#ElectionEconomics: The research evidence on key issues for voters in the 2015 UK General Election

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Stephen Machin

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## The Economic Performance of UK Cities: Can Urban and Regional Policy Make a Difference to the North-South Divide
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## Austerity: Growth Costs and Post-Election Plans
John Van Reenen
Centre for Economic Performance

The CEP is an interdisciplinary research centre at the London School of Economics and Political Science. It was established in 1990 and is now one of the leading economic research groups in Europe.

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Executive Summary
Executive Summary and Introduction to 2015 CEP Election Analysis

The 2015 UK General Election is extraordinarily close and no single party is likely to win an outright majority. Given the importance of every vote, having a clear understanding of the policy issues is more important than it has been for decades.

Citizens do not vote based on promised policies alone. But in an age of fragmented politics where tribal loyalties hold much less sway, having a clear view of what politicians are saying – and, as importantly, what they are not saying – about the key issues of the day is vital.

With this in mind, the Centre for Economic Performance (CEP) has produced 15 briefings on key election issues – from immigration to austerity, and from health to housing. Our aim is not to advocate the policies of any party, but to use the best research and data to inform the public of what really matters for a policy area, how it has changed and what influence the coalition government has had on it since 2010. We also evaluate the proposals for what the main parties think should be done about it. The Election Analysis briefings are deliberately kept short and non-technical.

The starting point for our analysis is the fact that in a historical context, the UK’s recent economic performance has been poor. Figure 1 shows a key measure of material wellbeing, GDP per head over the last 60 years through to the most recent data released this week by the Office of National Statistics (ONS). Compared with the trend over the last half century, GDP per head is 17% below where we would have expected. Not only was there a big fall in GDP in the 2008-09 global financial crisis, the recovery has been very anaemic – the worst for a century.

Figure 1: UK GDP per head, 1955Q1 to 2015Q1

What is the cause of this predicament? Have the coalition government’s policies contributed to the poor recovery or would things have been even worse without their interventions? What are the main parties proposing to improve the wealth of UK citizens? And finally, what are the robust policy solutions that are being ignored?

In this introduction, we focus on five areas of contention germane to these debates: austerity, the UK’s place in the world, long-term growth, public services reform and living standards.

Austerity

The backdrop to the election is continuing fiscal consolidation, also known as ‘austerity’. This is the continued attempt to reduce the amount of government borrowing to sustainable levels. The financial crisis generated the worst global recession since the interwar period and this left its mark on the UK’s public finances. The coalition of Conservatives and Liberal Democrats came into government promising an acceleration in the austerity programme with the ambition of eliminating the deficit by March 2015. This did not happen. The recovery stuttered out and rather than continuing to pursue this ‘Plan A’, the coalition government wisely decided to slow the pace of austerity from 2012-13. Borrowing stood at 10.2% of national income in 2009-10 and still remained at 5% in 2014-15.

As a consequence, whichever party or parties are in government after the election, there will be a need for some further austerity. Van Reenen (Chapter 1) discusses the past and future of austerity. The main differences between the parties are first, the target size of the budget deficit by the end of the next Parliament, and second, the proposed mix of tax and spending policies in the way that the deficit will be reduced.

The likely differences in the four main parties’ fiscal plans are illustrated in Figure 2. The Conservatives are planning to run a surplus of 0.2% of national income by 2018-19, whereas Labour could run a deficit of 1.4% and still make their pledges. The reason for the difference is that Labour (and the Liberal Democrats) have a fiscal target of eliminating the current budget deficit in the next Parliament (Labour ‘as soon as possible’ and the Liberal Democrats in 2017-18). This would enable both Labour and the Liberal Democrats to borrow to finance public investment (which is currently planned to be 1.4% of GDP in 2018-19). This is a large difference of around £35 billion in 2015-16 prices.

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1 The Liberal Democrats would allow borrowing only for ‘productive’ investment, which is why they end up with a slightly lower deficit than Labour. The exact definition of what is productive is unclear and would be a departure from ONS conventions.
The Conservatives are committed to achieving this consolidation solely through spending cuts – in fact, they have promised net tax handouts of 0.1% of GDP mainly from increasing the personal allowance to £12,500 and the higher rate tax threshold to £50,000. By contrast, Labour have detailed tax rises amounting to 0.3% of GDP, including reintroducing a top 50p rate of income tax, plus a ‘mansion tax’ on homes worth over £2 million and increases in levies on banks and tobacco companies.

As a consequence, the Conservatives need to achieve much larger cuts in public spending. Overall spending on social security and public services would fall to 36.1% of national income in 2018-19, whereas with the other three parties, it would be around 38%. For example, between 2014-15 and 2018-19, the Conservatives would need to reduce real spending on public services by 7.1% overall and 17.9% in the ‘unprotected’ departments outside health, schools and overseas aid. Labour would also reduce real spending on these unprotected departments but at a much slower pace, to keep public spending as high as 38.3% of GDP.

The path of fiscal consolidation planned by the Liberal Democrats is somewhat faster than Labour’s as they want to eliminate the current deficit a year earlier (2016-17). Their overall fiscal stance by 2019-20 is almost the same as Labour’s (see Figure 2). Interestingly, the Scottish National Party, which is supposedly the ‘anti-austerity’ party, proposes nearly identical cuts in the budget deficit and public spending by the end of the next Parliament.

So all in all, there is a choice essentially between the Conservatives’ plans and those of the other parties amounting to a difference of about 1.6% of GDP by the end of the next Parliament – or about £30 billion.

Who has got it right? Under all these plans, net debt would be falling as a proportion of national income, but it would fall faster under the Conservatives’ plans. This means that there would be
lower debt interest payments and it might mean that the public finances were in better shape for unforeseen shocks as happened in the global financial crisis.

But the magnitude of the cuts in public services is eye-watering. Unprotected departments face reductions in spending on a similar scale to those imposed over this Parliament, implying cuts of a third between 2010-11 and 2018-19 in areas like the police, transport, local government and defence. Given that much fat has already been cut and that it will be harder to hold down public sector wages as private sector wages rise, this looks like a very big ask.

In addition, the Conservatives’ plans include £5 billion of tax revenues raised from anti-avoidance measures and a further £10 billion from wholly unspecified cuts in the welfare bill. If these are not realised, then the cuts to public services will be even deeper.

The Conservatives are not alone in their lack of fiscal detail. Labour have said that they would raise £7 billion in fabled tax avoidance and the Liberal Democrats have upped this to £10 billion a year by 2019-20. The Greens win the prize though by pencilling in £30 billion from such measures. These are numbers simply plucked out of thin air.

Labour have not been specific on whether they would increase investment (and therefore borrow more) or run a current surplus (and borrow less). The Liberal Democrats have laid out more detail on their spending plans than Labour and the Conservatives. But their promise to save £2 billion from reducing ‘fraud and error’ and getting more people into work is also largely pie in the sky.

Given the wishful thinking, if the parties are serious about ‘balancing the books’ in the next Parliament, they will almost certainly need to increase taxes by more than they have said. Ruling out increases in the main forms of tax - income tax, national insurance and VAT - as the main parties have done, makes no sense. Indeed, since unannounced tax rises have increased after each of the last five elections, it seems very likely that this will happen again. We should be asking more details about when and where this will happen.

The UK’s place in the world: Europe and immigration

The second major economic question is the UK’s relationships with the rest of the world, in particular the European Union (EU). The Conservatives (and UKIP) are committed to holding an in/out referendum on EU membership by 2017.

What would be the costs and benefits of leaving the EU – so-called ‘Brexit’? As discussed by Dhingra et al in Chapter 2, one clear benefit would be fewer transfers from the UK to Brussels. But a clear cost would be less trade with the EU, the destination of just under half of all exports. Brexit optimists argue that UK access to EU markets would be as smooth as Switzerland’s or Norway’s. But pessimists see a more severe fall in exports, as regulations increasingly diverge. The UK will have less ability to benefit from future integration in services markets, in which the country has a strong comparative advantage.

We calculate that the ‘static’ costs (net of fiscal savings) from export losses alone would run between 1.1% and 3.1%. Including dynamic productivity effects doubles these costs (to £100 billion in the pessimistic case). And this does not take account of the costs of uncertainty engendered by the referendum, the loss of foreign investment and worse access to future trade
agreements – such as the proposed deals with the United States (the Transatlantic Trade and Investment Partnership, TTIP) and with Japan, which would benefit UK consumers by about £6.1 billion.

One of the reasons that the Conservatives are committed to a referendum in spite of these economic costs of Brexit is immigration. The coalition government had a target of reducing net migration to under 100,000 whereas the most recent figures are running at triple this level, as discussed in Chapter 3 by Wadsworth. This comes despite severe restrictions introduced on foreign students and skilled immigration, which have damaged the university sector.

The main reason for the failure of this policy has been large numbers of EU migrants to the UK. Both Labour and the Conservatives want to lower EU migration by restricting access to in-work benefits until immigrants have been resident in the country for a number of years.

Immigration is one of the top voter concerns. But the evidence shows that immigration has not reduced the wages or job chances of UK natives. Immigration has also not increased crime, nor had negative effects on public services like schools, health or social housing. In fact, since EU migrants tend to work more than UK natives and are relatively more skilled, they make an important contribution to reducing the budget deficit.

The political rows over the EU and immigration show the UK’s uneasiness with its place in the world. Yet the evidence is that these fears are misplaced and policies to distance ourselves will end up being very expensive.

**Growth and supply-side policies**

Issues of long-run growth have received much less attention in the political debate than deficit reduction, immigration and Europe. This is shocking as the lack of growth is perhaps the main fact of the UK’s recent economic performance, as shown in Figure 1. This is not due to a weak labour market – the proportion of working age adults in jobs is over 73%, back to pre-crisis levels. The problem is productivity (GDP per hour worked), which took a big hit during the crisis and has barely increased since then (Figure 3). Valero and Roland (Chapter 4) focus on the causes of the recent slowdown, which they attribute mainly to a mixture of austerity-driven low demand, a dislocated financial sector and poor investment.

To bridge the UK’s 17% productivity gap with the rest of the G7, supply-side reforms are needed, as discussed by the LSE Growth Commission (http://www.lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/LSEG C-Report.pdf). No party stands out in having a coherent plan over how to reignite long-run growth. Yet the basic problems are pretty clear – there has been a failure to invest adequately for the long-term, especially in infrastructure (energy, transport and housing) and innovation.

Hilber in Chapter 5 shows how house prices have grown faster in the UK than in all other OECD countries over the past 40 years, leading to an ‘affordability crisis’. The cause of this has simply been the failure to build enough homes to keep the supply of housing level with growing demand, and the major cause of the supply constraints has been the UK’s planning system. This allows ‘Nimbies’ (‘not in my back yard’) to employ endless ways to block new developments, especially in London and the South East.
Rather than tackle the problem by changing the planning system and allowing local councils to share more of the gains from development, the coalition government has been stoking demand by offering various subsidies for home ownership through ‘Help to Buy’ and ‘Right to Buy’. Increasing demand without easing supply simply makes the problem worse by increasing house prices still further. Similarly, Labour’s stamp duty holiday for first time buyers would just increase demand and rent controls would reduce supply.

Valero and Roland point to the UK’s innovation gap as an explanation of low productivity. Spending on research and development (R&D) is a much lower share of output than in other major countries and this has been made worse by real cuts in the science budget. Innovation is also held back by a lack of finance, especially for growing small and medium-sized businesses, which makes evident the need to get more competition into banking.

UK infrastructure is also under strain in transport and energy. Political prevarication, reversals and uncertainty are epitomised by the debacle of the lack of airport capacity in the South East. Outsourcing such discussions to celebrity reviews is no solution. There is a pressing need for new institutions to make better decisions on national infrastructure. Creating institutions with autonomy from day-to-day political pressures has been shown to be successful in areas as disparate as competition policy (the Competition and Markets Authority), monetary policy (the Monetary Policy Committee of the Bank of England) and decisions on drug treatments (the National Institute of Clinical and Healthcare Excellence). A similar institution is needed for the strategic direction, delivery and financing of major infrastructure decisions.

In energy, there is both dangerously low capacity, leading to the risk of the lights going out, but also the pressing need to deal with climate change. This is an area of political consensus, but also as Colmer and colleagues show in Chapter 6, one of policy failure. The UK has met its climate change targets primarily by having a poor record on economic growth (Figure 1

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**Figure 3: UK productivity (GDP per hour worked)**


*Note: Predicted value after Q2 2008 is dashed line assuming a historical average growth of 2.3% a year (the average over the period Q1 1979 Q1 to Q2 2008).*
again). The plethora of policies undermine each other and there is a need for coherency and simplicity.

**Public services delivery**

Since cuts in public services as a fraction of GDP are planned by all the main parties, there is a desperate need for improvements in efficiency. Without this, the quality of public services will severely decline. Again, there is little serious debate about how efficiency gains will be achieved with most of the debate being an ‘auction’ over who will provide the most money and/or manpower.

We examine health in Chapter 7 (McGuire), schools in Chapter 8 (McNally), higher education in Chapter 9 (Wyness) and the police in Chapter 10 (Bell).

**Health**

Labour have been incensed by NHS ‘privatisation’ despite the fact that under 1% of NHS care is provided privately. The substance of the complaint appears to be more about competition between publicly run NHS trusts. Ironically, competition – greater patient choice – was introduced by the Labour government from the early 2000s. And this competition worked: we have good evidence that these reforms boosted productivity and improved the quality of patient care (fewer people died). What’s more, these improvements were strongest in poorer areas of the country.

Labour’s dislike of their own NHS reforms that improved efficiency and equity is due to the botched 2012 Health Act, which caused huge organisational upheaval at a time of limited budgets without improving performance. Like accelerated austerity, it was a poor policy created in the first half of the Parliament, which resulted in a damage limitation exercise in the second half.

**Schools**

Radical change has happened in secondary schools with semi-autonomous academies becoming the major form of secondary school provision. It is clear that the early academies in disadvantaged areas successfully raised standards, but it is unclear whether this is true of the later waves, which have been based in more middle class areas.

