessions, young people have not done particularly badly in the latest recession

The unemployment rate is higher for younger age groups and this disadvantage typically widens during a recession

numbers of workers who left the unemployment register but did not find jobs. About half of the 18-24 LFS unemployed do not claim JSA (compared with a third of 25-49 year olds). When dropping out of the welfare system, individuals may become more detached from the labour market and spend less effort on job search.

The second policy, the New Deal for Young People, was introduced in 1998 with the aim of improving the incentives for young workers to find jobs. All 18-24 year olds on JSA for six months received help with job search from a dedicated personal adviser. So there was some 'carrot' of job search assistance as well as a tougher 'stick' of stricter monitoring. This seemed to be successful, rigorous evaluations showing that job finding rates increased by about 20% as a result of the policy (Blundell et al, 2004; De Giorgi, 2005).

But this success was possibly undermined when around 2004, the Employment Service was given incentives to focus less on young people on JSA and relatively more on other groups, such as lone parents and those on incapacity benefits. Although there is no rigorous evaluation of this change, the timing does suggest that this may have been a cause of the rise in youth unemployment before the recession.

A further problem is that the increasing numbers of LFS unemployed who are not claiming JSA separate them from any direct effect of the New Deal and the Employment Service in general. There is no way for the state to give direct help to young unemployed people who have little contact with the job finding agencies. An extreme example of this is 16-17 year olds who are not eligible for JSA so will not need to have any direct contact with the Employment Service.

The minimum wage

Is the National Minimum Wage another cause of increased youth unemployment? Although its extension in October 2004 to cover 16-17 year olds who are not apprentices did coincide with a strong increase in their unemployment rate, research has generally found few effects of the wage floor on jobs (Machin et al, 2003; Stewart, 2004a, 2004b). For example, the 2003 increase in the minimum wage had insignificant employment effects for all demographic groups including young people (Dickens and Draca, 2005).

Furthermore, if minimum wages were to blame, we would expect a positive jobs effect on teenage apprentices, who were exempt from the 2004 legislation. In fact the job rates of 16-17 year olds fell from 15% in early 2003 to 13% in early 2007, casting doubt on the minimum wage explanation.

Cohort size

Increases in the size of the youth cohort can increase competition for jobs and, by placing downward pressure on wages, make employment less attractive. In fact, the share of 18-24 year olds in the working age population fell through to 2000, but then rose from 13% to 14.6% by 2009. This roughly coincides with the fall and rise of unemployment.

Our analysis shows that this 1.6 percentage point increase in cohort size could have increased male youth unemployment by about a quarter of a percentage point. So this is unlikely to be the major cause of the increase.

Falling demand for low-skilled workers

There has been a large increase in UK wage inequality over the last three decades. The wage premium for being educated has risen despite a huge increase in the supply of college-educated workers, which implies that there has been an increase in the demand for skills.

This is probably due to new 'skill-biased' technologies, but trade with less developed countries like China and India may also play some role in reducing demand for unskilled workers. There are similar rises in the relative demand for skills in the United States and other countries (Machin and Van Reenen, 2008).

A rise in demand for human capital may disproportionately hurt the young because they have less experience. But this explanation is not so persuasive for explaining the post-2004 changes, as youth unemployment was falling in the period 1992-2004 (and for parts of the 1980s) even in the face of this rising demand for skill. Thus, although skill-biased technical change has a lot to do with longer-run trends in wage inequality, it is not a good explanation for the rise in youth unemployment after 2004.

Education and school-to-work transitions

Another possible explanation is that the quality of education for the type of young people likely to be unemployed may have declined. Although standards as a whole appear to be rising, it is possible that targets have led schools to neglect some of the 'hard to reach', who may end up unemployed. For example, an evaluation of the Excellence in Cities programme in disadvantaged areas finds that the policy had a relatively high impact on high ability pupils in poor schools, but it did not help low ability pupils, who may have higher unemployment risk in the future (Machin et al, 2010).

Similarly, the publication of league tables gives schools incentives to focus on pupils at the margin of achieving the headline indicator (the percentage with five or more A*-Cs at GCSE) but few incentives to focus on those near the bottom of the distribution (Wilson et al,

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John Van Reenen is director of CEP.

2006). It is thus important that education policies do not neglect the bottom of the ability distribution, which is often hard to reach. More generally, improving the careers guidance service for school leavers could be a way of improving the position of young people.

Conclusions

The UK labour market has held up relatively well so far, given the depth of the latest recession. Young people, however, have fared much worse than other groups with larger increases in unemployment and bigger falls in hours and wages. Unfortunately, this is to be expected as young people always suffer worst during downturns.

More puzzling, however, is the fact that youth unemployment and NEET rates were already bad going into the recession, having been rising since 2004. The evidence gathered to date does not provide a firm answer to why, after over a decade of steady improvement, youth unemployment started rising in the mid-2000s.

With youth unemployment currently around 18%, policy actions will be key to reducing the threat of large numbers of young people facing long-term unemployment and the lifetime scars that leaves. In particular, it is important to maintain strong welfare-to-work policies that keep young people attached to the labour market, and to ease the transition from school to work with apprenticeship programmes targeted at low-achieving groups that are typically 'harder to reach'. But there is no evidence that caps on immigrant flows or a reduction in the minimum wage would have a strong bite on the youth labour market.

Images: University of Portsmouth Debt Wall
www.flickr.com/photos/upsuportsmouth/tags/wallofdebt/

Further reading

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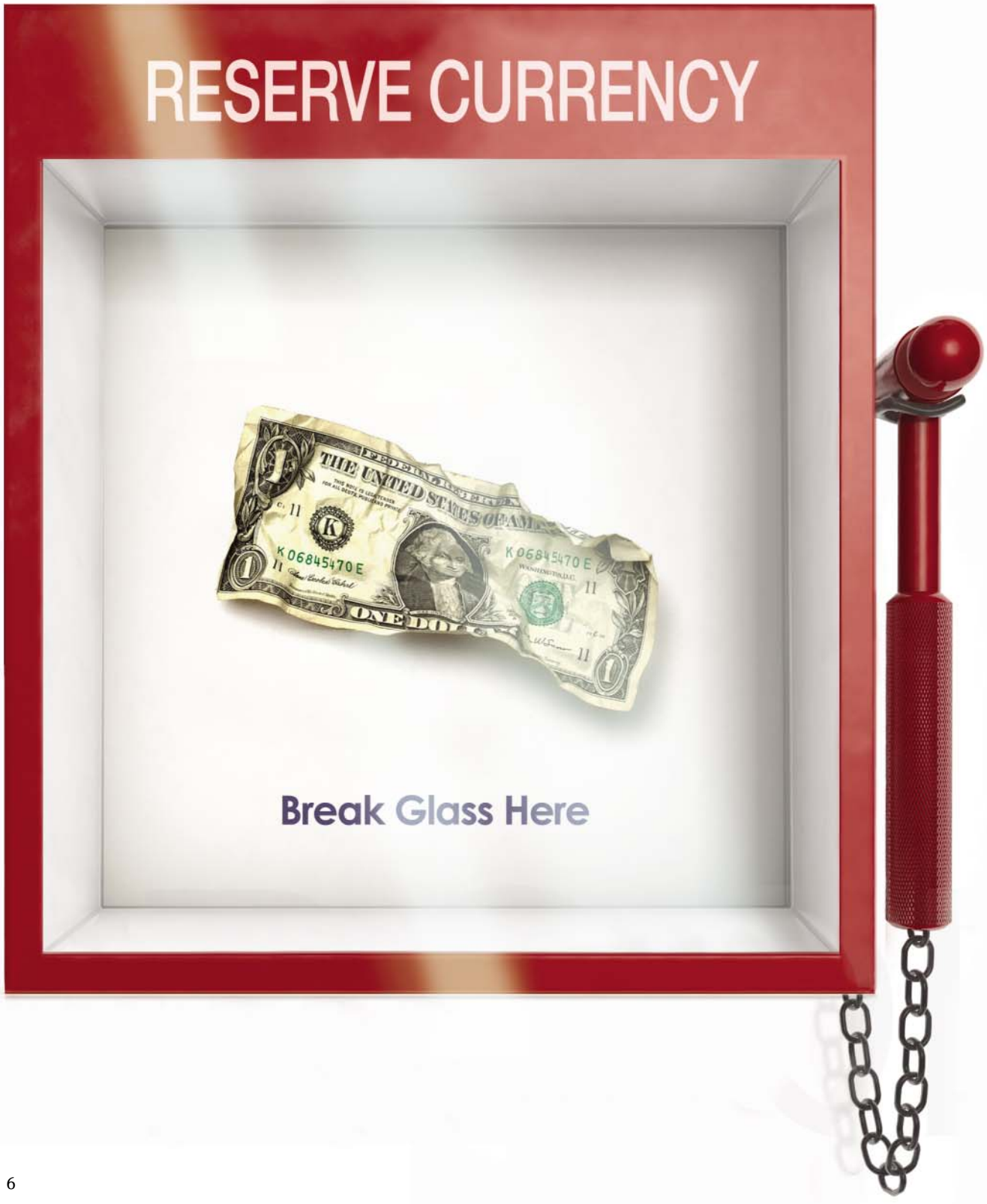
Immigration, the minimum wage and changing demand for skills do not seem to be to blame for the rise in youth unemployment

To what extent has the financial crisis undermined the dollar's pre-eminence as the world's reserve currency? **Gianluca Benigno** explores shifting demand for dollar assets and outlines some scenarios for the future international role of the currency.



Challenges for the dollar as a reserve currency

The financial crisis and its economic consequences have renewed debate about the status of the dollar as most governments' first choice of currency to hold in their foreign exchange reserves. One key reason relates to the build-up of substantial global macroeconomic imbalances over the past decade, notably the US current account deficit and the country's swelling burden of public debt. Maintaining the dollar's reserve currency status is vitally important for the United States, allowing the country to finance its deficits more easily.

