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David Blanchflower and Stephen Machin look at whose salary is shrinking the most.
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Britain has experienced unprecedented falls in real wages since the start of the recession triggered by the financial crisis of 2008. This did not happen in previous economic downturns: median real wage growth slowed down or stalled, but did not fall. Indeed, in past recessions, almost all workers in both the lowest and highest deciles of the wage distribution experienced growing real wages. It was the unemployed who experienced almost all the pain: they lost their jobs and much of their incomes, and many were unemployed for a long time.

But in the Great Recession and its aftermath, the economic hurt has been spread more evenly, with wages taking more of the strain this time. The real wages of the typical (median) worker have fallen by 8-10 per cent – or around two per cent a year behind inflation – since 2008. Such falls have occurred across the wage distribution, generating falls in living standards for most people, with the exception of those at the very top. Some groups have been particularly hard hit, notably the young. Those aged 25-29 have seen real wage falls of the order of 12 per cent; for those aged 18-24, there have been falls of over 15 per cent. The young have thus been faced with a double whammy: they cannot find jobs and there are still close to a million under the age of 25 who are unemployed, a quarter of whom have been unemployed continuously for at least a year. Even if young people can find a job, it tends to be low paid and frequently has fewer hours than they would like, often involving part-time rather than full-time work.

Why has this happened and what are the prospects for recovering the lost wage gains that workers experienced relative to previous recessions? Some commentators believe that significant real wage growth is coming and that the prospects are good for a return to the real wage growth patterns seen before the downturn. At the September 2014 meeting of the Bank of England’s Monetary Policy Committee (MPC), two members voted for a rise in interest rates, arguing that “evidence of tightening in the labour market suggested that wage growth might pick up quite sharply as slack was absorbed”.

The evidence for this turnaround seems entirely lacking. We would be very surprised if the MPC does not have to reduce its forecast for wage growth, just as it has had to do several times in the recent past. There is no compelling evidence to suggest such a rosy scenario; indeed, in the absence of productivity improvements, it seems far more likely that nominal wage growth will once again disappoint on the downside. We believe that the MPC’s over-optimism arises because there is more slack in the economy than its analysts estimate. We think that it is singularly inappropriate for the MPC to reduce the amount of slack arbitrarily as it is doing with both the level of long-term unemployment and the amount of underemployment. The economy appears well

**Positive Forecasts**

Speaking to the annual Trades Union Congress (TUC) in Liverpool a few days later, the Bank’s governor, Mark Carney, said that “the Bank’s latest forecast expects real wage growth to resume around the middle of next year and then to accelerate as the unemployment rate continues to fall to around five and a half per cent over the next three years. By the end of our forecast, we see four per cent nominal pay growth on average across the economy.”

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above the full employment level with an unemployment rate of 6.2 per cent and the equivalent of an additional 1.8 per cent because of underemployment.

Furthermore, we have seen big declines in the unemployment rate with no sign of any wage response. And despite falling unemployment, the inactivity rate has started to rise, along with the proportion of people who are inactive and want a job. The job creation rate is slowing and the majority of the new jobs created are part-time.

It is worth noting that when addressing the TUC, Governor Carney made no mention of the fact that membership of trade unions has declined sharply over time. In the private sector, the proportion of employees who are union members fell from 18.8 per cent in 2000 to 14.4 per cent in 2013, while the public sector share fell from 60.3 per cent to 55.4 per cent. Previous studies of ours have shown how trade unions generate a significant wage premium, so the continuing decline in union density is likely to have a downward effect on sustainable wage growth in the future. A similar story applies in the public sector where we have seen pay freezes: wage growth is unlikely to be driven by a pay explosion in the public sector. Wage growth may also be held back in part because of the potential influx of workers from Eastern Europe, as well as the possibility that firms could move their production abroad.

**BLEAK PROSPECTS**

What about the self-employed, who constitute 15 per cent of the labour force? People working for themselves have made up more than two fifths of the increase in total employment between the spring of 2010 and the spring of 2014: 666,000 out of 1.622 million. But it turns out that their real incomes have suffered even more: in 2011/12, the earnings of the median self-employed worker were 20 per cent lower than in 2006/07, while over the same period employee earnings fell by six per cent. As a result of these trends, the typical self-employed person earned 28 per cent less than the typical employed person in 2006-07: by 2011-12, the gap had widened to 40 per cent.