**Higher education**

The main issue in higher education is whether to reduce the tuition fee cap from its current level of £9,000 to £6,000, as Labour propose. The hike in fees in 2012-13 seems to have done nothing to reduce demand for universities from low income students. Labour’s proposal would cost £2.7 billion and would be regressive, benefitting wealthier students the most (as poor students get grants and no one pays a loan until they earn above the median wage).

Labour’s proposals make as much economic sense as the Conservatives’ restrictions on students working after their studies and clamping down aggressively on skilled immigrants. These hurt universities, one of the UK’s strongest sectors of comparative advantage.

**Policing**

Unlike health and education, where demand for services is rising, crime is an area where the demand for police services is falling. We are living in an increasingly peaceful and low crime
society. The issue is whether there can continue to be very large cuts in police budgets with no uptick in crime. Although improved policing techniques can improve efficiency, there is good evidence that more manpower does keep a lid on criminal activity.

Living standards and the distribution of income across people and places

Living standards
Aggregate change in economic performance is one thing, but a stronger influence on voting is how people are personally affected by economic changes. Much media commentary seems perplexed by why the coalition government is not more popular given the ‘health’ of the economy. One answer to this is that the economy is not that healthy – the UK’s growth rate of 2.4% over the year to March was better than most other advanced countries, but just about on historical trend. Given the depth of the recession and the tepidity of growth for most of this Parliament, we would have expected a much stronger growth rate at this stage of the cycle. Maybe voters’ memories are not as short as many journalists believe they are.

Another factor in understanding the link between the economy and voting patterns is looking at how living standards have evolved. Machin in Chapter 11 shows that median real wages fell by between 8% and 10% since 2008 (depending on how inflation gets measured). This has not happened in previous post-war recessions and it helps to explain why unemployment rose much less than expected.

Machin shows how the earnings fall has been worst for the young: a 16% cut for 18-24 year olds. Indeed, although the tax and benefit system means that net income falls are less than gross earnings for those below the middle of the distribution, the only group whose living standards have risen since 2010 are the over 65 year olds. This group (who not coincidentally are more likely to vote than the young) have had their pensions and benefits protected as well as being rewarded with free cash handouts through pensioner bonds.

Inequality
Zucman in Chapter 12 shows how inequality has been consistently increasing since the late 1970s in the UK, especially for the richest 1%. A lot of this has been driven by wage inequality, as the demand for skill and top talent has risen relative to supply. But income from capital like shares and houses is becoming increasingly important. This strengthens the argument for tightening up the generosity that the tax system shows to the very wealthy. Zucman supports Labour’s call to end ‘non-dom’ status for this reason.

Top taxes
Manning (Chapter 13) examines the impact of increasing the top rate of tax to 50% (as Labour propose) or reducing it to 40% (as the Conservatives aspire to do). He argues that there is no evidence that high taxes would reduce effort, but it would mean more attempts at tax avoidance, which would offset the amount of tax revenue actually raised by the Exchequer. Those who wish to raise taxes need also to reduce avoidance, something that all the parties claim they want to do though none get down to specifics over how they would do it. One way to reduce avoidance would be through simplifying the tax system, but there is no sign of this from the main parties. For example, Labour would complicate the tax system by reintroducing a 10p band that almost no one would pay and a mansion tax.

VIII
Inequality operates in many different ways. Overman shows how difficult it is to spread the benefits of growth to poorer cities (Chapter 14) and the consistent failure of policies to ignite local growth. The UK is unusual not in the strength of London, its first tier city, but in the relatively small size of its second tier cities. He emphasises the need to make it easier to let successful cities grow by easing planning constraints – a theme that echoes the housing discussion.

*Gender*

Although inequality has increased in many dimensions in the last four decades, differences in wages and employment between men and women have gone down. Azmat focuses (Chapter 15) on how the progress women have enjoyed can continue, and argues that childcare policies are the critical component in achieving this.

**Conclusions**

This is the closest election in living memory and it is very likely that compromises will have to be made on policies. But the public deserves to know better the real policy stances of the people they are voting for.

There are major choices facing the electorate: over the speed of austerity and its balance between tax and public spending; over whether we remain in the EU; over public services reform; and over the levels of taxation on the wealthier.

There are also questions that should be asked more of our leaders. How would you raise the poor level of productivity? How can real wage growth be restored? How would you deliver the increases in tax revenue from tackling avoidance? How can real efficiency improvements be achieved in schools, hospitals and the police? And how can the UK start building more houses?

Don’t let them off the hook.

And enjoy our whirlwind policy ride.
Summary Points
CEP ELECTION ANALYSIS
Austerity: growth costs and post-election plans

- At the end of 2014, UK GDP per person was about the same as it was at the end of 2006. The UK was about 16% poorer than would be expected on pre-crisis trends (from 1970).
- The coalition government’s establishment of the Office for Budget Responsibility (OBR), which gives independent economic and fiscal forecasts and assesses government tax and spending plans, is welcome.
- Fiscal consolidation (‘austerity’) reduced GDP growth by 1% in both 2010-11 and 2011-12, according to the OBR. Recent research on the impact of government spending in recessions suggests that this is likely to be an underestimate of the negative impact.
- Some of the UK’s poor performance has been due to the eurozone crisis, where countries also pursued tough austerity policies. Financial dislocation and high commodity prices were also drags on growth.
- The arguments for accelerated austerity after May 2010 were to boost consumer confidence, to avert a Greek-style debt crisis and/or to allow looser monetary policy. None of these justifications are convincing.
- Based on plans in the 2014 Autumn Statement, public service spending (DEL) will be reduced by 22% in real terms between 2010-11 and 2019-20. The result would be that public spending as a share of national income would fall to its lowest level since 1948.
- The Autumn Statement plans cuts in spending on public services of 14% between 2015-16 and 2019-20 to generate a total budget surplus. Unprotected departments (those outside the NHS, schools and overseas aid) face cuts of over a quarter, on top of cuts of a fifth in the previous five years.
- The public services cuts set out in the 2014 Autumn Statement are tougher than those implied by the fiscal rules of Labour at 1.4% and the Liberal Democrats at 2.1%. Moreover, they are even tougher than the official position of the Conservative party, at 6.7%.
- All the main parties plan to balance the cyclically adjusted current budget by 2017-18 and reduce debt over the next Parliament. Only the Conservatives plan to have a surplus on the overall budget by 2019-20, so their plans imply both lower spending on public services and less room to borrow for additional public investment. Given longstanding problems of low UK public investment, which acts as a break on productivity, this is a cause for concern.
- The fiscal plans of Labour and the Liberal Democrats would result in slightly higher growth and lower unemployment, but also slightly higher debt than those of the Conservatives.
- Net taxes have risen by around £5 billion following each election since 1992. Given the magnitude of the spending cuts required, it is highly likely that there will be some unexpected tax hikes regardless of who wins power.
CEP ELECTION ANALYSIS
Should We Stay or Should We Go? The Economic Consequences of Leaving the EU

- The European Union (EU) is the UK’s most important trade partner, accounting for half of all UK exports and imports. UK exports to the EU correspond to almost 15% of national output (GDP).
- EU membership matters to the UK economy primarily because it leads to lower trade barriers. This makes goods and services cheaper for UK consumers and allows UK businesses to export more.
- Leaving the EU (‘Brexit’) would lead to lower trade between the UK and the EU because of higher tariff and non-tariff barriers to trade. In addition, the UK would benefit less from future market integration within the EU. The main benefit of leaving the EU would be a lower net contribution to the EU budget.
- In our analysis of the consequences of Brexit, we consider an ‘optimistic scenario’ with small increases in trade costs between the UK and the EU, and a ‘pessimistic scenario’ with larger increases. In the optimistic case, Brexit reduces UK income by 1.1% of GDP. In the pessimistic case, UK income falls by 3.1% (£50 billion per year).
- In the long run, reduced trade may lead to slower productivity growth. Factoring in these effects could easily more than double the costs of Brexit and lead to a loss in the pessimistic case comparable to the decline in UK GDP during the global financial crisis of 2008-09.
- Leaving the EU would also affect foreign direct investment, immigration and economic regulation in the UK. These effects are harder to quantify than changes in trade, but are likely to lead to further declines in income.
- The EU is currently negotiating major new free trade agreements with the United States (the Transatlantic Trade and Investment Partnership) and Japan. Using estimates from previous EU-negotiated free trade agreements, we estimate these trade deals will lower UK prices by 0.6% and save UK consumers £6.3 billion per year. With Brexit, these benefits would be lost.
- Staying in the EU may cause political trouble for the major parties; but if the UK leaves the EU, the economic trouble will be double.
CEP ELECTION ANALYSIS
Immigration and the UK Labour Market

- The share of immigrants among working age adults in the UK more than doubled between 1995 and 2014 – from 8% to 17% – and now stands at over 6.5 million. Immigration is now the top concern in opinion polling.

- Net migration was 250,000 in 2014, significantly above the government’s target of a maximum of 100,000 by the end of the current parliament.

- European Union (EU) countries account for one third of the total immigrant stock. New inflows of EU immigrants are almost as large as inflows from outside the EU. Most EU arrivals are for work-related reasons whereas most non-EU arrivals are for study-related reasons.

- Immigrants are better educated and younger than their UK-born counterparts, especially those from the EU15 (the members before the 2004 EU enlargement). Around 10% of all migrants are students. Immigrants are over-represented in the very high-skilled and very low-skilled occupations.

- Almost 40% of all immigrants live in London and 37% of Londoners were born abroad. Around 60% of the working age populations of Brent and Westminster are immigrants compared with under 3% in Knowsley and Redcar & Cleveland.

- Immigrants do not account for a majority of new jobs. The immigrant share in new jobs is – and always has been – broadly the same as the share of immigrants in the working age population.

- There is still no evidence of an overall negative impact of immigration on jobs, wages, housing or the crowding out of public services. Any negative impacts on wages of less skilled groups are small. One of the largest impacts of immigration seems to be on public perceptions.
CEP ELECTION ANALYSIS
Productivity and Business Policies

- UK productivity (GDP per hour) and income grew faster than in France, Germany and the United States between 1979 and 2008, reversing a century of relative decline. Increases in higher education, tougher product and labour market competition, the adoption of information and communication technologies, and innovation policies all contributed.

- UK productivity stagnated after the Great Recession of 2008-09 and remains about 15% below historical trends. This ‘productivity puzzle’ is due to a mixture of cyclical and structural effects – the fall is not entirely permanent.

- The poor performance in recent years has widened a longstanding productivity gap between the UK and other countries. UK GDP per hour is currently around 17% below the G7 average. This is due to low investment especially in infrastructure and innovation, poor management and weak intermediate skills.

- Tax credits for research and development (R&D) have been successful. The ‘patent box’, however, is an expensive form of tax competition that does not aid innovation. The real terms decline in the science budget will chill innovation in the longer run.

- Weak competition, short-termism and bad debts in the banking sector have hurt access to finance for productive businesses, especially innovative small and medium-sized enterprises (SMEs). Pro-competition policies in banking have delivered limited results.

- The myriad schemes for improving access to finance, expertise, and information for smaller and innovative firms are in principle valuable, but generally they have not been rigorously evaluated. This needs to change if we are to know whether they work.

- There are differences between the parties on corporate tax, regulation and corporate governance. It is important that the principle of independent regulation be protected without heavy handed intervention by politicians.
In 2014, UK house prices per square metre were the second highest in the world (topped only by Monaco), with especially high valuations in London and the South East. New houses are about 40% smaller than in similarly densely populated European countries.

Over the last 40 years, house price growth in the UK has been faster than in any other OECD country and has far outstripped earnings growth. Consequently, a ‘housing affordability crisis’ has developed. The homeownership rate has been in decline since the turn of the millennium, falling from 69.6% in 2002 to 63.6% in 2013. Extending Right-to-Buy might halt this decline, but it would be likely to worsen the affordability crisis.

The ratio of London house prices to average UK house prices has increased substantially since the 1970s. The price-to-income multiple in the Greater London area in 2014 was 8.5; for the UK as a whole, it was 5.0.

The UK’s planning system is the main cause of the affordability crisis, especially in London and the South East. Despite population growth and rising real incomes, construction of new housing has been decreasing steadily since the 1970s, leading to a substantial housing shortfall.

Where supply is constrained, the main effect of policies that stimulate housing demand – such as Help-to-Buy – is to increase house prices rather than supply. These policies may thus be an ineffective waste of taxpayer money at best, and counterproductive at worst.

A similar argument applies to property-related tax reforms. In supply-constrained areas, higher taxes are capitalised into lower property prices.

The failure to revalue the council tax since 1992 and introduce effective property taxes has made the idea of a ‘mansion tax’ popular. Such a tax would be likely to reduce the prices of expensive houses making them more affordable for wealthy would-be buyers and imposing a one-time negative wealth effect on current owners. It may have the effect of encouraging owners to subdivide their properties in an attempt to circumvent the tax.

The evidence firmly suggests that the stamp duty land tax – which taxes property transactions – reduces household mobility. The resulting mismatch in the housing market exacerbates the affordability crisis.

The ‘bedroom tax’ is most likely to affect landlords, who reduce rents to keep their tenants. This limits the potential to free up used space. To the extent that landlords do not fully take the hit, it has the potential to trigger displacement as shortages of smaller properties in some areas imply that tenants have to move away.

A local annual property tax with automatic annual revaluation could provide incentives for residential development by generating local tax revenue that is tied to local development. This could help to reduce the chronic housing shortfall.
CEP ELECTION ANALYSIS
Energy and the Environment:
A Cold Climate for Climate Change Policies?

- Global temperatures have increased by 0.8°C since pre-industrial times. Without additional efforts to reduce emissions, temperatures are likely to rise by between 2.6°C and 4.8°C before the end of the twenty-first century. Cautious calculations suggest that global income will be 5% lower as a result of these changes.

- World leaders agreed in 2010 to adopt the target of limiting temperature increases to 2°C. This requires reducing (net) emissions to zero by the end of the century. It also requires a reduction of about 40% (relative to 1990 levels) by 2050.