Historically, shifts in reserve status between currencies are not abrupt events but occur slowly, reflecting changes in such factors as national economic and political influence, use in trade and investment transactions and the deepness of domestic financial markets. Discussions about the dollar's reserve status have emerged before, following the convertibility of West European countries' currencies in the 1960s, the introduction of the Special Drawing Right (SDR)* in 1969 and the introduction of the euro in 1999.

What might be different now? Given that the world economy has suffered its most severe crisis since the Great Depression, it is reasonable to ask to what extent such an event might lead to structural changes in the international monetary system. These could arise as policy authorities redesign the global financial architecture or as a consequence of events that lead to a reshaping of the economic and political forces that determine the world's leading reserve currencies.

* SDRs are International Monetary Fund (IMF) assets, originally created to supplement US dollars within the Bretton Woods fixed exchange rate system

Demand for dollars

So have dollars become less desirable assets in recent years? In fact, data on the currency composition of global foreign exchange reserves show that there has been very little change in the shares that countries allocate to dollar reserves (see Figure 1). The dollar accounts for more than 60% of total reserves now, a higher proportion than in 1995.

Even looking at how this share has changed for different groups of countries, there is no evidence of any systematic trend in dollar claims. At most there has been a slow decline in dollar claims by emerging and developing economies over the past five years, but the dollar share remains above 58%. The only notable trend in the past decade has been the rapid rise of the euro as a reserve currency, but this has been more at the expense of other currencies (notably the yen) than the dollar.

More indirect evidence on the desirability of dollar assets comes from data on the holdings of US Treasury securities by China and oil-exporting countries (see Figure 2). These show that despite recent events, holdings of US Treasuries have actually increased markedly.

The dollar in the financial crisis

What happened to the dollar during the crisis? Data for the period from August 2007 to June 2009 show that despite being at the epicentre of the turmoil at a time when the solidity and stability of the US financial system were questioned, the

Figure 1:
The dollar's share of total foreign exchange reserves

dollar strengthened in value. The dollar was on a downward trend until July 2008 as the crisis began to become a global phenomenon. After that, the dollar started appreciating, with peaks occurring at times of high tension in financial markets as its role as a 'safe haven' currency was reaffirmed (see Figure 3).

This pattern has continued during the sovereign debt crisis in the euro area, which began in early 2010. Peaks in market tensions arising from the funding needs of European countries have been associated with shifts towards safe haven assets.

The preference for dollar-denominated assets at times of high tension has also been demonstrated by measures of the perceived credit risk in the economy and risk and liquidity in the money market, as reflected in the returns on short-term US and German bonds. During the most acute episodes of the financial crisis, these measures mirrored the behaviour of the dollar, indicating that investors were shifting towards short-term dollar assets.

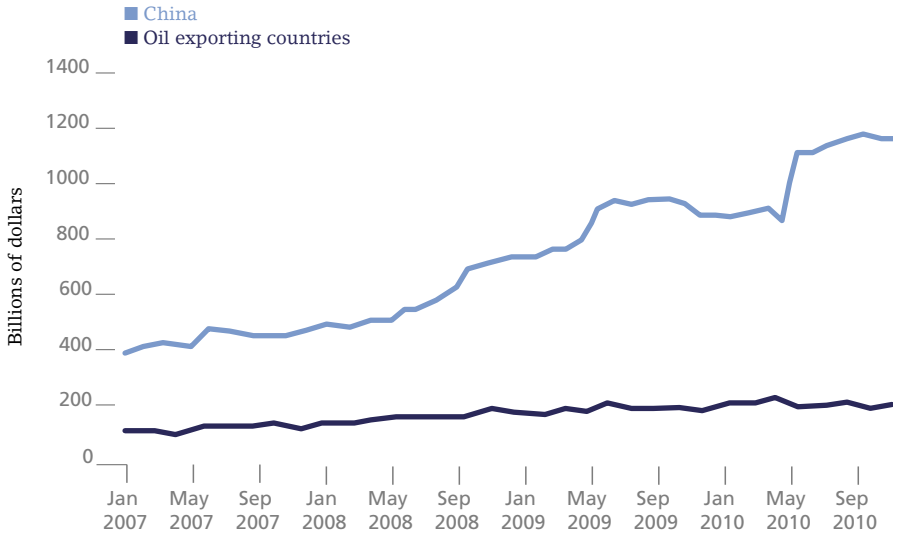
The impact of current US policies

As financial market conditions have improved, the sustainability of the role of the dollar as a reserve currency has been questioned because of concerns about the possible consequences of current monetary and fiscal policies for the value of the dollar.

From a monetary policy perspective, the Federal Reserve has implemented rate cuts, liquidity measures, outright asset purchases and bailouts to mitigate a credit crunch and avoid deflation. But now there are worries that its actions may lead to higher inflation. So far though, the increase in base money that has followed the quantitative easing programme has not been inflationary: monetary aggregates have not increased (money velocity has decreased) as banks have deposited their excess reserves with the Fed rather than expanding credit.

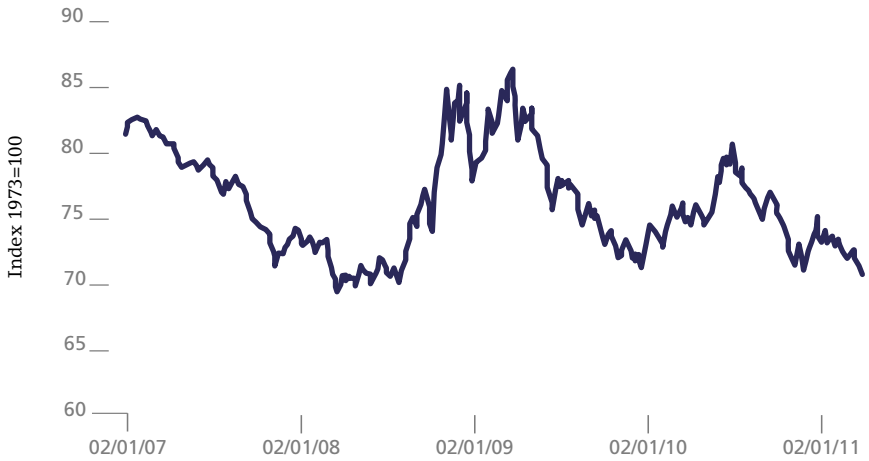
From a fiscal policy perspective, the substantial increase in the US fiscal deficit has raised concerns about the sustainability of the fiscal position and repercussions for the value of the dollar and its role as a reserve currency. According to the Congressional Budget Office, the fiscal deficit will amount to about $7 trillion over the period 2012-21

Figure 2:
Major foreign holdings of US Treasury securities in billions of dollars, 2007-10



Source: US Treasury TIC System

Figure 3:
Trade-weighted dollar exchange rate (upward movement correlates to an appreciation of the currency)



Source: Bloomberg

with public debt rising from 53% of GDP in 2009 to 75% in 2014. The risks associated with the US fiscal position (at least from the market perspective) seem to be consistent with the weakening of the dollar since the end of March 2009.

Nevertheless, the extent to which fiscal factors might affect the dollar's value will depend on the currencies against which the dollar could weaken. As many other advanced countries are running comparably large budget deficits, the

The crisis may have advanced the date when the dollar is no longer the leading reserve currency

currencies against which the dollar might depreciate are those of the emerging market countries.

In general, therefore, despite the fact that signs of pressure might come from current US policy stances, it seems that a lack of alternatives, especially at the peak of the financial crisis, has reinforced the role of the dollar as a reserve currency.

Challenges to the dollar

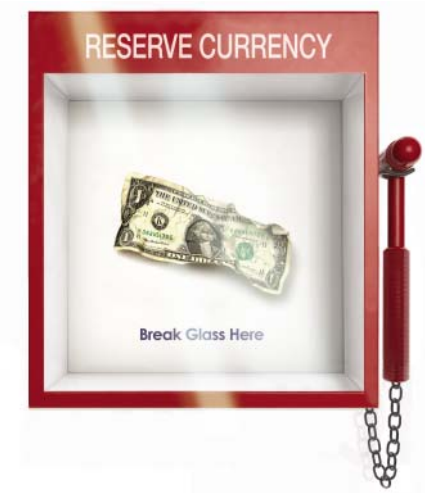
Most discussions of the reserve currency role of the dollar have centred on the possibility that the euro might provide a credible competitor. But there are two alternative challenges. The first could come from current policy decisions that might affect the structure of the international monetary system. Indeed, the Chinese authorities have proposed reviving the role of the SDR and possibly revising its composition by including the renminbi in the new basket.

There is also some indication that the Chinese would soon want to see the renminbi used as a means of payment in bilateral trade. China sold its first batch of sovereign bonds in renminbi in October 2009, further signalling its intention to make the renminbi an international currency.

These steps are consistent with China's rapid growth, which resembles the patterns of the United States and Japan during their transformation into economic powers in the interwar and post-war periods. If anything, the size of the Chinese economy relative to global GDP is bigger now than in those comparable situations. While the economy is still smaller than that of the United States or the euro area, it is expected to grow faster than the developed economies, increasing its global economic weight.

Nevertheless, at this stage the renminbi lacks many of the features that would make it desirable as a reserve currency: there are still controls on inflows and outflows of capital; domestic financial markets are still underdeveloped; and the Chinese bond market is not very liquid.

The second challenge to the dollar might come from post-crisis adjustments to the system. At the heart of such adjustments lie the role of global imbalances and their eventual correction. The two likely scenarios associated with the maintenance of the status quo or eventual corrections of the global imbalances are crucial for understanding the challenges for the dollar.