The latest data on average weekly earnings indicate that nominal wage growth overall and in the private sector has fallen steadily since March 2014, and it became negative in June 2014. Quarterly data from the Labour Force Survey tells an almost identical story. And OECD data shows that real wage falls in Britain have been more pronounced than in France, Germany, Italy, Japan and the US.

The fundamental driver of all this is that during the recovery, the productivity performance of the economy has continued to be weak. This has not created room for wage rises, even though it has been good news for employment and unemployment. We believe that unless the division of economic growth becomes more fairly shared to offset long-run trends towards greater inequality and unless productivity can be boosted to generate wage gains for all workers, then poor real wage outcomes for typical workers may be here for longer than some observers suggest. For significant real wage growth to re-emerge, productivity would need a sharp increase of the kind experienced much earlier in the recessions of the early 1980s and early 1990s. There are few signs of this happening and the problem has been magnified during the downturn by Britain’s dismal investment rates.

Even if productivity were to rise rapidly, the recent tendency for longer-run inequality trends to cause an unequal division of wages from productivity gains to the top (like bankers’ bonuses) would need to be addressed. Until that happens, or until policy starts to address these issues seriously, it seems that the prospects of significant, rather than modest, wage increases for typical workers are bleak.

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www.bankofengland.co.uk/publications
THE GREAT RECESSION SHOULD BE REMEMBERED MOST FOR THE CONTRASTING FORTUNES OF YOUNG AND OLD

ALTHOUGH THE BRITISH economy has surpassed its pre-crisis size, the average living standards of households remain significantly lower than before the recession. But the last few years are unlikely to be remembered for a great change in inequality between rich and poor: the real story has been the divergent experiences of young and old.

According to the latest official government statistics, median income in 2012/13 was nearly six per cent below its 2009/10 peak after taking account of inflation. Despite the strengthening economic recovery, slow earnings growth and further cuts to working-age benefits imply that median incomes are unlikely to recover to their peak before 2015 at the earliest. That much is unsurprising given the depth of the recession and the relatively sluggish recovery up to 2012/13. What might be more of a surprise is how the pain has been shared out.

Unlike in previous downturns, the incomes of the poor have not been hit harder than the rich. Indeed, overall income inequality in 2012/13 was the same as in 1990 and significantly lower than before the recession. This is because an important trend since the recession has been the extent to which growth in earnings has fallen behind inflation. Meanwhile, most benefits have risen in line with prices, resulting in the incomes of out-of-work households rising relative to those of working households. This fall in inequality is likely to prove temporary as earnings recover and cuts to working-age benefits accelerate. All in all, changes in the gap between rich and poor have not been the defining feature of recent years. The Great Recession may instead be remembered for the contrasting fortunes of young and old. Indeed, falls in household incomes have been much larger for people in their twenties than for other working-age adults, while pensioners’ incomes have been broadly unaffected.

FAVOURABLE TRENDS FOR PENSIONERS

For pensioners, this marks the continuation of a much longer-term trend. In 1992, median income was 20 per cent lower for pensioner households than the rest of the population (once differences in housing costs were taken into account). By 2007/08, it was only five per cent lower; and by 2012/13, it was five per cent higher. Moreover, in 1961, pensioners were four times more likely to be in income poverty than working-age adults; now they are less likely to be in poverty.

While pensioners have seen relatively favourable trends in their incomes, young adults have been hit much harder than those of middle age. Median income among people aged 22-30 fell by 13 per cent between 2007/08 and 2012/13 after adjusting for inflation, compared with a fall of seven per cent for people aged 31-59. This has been driven by a falling employment rate for young adults and the fact that real median weekly pay fell more than twice as fast between 2007/08 and 2012/13 for those aged 22-30 than for those aged 31-59.

A crucial question is whether these poor labour market outcomes prove temporary or permanent. The experience of long-term unemployment could lead young adults to become detached from the labour market, and there is evidence that unemployment at young ages can do lasting damage to lifetime earnings. But although unemployment has risen, the share of young adults who are not in work, full-time education or looking for work has fallen since the start of the recession. Moreover, the current generation of young adults has the highest ever levels of formal education, which should mean better prospects for high earnings in the future.

The impact of the recession and its aftermath on average living standards was large and unsurprising. But simply focusing on the average risks missing some significant new trends: the disproportionately large falls in income for the young; and the relative benign changes for the old.