- Between 1990 and 2012, UK emissions fell by a quarter, meeting the Kyoto target and the objective of the first ‘carbon budget’ proposed by the UK government covering the period 2008-12. Most of this (18.4%) happened after 1997 when Labour came to power.

- Climate policies have been effective in reducing UK emissions, but an important factor in achieving these reductions over the last five years has also been the recession: because of lower economic activity, emissions fell faster than expected.

- While production-based emissions have fallen since 1990, there has been an increase in consumption-based emissions, which account for the emissions contained in net imports by the UK. Consumption-based emissions have only slowed in the wake of the Great Recession, implying that they are likely to increase as the economy recovers.

- The UK lags behind most OECD countries in innovation and the adoption of clean technologies.

- UK climate policy consists of a patchwork of different policy instruments and exemption rules, resulting in a diverse menu of carbon prices. This is inefficient as different emitters face very different incentives to reduce emissions even though the damage that a tonne of carbon is always the same irrespective of where it is emitted.

- A good strategy would be to work towards harmonising carbon prices by abolishing exemption rules and increasing carbon taxes for emitters that currently face low prices. This will reduce emissions, enhance efficiency and raise additional revenue that can be channelled towards research and development (R&D) in clean technologies.
CEP ELECTION ANALYSIS
Health: How Will the NHS Fare in a Cold Climate?

- The NHS absorbs a fifth of all public spending and constitutes 8% of UK GDP. This percentage is set to fall over the next Parliamentary session.
- Recent NHS spending has been relatively low, growing only at 0.7% per year in real terms between 2010 and 2015, well below the long-run average growth rate of 4% per annum.
- The coalition government have been partly successful in achieving efficiency savings. But growing demands – due to demographics, technology and people’s expectations – have stretched service provision.
- A majority of NHS foundation trust hospitals are in financial deficit, and those in surplus have seen their surpluses fall from previous years. Waiting time targets are being missed.
- Predictions by NHS England show that even with continued efficiency savings, there will be a minimum shortfall of £8 billion in the NHS budget by 2020-21.
- The Cancer Drug Fund, which provides additional money for certain drugs has no clear rationale given the role of NICE in assessing NHS treatments.
- The coalition government’s 2012 Health and Social Care Act caused a large-scale reorganisation of the NHS, but appears to have been largely ineffective in improving services.
- Reforms from the mid-2000s and onwards that increased choice competition between publicly run NHS hospitals led to improved quality of care for patients, higher productivity and reduced inequality between rich and poor.
- The private sector plays a very small role in direct service provision in the NHS and no party is planning to increase this substantially.
CEP ELECTION ANALYSIS
Schools: The Evidence on Academies, Resources and Pupil Performance

- The UK continues to perform at about the OECD average in international rankings of pupil achievement with an unchanged performance over the last 10 years.
- Under the coalition government, half of secondary schools have become academies: schools that are more autonomous and funded directly by central government rather than through local authorities. Research evidence suggests that under Labour, there was a large improvement in the first 100 or so schools to become ‘city academies’ within four years of their conversion.
- Generalising from these early academies is difficult because the schools that have converted since 2010 have very different characteristics. For example, the early academies were set up in disadvantaged areas whereas the current 4,403 academies have relatively advantaged pupils in schools formerly rated as ‘outstanding’.
- The schools budget has remained stable as a proportion of GDP since 2010 (6% in 2011), even though the average class size in primary schools is high by OECD standards (25 versus 21). Research evidence indicates that school spending matters for pupil achievement, especially for disadvantaged pupils.
- There is broad agreement that high quality teaching matters hugely for pupil achievement, but the parties differ on where they place emphasis on the curriculum. The Conservatives emphasise basic skills in literacy and numeracy at primary school, whereas Labour’s emphasis is on a broader curriculum in secondary school and the post-16 agenda.
- David Cameron has promised an expansion of free schools – schools similar to academies except that they are new entrants rather than converters. One of the concerns about this policy is whether or not it will be implemented with a view to meeting the projected demand for places in different areas of the country arising from demographic changes.
CEP ELECTION ANALYSIS
Paying for Higher Education

- Returns for degree holders compared to those with A-levels are between £105,000 and £250,000 over the lifetime. The proportion of UK workers with higher education rose from 4.7% in 1979 to 28.5% in 2011. Over the same period the wage return to being a graduate has also risen (from 39% to 56% for men).

- The tuition fee cap increased from £3,375 to £9,000 per year for students beginning their courses in 2012/13.

- Despite this, university applications have continued to increase, and applications from disadvantaged students (on free school meals) have grown at a faster rate than those from their richer counterparts.

- Only 15% of disadvantaged pupils who were eligible for free school meals enrolled in to university in 2014 (up from 13% in 2011). This is low compared with advantaged groups, whose participation rate stands at 30%.

- The 2012 reforms did not achieve much savings. Fees were intended to shift the cost of higher education to graduates, allowing the government to make large cuts to university funding. But recent estimates show a large cost of financing the government-backed income-contingent student loans – with a loss to the exchequer of 45p in every £1 loaned out.

- Labour intend to reduce the fee cap to £6,000 a year, and compensate universities with money raised by reducing tax relief on pensions. This policy does little to help poor graduates – they do not earn enough to repay their fee loans even at £6,000 so could never benefit from a fee cut. The policy also makes universities more reliant on government rather than their students.

- In an attempt to limit immigration the government introduced tough regulations on universities’ right to sponsor overseas students and abolished post-study work visas. Research shows that domestic students benefit from the presence of overseas students, whose unregulated fees boost university finances, increasing the number of places for all students.
CEP ELECTION ANALYSIS
Fighting Crime: Can the Police Do More with Less?

- There were just over 3.7 million crimes recorded by the police in England and Wales in 2013-14, a fall of 21% since 2008-09.

- The decline is even more substantial using another measure of crime: the Crime Survey of England and Wales (in which respondents report whether they have been victims of crime, and which therefore includes crimes not reported to the police). This shows a fall of 29% since 2008-09, though the number of crimes is higher, at 7.3 million.

- Over the same period, the number of police officers has fallen by just over 16,000, a drop of 11%. There has been an even larger decline in the numbers of police staff and Police Community Support Officers (PCSOs).

- The evidence suggests that fewer police officers would tend to lead to a rise in crime. Given the reduced crime figures, this suggests that either the productivity of the police has risen or fewer people are turning to crime – or both.

- On productivity, there is evidence that forces have realised substantial efficiency gains and are policing in a more effective way.

- On criminal behaviour, there are long-run trends, such as an ageing population, that point in the direction of reduced criminality. In addition, technological change appears to have reduced some opportunities available to criminals.

- Whether the pace of reductions in the police workforce that have occurred so far can be sustained without slowing – or reversing – the decline in crime is an open question.
Real wages of the typical (median) UK worker have fallen by almost 10% since 2008. Compared with the trend of 2% yearly real wage growth (from 1980 to the early 2000s), this represents around a 20% shortfall. This recent experience is weaker than in the majority of other OECD countries.

Very recently, real wage growth has started to pick up a little, but this is mainly due to falling price inflation, not improved nominal wage growth.

Low wages have helped price workers into jobs. But some groups have been hit harder by the downturn: young workers in particular have suffered the ‘double whammy’ of greater falls in real wages and bigger rises in unemployment.

Falls in real wages have occurred right across the earnings distribution.

The post-2012 fall in unemployment has not yet had a discernible impact in fostering wage growth. In the recoveries from the 1980s and 1990s recessions, real wages grew as unemployment fell. This time, median real wages have actually dropped a little as unemployment has fallen.

Median family incomes have not fallen by quite as much as median wages, in part due to the ‘automatic stabilisers’ like welfare benefits, but also through tax changes such as increases in the personal allowance.

Falling real wages is a principal reason why the living standards of working age households are doing worse than before the crisis whereas pensioner households have fared much better.

No party has a coherent policy on what can be done substantively to improve the real wage position of UK workers. Higher minimum wages, living wages and cajoling employers into paying more are unlikely to alter median wages.

Labour market policy should be focused on improving the position of the young who have fared so badly in recent years.
CEP ELECTION ANALYSIS
Inequality: Are We Really ‘All in this Together?’

- The UK’s richest 1% have between 12.5% and 15.5% of all income. This is mid-way between the United States (with a top 1% share of 20%) and continental Europe (where in France and Spain, it is 8%). The income share of the UK’s top 1% has been rising steadily since the late 1970s, mainly due to labour income (wages) but also with a role for capital income (dividends, capital gains, housing rents, etc.).

- Wage inequality has steadily escalated for the top half of the earnings distribution. In 1978, the top 10% earned 1.6 times those in the middle. By 2013, this had risen to a factor of three to one.

- For the bottom half of wage earners, inequality expanded rapidly in the 1980s before stabilising for men from the mid-1990s and actually falling for women.

- Changing wage inequality is partly due to increased demand for skilled workers because of new technologies. But institutions such as unions and minimum wages also matter.

- In the 2008-09 crisis, inequality fell but it has been stable since then. Average wages and incomes have fallen for just about every group since the crisis. It is too soon to tell whether inequality will resume its rising trend as the economy fully recovers.

- Net income (after tax and benefits) is more equally distributed than pre-tax and benefit income. The richest fifth have 15 times the pre-tax income of the poorest fifth, but only four times as much after taxes and benefits. Nevertheless, the increase in post-tax income inequality has followed the same trends as that of pre-tax inequality.

- Modelling changes to direct taxes, tax credits and benefits since the coalition government came to power shows that overall policies have been mainly regressive. The bottom half of the income distribution lost more from cuts to tax credit and benefits than they gained from higher income tax allowances. Pensioners have done especially well compared with the young.

- The top 1% enjoy about 40% of capital income flows. There is much uncertainty on the stock of wealth inequality. Wealth will be increasingly important for inequality as it is rising faster than aggregate income, and the concentration of capital income is much greater than the concentration of labour income.

- To combat wage inequality, increasing skills, especially for the disadvantaged, is vital. In terms of capital inequality, Labour’s proposals to abolish non-domiciled residents’ tax status will reduce inequality, whereas the Conservatives’ policy of boosting inheritance tax allowances will increase inequality.
CEP ELECTION ANALYSIS
The Top Rate of Income Tax

- In 2010, Labour raised the top rate of income tax (the ‘additional rate’) from 40% to 50% for those with taxable income over £150,000. The personal allowance was phased out for those with income above £100,000, leading to a marginal tax rate of 60% for the affected workers.

- The coalition government reduced the additional rate to 45% in 2013 but retained the phase-out of the personal allowance.

- In the current election campaign, the Labour manifesto proposes to restore the 50% rate for those with taxable income over £150,000 while the Greens propose to raise it to 60%. The UKIP manifesto mentions the ambition to lower the rate to 40%. The Liberal Democrat and Conservative manifestos do not mention the top rate of tax, though it was widely reported that the Conservatives wanted a rate of 40% when the rate was reduced in 2013.

- In 2012-13, only 0.9% of taxpayers (273,000 people) had taxable income above £150,000. They received 11% of total taxable income and paid 25% of income tax.

- Compared with the average taxpayer, top taxpayers are male, aged 35-54, living in London and the South East, working in finance, and company directors.

- **Reported** taxable income falls as tax rates increase. So rises in the top tax rates bring in less government revenue than one would predict assuming taxable income does not respond. Indeed, tax revenue might even fall.

- The magnitude of this change is very unclear. For example, a change from the current rate of 45% to 50% would bring in an extra £1-1.8 billion in income tax in 2014-15 using HMRC estimates. But there are likely to be changes in national insurance receipts, VAT receipts and other taxes if income is shifted to other sources. A pessimistic evaluation of all the effects might suggest a fall of £0.4 billion but an optimistic evaluation might suggest a rise of £2.8 billion.

- Taxable income falls after tax rates rise because (i) people work less so earn lower incomes and/or (ii) people spend more resources on avoidance and even evasion, which can take many forms.

- Theory and evidence both show that the level of work of high paid employees hardly responds to changes in tax rates (there is no reliable evidence for the self-employed).

- There is clear evidence that avoidance responds to changes in tax rates, for example, shifting income between tax years and income types in response to changes in tax rates. Avoidance is probably the main problem when raising the top rate of income tax.

- Evidence from other countries suggests that making avoidance harder and high rates of tax are complements to each other.
CEP ELECTION ANALYSIS

The Economic Performance of UK Cities: Can Urban and Regional Policy Make a Difference to the North-South Divide?

- There are large variations in economic performance across UK cities and on some measures, they have widened since the global financial crisis. All main parties promise action to reduce them, but there is little difference between them in terms of the policies that they would pursue to meet this objective.

- The traditional policy mix – central government investments in local growth projects, transport and other infrastructure, funding for business support and access to finance, and a host of other interventions – is largely ineffective.

- Greater local control is needed to improve policy effectiveness. The coalition government has used ‘local enterprise partnerships’ (which have replaced regional development agencies) and city and local growth deals. It is too early to assess their effectiveness, although there have been problems with central government in allocating money and local government in spending it.

- There is disagreement about the methods of devolving power. It is important that policies that have wide scale impacts (such as transport and housing) are coordinated across local areas.

- Greater experimentation at the local level combined with effective evaluation would help improve policy, but this is highly unlikely given the short-term political focus on being seen to ‘do something’, which favours the announcement of new projects over the long-term development of policy effectiveness.

- London’s strong economic performance plays a large part in explaining widening disparities. Providing an effective counter-balance to London may require policy aimed at ‘rebalancing’ to be more spatially focused – for example, on Manchester.

- We ultimately care about the effect of policies on people more than on places. Efforts to rebalance the economy should be judged on the extent to which they improve opportunities for all, rather than whether they narrow the gap between particular places.
CEP ELECTION ANALYSIS
Gender Gaps in the UK Labour Market: Jobs, Pay and Family-Friendly Policies

- The proportion of prime age (25-65) women in the UK who work has increased from 62% in 1994 to 69% in 2014. Among men in the age group, 82% work, so even today there remains a large ‘gender gap’ in jobs of 13 percentage points.