The rise of the renminbi and diversification away from the dollar might imply a future system with several reserve currencies

In the first scenario, US consumers reduce their consumption and save to counterbalance public sector borrowing. In this case, a weakened dollar might provide the source of growth for the US economy. An orderly depreciation of the dollar would occur as long as the Chinese authorities are willing to accept losses in the valuation of their current holdings of dollar reserves.

In the second scenario, US consumers resume their pre-crisis spending pattern. As long as the Chinese are willing to finance this by buying US Treasury bonds, the system could sustain such an arrangement at possibly higher interest rates. But if the Chinese authorities do not maintain the pace of such a spending pattern by accumulating dollar assets, the result could be a weakening of the dollar (not necessarily orderly) coupled with a US debt problem.

In both scenarios, a weakening of the dollar is the likely outcome, while the speed of the transition towards a regime in which it is not the only reserve currency could be accelerated, depending on the interaction between the behaviour of US consumers and the Chinese authorities.

So the crisis may have advanced the date when the dollar is no longer the leading reserve currency. From a policy perspective, a welcome step would be to facilitate this development by improving the convertibility of the renminbi. At this stage, its limited convertibility is mainly related to the link between currency convertibility and the development of financial markets. Indeed, in general, a well-developed financial market increases the capacity of the domestic economy to cope with factors that affect external demand for the domestic currency.

It is not unreasonable to think that the renminbi has the potential to play a role in international trade and investment transactions, given the pace at which the Chinese economy is expanding. This could create the necessary market discipline to limit global imbalances by allowing for an alternative reserve currency option.

To sum up, while the dollar has maintained and reinforced its reserve currency status during the crisis, there are elements that suggest the fragility of this status quo. In the medium term, the dollar's destiny might lie more in Chinese than in US hands. A diversification away from the dollar and the rise of a new international currency might imply, in the near or medium term, a global system with several reserve currencies, rather than just the dollar.

This is an edited version of 'Challenges for the Dollar as a Reserve Currency' by Gianluca Benigno, a chapter in *Beyond the Dollar: Rethinking the International Monetary System*, a Chatham House report edited by Paola Subacchi and John Driffill (http://www.chathamhouse.org.uk/publications/papers/view/-/id/844).

Gianluca Benigno is a reader in economics at LSE and a research associate in CEP's macroeconomics and globalisation programmes.

In the latest of CEP's 'big ideas' series, **John Van Reenen** sketches the evolution of the Centre's research on the drivers of productivity growth – and its impact on the design of new policies in the UK and the European Union aimed at fostering greater competition.

Big ideas

How competition improves management and productivity

CEP's mission is to understand economic performance and the key indicator of that is productivity. As Nobel laureate and long-time CEP associate Paul Krugman once quipped, 'Productivity isn't everything, but in the long run it is almost everything'.

Krugman is basically right: over the long haul, the basic determinant of material wellbeing is the growth of wages, which is determined by productivity growth. If wages start to run ahead of productivity, then the only way the economy can adjust is through either inflation or unemployment.

But what determines productivity, or the amount of output that can be produced from a given set of inputs? And can government policy do anything to raise productivity? These questions have been explored in detail by CEP researchers over the past two decades, looking in particular at the roles of competition and management.

Does competition increase productivity?

In the 1990s, Stephen Nickell led a team of CEP researchers to address the productivity question head on. Advances in information technology enabled him for the first time to be able to access and analyse accounts of many thousands of UK firms over many decades.

The first finding was a descriptive fact that has stood the test of time: there are huge differences in productivity between firms even in narrowly defined industries that last for many years. Yet the existence of persistently less efficient firms encountered in Nickell's research was hard to square with the standard economic model of perfect competition, which assumed that such inefficiency could not persist.

A different framework was needed, which required a more subtle view of imperfect competition in the way firms set prices and workers bargain for wages and conditions. Such a model provided the microeconomic foundations for CEP's influential research on the macroeconomics of unemployment and productivity (discussed in the first of our 'big ideas' series on welfare reform, published in the Spring 2008 issue of *CentrePiece*).

Nickell collaborated with CEP

researchers Sushil Wadhwani and Charlie Bean (all three would later become members of the Monetary Policy Committee) combining accounting data with their own surveys and collecting detailed information on the degree of competition in product and labour markets.

Their hunch was that tougher competition had an important role to play in explaining productivity differences. The question could not be settled theoretically as competition has ambiguous effects. Indeed, the dominant school of thought in growth theory was that competition retarded growth by depressing the profits that were the incentive to invest in research and development.

In a series of studies culminating in Nickell's highly cited 1996 article, CEP research showed that increases in competition provided a large and persistent boost to firm productivity. Competition could be increased in a number of ways: more openness to trade, lower barriers to entry and greater consumer choice. Governments had an important role to play here because strong competition policy was needed to ensure that markets remained competitive.

Left to themselves, businesses would frequently collude to avoid competition. As Adam Smith wrote in *The Wealth of Nations:* 'People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public or in some contrivance to raise prices.'

Policy influence

Conservative governments from 1979 were keen to promote competition through privatisation, labour market deregulation, lower state subsidies and reduced barriers to entry. But Prime Ministers Margaret Thatcher and John Major were more reluctant to strengthen competition policy, believing that the market would more or less look after itself.

Protecting inefficient firms from going under is a major reason for lower European productivity

As Chancellor of the Exchequer, Gordon Brown was far keener on toughening competition policy. CEP's influence was important in the 1998 Competition Act and 2002 Enterprise Act, which increased penalties for cartels, de-politicised the merger regime and increased resources available for the beefed-up competition authorities – the Competition Commission and the Office of Fair Trading.

A paper I co-authored with Nickell summarised what we knew about Britain's productivity gap, and we were both active in promoting the importance of competition to policy-makers at home and abroad (Nickell and Van Reenen, 2002). For example, I gave much evidence to support the European Union's Services Directive, which sought to open up European markets in the heavily regulated service sector.

CEP research also tried to get a better handle on *why* competition could foster productivity. In one study, we showed that competition on average promoted innovation through looking directly at over 3,000 major UK innovations since the war (Blundell et al, 1999).

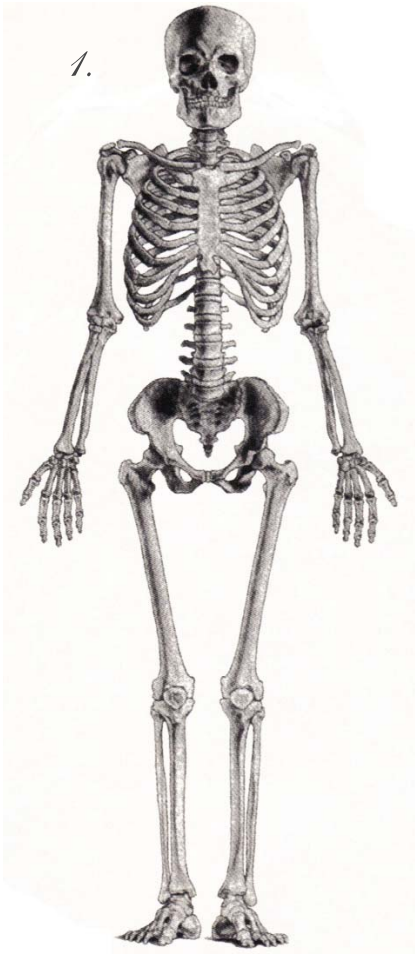
In another study, CEP psychologist Michael West and colleagues had some fascinating findings on how competitive shocks to firms are often bad news for managers but spur them into making organisational changes that improve performance. Their in-depth econometric case studies suggested that management mattered (Dawson et al, 1999).

But what about the bosses?

In the 2000s, Nicholas Bloom and I built on the insight that firms' internal organisation was the key to productivity by launching a major effort to measure management and organisation within firms (Bloom and Van Reenen, 2007).

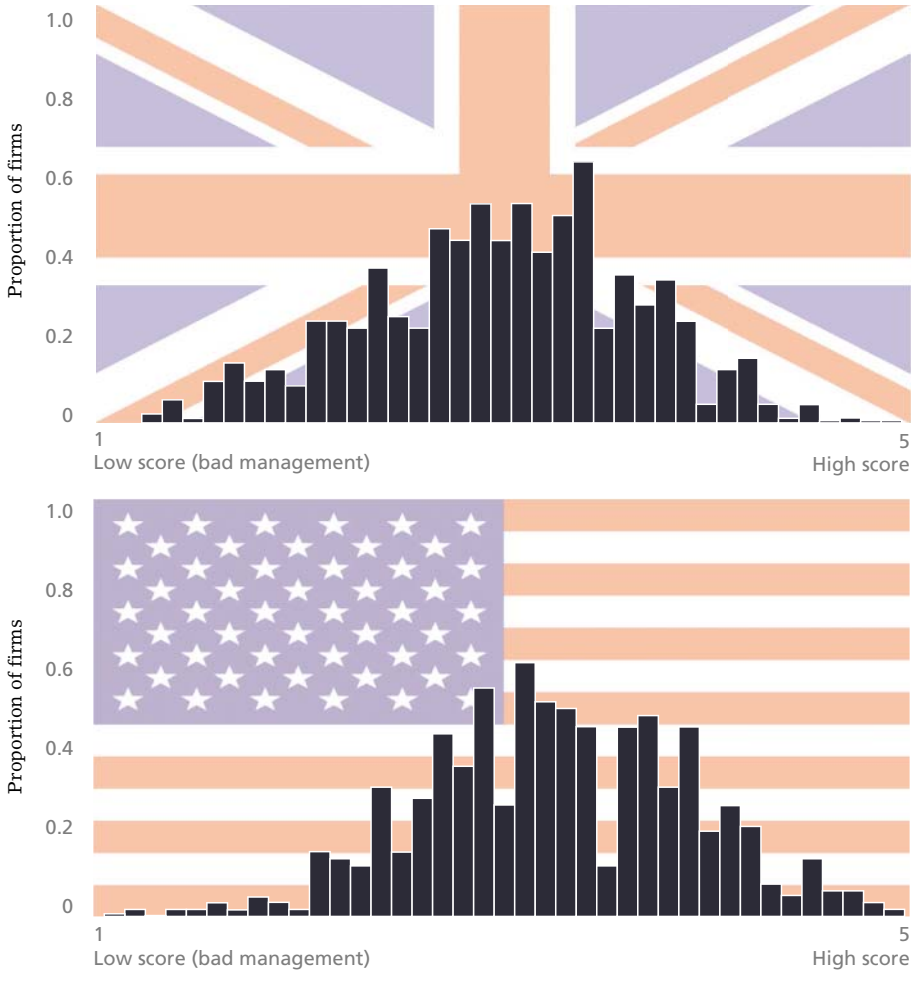
We worked with leading international management consultancies to build a scoring grid that measured management across a range of key dimensions on lean operations, monitoring, targets and people management. Our team of MBA students has now interviewed around 10,000 firms in 20 countries to get a robust picture of management around the world (see http://worldmanagementsurvey.org).