Jonathan Cribb and Andrew Hood are both research economists at the Institute for Fiscal Studies.

www.ifs.org.uk/publications/7274

56 BRITAIN IN 2015
As the public sector workforce continues to shrink, which areas are suffering the most?

PUBLIC SERVICE SPENDING cuts have been an important part of the government’s strategy of fiscal consolidation. They are planned to make up the majority of the deficit reduction plans in the next parliament too. By 2014/15, departmental spending is set to have fallen by 8.9 per cent since 2010/11 and by 19.8 per cent by 2018/19. Given that paying employees accounts for about half of the cost of delivering public services, how these cuts feed through to the public sector workforce is important for both the delivery of public services, the shape of the state and the labour market as a whole.

Research by Jonathan Cribb, Richard Disney and Luke Sibieta at the Institute for Fiscal Studies (IFS) has examined how cuts to the public workforce are being delivered and compared them with historical trends over the past 50 years. They find that the workforce reductions up to mid-2013 have closely matched spending decisions.

Within education and the NHS (which were relatively protected in the 2010 public spending review), cuts to the workforce were relatively small (no change for education and a four per cent fall for the NHS). Outside these areas, cuts have been larger. For example, the number of people employed in public administration fell by 12 per cent from 2009 to mid-2013 and other public sector employees in health and social care (mainly local government staff) saw falls of 21 per cent. The police and armed forces continued their long-term falls.

This means that the size and shape of the public workforce is changing fast. Forecasts by the independent Office for Budget Responsibility imply that the general government workforce (the public sector workforce excluding publicly owned corporations) will fall by one million from 2010/11 by 2018/19, almost a quarter of which had been delivered by mid-2013. Despite the increase in the public workforce of over 600,000 during the 2000s, this reduction looks challenging with a growing population. It would dwarf the reduction in public sector employment of 350,000 that occurred in the 1990s. Public sector employment also fell sharply in the 1980s, but this was largely driven by privatisation of state-owned industries.

Moreover, if protection offered to spending on schools and the NHS is extended beyond 2015/16, IFS analysis suggests there could be further workforce cuts of 30 per cent across other areas of the public sector between mid-2013 and 2018/19. This would significantly change the shape of the state, with a greater focus on education and health.

GOOD TIMES FOR HEALTH & EDUCATION Curiously, this would represent the continuation of a long-term increase in the share of the public workforce in education and health. It reflects a combination of sustained growth in public spending during times of buoyant growth and the fact that these areas were relatively protected from workforce cuts while other areas were making cuts (for example, in the early 1990s). In the early 1960s, just under a quarter of the public workforce was employed in education and health; by the early 1990s, the share was around 40 per cent; and by 2013, it was up to 57 per cent.

There has been remarkably strong growth in private sector employment since early 2010. This has more than offset the falls in the public sector. From early 2010 to mid-2013, the increase in private sector employment was over three times larger than the fall in public sector employment. And private sector employment grew by more than public employment fell in every region of the UK. But regions with larger cuts to public employment are not those with faster growth in private sector employment.

www.ifs.org.uk/publications/7114
HEALTHIER, WEALTHIER RETIREMENT

Recent improvements in life at older ages look likely to continue as couples enjoy higher incomes, better health and longer lives together.

Over the next decade, the number of people in Britain aged 65 and over will increase by more than a fifth – by which time one in five of the population will be 65 or older. But tomorrow’s older generation will not look like today’s. In particular, life at older ages will be very different for women by the early 2020s. They are likely to be healthier, their husbands will live longer and they will be much more likely to be in paid work.

Analysing data from the English Longitudinal Study of Ageing, Carl Emmerson, Katy Heald and Andrew Hood of the Institute for Fiscal Studies have projected how mortality, health, social care, employment and incomes will change for those aged 65-plus through to 2022/23. Given increases in life expectancy, they find that far fewer older pensioners will be living alone, particularly since mortality rates are lower for those in couples. Nearly two fifths of people who are 85 or older are expected to live in couples in 2022/23, up from a quarter in 2010/11. This would be an acceleration of the trend that has already seen the share of the population aged 85 and over who are living in couples increase by ten percentage points between 1990 and 2010. This is good news: on average, people in couples are healthier, less lonely and have higher incomes.

Another piece of good news is an improvement in the health of older women. Within each age group the share of women with no substantial health problems is projected to rise by more than five percentage points between 2010/11 and 2022/23. Alongside increases in the female state pension age – from 60 in 2010 to 66 in 2020 – this improvement is expected to lead to a rising share of older women in paid work.