- The difference between women and men’s pay – the gender wage gap – for full-time workers is 19%. This is down from 27% in 1994, which is a big improvement.

- In the UK, the gender gap in jobs is better than average for rich countries, but the gender gap in pay is worse.

- Male employment rates fell relatively more than female employment during the UK’s Great Recession.

- The presence of young children has a major effect in reducing female participation in work. Women with children are also more likely to work in part-time jobs, which suffer a pay penalty.

- The main political parties have promised improvements in childcare provision. Labour and the Liberal Democrats would extend free childcare for pre-school aged children. The Conservatives pledge to introduce a new scheme for tax-free childcare. This will help, but not radically change gender disparities.

- A recent reform of the 2010 Equality Act enables the government to make regulations requiring companies employing 250 or more people to publish information about differences in the pay of male and female employees.
Policy Area:

Tax and Spend
1. Austerity: Growth Costs and Post-Election Plans

John Van Reenen
CEP ELECTION ANALYSIS
Austerity: growth costs and post-election plans

- At the end of 2014, UK GDP per person was about the same as it was at the end of 2006. The UK was about 16% poorer than would be expected on pre-crisis trends (from 1970).

- The coalition government’s establishment of the Office for Budget Responsibility (OBR), which gives independent economic and fiscal forecasts and assesses government tax and spending plans, is welcome.

- Fiscal consolidation (‘austerity’) reduced GDP growth by 1% in both 2010-11 and 2011-12, according to the OBR. Recent research on the impact of government spending in recessions suggests that this is likely to be an underestimate of the negative impact.

- Some of the UK’s poor performance has been due to the eurozone crisis, where countries also pursued tough austerity policies. Financial dislocation and high commodity prices were also drags on growth.

- The arguments for accelerated austerity after May 2010 were to boost consumer confidence, to avert a Greek-style debt crisis and/or to allow looser monetary policy. None of these justifications are convincing.

- Based on plans in the 2014 Autumn Statement, public service spending (DEL) will be reduced by 22% in real terms between 2010-11 and 2019-20. The result would be that public spending as a share of national income would fall to its lowest level since 1948.

- The Autumn Statement plans cuts in spending on public services of 14% between 2015-16 and 2019-20 to generate a total budget surplus. Unprotected departments (those outside the NHS, schools and overseas aid) face cuts of over a quarter, on top of cuts of a fifth in the previous five years.

- The public services cuts set out in the 2014 Autumn Statement are tougher than those implied by the fiscal rules of Labour at 1.4% and the Liberal Democrats at 2.1%. Moreover, they are even tougher than the official position of the Conservative party, at 6.7%.

- All the main parties plan to balance the cyclically adjusted current budget by 2017-18 and reduce debt over the next Parliament. Only the Conservatives plan to have a surplus on the overall budget by 2019-20, so their plans imply both lower spending on public services and less room to borrow for additional public investment. Given longstanding problems of low UK public investment, which acts as a break on productivity, this is a cause for concern.

- The fiscal plans of Labour and the Liberal Democrats would result in slightly higher growth and lower unemployment, but also slightly higher debt than those of the Conservatives.

- Net taxes have risen by around £5 billion following each election since 1992. Given the magnitude of the spending cuts required, it is highly likely that there will be some unexpected tax hikes regardless of who wins power.
Recent UK economic performance

The UK’s overall economic performance, as measured by average national income (GDP per capita), has been dismal in recent years. Figure 1 shows that unlike in the aftermath of other post-war recessions, there is no sign of recovering the output lost following the global financial crisis of 2008-09. This reflects an exceptionally poor productivity performance: GDP per hour is about 15% lower than it would have been on pre-crisis trends (CEP’s Election Analysis on Productivity and Business Policies, 2015).

By contrast, the labour market has done relatively well, with about 74% of the working age population in jobs – a return to pre-crisis levels. Employment has been supported by lower labour costs, with real wages having fallen by over 8% since 2008 (CEP’s Election Analysis on Real Wages and Living Standards; Pessoa and Van Reenen, 2014).

This Election Analysis addresses the question of whether any of the poor economic performance was due to the coalition government’s deficit reduction policy: would things have been even worse without austerity? The Analysis goes on to compare the fiscal plans of the three main parties.

![Figure 1: UK GDP per capita (log series) 1970Q1-2014Q3](image_url)

Notes: Trend line at 0.558% per quarter (linear trend from 1970Q1 to 2008Q1 when recession began). Growth 2010Q2 to 2014Q3 was 0.195% per quarter. Quarterly Gross domestic product (average) per head (series IHXW), market prices (downloaded February 23rd) [http://www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cdid=IHXW&dataset=ukea&table-id=X11](http://www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cdid=IHXW&dataset=ukea&table-id=X11).
Government fiscal policies since 2010

The coalition government established the Office of Budget Responsibility (OBR) in 2010 to provide independent fiscal forecasts. Setting up the OBR echoed Labour’s 1997 introduction of independence for the Bank of England in setting interest rates. It shields important decisions from political manipulation and is now an accepted part of the policy-making landscape. As argued by the LSE Growth Commission (Besley and Van Reenen, 2013), such independent bodies are to be warmly welcomed.

A particular role assigned to the OBR is to judge whether the government’s fiscal plans are consistent with its two fiscal mandates: first, to balance the cyclically adjusted current budget deficit over the next five years; and second, for government debt to be falling in 2015-16. There is little clear rationale for the second target, which has, in any case, been missed. The first fiscal target makes sense during ‘normal’ times, as fiscal policy is a much blunter weapon for demand management than interest rate setting (Portes and Wren Lewis, 2014).

Unfortunately, we have not been living in normal times. The UK – alongside most of the developed world – has been caught in a ‘liquidity trap’ where interest rates have reached the ‘zero lower bound’ (they have been 0.5% since March 2009). The standard macroeconomic medicine for the situation where monetary policy has lost its bite is to turn to fiscal stimulus. This is exactly what initially happened in the depths of the 2008-09 recession.

Keynes recommended public investment (for example, spending on road repairs and building). By contrast, the first column of Table 1 shows that the coalition government cut investment significantly in their first two years from 3.3% to 1.9% of national income - about 40%. In June 2010, the Chancellor announced £32 billion of new spending cuts by 2015, and the VAT rate was increased from 17.5% to 20% at the beginning of 2011. Table 1 also shows the overall fiscal forecasts and what actually happened subsequently (the ‘out-turn’).

<table>
<thead>
<tr>
<th>Year</th>
<th>Public sector net investment (PNI)</th>
<th>Current budget deficit (June 2010 forecast)</th>
<th>Cyclically adjusted current budget deficit (Out-turn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>3.2%</td>
<td>3.5%</td>
<td>3.1%</td>
</tr>
<tr>
<td>2009-10</td>
<td>3.3%</td>
<td>7.5%</td>
<td>5.3%</td>
</tr>
<tr>
<td>2010-11</td>
<td>2.6%</td>
<td>7.5%</td>
<td>4.8%</td>
</tr>
<tr>
<td>2011-12</td>
<td>1.9%</td>
<td>5.7%</td>
<td>3.2%</td>
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<td>2012-13</td>
<td>2.1%</td>
<td>4.0%</td>
<td>1.9%</td>
</tr>
<tr>
<td>2013-14</td>
<td>1.5%</td>
<td>2.3%</td>
<td>0.7%</td>
</tr>
<tr>
<td>2014-15</td>
<td>1.5%</td>
<td>0.9%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>2015-16</td>
<td>1.4%</td>
<td>-0.0%</td>
<td>-0.8%</td>
</tr>
</tbody>
</table>

Table 1: Fiscal aggregates, forecasts and outputs

Notes: All numbers expressed as a proportion of GDP.
In 2010-11 and 2011-12, the out-turn was more severely austere (more of a deficit reduction) than forecast (the deficit was 5.9% of GDP in 2010-11 instead of the planned 7.5% – and 5% versus 5.7% in the following year). This means that the reduction in the deficit was faster than planned. By contrast, from 2012-13, the budget deficit has not been cut as quickly as planned, and this remains true after adjusting the budget deficit for the state of the business cycle (last two columns). Indeed, in the current financial year, the cyclically adjusted deficit is essentially flat, which means that deficit reduction was put on hold (http://niesr.ac.uk/blog/fiscal-policy-plan-and-recovery-explaining-economics).

One interpretation of Table 1 is that the government abandoned their ‘Plan A’ in 2012-13 in favour of slower austerity as the nascent recovery of 2009-10 shown in Figure 1 petered out. The slowest recovery of output following a recession for a century seemed consistent with conventional macroeconomic analysis of the impact of contractionary fiscal austerity in a severe downturn (Bagaria et al, 2012; IMF, 2012; Wren-Lewis, 2015). Consequently, the government pushed more of the planned fiscal consolidation into the next Parliament.

An alternative interpretation is that nothing essentially changed because the absolute levels of planned expenditure cuts from the November 2010 Autumn Statement were broadly the same. In response to economic under-performance and low tax receipts, repairing the fiscal position would always have been pushed forward rather than adjusted to meet the initial target for budget balance. But the previous Labour government was criticised for not responding when revenues were below forecast, and it is standard to look at out-turns when judging policy stances.

Whatever interpretation is made of the policy stance, it is clear that the coalition government’s austerity programme was front-loaded between 2010-11 and 2011-12, involved significant public investment cuts and was less than initially planned.

**By how much did austerity reduce economic growth?**

The failure to recover lost output shown in Figure 1 cannot be attributed to UK austerity only. The eurozone crisis, the lingering effects of the banking crisis, higher commodity prices, and the decline of high productivity sectors like oil and gas should also be apportioned some part of the blame (Corry et al, 2012, offer an assessment).

But what is striking is how much worse the UK performed during the first half of this Parliament when austerity bit hardest. Between 2010 and 2013, GDP per capita growth was worse than in the United States and Japan, both of which had independent currencies like the UK. UK performance was similar to the countries in the eurozone hit by even more severe austerity and a currency crisis.

The OBR takes these external forces into account when it calculates the contribution of austerity to cutting GDP growth by 2% (one percentage point in both 2010-11 and 2011-12). After this, the pace of consolidation slowed, as Table 1 illustrates. The OBR’s calculations are likely to underestimate the growth costs of austerity for two reasons:

- It uses historical multipliers, whereas recent research suggests that the effect of fiscal policy is greater when economies are depressed and interest rates are near zero (for example, Jorda and Taylor, 2014).
There are hysteresis effects: underused resources lead to scrapping of capital and loss of skills (for example, DeLong and Summers, 2012).

There were several rationales offered for the acceleration in austerity after 2010, including monetary policy, debt crises and confidence.

First, would the Bank of England have increased base rates (or reduced ‘quantitative easing’) if there had been a slower rate of fiscal consolidation? Although inflation was often above its 2% target, the Bank’s inflation forecasts were consistently below 2% after 2008 (Wren-Lewis, 2015), implying that it was unable to use monetary policy tools sufficiently to boost demand. This is the definition of the liquidity trap and justifies why fiscal policy is needed.

Second, was the level of austerity in 2010-12 needed to prevent a Greek-style debt crisis? Although this argument was often invoked, it was never credible. Unlike Greece, the UK has never had a formal default on its debt, which is at long levels of maturity (see Annex). Most importantly, unlike the eurozone, the UK has an independent currency, and a country with a floating exchange rate and a credible, inflation-targeting central bank simply does not face the risk of a liquidity crisis turning into a solvency crisis (De Grauwe, 2011). The irrelevance of this analogy has been demonstrated conclusively by market reaction both to persistently high UK deficits (much higher than forecast in 2010) and by ratings agency downgrades for both the UK and the United States; long-term interest rates have remained exceptionally low.

Finally, sharp fiscal consolidation was said to reassure consumers that government debt was under control and hence inspire confidence. The empirical basis for ‘expansionary contractions’ was always dubious and is now discredited (see Annex).

**Fiscal policy after 2015**

In the December 2014 Autumn Statement, the Chancellor laid out the fiscal plans in detail through to 2015-16 and (with less detail) through to 2019-20. The present government’s aim is to balance the cyclically adjusted current budget in 2017-18, the overall budget (that is, including current and capital spending) in 2018-19 and then to have a £21.6 billion overall budget surplus in 2019-20 (1% of national income).

The consolidation through to 2019-20 will be achieved almost solely by cutting Total Managed Expenditure (TME) to 35.2% of national income (rather than raising taxes). To put this in context, TME in 2014-15 is £60 billion and 40.5% of GDP, whereas it was 45% in 2009-10.\(^1\) If fully implemented, this would mean that government spending would be at a level of GDP not seen since 1948. Table 2 shows that this is a real terms cut of 2.3% (£51 billion in 2015-16 prices) from the levels expected in 2015-16 and cumulatively 5.4% lower than in 2010-11.

About half of total spending is public services (Departmental Expenditure Limits, DEL) and half is ‘welfare’ (Annual Managed Expenditure, AME). Welfare spending is projected to continue to rise from 2015-16 to 2019-20 by 9%, just as it rose from 2010-11. This is mainly because pensions are about half of welfare spending and have been protected from cuts. Hence public services are to be cut by 14.1%. Since the population is rising, this is even more dramatic when expressed per capita – about £1,800 less spent per person.

\(^1\) OBR (2014) Chart 1.1, p.7; Table 4.17 p.134.
Some public services are ‘protected’ in real terms: health, schools and overseas aid. Hence the unprotected parts of DEL (for example, transport, justice, local government and business) will be bearing the cuts. These departments have already experienced cuts of 20% between 2010-11 and 2015-16, and they will now face cuts of 26% between 2015-16 and 2019-20.