It turns out that the original intuition of the 1990s work was right: management really does matter in explaining productivity differences. And furthermore, a key factor in boosting management quality in both the private and public sectors is competitive intensity. This worked not only within firms, as Nickell emphasised, but also between firms. In other words, competition raises



1.
Managementia
Competitivus

Figure 1:
The UK lags behind the United States in management because of a 'long tail' of badly managed firms



The quality of firms' management plays a key role in explaining productivity differences

average productivity in a nation through a Darwinian selection effect where the low productivity firms are driven out of the market and the high productivity firms expand (Van Reenen, 2010).

This is illustrated in Figure 1, which compares the distribution of management scores (from 1=terrible to 5=global best practice) in the United States, which is the highest scoring nation, to the UK. The main reason for the UK's lower score is not that every US firm is better than all UK firms, but rather that we have a 'long tail' of very badly managed firms.

This management analysis has influenced many policy-makers. For example, after presenting it to the European Commission's President Barroso, I helped to advise on redrafting the rules for state aid. Protecting inefficient firms from going under is a major reason for lower European productivity. The direction of policy is to make space for the more efficient firms to grow and prosper.

Conclusions

Two decades of CEP research on the impact of competition on productivity reveal many lessons for policy. First, a focus on collecting and analysing data is better than just theorising. A policy-maker will be much more influenced by some solid facts than an abstract theory.

Second, guarding and enforcing competition will not happen automatically in markets but requires vigilance from governments in many policy areas. Often raising productivity is better accomplished by taking away barriers to competition (for example, by reforming regulations on planning) than simply spending more money on government schemes. This should be some crumb of comfort to policy-makers in an age of budget austerity.

John Van Reenen is director of CEP.

Further reading

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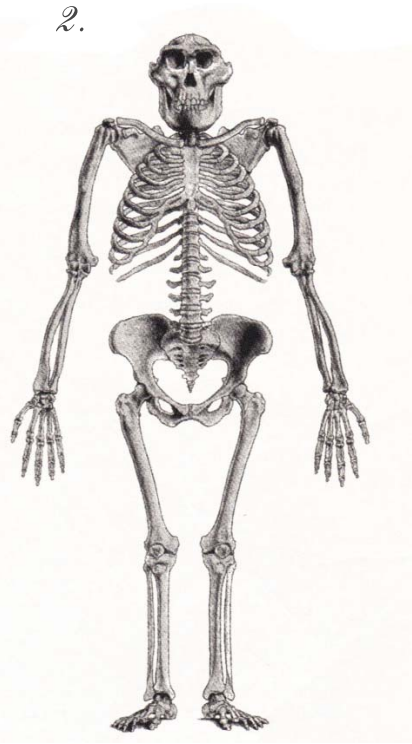

2.
Managementia
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(Threatened)

Competition will not happen automatically in markets but requires vigilance from governments in many policy areas

in brief...

Competition in the public sector: good for the goose, good for the gander?

If competition is good for the private sector, as the previous article suggests, is it also good for the public sector? **Zack Cooper** outlines the evidence from CEP research on competition in healthcare – and the implications for the coalition government's NHS reform plans.

Can allowing hospitals to compete prompt them to improve their clinical performance? Do hospitals facing more competition really take steps to become more efficient? These were the central questions that my colleagues and I set out to answer empirically by looking at recent NHS reforms that aimed to expand patient choice and encourage hospital competition.

It is almost universally accepted that in the private sector, competition is a good thing. But in public services such as healthcare and education, introducing competition has always been controversial. Indeed, some of the most raucous political debates in the United States have centred on increasing school choice, and debates over hospital competition in the UK get equally fierce.

In our research, the goal was simple. We wanted to sidestep the rhetoric, ignore the politics and examine whether introducing patient choice and provider competition into the NHS led to positive change. After looking at millions of patient outcomes over a span of eight years, we did indeed find that competition between hospitals prompted the providers to raise their game.

Our first study examined whether hospitals facing more competition lowered their heart attack death rates more quickly than hospitals located in monopoly markets (Cooper et al, 2010a). We found that after competition was introduced into the NHS in 2006, hospitals facing greater competition decreased mortality rates about a third of a percentage point more quickly than monopoly providers. Considering that average mortality rates at hospitals are about 12%, that's a non-trivial difference – the equivalent of approximately 300 fewer lives lost a year from heart attacks alone.

Competition between hospitals has raised efficiency and improved patient outcomes

In a second study, we examined whether competition in the NHS prompted hospitals to become more efficient (Cooper et al, 2010b). We measured patients' length of stay in hospital for an elective hip replacement in terms of two key components: the time from a patient's admission until their surgery; and the time from surgery to discharge. While the latter component is heavily influenced by patients' characteristics, the former is a direct function of a hospital's efficiency. Our analysis showed that hospitals facing greater competition lowered their pre-surgery length of stay relative to monopoly providers, but they were not significantly different on the post-surgery length of stay. We therefore concluded that in the face of greater competition, hospitals improved their efficiency without discharging patients 'sicker and quicker'.

Other CEP research illustrates the possible mechanism through which competition may be prompting hospitals to improve (Bloom et al, 2010). This study found that better managed hospitals in England had better outcomes for patients and were more cost-effective. What's more, greater competition actually prompted hospitals to improve their management performance.

What does all this mean for the future provision of public services? As in the private sector, competition in the public sector can create meaningful incentives for providers and better results for patients. So policy-makers should take steps to encourage hospitals to compete and lift the protections that have historically been afforded to under-performing providers, which, all too often, have allowed them to continue to prosper.

The government's proposal for GP consortia is likely to reduce competition rather than increase it

But increasing competition does not necessarily mean reducing regulation. Particularly in healthcare markets, where quality is difficult to measure and the asymmetry of information between patients and professionals is pervasive, the government still needs to play an active role ensuring that these markets operate effectively. This means regulating minimum standards, only allowing price competition in certain sectors and working tirelessly to publish and promote measures of provider performance.

How does this evidence fit with the coalition government's proposals for NHS reform? I firmly believe that while giving GPs a larger role in purchasing decisions in the NHS certainly makes sense, the government's proposal for GP consortia is likely to reduce competition rather than increase it.

Strong markets require strong purchasers that have the skills and inclination to promote competition, differentiate between providers and seek the most productive care for their patients, rather than simply the least expensive. Unfortunately, this is a combination of skills that I do not believe GPs in England have at present, and it is one that will take the nascent GP consortia a significant amount of time to develop.

Zack Cooper is a research economist in CEP's productivity and innovation programme.

Further reading

Nicholas Bloom, Carol Propper, Stephan Seiler and John Van Reenen (2010) 'The Impact of Competition on Management Quality: Evidence from Public Hospitals', CEP Discussion Paper No. 983 (http://cep.lse.ac.uk/pubs/download/dp0983.pdf)

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in brief...

Chernobyl: the long-term health and economic consequences

Recent events in Fukushima have reawakened public anxiety about the consequences of a major accident at a nuclear power plant. **Hartmut Lehmann** and **Jonathan Wadsworth** assess the long-lasting effects of radiation exposure from the Chernobyl disaster on the health and labour market performance of the people of Ukraine.

On 26 April 1986, engineers at the Chernobyl nuclear power plant in Ukraine began a series of tests on one of the reactors, which led to the world's worst civil nuclear disaster. The amount of radiation released was far greater than from the Hiroshima or Nagasaki atomic bombs, hitherto the source of most of our knowledge about the effects of radiation fallout. As yet, the amount of radiation released and the areas affected by fallout from Fukushima are lower than at Chernobyl.

Much has been written about the medical and physical consequences of Chernobyl, but less attention has been given to the social and economic consequences of the disaster. Poor health and people's perceptions of their health can potentially influence their fertility, marriage behaviour or educational attainment, as well as the key labour market outcomes of wages, hours of work and employment.

Our research examines the relationship between people's exposure to radiation as a result of the Chernobyl accident and their subsequent health and economic performance 20 years later. We analyse the Ukrainian Longitudinal Monitor Survey, which in 2003, 2004 and 2007 collected self-reported health and socio-economic data from a representative sample of working age individuals.

The data set allows us to establish the place of residence of respondents at the time of the Chernobyl accident. This is important because there was widespread variation in the amount of radiation areas received. Some parts of Ukraine received little more radiation than normal background levels, while others received more than ten times the usual background level dosage.