Employment rates for women in their late sixties – already at their highest level for 40 years – are set to approach or even overtake those for men in the early 2020s. Among women aged 65-69, the employment rate is projected to increase from

In 2010, Britain’s oldest working woman, Connie Brown, died at 102. She was still working in the fish and chip shop – Brown’s Café in Pembroke, owned by her husband – where she’d worked for over 80 years. She received an MBE in 2006 for services to the community. For her 102nd birthday she had a trip around Pembroke on a motorbike.

POWERFUL WOMEN IN THE UK

Looking for inspiration to take your working life into your sixties, seventies and beyond? Here are some of Britain’s most successful older working women:

- **SALLY DAVIES (64)**
  Chief Medical Officer for England
  Professor Dame Sally Davies is the first woman to hold this post. She advises government decisions on diverse subjects such as superbugs, drug trials and obesity.

- **BRENDHA HALE (69)**
  Deputy President of the Supreme Court of the United Kingdom
  Baroness Hale of Richmond assumed this position in 2013. She remains the most senior female judge in the history of the UK.

- **CAROL BLACK (74)**
  Adviser on Health at Work
  Professor Dame Carol Black is Principal of Newnham College and plays an important role influencing policy on issues concerning relationships between work and health in the UK.

- **JANET SMITH (73)**
  Independent Assessor for Miscarriages of Justice
  Dame Janet recently led an inquiry into allegations of sexual abuse by Jimmy Savile. As a judge she prepared the Shipman Report on serial killer Harold Shipman.

- **REVEREND LORNA HOOD (61)**
  Moderator of the Church of Scotland elect (2013-2014)
  Lorna is an Honorary Chaplain to the Queen. For over 20 years she was a chaplain in the Royal Alexandra Hospital, Paisley, pioneering the pastoral care of women who had lost babies.

Source: The Power List 2013, Woman’s Hour
16 per cent in 2010/11 to 37 per cent by 2020/21, while men’s employment rates for this age group will rise from 29 per cent to 33 per cent. And while more women are expected to be providing care in future – partly because more of them will have a surviving husband in need of care – the projections suggest that the share of older women combining care provision with paid work will remain relatively small.

**Younger pensioners will benefit**

The effect of longer working lives on the overall wellbeing of these women is unclear. But their additional earnings play an important role in the strong income growth projected for younger pensioners. Driven by rising earnings and private pensions, the net incomes of those aged 65-74 are expected to grow by three per cent a year between 2014/15 and 2022/23, twice as fast as for those aged 75 and over. This would mark something of a reversal of fortunes within the older population. During the 2000s, income growth was slightly higher for those aged 75 and over, as they gained from the increasing generosity of state pensions and other benefits targeted at pensioners. Assuming future governments stick to the current plans, these sources of income will grow more slowly than earnings and private pensions over the coming decade.

Those plans imply large increases in government spending on the pensions of a growing older population. Spending on state pensions is projected to grow by 24 per cent relative to economy-wide inflation from 2010/11 to 2018/19, while spending on all other benefits and tax credits is anticipated to fall by seven per cent. One way to slow this growth in spending would be to make annual increases less generous. At present, the basic state pension is raised each year by the highest of earnings growth, inflation as measured by the consumer price index (CPI) and 2.5 per cent – the so-called ‘triple lock’. An alternative policy would be to raise the pension by CPI inflation (in line with most working-age benefits) reducing government spending, but also the incomes of those aged 65-plus. If the state pension rose in line with CPI from 2016/17, incomes would be three per cent lower on average by 2022/23, increasing the projected rate of absolute income poverty by two percentage points.

The ageing population of Britain presents a challenge to policymakers, as the costs to the taxpayer of pensions, health and social care rise. But life at older ages looks likely to continue to improve. The older population of the future will live in couples for longer, enjoying better health and higher incomes. But to some extent, those higher incomes will result from longer working lives, particularly for women – a change that some will welcome more than others.
Innovate or imitate?
Finding a business growth strategy in recession and recovery

IT SEEMS TO BE a truth universally acknowledged that innovation is essential for business success. But are there alternative strategies for firms wishing to remain competitive, particularly in times of economic downturn when market conditions get tougher? That is the question explored in a study of thousands of firms in Britain by Professor Stephen Roper and colleagues at the Enterprise Research Centre (ERC).