**Table 2: Cumulative real change of planned departmental spending**

<table>
<thead>
<tr>
<th></th>
<th>2015-16 to 2019-20</th>
<th>2010-11 to 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Managed Expenditure</td>
<td>-2.3%</td>
<td>-5.4%</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Managed Expenditure (AME)</td>
<td>9.0%</td>
<td>13.0%</td>
</tr>
<tr>
<td>Departmental Spending Limits (DEL)</td>
<td>-14.1%</td>
<td>-22.2%</td>
</tr>
</tbody>
</table>

Sources: Public Expenditure Statistical Analysis (2014); Autumn Statement (2014); IFS Green Budget, Table 7.6 (2015).

**Comparing the fiscal plans of the three main parties**

There is some fiscal consensus across the three main parties. All have signed up to the coalition government’s spending plans up to 2015-16, and all have voted for the Charter on Budget Responsibility, which commits the government to balancing the cyclically adjusted current budget over a rolling three-year window (so 2017-18 for the winner of the election). Each of them would also keep the OBR.

A complication with comparing the stances of the parties is that the targets in the 2014 Autumn Statement are tougher even than the official position of the Conservative party (Crawford et al, 2014). Table 3 shows that in contrast to the 14.1% cut in DEL in the Autumn Statement, the reduction implied by the Conservatives’ fiscal rules could be as little as 8.3% or even 6.7% if we include policy announcements. This compares with a 1.4% cut under Labour and a 2.1% cut under the Liberal Democrats.

There are at least three important differences between the parties over austerity: the treatment of public investment; the mix of taxes and spending in achieving fiscal consolidation; and the speed of the fiscal adjustment.

**Public investment**

By 2019-20, the Conservatives aim to have an overall budget surplus; Labour aims to have a surplus on the current budget; and the Liberal Democrats aim to balance the cyclically adjusted current budget. By including public investment in plans for balance, this would prevent a future Conservative government from borrowing for additional public investment. The Autumn Statement pencils in public investment as just 1.2% of GDP from 2017-18 onwards. The fiscal

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2 This figure includes the tax and spending giveaways and takeaways announced as of December 2014. In particular, the Prime Minister’s promised £12 billion of cuts to the welfare budget (only £3 billion of which has been specified).

3 The Liberal Democrats have suggested that only ‘productive’ investment would be excluded from the calculation of the current budget. It is very unclear how this is different from the standard ONS definition and seems to create some unnecessary ambiguity in what the target actually is. In what follows we assume that they will use the standard ONS definition.
rules of Labour and the Liberal Democrats would allow them to bring down public borrowing more slowly so long as it is used for investment.

Table 3: Potential departmental spending under alternative party proposals

<table>
<thead>
<tr>
<th></th>
<th>2015-16 to 2019-20</th>
<th>2010-11 to 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage</td>
<td>£billion</td>
</tr>
<tr>
<td><strong>Given party fiscal rules</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014 Autumn Statement</td>
<td>-14.1%</td>
<td>-51.4</td>
</tr>
<tr>
<td>Conservatives</td>
<td>-8.3%</td>
<td>-30.1</td>
</tr>
<tr>
<td>Labour</td>
<td>-1.9%</td>
<td>-6.8</td>
</tr>
<tr>
<td>Liberal Democrats</td>
<td>-1.7%</td>
<td>-6.2</td>
</tr>
<tr>
<td><strong>Given party fiscal rules and stated intentions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conservatives</td>
<td>-6.7%</td>
<td>-24.8</td>
</tr>
<tr>
<td>Labour</td>
<td>-1.4%</td>
<td>-5.2</td>
</tr>
<tr>
<td>Liberal Democrats</td>
<td>-2.1%</td>
<td>-7.5</td>
</tr>
</tbody>
</table>

Notes: Potential departmental spending under the alternative parties’ proposals assume that they all stick to the Autumn Statement 2014 plans for investment, that they borrow the maximum amount their fiscal rules allow, and that they implement their specific tax and benefit reforms and stated intentions as of December 2014 (see Annex).


The argument for separating capital from current expenditure in fiscal targets is strong – public investment creates an asset so it should be treated differently from current spending on the salaries of government employees. As with a company, one should look at the balance sheet as well as the profit and loss account, which is what is being attempted with the ‘Whole of Government Accounts’. It is true that capital and current spending is sometimes hard to separate accurately in the public accounts. But just because the division line can be blurred, does not mean it is impossible to draw and the Office for National Statistics (ONS) does just this.

Low public investment is a particular concern in the UK context. As Table 1 shows, the austerity programme led to big cuts in public investment. There is much research suggesting that public investment has a larger effect on economic growth (the ‘multiplier’) in a downturn (for example, Blanchard and Leigh, 2013). And the LSE Growth Commission (Besley and Van Reenen, 2013) has highlighted that the major failing of the UK economy is inadequate long-run investments in infrastructure, human capital and innovation.

The Conservatives’ argument for a surplus on the total budget is that the debt will be brought down more quickly. This reduces future interest payments and would leave the economy more resilient to another negative shock like the global financial crisis. The other parties’ fiscal plans would also reduce debt as a proportion of GDP, but they would do this more slowly and could still spend significantly more on public investment.

In the aftermath of the financial crisis, the UK still has a high debt-to-GDP ratio compared with other OECD countries (the eighth highest out of 24 countries examined by the IMF, 2014) and the coalition government failed its second fiscal mandate to have a falling debt-to-GDP ratio by this election. Nevertheless, debt ratios are due to start falling in 2015-16 and at 81.1%, the net debt-to-GDP is not particularly high by historical standards. For example, the UK had debt levels above 80% throughout the period 1916-17 to 1967-68. Furthermore, there is no
compelling evidence of a causal effect of high debt on growth and no ‘magic number’ of the debt-to-GDP ratio above which economic growth will plunge (see Annex).

One argument is that the government would be able to go on a wasteful investment spending spree, building ‘bridges to nowhere’ as happened in pre-crisis Spain. Such an argument seems fanciful in the UK context. Even before any fiscal rules, there has been systematic under-investment for many years. The key issue is what assets are created by the investment – not the level of debt per se.

The mix of taxes and spending in achieving fiscal consolidation
The Conservatives’ fiscal plans amount to a more dramatic shrinking of the size of the state than the other parties. They intend a further £7 billion of tax cuts offset by a £12 billion cut in the welfare bill by 2019-20 (only £3 billion of which has been specified). Labour has announced new taxes on the better off (a ‘mansion tax’ on homes worth over £2 million, restoring the 50% top rate of income tax and a bank levy).

There is no compelling evidence that a smaller share of public spending in GDP is beneficial to growth or productivity in the range used by OECD countries. Some advanced countries appear to be successful with a small state (for example, the United States) and others with a larger state (for example, the Nordic countries). It is more to do with how the public money is spent than the amount of spending per se.

Speed of adjustment
The Autumn Statement implied cuts in DEL of over 14%. This would mean general government employment cuts of around 900,000 (on top of the 500,000 cuts between 2009-10 and 2015-16). The public has been surprisingly acquiescent about the spending cuts so far, but cuts on this scale would surely mean real reductions in the quantity and quality of public services.

Surveys of expert economic opinion are doubtful over the credibility of the plans (see Centre for Macroeconomics http://cfmsurvey.org/surveys/2014-autumn-statement). This contrasts with 2010 when similar economists’ surveys thought the coalition government’s plans were credible (although a plurality thought they were too fast).

Explicit macroeconomic modelling of the impact of alternative paths of fiscal consolidation suggests that by 2019-20 output, employment and debt would be a bit higher under Labour and Liberal Democrat plans compared with the Conservatives (Kirby, 2015).

Even if the reductions were somewhat slower as the parties’ stated rules allow (see Table 3), the cuts will be hard to enforce, especially with a growing population. It is likely therefore that whoever wins the election will turn to tax increases to help meet deficit reduction targets. Indeed, every general election since 1992 has been followed by net tax rises of more than £5 billion in today’s money.

All parties should be more honest about how exactly taxes are going to rise following the election. A quarter of all income tax revenue comes from just 0.5% of the adult population. A one percentage point rise in all rates of income tax would be progressive and raise £5.5 billion.
Conclusions

The austerity programme of the coalition government knocked at least 1% per year off growth in the first two years of this Parliament. In retrospect, this looks like a mistake and the slower pace of austerity in 2012-13 and thereafter was welcome (as was the setting up of the OBR).

The plans in the 2014 Autumn Statement are to accelerate the cuts in spending on public services over the next five years, until it reaches the lowest level since at least 1948. Other parties also plan big reductions although at a much slower pace and tempered by tax rises. In reality, it is likely that whoever wins the next election will increase taxes more than has been advertised – just as has happened after every election since 1992.

A major difference between the fiscal targets of the parties is over public investment. The Conservatives’ targets to create an overall surplus by 2019-20 would also engender greater pressures to reduce public investment, which is worrying as UK public investment is lower than in many comparable countries.

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Further reading


Annex

Significant tax and spending policies of the three main parties

The policy proposals discussed here are used in the calculations underlying Table 3 and taken from Crawford et al (2014), which has more details. The most significant policies announced by Labour are the decisions to reverse the under-occupancy penalty (the ‘bedroom tax’), to increase the top rate of income tax from 45p to 50p, to cap child benefit increases at 1% in 2016/17 and to introduce a mansion tax on homes worth more than £2 million.

For the Liberal Democrats, the major policies are the mansion tax on homes worth more than £2 million, an increase in the personal allowance to £12,500 by 2020/21, an increase in capital gains tax, limits on pension tax relief, and an increase in the dividend tax rate for higher-rate taxpayers.

The Conservatives have stated intentions to raise the higher-rate threshold to £50,000 by 2020/21, to increase the personal allowance to £12,500 by the same year, and to implement £12 billion of welfare cuts (of which approximately £9 billion are as yet unspecified).

Debt and the deficit

Since there is frequent confusion between the two, it is worth recalling that the deficit is a flow and debt is a stock. If the government runs a deficit, it borrows to pay for this, which adds to the public debt. Having a high level of debt means higher interest payments and so it places a strain on the government to finance this over the long term.

The UK emerged from the financial crisis with a high deficit and debt. The IMF estimates that only Japan had higher levels of structural borrowing than the UK in its 2015 analysis of 31 advanced countries. The UK also had the seventh largest fiscal consolidation.

Although UK public debt-to-GDP ratios are high, they are far from historically alarming. The UK has never formally defaulted on its debt. Unlike the eurozone, it has an independent monetary policy. The debt is also relatively mature so there is little refinancing risk. Hence the alarmism over the UK facing a sovereign debt crisis like Greece was – and is – unfounded. The justification that the UK needed to accelerate austerity in 2010 because of this made no economic sense.

There has been a lively academic debate over the causal role of debt in slowing economic growth. Although there does appear to be a negative correlation between past debt-to-GDP ratios and future GDP growth, the interpretation of this correlation is very unclear. It is highly likely that countries experiencing a negative shock to GDP will see debt-to-GDP ratios rise. Hence the relationship could be from GDP growth to high debt, not vice versa. The empirical work on ‘expansionary austerity’ – the idea that austerity creates growth because it reduces expectations of future debt (Alesina and Ardagna, 2009) – has been largely discredited due to this reverse causality problem.

Reinhart and Rogoff’s (2010) paper has been interpreted to mean that there were key thresholds for the debt-to-GDP ratio, above which growth would fall dramatically. The ‘magic number’ of 80%, 90%, or whatever, had no theoretical basis and empirical work underlying this threshold has also now been discredited (for example, Herndon et al, 2014). Despite these problems, the Reinhart and Rogoff work was extensively cited by pro-austerity policy-makers as a reason for rejecting the conventional macroeconomic policy to use fiscal policy to stimulate demand at the zero lower bound. For example, Olli Rehn, EU Commissioner for Economic Affairs in 2013 said ‘public debt in Europe is expected to stabilise only by 2014 and to do so at above 90% of GDP. Serious empirical research has shown that at such high levels, public debt acts as a permanent drag on growth’.
Policy Area:

The UK's place in the world
2. Should We Stay or Should We Go? The economic consequences of leaving the EU

Swati Dhingra, Gianmarco Ottaviano and Thomas Sampson
The European Union (EU) is the UK’s most important trade partner, accounting for half of all UK exports and imports. UK exports to the EU correspond to almost 15% of national output (GDP).

EU membership matters to the UK economy primarily because it leads to lower trade barriers. This makes goods and services cheaper for UK consumers and allows UK businesses to export more.

Leaving the EU (‘Brexit’) would lead to lower trade between the UK and the EU because of higher tariff and non-tariff barriers to trade. In addition, the UK would benefit less from future market integration within the EU. The main benefit of leaving the EU would be a lower net contribution to the EU budget.

In our analysis of the consequences of Brexit, we consider an ‘optimistic scenario’ with small increases in trade costs between the UK and the EU, and a ‘pessimistic scenario’ with larger increases. In the optimistic case, Brexit reduces UK income by 1.1% of GDP. In the pessimistic case, UK income falls by 3.1% (£50 billion per year).

In the long run, reduced trade may lead to slower productivity growth. Factoring in these effects could easily more than double the costs of Brexit and lead to a loss in the pessimistic case comparable to the decline in UK GDP during the global financial crisis of 2008-09.

Leaving the EU would also affect foreign direct investment, immigration and economic regulation in the UK. These effects are harder to quantify than changes in trade, but are likely to lead to further declines in income.

The EU is currently negotiating major new free trade agreements with the United States (the Transatlantic Trade and Investment Partnership) and Japan. Using estimates from previous EU-negotiated free trade agreements, we estimate these trade deals will lower UK prices by 0.6% and save UK consumers £6.3 billion per year. With Brexit, these benefits would be lost.

Staying in the EU may cause political trouble for the major parties; but if the UK leaves the EU, the economic trouble will be double.
Introduction

Unlike during the Great Depression of the 1930s, governments today have mostly resisted the temptation to erect new trade barriers following the global financial crisis of 2008-09. As a consequence, although world trade fell during the recession, it quickly recovered and it has helped to sustain growth in the struggling global economy.