The Chernobyl accident carries a long-lasting legacy for many residents of Ukraine

The first step of our analysis is to establish whether there is a link between local radiation levels and the list of illnesses reported in the survey. The second step is to see whether this radiation dose itself is correlated with other socio-economic outcomes over the next 20 years. Finally, we explore whether the radiation dose is an indicator of the effect of health on a range of labour market and income-generating outcomes that are important for daily life in Ukraine.

While the long latency period of many radiation-related illnesses means that it is important to take a long-run view of the consequences of the accident, equally Soviet secrecy about it and the lack of general awareness of the effects of radiation created a fertile ground for persistent fears and rumours attributing any health problem to Chernobyl. So perceptions may have changed as a result and perceptions can have a powerful influence on individual actions. As such, our research is an attempt to identify a causal effect of the accident on both health outcomes and health perceptions.

Our results suggest that the Chernobyl accident carries a long-lasting legacy for many residents of Ukraine, notably because of its effect on their perceptions of their health. To this day, more than half of the adult Ukrainian population appears to be still concerned over the consequences of this event. And one in six prime age Ukrainian adults report being in poor health, a much higher figure than comparable estimates from many western industrialised countries.

There is also a significant positive association between residence in radiation-affected areas at the time of the accident and self-assessed poor health. Adults living in areas considered to have received sufficiently high radiation fallout as to be continually monitored are up to 12 percentage points more likely to report being in poor health.

But there is a less obvious manifestation of such an effect on a variety of specific self-reported health conditions or measures associated with stress, such as drinking, smoking or weight problems, relative to others living in areas less affected by the radiation fallout. Only the Chernobyl liquidators (the volunteers and in some cases the conscripts brought in to try to contain and mop up the radiation leak in the immediate vicinity of the plant), who were much more exposed to radiation than other members of the population, appear to have experienced more long-term health problems.

So it seems that the main long-term health effect of Chernobyl for the majority of the current adult population may be working through perceptions of poor health. At the same time, there do appear to be significant associations with Chernobyl-related residence and subsequent labour market performance. Those more exposed to Chernobyl-induced radiation have significantly lower levels of employment and working hours 20 years on.

One in six prime age Ukrainian adults report being in poor health, a much higher proportion than in comparable countries

While there is also little evidence from the data that residence in a contaminated zone has influenced fertility, marriage behaviour or educational attainment, there is some evidence to suggest that mobility may be reduced among those living in areas that received higher doses of radiation in 1986. In this way, it may be harder to argue that poor health perceptions are the sole channel through which the legacy of Chernobyl manifests itself.

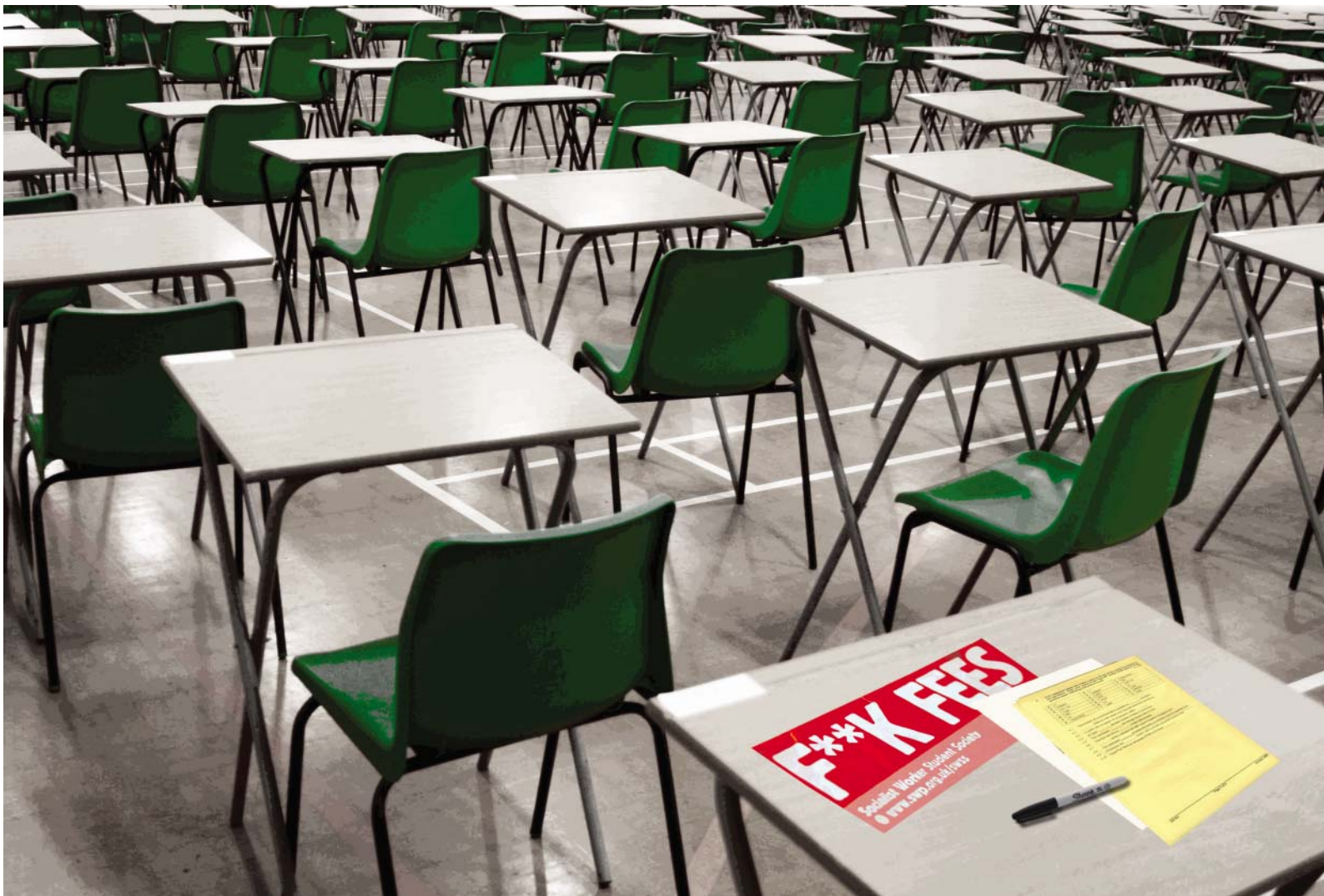
The lessons for Fukushima may be that while, as in Chernobyl, the area immediately surrounding the plant is likely to be isolated for years to come, individual perceptions are likely to be affected over a much wider area for a lengthy period of time – and this may have economic consequences.

This article summarises 'The Impact of Chernobyl on Health and Labour Market Performance' by Hartmut Lehmann and Jonathan Wadsworth, CEP Discussion Paper No. 1052 (http://cep.lse.ac.uk/pubs/download/dp1052.pdf).

Hartmut Lehmann is a professor of economics at the University of Bologna. **Jonathan Wadsworth** is a professor of economics at Royal Holloway, University of London, and a senior research fellow in CEP's labour markets programme.

The cap on tuition fees will rise to £9,000 in 2012. In the third of our series on policies of the coalition government, **Gill Wyness** describes evidence on the impact of past fee increases on young people's decisions to go to university.

Fees and loathing: the impact of higher education finance on university participation



The major influence on whether young people go to university is not the fees that they face but their prior educational attainment

The question of how to finance higher education has been on the agenda of successive UK governments since the 1960s. During that time, the country has moved from a situation where the taxpayer footed the entire bill for higher education to a system where graduates make a contribution to part of the cost of their education. This so-called 'cost-sharing' has always been a subject of controversy, with fears that it would lower participation, particularly among young people from poor backgrounds.

The recent announcement that the tuition fee cap – currently set at £3,300 a year – will be allowed to rise to £9,000 a year from 2012 has been met with opposition from a number of camps, including the media, the National Union of Students, parents and the students themselves who took to the streets in their masses. But what is the likely outcome of this almost threefold increase in fees?

Tuition fees were first introduced by the Labour government in the UK in 1998. They were payable upfront and means-tested according to parental income, up to a maximum of £1,000 per year. Grants were subsequently abolished (having been gradually phased out over the 1990s), and replaced by maintenance loans.

A further major reform in 2006 saw upfront fees abolished and replaced by a deferred £3,000 fee – payable by all regardless of parental income but fully covered by a fee loan with quite generous terms. The loan is interest free and only payable after graduation (at a rate of 9% of earnings once the graduate is earning £15,000 or more), and all loans are written off after 25 years. Grants were also increased at this time (having been reintroduced in 2004) and maintenance loans extended.

Despite the fevered debate that has surrounded tuition fees, to date there has been very little investigation of their impact on participation. Our research used information on higher education finance and participation between 1992 and 2007 – a period in which many reforms of higher education finance took place – to analyse the impact of tuition fees, grants and loans on participation (Dearden et al, 2010).

Our results show that increases in tuition fees have a small but significant impact on participation of 3.3 percentage points per £1,000 increase. But the negative effect of fees can be offset by increases in loans and grants, which have small positive impacts on participation of around 2 percentage points each.

So what can this tell us about the forthcoming increase in tuition fees? Unfortunately, the answer is not straightforward. Our research looked at relatively small increases in fees – between zero and £1,000; and between £1,000 and £3,000 – while the reforms could see fees rise to as much as £9,000 per year.

It is unlikely that our results would still hold when applied to these substantial increases. But our results do indicate that fee increases have a negative effect on participation, contradicting recent media speculation that higher education is a 'Giffen good', which people paradoxically consume more of as the price rises.

The results also indicate that there is an important role for grants and loans in encouraging young people to go to university – so the government's continued investment in the grant and loan system is welcome.