Innovation generally refers to a product or service introduced to the marketplace for the first time and which is based either on new discoveries (think Velcro or Post-it notes) or a new application of old knowledge. But since innovations are both costly and risky, one alternative is imitation – introducing products or services that are new to a particular firm but which have previously been sold elsewhere. Imitations range from counterfeit products, through ‘me-too’ products or services, to goods that are actually better than those produced by the established market leader.

INNOVATION PAYS?
Analysing data from the UK Innovation Survey (conducted biennially by the Office for National Statistics and with around 15,000 firms), the ERC study examines the extent to which manufacturing and services firms in Britain have been engaged in innovation or imitation and how this has contributed to business growth. Researchers find that over the last decade, around 20 per cent of firms surveyed have introduced one or more innovative or imitative products or services.

Relationships of these firms. The study finds that green goods SME growth in Britain and the US is influenced by the internal capability of firms to make pivotal strategic changes and to connect with universities, technology centres, government resources and private sector funding. Exporting is also important for British firms; and innovative green goods SMEs are found all over Britain, a positive finding in terms of rebalancing.

MIXED FORTUNES
In China, rapid growth in green goods SMEs has been particularly dependent on government promotion of renewable energy sectors. But following recent declines in areas like solar panel manufacturing due to over-production and reduced international demand, some firms are pivoting into more advanced technologies. Variations in British firms’ performance by sector highlight the influence of policy. SMEs in renewable energy equipment have seen relatively strong overall sales and job growth over the last decade, but performance has been weaker in green building technologies. Policy has encouraged offshore wind energy generation, yet proven weaker in supporting energy-efficient homes and buildings.

SMEs in Britain are still experiencing difficulties in accessing early stage finance, which raises concerns about the UK’s fragmented support landscape and a regulatory environment that lacks the predictability needed to provide incentives for long-term investment.

www.enterpriseresearch.ac.uk

GREEN GROWTH
How are innovative new enterprises supported?

SUPPORTING SMALL and medium-sized enterprises (SMEs) to make innovative products that require less energy in use, reduce carbon emissions or conserve natural resources seems an ideal approach to the widely agreed goals of rebalancing the economy, fostering industrial jobs and exports and contributing to environmental sustainability. But what business models and policy support mechanisms are most effective in helping SMEs in these ‘green goods’ industries to grow? That is the question being addressed by Manchester Business School Professor Philip Shapira and colleagues at the Manchester Institute of Innovation Research.

The Manchester team is working with the Georgia Institute of Technology and the Beijing Institute of Technology to investigate how business strategies, regional linkages and policies influence the growth of green goods manufacturing SMEs in Britain, China and the US. The researchers have collected data on about 300 firms, most founded in the early 2000s. Using a new search term approach to identify green goods manufacturers, the researchers are applying leading-edge web-mining techniques to gather insights about the business models, products and external relationships of these firms. The study finds that green goods SME growth in Britain and the US is influenced by the internal capability of firms to make pivotal strategic changes and to connect with universities, technology centres, government resources and private sector funding. Exporting is also important for British firms; and innovative green goods SMEs are found all over Britain, a positive finding in terms of rebalancing.

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research.mbs.ac.uk/innovation
STRONG SCIENCE, WEAK INNOVATION
Can Scotland’s economy grow post referendum?

THE SCIENCE BASE in Scotland is strong but it has often not translated well into innovation. Researchers at the University of Edinburgh’s Innogen Institute have been exploring the reasons for this and the policy approaches needed to improve Scotland’s innovative potential across the broadest range of industrial sectors. Their study forms part of the ESRC Future of the UK and Scotland programme, established to analyse issues arising from the independence debate.

The contribution of Scotland’s science community has been significant in the past; and current trends suggest that Scotland is well placed to produce high-quality research in the future. Measured by output per million inhabitants, Scotland’s publication record is outstanding compared with other developed countries, especially in the fields of agriculture, biological sciences, biochemistry and immunology.

The Innogen researchers found a number of factors contributing to the relative failure to convert scientific excellence into successful innovation. The first is that Scotland doesn’t exploit its human capital effectively enough. Compared with other innovative countries, fewer graduates find employment in high-technology sectors. In addition, Scotland has been notably weak in cultivating commercial and managerial skills, critical for developing innovation from basic science. As a result, spinouts and start-ups tend to leave Scotland once their businesses start to grow.