But there is major concern over the direction of UK trade policy, stemming from uncertainty surrounding its future relationship with the European Union (EU). The Conservatives are committed to holding an ‘in-or-out’ referendum on membership by 2017. Labour and the Liberal Democrats have opposed this, but UKIP would take the UK out immediately. While the political consequences of leaving the EU (so-called ‘Brexit’) are much debated, less attention is given to the economic consequences. How would Brexit affect the UK economy and the income of UK citizens?

Quantifying the precise effects of leaving the EU is difficult, but the evidence suggests that Brexit would harm the UK economy – primarily by reducing trade with EU countries. Leaving the EU would also prevent the UK from benefiting from future free trade agreements (FTAs) negotiated by the EU, such as the Transatlantic Trade and Investment Partnership (TTIP) currently being negotiated with the United States.

Jumping off the trade train

Predicting the likely effects of Brexit is difficult. Leaving the EU would influence the UK economy in many ways. Trade, foreign direct investment (FDI), immigration and economic regulations would all be affected. There is also substantial uncertainty over what form the UK’s relationship with the EU would take following Brexit. Given the unavoidable policy uncertainty, most analyses of Brexit consider a range of possibilities reflecting different future policies.

The best understood channel through which Brexit would affect the UK economy is via changes in UK trade. EU membership has reduced trade barriers between the UK and EU countries, leading to increased trade. When the UK joined the European Economic Community in 1973, just over 30% of UK exports went to the EU. By 2008, over 50% of UK exports went to EU countries (see Figure 1).
Consumers benefit from reductions in trade barriers that reduce the price of imported goods and services. Businesses benefit from new export opportunities that lead to higher sales and profits. Workers benefit from trade that allows the UK to specialise in industries where it has a comparative advantage. All these channels raise efficiency and therefore income.

We use a quantitative model of the global economy to estimate how leaving the EU would affect the UK economy through changes in trade. The model takes account of trade in 35 sectors (including intermediates) among the 40 major countries of the world. We analyse two scenarios for how leaving the EU would affect trade costs:

- An optimistic scenario, in which the UK continues to have an FTA with the EU (much like Switzerland and Norway currently do through the European Free Trade Association, EFTA).
- A pessimistic scenario, in which the UK is not able to negotiate such favourable terms and there are larger increases in trade costs.

We also account for fiscal transfers between the UK and the EU. The UK transfers some resources to the EU, mainly to subsidise agriculture and poorer member states. Ignoring transition costs and any direct or indirect benefit to the UK from these fiscal transfers, leaving the EU would bring home the equivalent of about 0.53% of national income (HM Treasury, 2013). This is the main potential benefit of Brexit.

Notes: Data covers trade with Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden.

1 For technical details, see Ottaviano et al, 2014.
But non-EU members like Norway and Switzerland pay to be part of the European single market. On a per capita basis, Norway’s financial contribution to the EU is 83% of the UK’s payment and Switzerland’s contribution is 41% as large. Therefore, if the UK were to adopt the Norwegian or Swiss models after leaving the EU, the fiscal benefits of Brexit would be substantially less than 0.53%.

There are three main reasons why trade costs may increase after Brexit:

- Higher tariff barriers between the UK and the EU.
- Higher non-tariff barriers to trade (arising from different regulations, border controls, etc.) between the UK and the EU.
- Non-participation in future steps the EU takes towards deeper integration and the reduction of non-tariff barriers.

In the pessimistic scenario, we assume that MFN\(^2\) tariffs on goods apply to UK-EU trade. This seems reasonable immediately following withdrawal, but in the medium term, the UK may be able to negotiate an FTA with the EU. Hence, in the optimistic scenario, we assume that tariffs continue to be zero.

Another important source of trade costs lies in non-tariff barriers related to regulations and other legal obstacles that affect trade in both goods and services. In the pessimistic scenario, we assume that the UK faces two thirds of the reducible non-tariff barriers faced by the United States when trading with EU countries. In the optimistic scenario, we assume that the UK faces one quarter of the reducible non-tariff barriers.\(^3\)

Finally, over a period of time, intra-EU trade costs have been falling approximately 40% faster than trade costs between other OECD countries. In the event of Brexit, the UK would not benefit from future reductions in non-tariff barriers within the EU. In the pessimistic scenario, we assume that intra-EU non-tariff barriers continue to fall 40% faster than in the rest of the world over the next decade, leading to a cumulative fall in trade costs of 10%. In the optimistic scenario, we assume that intra-EU barriers fall only 20% faster than in the rest of the world, leading to a total fall in trade costs of only 5.7%.

Our analysis takes into account the effects of Brexit on both trade with the EU and trade with the rest of the world. It is sometimes argued that Brexit would allow the UK to increase trade with fast-growing economies such as China and India. In practice, changes in trade with the rest of the world are unlikely to be large. Being part of the EU does not restrict UK companies’ ability to trade with the rest of the world. And the size of the EU economy gives it a stronger bargaining position in trade negotiations than the UK would have on its own. Moreover, as our nearest neighbour, Europe is the UK’s natural trade partner.

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\(^2\) Most Favoured Nation Status (MFN) is the highest level of tariffs allowed between members of the World Trade Organization.

\(^3\) These correspond to an increase of non-tariff costs of 5.4% in the pessimistic scenario and 2% in the optimistic scenario.
Table 1 summarises the results of our analysis. In the optimistic scenario, there is an overall welfare loss of 1.13%, which is driven by current and future changes in non-tariff barriers. Non-tariff barriers play a particularly important role in restricting trade in service industries such as finance and accounting, an area where the UK is a major exporter. In the pessimistic scenario, the overall loss swells to 3.09%, with most of the impact coming from non-tariff barriers (2.55%). The costs of reduced trade far outweigh the fiscal savings. In cash terms, the loss is £50 billion in the pessimistic scenario and a still substantial £18 billion in the optimistic scenario.

The estimates in Table 1 are based on a conventional static trade model that does not take account of the dynamic effects of trade on productivity growth. Recent research has found that dynamic effects may double or triple the size of the static effects (Bloom et al, 2014; Sampson, 2014). Therefore, Table 1 is likely to underestimate the costs of Brexit.

An alternative way to evaluate the consequences of Brexit is to use the results of simple, less theory-based empirical studies of the effects of EU membership. Baier et al (2008) find that after controlling for other determinants of bilateral trade, EU member states trade substantially more with other EU countries than they do with members of EFTA. Their estimates imply that, if the UK leaves the EU and joins EFTA, its trade with countries in the EU will fall by about a quarter.

Combining this with estimates that a 1% decline in trade reduces income by between 0.5% and 0.75% (Feyrer, 2009) implies that leaving the EU and joining EFTA will reduce UK income by at least 2.2% in the optimistic scenario and between 6.3% and 9.5% in the pessimistic one. These estimates are much higher than the costs obtained from the static trade model, which suggests that the dynamic gains from trade may be important. To put these numbers in perspective, during the 2008-09 global financial crisis the UK’s GDP fell by around 7%.

The bottom line is that the costs of Brexit are likely to be at least double the losses obtained in the static analysis shown in Table 1. Hence, even under the most optimistic assumptions, we would expect a 2.2% fall in consumption per capita; under pessimistic assumptions, the fall could be as large as 6.3% to 9.5%.
Missing the next trade train?

The EU is currently negotiating a major new FTA with the United States (the TTIP) – as well as an ‘economic partnership agreement’ (EPA) with Japan. If the UK leaves the EU, it will not benefit from these and other free trade agreements negotiated by the EU in future.

Over the past two decades, the EU has negotiated a number of FTAs containing traditional tariff reductions as well as additional liberalisation measures linked to non-tariff barriers, services trade, government procurement and the protection of intellectual property rights. Economic theory predicts that FTAs lower trade barriers on imported goods, leading to consumer welfare gains from increases in product variety, higher quality products and lower prices for existing products.

CEP researchers (Breinlich et al, 2015) have quantified the impact of recent EU FTAs on consumers in the UK and the EU12 (the 12 member states of the EU prior to the 1995 enlargement – Belgium, the Netherlands, Luxembourg, France, Germany, Italy, the UK, Ireland, Denmark, Greece, Portugal and Spain). Their methodology consists of two steps. First, international trade data are used to compute measures of variety, quality and quality-adjusted prices available to consumers. Then it is estimated how these measures are affected by trade liberalisation resulting from FTAs entered into by the EU.

The main finding is that trade agreements negotiated by the EU provided UK and EU12 consumers with access to better quality products and lower quality-adjusted prices for imported products. On average, trade agreements the EU has entered into over the past two decades have increased the quality of UK imports from its FTA partners by 26% and lowered the quality-adjusted price of imports by 19%. For the EU12, quality increased by 28% and quality-adjusted prices decreased by 11%. Overall, consumer prices fell by 0.5% for UK consumers as a result of FTAs with trade partners that are not EU member states, saving UK consumers £5.3 billion per year.

Based on this historical experience, we estimate that the TTIP agreement with the United States would lower prices by 0.4% and the EPA with Japan would lower prices by 0.2%. Together, these agreements would save UK households £6.3 billion.

Foreign direct investment, immigration and regulation

The UK received the most FDI of any European country in 2011, and of all the countries in the world, only the United States has a higher stock of inward FDI (House of Commons, 2013). Part of the attraction of the UK for foreign companies is as an export platform to the rest of the EU, so if the UK is outside the trading bloc, this position is likely to be threatened (HM Treasury, 2010; Barrell and Pain, 1998). This matters because foreign multinationals tend to be high productivity firms and they bring new technologies and management skills with them (Bloom et al, 2012).

There is also some evidence of positive productivity spillovers from FDI undertaken in the UK (Haskel et al, 2002). Indeed, given the large sunk costs involved in FDI, the uncertainty generated by the possibility of an in-or-out referendum may have a negative impact on
investment in the run-up to the vote (see Bloom et al, 2007, on the importance of uncertainty for investment).

Outside the EU, the UK could restrict immigration from the rest of the EU, while UK citizens would be likely to face reciprocal restrictions on their ability to live and work in EU countries. Economically, migration acts much like trade, as people tend to move to countries where they can be more productive and earn higher incomes, increasing total welfare. Restricting this mobility will, just like restricting trade, reduce overall UK welfare. Di Giovanni et al (2012) find that the maximum size of such effects would be a loss of 1.5% of income.

A counter-argument used to support restrictions on labour mobility is that immigration from the EU has harmed UK-born workers in terms of jobs, wages and access to public services. But there is no compelling evidence that these negative effects exist (as shown in CEP’s Election Analysis of immigration and the UK labour market).

As a member of the EU, the UK is able to influence the rules and regulations governing the EU single market. Even if the UK maintained full access to the single market following Brexit, it would be in the same situation as Switzerland: UK exports would have to obey EU regulations, but the UK would not have a seat at the table when the rules of the single market were decided.

The UK will continue to remain outside the Eurozone. As the UK is one of the Eurozone’s major trading partners, downturns in the Eurozone will have negative effects on the UK economy, but by maintaining an independent monetary policy, the UK can insulate itself from the worst effects of a Eurozone meltdown. Whether or not Brexit occurs will not affect the UK’s ability to stay out of the Eurozone and run its own monetary policy.

Conclusions

The economic consequences for the UK from leaving the EU are complex. But reduced integration with EU countries is likely to cost the UK economy far more than is gained from lower contributions to the EU budget. Static losses due to lower trade with the EU would reduce UK GDP by between 1.1% in an optimistic scenario and 3.1% in a pessimistic one. The losses due to lower FDI, less skilled immigration, and the dynamic consequences of reduced trade could also be substantial.

Staying in the EU may cause political trouble for the major parties; but if the UK leaves the EU, the economic trouble will be double.

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Further reading


3. Immigration and the UK Labour Market

Jonathan Wadsworth
Immigration and the UK Labour Market

- The share of immigrants among working age adults in the UK more than doubled between 1995 and 2014 – from 8% to 17% – and now stands at over 6.5 million. Immigration is now the top concern in opinion polling.

- Net migration was 250,000 in 2014, significantly above the government’s target of a maximum of 100,000 by the end of the current parliament.

- European Union (EU) countries account for one third of the total immigrant stock. New inflows of EU immigrants are almost as large as inflows from outside the EU. Most EU arrivals are for work-related reasons whereas most non-EU arrivals are for study-related reasons.

- Immigrants are better educated and younger than their UK-born counterparts, especially those from the EU15 (the members before the 2004 EU enlargement). Around 10% of all migrants are students. Immigrants are over-represented in the very high-skilled and very low-skilled occupations.

- Almost 40% of all immigrants live in London and 37% of Londoners were born abroad. Around 60% of the working age populations of Brent and Westminster are immigrants compared with under 3% in Knowsley and Redcar & Cleveland.

- Immigrants do not account for a majority of new jobs. The immigrant share in new jobs is – and always has been – broadly the same as the share of immigrants in the working age population.

- There is still no evidence of an overall negative impact of immigration on jobs, wages, housing or the crowding out of public services. Any negative impacts on wages of less skilled groups are small. One of the largest impacts of immigration seems to be on public perceptions.
Introduction

Immigration is a big issue. Twenty years of rising immigration mean that there are now around 7.8 million individuals (and 6.5 million adults of working age) living in the UK who were born abroad. This is a large, but not unprecedented, rise in the UK population. Between 1975 and 1990, the UK working age population grew by around 200,000 a year, on average. This was driven not by immigration, but by a rise in the UK-born population. Between 1995 and 2014, the working age population also grew by around 200,000 a year, but the majority of this growth was due to immigration. Table 1 shows that 16.6% of the UK working age population are now immigrants, double the share in 1995.

Table 1: Immigrants in the UK’s working age population (16-64)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total (millions)</th>
<th>UK-born (millions)</th>
<th>Immigrant (millions)</th>
<th>Immigrant share (percentage)</th>
</tr>
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<tbody>
<tr>
<td>1975</td>
<td>33.6</td>
<td>31.2</td>
<td>2.5</td>
<td>7.3%</td>
</tr>
<tr>
<td>1990</td>
<td>36.4</td>
<td>33.7</td>
<td>2.7</td>
<td>7.5%</td>
</tr>
<tr>
<td>1995</td>
<td>36.4</td>
<td>33.4</td>
<td>3.0</td>
<td>8.2%</td>
</tr>
<tr>
<td>2014</td>
<td>40.6</td>
<td>33.9</td>
<td>6.7</td>
<td>16.6%</td>
</tr>
</tbody>
</table>

Source: Labour Force Survey (LFS)

The UK is not particularly different from many other rich countries in terms of its share of immigrants (see Figure 1). But opinion polling now puts it at the top of voters’ concerns (Ipsos MORI, 2014) above the economy, unemployment, the NHS and crime (see Figure 2).