We have also looked at the likely distributional impact of the 2012 reforms on graduates, students, universities and the taxpayer (Chowdry, Dearden and Wyness, 2010). In this study, we used lifetime earnings simulations for future graduates created by researchers at the Institute for Fiscal Studies (IFS). These earnings profiles allow us to look at the impact of reforms on the distribution of graduates, by calculating graduates' fee and maintenance loan repayment schedules under the new system.

Figure 1 shows the lifetime fee and maintenance loan repayments of graduates from different parts of the income distribution, comparing repayments under the current system to repayments under the new system. In each case, we assume that graduates take out a fee and maintenance loan for each of the three years of their studies – with the fee loan assumed to be £7,500 under the new system.

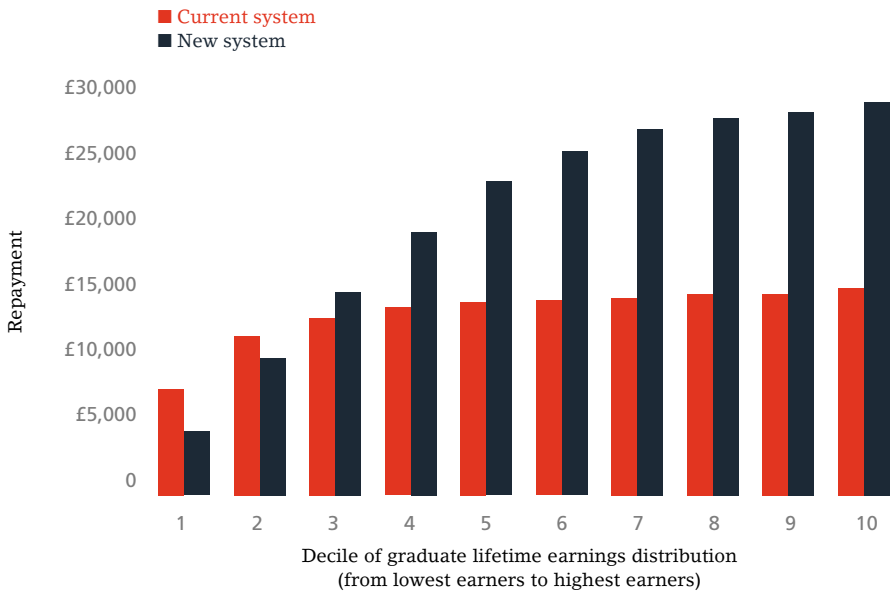
We use the £7,500 figure for illustrative purposes, though given substantial cuts to the universities teaching budget, many universities would have to charge at least this amount to break even. Indeed, the majority of universities have chosen to charge close to £9,000 per year.

As Figure 1 shows, the new system is progressive: graduates who do well in the labour market – those at the top of the lifetime earnings distribution – repay significantly more over their lifetimes than those at the bottom of the earnings distribution.

In both the current and new system, the repayment arrangements protect low-earning graduates, many of whom will repay only a small proportion of their loan before it is written off. Low-earning graduates will actually be better off under the new system, largely because the earnings threshold above which graduates have to start repaying their loans will be increased to £21,000 under the new system.

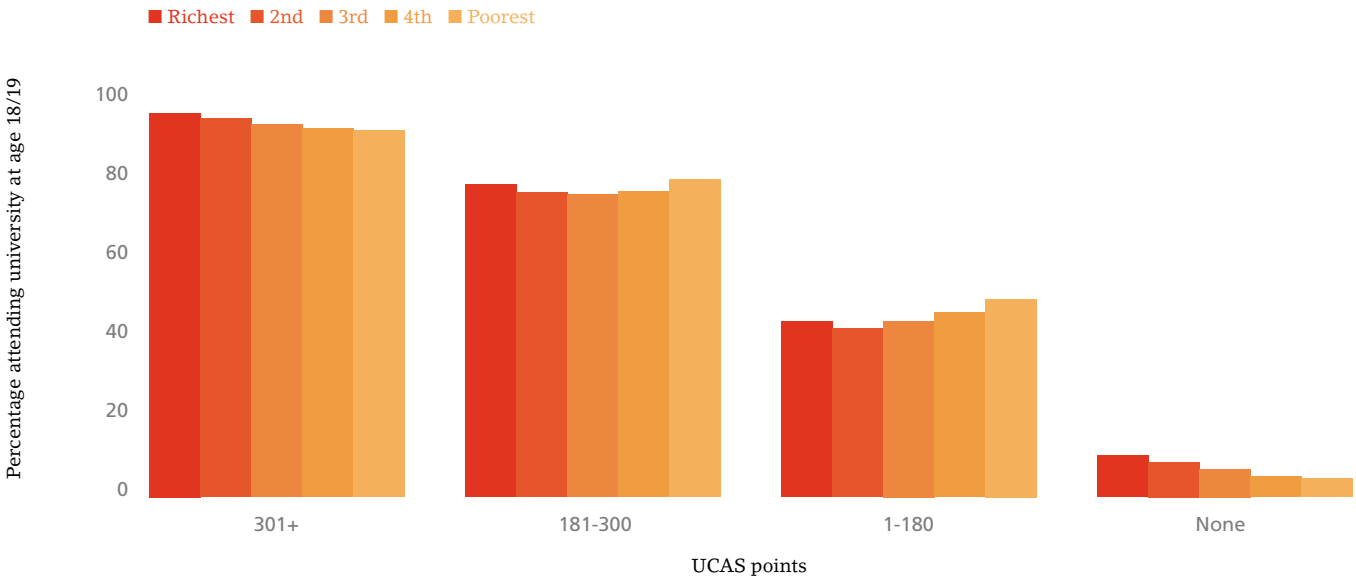
But will young people bear this in mind when deciding whether or not to participate in higher education? Or will the prospect of graduating from university with fee and maintenance loan debts of as much as £40,000 dissuade

Figure 1:
Maintenance and fee loan repayments



There is an important role for grants and loans in encouraging young people to go to university

Figure 2:
University participation by socio-economic position and UCAS points achieved (2004/05)



bright young people, particularly those from poor backgrounds who may be particularly debt-averse?

An IFS study of participation in higher education by young people from different backgrounds suggests not (Chowdry, Crawford et al, 2010). Figure 2 shows the proportion of young people who participate in university, comparing those from different backgrounds (measured by socio-economic position) but with the same A-level scores.

Young people with 301 or more UCAS points (three good A-levels) have a high probability of going to university, regardless of their background. In 2004/05, roughly nine out of ten young people with those results participated in higher education at age 18/19, with those from poorer backgrounds just as likely to participate as those from richer backgrounds. Meanwhile, young people with no UCAS points have a very low probability of going to university regardless of their socio-economic background.

This research clearly shows that while tuition fees, grants and loans may have a small impact on participation, the major factor in whether young people will go to university is not the fees that they face, but their prior educational attainment.

This is where background does matter since young people from poor backgrounds are extremely unlikely to achieve the necessary A-level results to obtain a place at university. Only 3% of young people from the poorest backgrounds achieved 301 or more UCAS points in 2004 compared with 25% of young people from the richest backgrounds.

Of course, it may be that young people have decided not to go to university anyway, perhaps put off by tuition fees, and therefore put less effort into achieving high A-level scores. Nevertheless, the evidence to date strongly suggests that higher education finance has had a limited role to play in participation. But given the substantial increase in tuition fees from 2012, we cannot be confident that this will continue to be the case.

Gill Wyness is a research officer in CEP's education and skills programme.

Further reading

Haroon Chowdry, Lorraine Dearden and Gill Wyness (2010) 'Higher Education Reforms: Progressive but Complicated with an Unwelcome Incentive', Institute for Fiscal Studies (IFS) Briefing Notes No. 113 (http://www.ifs.org.uk/publications/5366)

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Low-earning graduates will be better off under the new system of higher education funding

Talent is essential for team success in any setting – but is performance harmed if there is too wide a gap between the skills of an organisation's stars and the rest? **Alex Bryson** and colleagues analyse data on US major league baseball to investigate how the distribution of a team's talent affects its overall performance.

Team performance and the optimal spread of talent: evidence from US major league baseball

In a team-based enterprise, is output maximised by attracting individuals with the largest aggregate endowment of skills without regard to their effect on the distribution of skills within the team? Phil Jackson, former coach of US basketball team the Chicago Bulls and one of professional sport's most successful managers, illustrates the importance of this question:

'The real reason the Bulls won six NBA championships in nine years is that we plugged into the power of oneness instead of the power of one man. Sure, we had Michael Jordan, and you have to credit his talent. But at the other end of the spectrum, if players 9, 10, 11, and 12 are unhappy because Michael takes 25 shots a game, their negativity is going to undermine everything. It doesn't matter how good individual players are – they can't compete with a team that is awake and aware and trusts each other.'

Our research asks whether there is an optimal spread of talent that maximises performance. Specifically, we consider whether it is optimal for managers to assemble teams solely on the basis of average ability (irrespective of the effect this may have on the distribution of skills) or whether organisations should manage selection so as to prevent too wide a gap opening up between the best and poorest performers.

Our analysis is based on annual performance and biographical data from the history of US major league baseball, 1920-2009. As individual performance measures, we use earned run average (ERA) for pitchers and on-base plus slugging percentage (OPS) for hitters. A low ERA or a high OPS indicates a good player.

In baseball terms, the question we want to answer is if the manager is forced to choose two players whose average ability is the same (for example, a combined historical batting average of 0.275), is it better to approximate the average more closely (0.270 and 0.280 respectively) or should one star (0.325) and one less able player (0.225) be hired? And at what point would too large or too narrow a spread in ability be damaging to team chemistry and performance?

As might be expected, our research shows that teams with higher average talent are more successful: the higher/lower the average OPS/ERA of the players, the greater the winning percentage of the team. More surprisingly, we find that baseball teams assembled at

the start of a season with either too large or too small a degree of inequality in OPS or ERA underperform relative to teams with more intermediate skill distributions.