The second factor is funding for research and development (R&D). Scotland’s total R&D expenditure represents just 1.7 per cent of GDP, which is considerably lower than other innovative countries. This disparity is mostly driven by the weaker performance of the business sector, rather than universities and government. This calls for measures to encourage business investment in R&D, such as R&D tax credits and increasing connections with foreign venture capitalists and investors to penetrate global markets.

Finally, there is the issue of collaboration between researchers and industry. The ability to collaborate across organisational and disciplinary boundaries is known to contribute to innovation. Historically, Scotland has not been strong in forming and harnessing collaboration between companies and academia, which reduces companies’ capacity to acquire and absorb knowledge from academia and each other. Scotland has also not been as successful at growing lucrative clusters, which are essential for creating critical mass and promoting innovation.

Although the referendum is over and Scotland has chosen to remain within the UK, the debate continues and provides an opportunity to move from the traditional view that ‘science is strong, innovation is weak’ towards a more integrated approach. The Innogen study suggests complementing the current system for evaluating research impact with further incentives for academies to collaborate with industry, encouraging the formation of high-growth clusters within Scotland, and facilitating internationalisation of Scottish companies as potential paths to reinforcing the innovation base.

www.futureukandscotland.ac.uk

Start-ups tend to leave once their businesses start to grow

How are Scotland’s research institutes, such as those at the University of Glasgow, performing?
BRITAIN’S ROAD-BUILDING PROJECTS ALWAYS PROMISE ECONOMIC BENEFITS BUT WHAT’S THE REAL OUTCOME?

HAS RECENT ROAD-BUILDING in Britain led to improved economic performance? Proposed projects to improve the country’s road network are routinely subject to investment appraisal, predicting the economic costs and benefits before the roads are built. Decisions are then made on the basis of whether the expected gains exceed the costs of construction and the likely environmental impact. But, surprisingly, road-building projects have rarely been subject to any subsequent evaluation to work out whether the economic benefits ever materialise.

In theory, improvements to a national transport system bring a number of benefits: cutting the costs of moving goods and people, improving access to markets, fostering economic integration, stimulating competition, generating 'agglomeration economies' and offering a number of other ‘wider’ economic benefits. This is why transport improvements are often proposed as a strategy for growth, integration and local economic development.

Research by the Spatial Economics Research Centre (SERC) provides some of the first evidence on whether these benefits are really delivered. We begin by noting the dominance of roads in Britain’s transport infrastructure: in 2010, 91 per cent of passenger transport was by road and 68 per cent of freight transport. Road traffic has increased steadily since the 1950s, up to 240 billion vehicle miles in 2011 – and most of this traffic is concentrated in the major roads network. And a substantial amount of public spending on transport is devoted to roads: £1 billion in 2010/11 or 44 per cent of total transport spending. An important slice of this expenditure is for new road links.

Our study links administrative data on nearly all individual businesses in Britain to information on the location of the 31 major road construction schemes that opened during the period from 1998 to 2007. We investigate whether places that experienced potential reductions in road travel times as a result of new roads saw benefits in terms of employment, wages, output and other economic outcomes. These potential travel time reductions are deduced from the changes in the travel times along optimal routes on the major road network associated with new road links.

DO NEW ROADS CREATE NEW JOBS?
SERC’s research finds that improvements in accessibility caused by new road links lead to more businesses, higher local employment and higher wages. But the effects are not large: a ten per cent increase in accessibility leads to a 3–4 per cent rise in plants and employment. Our back-of-the-envelope calculations suggest that £1 billion of road improvements could create around 2,000 jobs in the affected areas.

The gains in employment seem to come from an increase in the number of businesses, particularly in the service sector, but surprisingly it’s already operating in the area shed workers. An explanation for these firms cutting employment is the observed wage increases in response to the accessibility changes (evident in other results based on worker data), coupled with improvements in productivity (output per worker). These wage and output effects are of a similar size to the effects on employment: a ten per cent increase in accessibility results in an increase in labour productivity and average wages of around 2.5–3 per cent.

So will road-building help Britain along the road to economic recovery? Overall, the economic benefits are relatively small. We also need to be careful in interpreting these changes as gains to the whole national economy. To some extent, jobs may be displaced from other areas, although our evidence indicates this is not the primary channel. We are also learning about the potential impacts of transport improvements from very localised changes, and abstracting from changes induced by local road schemes in more distant places. But given how much political attention infrastructure projects attract, our work opens the way for more research in an area where proper evaluation is badly needed.

www.spataleconomics.ac.uk