Figure 1: Immigrant shares across the OECD

Source: OECD (2014)
The stock of immigrants depends on both the size of inflows and the duration of stay, which in turn is related to the number of outflows of emigrants. If more people arrive than leave, then the stock will rise. If people stay longer, then the stock will also rise. According to the International Passenger Survey (IPS), total annual inflows to the UK have been larger than outflows since 1993.

The UK government’s target of reducing net migration (the difference between the number of people entering the UK and the number of people leaving) to tens of thousands by the end of the parliament requires either a fall in the numbers entering the UK or a rise in the numbers leaving the UK (or both). Net migration was at its highest, at around 250,000 a year, in 2004, 2010 and 2014 (see Figure 3). This means that the target has not been met.

When the data are split by citizenship (not country of birth), the IPS suggests that the number of UK citizens is falling by around 50,000 a year, but the net inflow of non-UK citizens has been growing – by around 250,000 a year since 1998. Immigration to the UK from the rest of the EU has recently grown as fast as immigration from outside the EU. At the same time, emigration from the UK has fallen back in recent years, making it harder to achieve a reduction in net migration.

---

1 The 2014 data are from September 2014, the earlier data are from December of each year. There is a margin for error (95% confidence interval) of +/-40,000 people around any difference between inflows and outflows.
The stock of immigrants in the UK is influenced by both the country’s relative economic performance and its immigration policy. Just as in Canada and Australia, the UK’s immigration system has for some time restricted work-related immigration from outside the EU to (a varying subset of) skilled individuals. Study and family reunion are the other two main reasons for entry into the UK. In the 1990s, family reunion was the dominant entry route. Now student inflows are the main reason for entry, followed by those with a definite job offer, (see Figure 4 and Table A1). Student inflows have fallen significantly in the last few years. Most immigration from within the EU is for work-related reasons. Most immigration from outside the EU is for study-related reasons, (see Table A1).

Figure 3: Net UK inflows (inflows minus outflows) by citizenship

Source: LTIM (2014).

Figure 4: Annual inflows by reason

Source: LTIM (2014)
Which countries do immigrants come from?
Table 2 shows the country of origin of the top five ‘sender’ countries in 1985 and 2014 for the stock of existing immigrants and the flow of new immigrants. Thirty years ago, 30% of all immigrants came from just two countries: Ireland and India. These two countries now account for just 13% of all immigrants. Today, Poland accounts for 9.4% of all new immigrants, closely followed by India. There are now nearly two million migrants from the EU resident in the UK.²

<table>
<thead>
<tr>
<th>Largest senders</th>
<th>1985</th>
<th>2014</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland (16.5%)</td>
<td>Poland (9.4%)</td>
<td>780,000</td>
<td></td>
</tr>
<tr>
<td>India (13.5%)</td>
<td>India (9.2%)</td>
<td>750,000</td>
<td></td>
</tr>
<tr>
<td>Pakistan (6.9%)</td>
<td>Pakistan (6.1%)</td>
<td>500,000</td>
<td></td>
</tr>
<tr>
<td>Jamaica (5.1%)</td>
<td>Ireland (4.2%)</td>
<td>350,000</td>
<td></td>
</tr>
<tr>
<td>Germany (4.6%)</td>
<td>Germany (3.4%)</td>
<td>280,000</td>
<td></td>
</tr>
</tbody>
</table>

New immigrants (arrived in last year)

| 1 | United States (20.6%) | Poland (10.6%) | 50,000 | |
| 2 | Ireland (10.6%) | India (6.7%) | 40,000 | |
| 3 | India (5.2%) | USA (6.2%) | 31,000 | |
| 4 | Pakistan (4.1%) | Italy (5.4%) | 28,000 | |
| 5 | Germany (3.9%) | China (4.9%) | 25,000 | |

Source: LFS

What skills do immigrants have?
Immigrants are, on average, more educated than their UK-born counterparts, and the educational attainment gap has been rising over time (see Table 3). While just under half of the UK-born workforce left school at 16 or earlier, fewer than one in eight new immigrants did so. EU15 migrants are twice as likely to be graduates as the UK-born population. A8 migrants (those from the eight East European countries that joined the EU in 2004) are also more likely to be graduates than the UK-born, and most other A8 immigrants have intermediate levels of education.

Table 3: Education and immigrant status (working age population), 2014

<table>
<thead>
<tr>
<th>Age finished education</th>
<th>% of group with each level of education</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UK-born</td>
<td>All immigrants</td>
</tr>
<tr>
<td>16 or under</td>
<td>46.1</td>
<td>18.9</td>
</tr>
<tr>
<td>17-20</td>
<td>31.2</td>
<td>37.3</td>
</tr>
<tr>
<td>21 or older</td>
<td>22.6</td>
<td>43.8</td>
</tr>
</tbody>
</table>

Source: LFS

² Comparable figures for the number of UK-born living in the EU are hard to come by. The OECD estimates that in 2012 there were at least one million UK-born individuals living in the rest of the EU (http://stats.oecd.org/Index.aspx?DataSetCode=MIG).
There is a larger than average share of immigrants than UK-born working in professional occupations (see Table 4, last column). But there are also more immigrants than average in processing and elementary occupations (such as cleaning and bar work). This occupational mix in both high-skilled and less skilled jobs is reflected in the distribution of immigrants across industries (see Table 5). The health, hotel and restaurant sectors employ more migrant workers than other sectors, while the energy, agriculture and public administration sectors employ relatively fewer migrant workers. EU15 migrants are concentrated in the finance sector. In terms of age profile, immigrants are more likely to be in their twenties and thirties than the UK-born.

Table 4: Occupational distribution of immigrants and UK-born, 2014

<table>
<thead>
<tr>
<th></th>
<th>% of UK-born</th>
<th>% of immigrants</th>
<th>% of EU15 immigrants</th>
<th>% of A8 immigrants</th>
<th>% of occupation who are immigrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial</td>
<td>10.0</td>
<td>9.0</td>
<td>10.1</td>
<td>4.3</td>
<td>14.6</td>
</tr>
<tr>
<td>Professional</td>
<td>19.5</td>
<td>22.6</td>
<td>31.5</td>
<td>5.8</td>
<td>18.0</td>
</tr>
<tr>
<td>Assistant professional</td>
<td>14.9</td>
<td>10.4</td>
<td>15.8</td>
<td>4.7</td>
<td>11.7</td>
</tr>
<tr>
<td>Administrative</td>
<td>11.2</td>
<td>7.6</td>
<td>10.0</td>
<td>5.1</td>
<td>11.4</td>
</tr>
<tr>
<td>Skilled trades</td>
<td>11.1</td>
<td>9.1</td>
<td>5.8</td>
<td>16.1</td>
<td>13.3</td>
</tr>
<tr>
<td>Personal service</td>
<td>9.4</td>
<td>9.8</td>
<td>7.6</td>
<td>8.9</td>
<td>16.5</td>
</tr>
<tr>
<td>Sales</td>
<td>8.2</td>
<td>6.4</td>
<td>4.7</td>
<td>5.5</td>
<td>12.9</td>
</tr>
<tr>
<td>Processing</td>
<td>5.9</td>
<td>5.9</td>
<td>3.7</td>
<td>16.7</td>
<td>20.9</td>
</tr>
<tr>
<td>Elementary</td>
<td>9.9</td>
<td>9.9</td>
<td>10.9</td>
<td>33.1</td>
<td>24.5</td>
</tr>
</tbody>
</table>

Source: LFS

Table 5: Industrial distribution of immigrants and UK-born, 2013

<table>
<thead>
<tr>
<th></th>
<th>UK-born</th>
<th>Immigrants</th>
<th>EU15</th>
<th>A8</th>
<th>Percentage % of industry who are immigrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>1.7</td>
<td>1.1</td>
<td>0.7</td>
<td>2.4</td>
<td>10.8</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>10.6</td>
<td>10.7</td>
<td>10.6</td>
<td>21.1</td>
<td>16.1</td>
</tr>
<tr>
<td>Energy</td>
<td>1.3</td>
<td>0.7</td>
<td>1.0</td>
<td>0.3</td>
<td>9.3</td>
</tr>
<tr>
<td>Construction</td>
<td>7.4</td>
<td>5.2</td>
<td>4.0</td>
<td>7.9</td>
<td>11.7</td>
</tr>
<tr>
<td>Retail</td>
<td>13.5</td>
<td>12.4</td>
<td>8.2</td>
<td>16.3</td>
<td>14.8</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>4.5</td>
<td>10.1</td>
<td>7.7</td>
<td>12.9</td>
<td>29.6</td>
</tr>
<tr>
<td>Transport</td>
<td>5.8</td>
<td>7.3</td>
<td>5.6</td>
<td>7.5</td>
<td>19.3</td>
</tr>
<tr>
<td>Finance</td>
<td>17.8</td>
<td>20.4</td>
<td>24.8</td>
<td>13.5</td>
<td>17.9</td>
</tr>
<tr>
<td>Public administration</td>
<td>6.4</td>
<td>4.0</td>
<td>4.9</td>
<td>2.0</td>
<td>10.4</td>
</tr>
<tr>
<td>Education</td>
<td>10.7</td>
<td>7.8</td>
<td>12.1</td>
<td>4.1</td>
<td>12.2</td>
</tr>
<tr>
<td>Health</td>
<td>13.6</td>
<td>14.8</td>
<td>13.6</td>
<td>6.9</td>
<td>17.1</td>
</tr>
<tr>
<td>Other</td>
<td>6.7</td>
<td>5.7</td>
<td>6.9</td>
<td>5.1</td>
<td>13.8</td>
</tr>
</tbody>
</table>
Where do immigrants settle?
Almost 40% of all immigrants live in London. While A8 immigrants are more regionally dispersed than other groups of migrants, London remains the most common destination. Immigrants make up 37% (more than one in three) of London’s population (see Figure 5). The geographical dispersion of immigrant share across local areas is much larger. Around 60% of the working age populations of Brent and Westminster were born overseas compared with less than 3% of the populations of Knowsley and Redcar & Cleveland.

Figure 5: Immigrant share in regional population 2014

Source: LFS

The labour market costs and benefits of immigration

Since immigration increases labour supply, it may be expected to reduce wages of the UK-born. UK immigrants are more skilled than those in the United States, so such pressure is more likely to reduce inequality as the wages of top jobs are likely to fall. But if labour demand rises, there may be no effects of immigration on wages and employment. An open economy may also adjust by means other than wages, such as changing the mix of goods and services produced.

If there is excess demand for labour in the receiving country, the impact of immigration will be different from that in a country already at full employment. Concerns about substitution and displacement of the UK-born workforce become more prevalent when output is demand-constrained, as in a recession or when capital is less mobile.

Empirical research on the labour market effects of immigration to the UK finds little overall adverse effects of immigration on wages and employment for the UK-born.

The empirical evidence shows that:

- Immigrants and native-born workers are not close substitutes on average (existing
migrants are closer substitutes for new migrants). This means that UK-born workers are, on average, cushioned from rises in supply caused by immigration (Manacorda et al, 2011).

- The less skilled are closer substitutes for immigrants than the more highly skilled. So any pressures from increased competition for jobs is more likely to be found among less skilled workers. But these effects are small (Manacorda et al, 2011; Dustmann et al, 2005, 2013; Nickell and Saleheen, 2008).

- There is no evidence that EU migrants affect the labour market performance of native-born workers (Lemos and Portes, 2008; Goujard et al, 2011).

One concern with these findings is that they were based on data preceding the recession when demand was higher on average. To look at this more directly in recent years, we can examine whether immigration is associated with joblessness of the UK-born population across different geographical areas. If rising immigration crowds out the job prospects of UK-born workers, we might expect to see joblessness rise most in areas where immigration has risen most.

Figure 6 plots the change in each county’s unemployment rate for UK-born workers against the change in its immigration share between 2004 and 2012. Each dot represents a county. The red line summarises the strength or otherwise of the relationship. The flatter the red line, the weaker any correlation. The figure shows the lack of correlation between changes in the native-born unemployment rate and changes in immigration.

While there appear to be no average effects, it may be that the average is concealing effects in the low wage labour market where (despite their higher relative education levels) many new immigrants tend to find work. Equally, there may also be a positive effect on wages in the high wage labour markets where it may take more time for the skills that immigrants bring to transfer.

But Figure 6 shows that there is no evidence of any association between changes in the less skilled (defined as those who left school at age 16) native youth NEET (‘not in education, employment or training’) rate and changes in the share of immigrants. Counties that experienced the largest rises in immigrants experienced neither larger nor smaller rises in native-born unemployment.

**Figure 6: No relationship between changes in immigration and unemployment, 2004-12**

*Source: Annual Population Survey*
Figure 7 repeats the exercise for wages. Again, there is little evidence of a strong correlation between changes in wages of the UK-born (either all or just the less skilled) and changes in local area immigrant share over this period.

**Figure 7: No relationship between changes in immigration and local wages, 2004-12**

![Figure 7: No relationship between changes in immigration and local wages, 2004-12](image)

*Source: Annual Population Survey*

**Immigrants and new jobs**

It is sometimes said that immigrants account for the majority of the new jobs generated. This is a misinterpretation of changes in aggregate jobs data. In times when the population is rising, the number of immigrants will grow alongside the numbers in employment. To look at who gets new jobs, we need to look at evidence on hiring. The actual immigrant *share* in new jobs (the share of immigrants in jobs that have lasted less than three months) is broadly the same as the share of immigrants in the working age population (see Figure 8). Therefore it is not the case that most new jobs are taken by immigrants.