In other words, there is the inverse U-shaped pattern depicted in Figure 1, where skill dispersion and team output are positively related up to region A-B, after which, in the region of high skill dispersion, B-C, the relationship turns negative. The implication is that a team's winning percentage is not highest where skill dispersion is highest, but rather at point B, where heterogeneous ability is moderate.

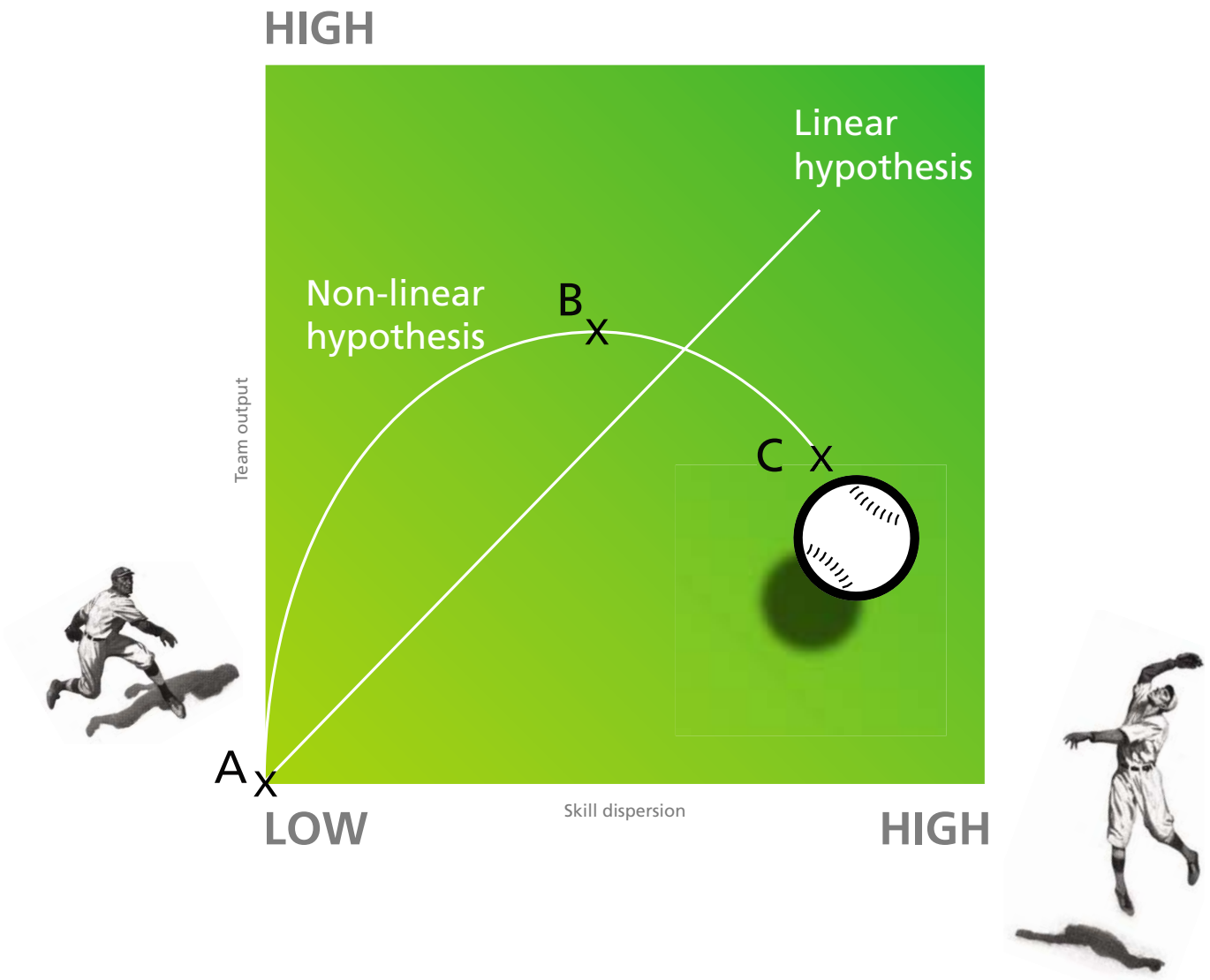
These findings suggest that teams with a healthy balance of stars and players on their way to becoming stars (and perhaps even older players with declining productivity but who provide experience) outperform teams with extremely equal or extremely unequal skill distributions. Yet most teams have levels of inequality greater than the estimated optimum, implying that they would benefit from a reduction in skill dispersion.

What might explain the inverse U-shaped pattern? Below a certain level of heterogeneity, we contend that players do not benefit from the assistance and motivation resulting from playing alongside teammates with complementary skills and greater talent. Beyond a certain level of heterogeneity, however, further increases in the variance of talent can allow opposing teams to exploit the weaknesses of lower-performing players.

This could be the case if better players are either unwilling to help their teammates or if they are simply unable to

The idea of an optimal distribution of ability is relevant in any setting where output depends on teamwork

Figure 1:
Hypothetical relationship between skill dispersion and team performance



do so because the talent gap is too wide. And while baseball is more a game of individuals and requires less on-the-field interaction than sports like basketball and football, team performance still depends in large measure on who precedes or follows a player in the pitching rotation or batting order.

Baseball players are often called on to make 'sacrifices' by their managers so that other players will profit and the team will succeed. For example, a hitter might be told to tire an opposing pitcher out by 'fouling off' balls or a pitcher might be asked to 'walk' a hitter intentionally. We believe that such self-sacrificing behaviour is strengthened by having skill distributions that are neither too wide nor too narrow.

Can these results be generalised beyond baseball? We believe that wherever workers have to perform their tasks in a setting where there is a single product or ultimate output measure, the idea of an optimal distribution of worker ability is likely to be relevant even if, as in baseball, workers may be co-operating only indirectly. Such work environments are common and include areas as diverse as consultancy, academic departments, complex legal cases, film sets, space missions and most restaurants.

The task of a manager in these settings is not simply to hire individual workers with the best talent money can buy or to hire a star and allow the rest of a team to catch up. Rather, it is as important to look at the effect that hiring someone will have on the dispersion of ability. In cases where work is highly interdependent and resources for the firm are constrained, it may even be best to look at distributional concerns first and absolute ability second.

Our findings reinforce what good organisations seem to do every day: select the best group of workers possible and harness their collective potential by being as attentive to the distribution of skills as

In large organisations, a surfeit of star talent may prevent the formation of a well-functioning team

to the average ability. But an obvious question is why, just as in many of the baseball teams in our sample, so many organisations fail to attain the ideal distribution of talent?

In small organisations or teams, this may be because managers are simply unable to acquire the best talent: they may have a workforce with a very similar range of ability but not enough star talent to pull up overall production. Conversely, in large firms with few limitations on finding and developing the best staff, a surfeit of star talent may prevent the formation of a well-functioning team.

Baseball teams with too large or too small a spread of talent underperform relative to teams with intermediate skill distributions

This article summarises 'Heterogeneous Worker Ability and Team-based Production: Evidence from Major League Baseball, 1920-2009' by Alex Bryson, Kerry Papps and Rafael Gomez, CEP Discussion Paper No. 1015 (http://cep.lse.ac.uk/pubs/download/dp1015.pdf) and just published in *Labour Economics* 18: 310-19.

Alex Bryson of the National Institute of Economic and Social Research is a visiting research fellow in CEP's labour markets programme. **Kerry Papps** is a fellow of Nuffield College, Oxford. **Rafael Gomez** is at the University of Toronto and was a research associate in CEP's now completed programme on the future of trade unions.

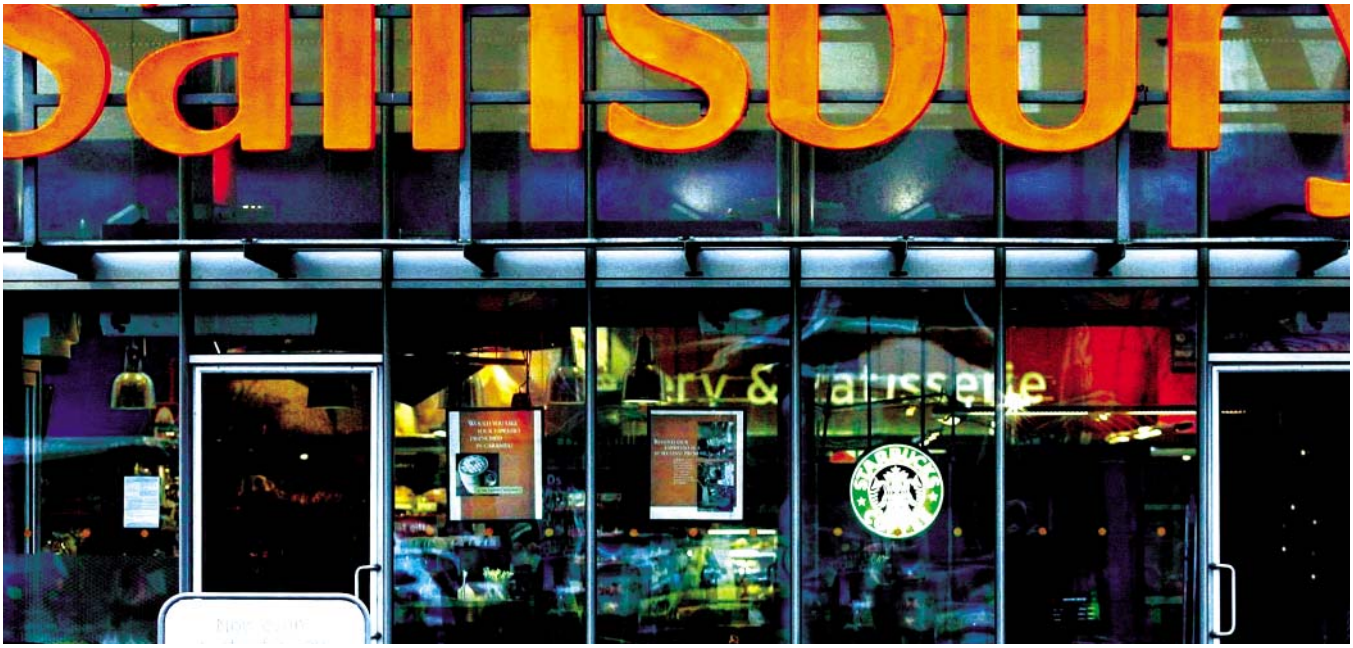
When resources are allocated without regard to price, as with UK land use regulation, the consequences are often bad for business and consumers. **Paul Cheshire**, **Christian Hilber** and colleagues find that the restrictions that planning policies impose on retail development have significantly reduced the productivity of supermarkets.

Land use planning:
the damaging impact on retail productivity

Elementary economics teaches that there are three factors of production – land, labour and capital – yet the importance of the first input is all too frequently neglected. Nowhere is that more evident than in the UK's system of land use planning, in which a scarce resource is allocated without any regard for markets or prices. Indeed, price information is explicitly excluded from decisions about land use, so it is only after the supply of land is allocated to each use that the price is set in markets.

But as the government seems to recognise in its commitment 'to reform the planning system radically and fundamentally' (HM Treasury/BIS, 2011), rationing land use in this way has a significant impact on efficiency and growth, imposing substantial costs on households and businesses. Given the present goal of economic growth with fiscal rectitude, reforming our system of land use planning is almost certainly the simplest, the cheapest and the most effective route to freeing up the supply side of the economy.

Of course, the planning system does have significant benefits, mainly in the form of open space in cities and the separation of industry from residential



areas. But our research has shown that even allowing for the value produced by the system, in prosperous and tightly constrained south east England, the restriction of land supply for housing generates a substantial net loss for society – equivalent to a tax of nearly four pence in the pound (Cheshire and Sheppard, 2002).

More recently, we have shown that restrictions on office building have led, at the extreme, to an increase in costs equivalent to an 800% tax on the marginal costs of construction. Even depressed provincial cities, such as Birmingham, have an average equivalent tax on the marginal costs of construction of 250%. As would be expected, building costs in Birmingham are only about half of those in Manhattan, but total occupation costs are 44% higher (Cheshire and Hilber, 2008).

Our latest research focuses on the retail sector, where we have had access to a uniquely rich data set for one of the major supermarket chains. Merging detailed information on each store with other spatial data (such as the distance to competing stores, local population and car ownership density), we can estimate the contribution of space to each store's productivity. As expected, it is highly significant: bigger stores are considerably more productive.

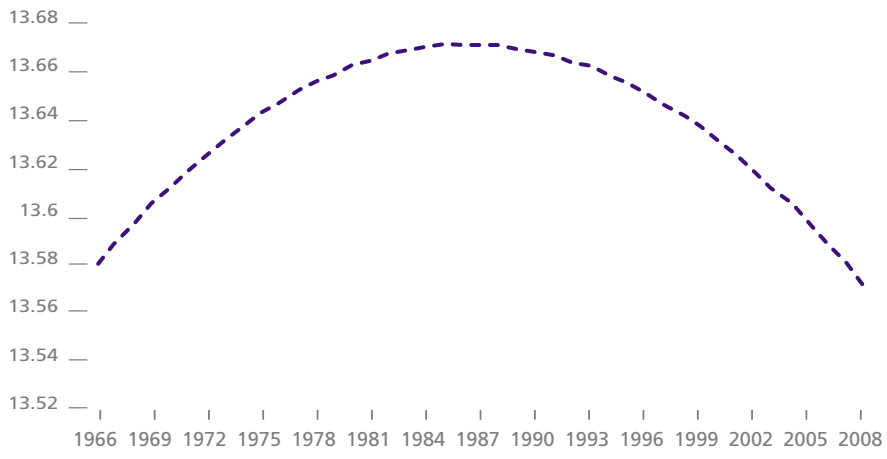
The next step was to measure the impact of planning, where restrictions on retail development have tightened since 1988. Fortunately for our research strategy, this happened sooner and much more restrictively in England than in Scotland, Northern Ireland or even Wales. In England from 1988, policy tried to control not just the area of land available for retail development but where development should take place at a micro-level.

Planning policies in England have reduced supermarket productivity by at least 20% – which means higher prices

This policy was tightened further in 1996, when a 'town centre first' policy was introduced. The new policy forced would-be developers to show first that the local area 'needed' more shopping space ('need' being defined in legalistic not economic terms) and then to pass a 'sequential test'. Developers had to demonstrate that for any proposed development, there was no 'suitable' site in the town centre (again with 'suitable' defined in legalistic terms).

To be 'suitable', a site had to have been identified in the Local Development Plan (though only a minority of local authorities have such a plan) and to be in the designated town centre. That the site

Figure 1:
Productivity by year of opening: controlled for all other factors



was owned by a competing retailer did not make it 'unsuitable'. Thus the planning system was 'micro-managing' the location – even the specific sites – for development and effectively prohibiting out-of-town superstores.

Analysing our store level data revealed a striking pattern related to the date at which a store was opened. Controlling for all other factors, productivity increased over the first 20 years from the oldest stores to those established in the late 1980s (see Figure 1).

But for stores established after the late 1980s, productivity fell so that in the most recently established stores, productivity was actually lower than in the oldest stores of all. Even more revealing was that this relationship only existed for stores in England, where the micro-management of specific locations had started in 1988 and had been much more vigorously enforced.

A second route by which planning policies might reduce retail productivity is through overall restrictiveness. A local authority that restricts development more tightly may raise the price of all types of development, including the price of retail space. If land prices are raised, stores will tend to be smaller and so less productive.

We had data on planning decisions for all English local authorities since 1979, which could be used as a measure of local restrictiveness. Careful analysis of this data (taking account of the possibility that if a local authority is known to be particularly restrictive, potential developers may not apply in the first place) confirmed that stores are smaller where planning policy is more restrictive and enabled us to quantify the relationship reliably.

Together these results allow us to estimate a lower bound impact of land use planning on supermarket productivity. It is lower bound because it is conservative to assume that without the town centre first policy, productivity would have continued to grow only at the rate between 1966 and 1986: for example, US retail productivity growth accelerated sharply in the 1990s. But making that assumption implies that the town centre first policy reduced supermarket productivity in England by 16%.

It is equally conservative to assume that even in the least restrictive English local authority, policies restricting the supply of urban land had no impact on the costs of retail space. But if we attribute the reduction in productivity associated with the reduction in store sizes resulting from the variation in restrictiveness between the most and least restrictive local authorities, then this contributed a further 4.2% reduction to supermarket productivity. Putting it another way, productivity 'would' have been 4.2% higher if all local authorities had been as unrestrictive as the least restrictive.

Overall, therefore, it seems that on the most conservative assumptions, planning policies in England have reduced retail productivity by more than 20%. Lower productivity entails higher prices – and since poorer households spend a larger proportion of their incomes in supermarkets, this probably hits poorer households harder than richer ones.

This is a separate effect from that diagnosed by Raffaella Sadun and described in the autumn 2008 issue of *CentrePiece*. Her study finds that the policy of prohibiting out-of-town

Poorer households spend a larger share of their incomes in supermarkets and will be hit harder by lower productivity

superstores has reduced town centre employment in retail because the supermarkets' response has been to divert their investment into 'locals' and 'metros', thereby eliminating more traditional retailers.

The 20% reduction in retail productivity that our study finds is a measure of the gross costs to the economy. It is possible that there are benefits generated by such restrictive policies. In the next stage of this research, we intend to quantify the effects of planning policies on the carbon footprint of the retail sector. Reduced energy use is one of the main benefits claimed for town centre first policies, based on the assertion that they promote 'linked trips', thus reducing overall travel.

But it is by no means clear that the evidence will show a reduction in net carbon use. With continued decentralisation of urban populations, people may have become separated from supermarkets, not only extending their trips but forcing them into more congested conditions. Equally, restocking of supermarket shelves may have become more energy-intensive with a larger number of smaller lorries operating in more congested conditions.

Another issue where it is essential to examine the evidence rigorously is the significant ageing of the stock of retail buildings that is driven by the restrictions on new retail developments. Of the current stock of stores, 90% were built before 1980 and 70% before 1940. Needless to say, old buildings are far less energy efficient than new ones. Addressing such questions of energy efficiency will form the next stage of our research.

Supermarkets are smaller and less productive in local authorities with tighter planning restrictions

This article summarises 'Evaluating the Effects of Planning Policies on the Retail Sector: Or do Town Centre First Policies Deliver the Goods?' by Paul Cheshire, Christian Hilber and Ioannis Kaplanis, Spatial Economics Research Centre Discussion Paper No. 66 (http://www.spatialeconomics.ac.uk/textonly/SERC/publications/download/sercdp0066.pdf).

Paul Cheshire, Christian Hilber and **Ioannis Kaplanis** are all researchers at the Spatial Economics Research Centre (http://www.spatialeconomics.ac.uk) based at LSE.

Further reading

Paul Cheshire and Stephen Sheppard (2002) 'Welfare Economics of Land Use Regulation', *Journal of Urban Economics* 52: 242-69

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Raffaella Sadun (2008) 'Does Planning Regulation Protect Independent Retailers?', *CentrePiece* (http://cep.lse.ac.uk/_new/publications/abstract.asp?index=3217)

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