**Immigrants and other economic outcomes – public finances and public services**

In terms of public finances, because immigrants are on average younger and in work, they tend to demand and use fewer public services and they are more likely to contribute tax revenue (Dustmann and Frattini, 2014). This is particularly true with EU immigrants and also with recent arrivals from outside the EU.
The labour market is just one area in which rising immigration could have important effects, though there are many others, such as health (Wadsworth, 2013), schools (Geay et al, 2013), housing (Battiston et al, 2013; Sa, 2014) and crime (Bell et al, 2013). We know much less about these issues than we do about the labour market, but there is a growing body of UK research evidence on these important issues.

Conclusions

On balance, the evidence on the UK labour market suggests that fears about adverse consequences of rising immigration regularly seen in opinion polls have not, on average, materialised. It is hard to find evidence of much displacement of UK workers or lower wages. Immigrants, especially in recent years, tend to be younger and better educated than the UK-born and less likely to be unemployed. So perceptions do not seem to line up with the existing evidence and it is perhaps here that we need to understand more.

February 2015

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Further reading


LTIM (2014) Provisional Long-Term International Migration (LTIM) estimates, Year Ending June 2014 (Excel sheet 991Kb)


Technical annex

Table A1: Inflows by citizenship and reason for entry (000s)

<table>
<thead>
<tr>
<th></th>
<th>Job offer</th>
<th>Look for Work</th>
<th>Study</th>
<th>Family</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2004</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>72</td>
<td>134</td>
<td>102</td>
<td>78</td>
</tr>
<tr>
<td>Non-EU</td>
<td>77</td>
<td>36</td>
<td>110</td>
<td>73</td>
<td>32</td>
</tr>
<tr>
<td>EU</td>
<td>51</td>
<td>14</td>
<td>18</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Of which</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU15</td>
<td>47</td>
<td>9</td>
<td>16</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>A8</td>
<td>-</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>146</td>
<td>91</td>
<td>170</td>
<td>82</td>
<td>49</td>
</tr>
<tr>
<td>Non-EU</td>
<td>44</td>
<td>12</td>
<td>121</td>
<td>54</td>
<td>13</td>
</tr>
<tr>
<td>EU</td>
<td>82</td>
<td>60</td>
<td>40</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Of which</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU15</td>
<td>47</td>
<td>24</td>
<td>27</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>A8</td>
<td>24</td>
<td>23</td>
<td>6</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: LTIM (2014)

There is now very little difference between the unemployment rates of immigrant and UK-born men. Historically, the employment gap has widened in recessions and narrowed in economic recoveries. This did not happen during the latest recession, particularly among men. Unemployment rates for immigrants and UK-born rose and then fell back by similar amounts (see Figure A1). But unemployment rates for female immigrants remain higher than among UK-born women.

The higher average unemployment rate of immigrants in the past was explained in part by a relative lack of skills and the fact that many of them were employed in insecure jobs: anyone who is in this sort of job faces much higher risks of subsequent unemployment.

Changes in the skill mix of immigrants over time can explain the convergence in unemployment rates (though immigrants remain, on average, more likely to be unemployed given their qualifications). New immigrants cannot claim state benefits unless they are working or have paid sufficient contributions when in work.

Among women, there are much lower employment rates for some immigrant communities compared with UK-born women. Age and education can account for around one quarter of these differences among women born in Pakistan and Bangladesh, but more research is needed to understand the reasons for all the variances.

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Sub-totals do not add to total because of a residual (undefined) citizenship category.
Figure A1: Unemployment for immigrants and UK-born men and women

Source: LFS
Policy Area:

Growth and Supply-Side Policies
4. Productivity and Business Policies

Anna Valero and Isabelle Roland
Productivity and Business Policies

- UK productivity (GDP per hour) and income grew faster than in France, Germany and the United States between 1979 and 2008, reversing a century of relative decline. Increases in higher education, tougher product and labour market competition, the adoption of information and communication technologies, and innovation policies all contributed.

- UK productivity stagnated after the Great Recession of 2008-09 and remains about 15% below historical trends. This ‘productivity puzzle’ is due to a mixture of cyclical and structural effects – the fall is not entirely permanent.

- The poor performance in recent years has widened a longstanding productivity gap between the UK and other countries. UK GDP per hour is currently around 17% below the G7 average. This is due to low investment especially in infrastructure and innovation, poor management and weak intermediate skills.

- Tax credits for research and development (R&D) have been successful. The ‘patent box’, however, is an expensive form of tax competition that does not aid innovation. The real terms decline in the science budget will chill innovation in the longer run.

- Weak competition, short-termism and bad debts in the banking sector have hurt access to finance for productive businesses, especially innovative small and medium-sized enterprises (SMEs). Pro-competition policies in banking have delivered limited results.

- The myriad schemes for improving access to finance, expertise, and information for smaller and innovative firms are in principle valuable, but generally they have not been rigorously evaluated. This needs to change if we are to know whether they work.

- There are differences between the parties on corporate tax, regulation and corporate governance. It is important that the principle of independent regulation be protected without heavy handed intervention by politicians.
Introduction

The policy stances of the main parties towards business have emerged as a major election issue. The Labour leader, with his many attacks on ‘predators’ vs. ‘producers’, is deemed by some to be ‘anti-business’; and there is much concern about the Conservatives’ promise of a referendum on the UK’s membership of the European Union (EU) and further restrictions on immigration (see CEP’s Election Analyses on the UK and Europe and on Immigration). This Election Analysis focuses on fundamental challenges over business policies that aim to boost productivity and innovation, probably the greatest challenge facing the UK economy.

The UK is slowly recovering from the Great Recession, but faces a productivity crisis. If the fall in productivity reflects permanent supply-side fractures, this poses a serious problem for long-term prosperity, especially since the UK has suffered lower productivity than its peers for many years. What are the problems, what can be done and how do the parties plan to make UK businesses more productive?

Productivity changes over the longer run

Since the late 1970s, the UK began to reverse a century of relative economic decline. In the post-war years, UK GDP per capita fell behind the United States, France and Germany, but from 1979 it was growing faster (see Figure 1) until the global financial crisis of 2008-09.

Figure 1: Trends in GDP per capita 1979 to 2013 (relative to 1997)

Source: Conference Board data. January 2014 update, extracted 8 February 2015. Note: GDP is in US$ constant prices, constant purchasing power parity, base year 2013. Data for unified Germany is from 1991. For each country the series is set to one hundred in 1997, so the level of the line in any year indicates the cumulative growth rate (for example, a value of 110 in 2001 indicates that the series has grown by 10% between 1997 and 2001). The steeper the slope of the line, the faster growth has been over that period.
GDP per capita depends on the employment rate (workers/population) and labour productivity (GDP per hour or GDP per worker). Before the crisis, the UK did well on both counts, with growth in productivity similar to the United States during its ‘productivity miracle’ phase (see Figure 2). This success can be attributed to tougher competition in product and labour markets, increases in higher education, faster adoption of information and communication technologies and innovation policies (Besley and Van Reenen, 2013).

**Figure 2: Trends in GDP per hour 1979 to 2013 (relative to 1997)**

![Graph showing trends in GDP per hour 1979 to 2013](image)

*Source: Conference Board data, January 2014 update, extracted 8 February 2015. GDP is measured in US$, at constant prices and constant purchasing power parity, with a base year of 2013. Data for unified Germany is from 1991. Note: log scale is used, see notes to Figure 1 on interpretation.*

**Recent productivity changes: the puzzle**

Productivity fell in the crisis and has failed to pick up (see Figure 3). In the most recent data from 2014Q3, GDP per hour stands at 15% below its trend between 1979Q1 and 2008Q2. This dismal performance has been dubbed the ‘productivity puzzle’ because no single explanation seems to be able to account for it. Some have argued that the fall is a structural supply-side problem (and therefore permanent), while others argue that there is an important cyclical, demand-driven component (and therefore temporary).

It is very unlikely that supply is the only reason for these productivity woes. The idea of a long-term global productivity slowdown (Gordon, 2014) is simply not credible and reflects the same intellectual malaise felt after the Great Depression that global innovation was slowing. Nor was the UK’s pre-crisis productivity growth a statistical artefact driven by a finance ‘bubble’: between 1997 and 2007, finance contributed only 0.4% of the annual 2.8% growth in market sector output per hour (Corry et al, 2011). It is true that the dislocation of
the financial sector has meant fewer funds for new investment and less foreclosure of low-productivity ‘zombie’ projects. But this is unlikely to be a permanent effect as the financial system slowly returns to normal.

**Figure 3: UK productivity growth – GDP per hour worked, 1979Q1 o 2014Q3**

![UK productivity growth chart]


*Note: Predicted value after 2008 Q2 is the dashed line calculated assuming a historical average growth of 2.3% per annum (the average over the period 1979 Q1 to 2008 Q2).*

Labour productivity usually falls in a recession, and most countries have had sharp productivity slowdowns in the unusually deep downturn of recent years. For example, of the 27 OECD countries examined by Weale (2014), 24 have experienced slower productivity growth post-crisis than pre-crisis. Compared to G7 countries, UK productivity growth since the crisis is no worse than that of Germany or Italy (see Figure 4), but it is below the OECD average.

Low productivity in recessions is partly due to underutilisation of resources as firms hold on to workers (or ‘hoard labour’) even if they are under-worked. Usually, this is temporary – as normal times resume, productivity should rise rapidly. But this recession has been unusually long-lasting, which could explain the longer period of depressed productivity. Labour hoarding cannot account for this.

The UK’s Great Recession is also different from other post-war downturns because unemployment did not rise as much as would be expected from the fall in GDP. Employment rates are now 73%¹, back to pre-crisis levels. A reason for this is that real wages have fallen by 8-10% since 2008 (see CEP’s Election Analysis on Real Wages and Living Standards), which did not happen in other post-war recessions.

A lower price of labour coupled with a higher cost of capital dampened investment incentives, which has held back labour productivity. Pessoa and Van Reenen (2014) show that the 2008-12 period was not so different in terms of total factor productivity growth (GDP

¹ ONS employment (16-64 year olds), 2014Q4.
per hour growth corrected for changes in the capital stock) from other post-war recessions. Annex 1 contains some more discussion of the productivity puzzle.

**Figure 4: GDP per hour in UK compared to other G7 countries, 2008=100**

![GDP per hour comparison chart](chart.png)


**The productivity gap in levels**

Although there was improvement in the decades pre-crisis, the UK’s productivity level still lagged behind its peers. Figure 5 shows the most recent numbers, with GDP per hour 17% below the G7 average. What are the causes of this long-run problem?

**Investment:** poor levels of investment have been a persistent problem in the UK with consistently lower levels than in France and Germany. Many longstanding factors play a role in this, including political uncertainty and short-termism in financial markets and businesses (for example, Kay Review, 2012; Besley and Van Reenen, 2013).

**Innovation:** innovation is a major driver of productivity (for example, Bloom et al, 2013). One indicator of innovation inputs is business research and development (R&D), which as a fraction of GDP has been lower than in other advanced countries (see Figure 6). As with fixed capital investment, short-termism in financial markets is a factor in shortfalls in R&D (Crafts, 2015). Government outlays on R&D are also low by international standards and have been falling as a fraction of GDP in recent years.

By contrast, the UK does well in basic science. With only 0.9% of the world’s population and 4.1% of its researchers, the UK accounts for 15.9% of the world’s most highly cited scientific publications (BIS, 2013). Investment in intangibles like information and communication technologies is also relatively high (Goodridge et al, 2013).
Management quality: the UK scores much worse than the United States, Germany, Japan and Sweden in terms of management quality. Bloom et al (2014) estimate that about a quarter of the UK’s productivity gap with the United States could be down to poor management. Poor skills, weak competition, and a greater preponderance of family firms appear to be the major factors holding the UK back.
Business and productivity policies

Innovation and taxes
The major tax change affecting innovation was the introduction of the UK’s first R&D tax credits in 2000. International evidence shows that fiscal incentives are an effective way to increase research (for example, Bloom et al, 2002). Bond and Guceri (2012) show that this policy helped arrest the decline in R&D shown in Figure 6. R&D tax credits have been increased under the coalition government, in particular for small and medium-sized enterprises (SMEs).

Introduced in 2013, the ‘patent box’ costs about £1 billion per year and is a tax incentive to locate intellectual property rights in the UK. Profits generated from a patent will be subject to a reduced corporation tax rate of 10% (by 2017-18). This is a poorly targeted policy since it gives tax breaks on royalties from existing innovations, rather than providing incentives for new innovation. The European Commission has labelled the scheme harmful tax competition as it fosters the ability of large, high-tech multinationals to reduce their corporate tax bills.

Corporate taxes
The main rate of corporate tax was reduced from 33% in 1997 to 28% in 2008. Under the coalition government, it has been steadily reduced and will reach 20% in 2015-16 (so that it will be unified with the small companies rate). Although this represents the ‘lowest rate in the G7’, Bilicka and Devereux (2012) show that effective tax rates (accounting for capital allowances, which are less generous in the UK than for other countries) look much worse. In 2012, the UK ranked 37th among OECD and G20 countries combined on the effective marginal tax rate. Low corporate tax rates make the UK attractive for multinational headquarters but low capital allowances mean fewer incentives for industrial investment.

The corporate tax system favours debt over equity since interest payments are deductible from taxable profits. Equity finance, however, is more conducive to long-term investment, especially in innovation, since the value of shares is elastic, and dividends are discretionary so they can be paid once profits are being made (as opposed to interest, which must always be paid). An ‘allowance for corporate equity’, which would offer a tax break on issuing equity, could boost investment by around 6.1% according to the Mirrlees Review (2011). This is supported by the LSE Growth Commission and the British Chambers of Commerce.

There are numerous tax schemes to help small firms, none of them particularly well thought through. For example, there is 100% inheritance tax relief for business assets passed down through the family. But family firms have been shown to have worse management practices (Bloom and Van Reenen, 2007) and therefore such schemes dampen productivity in addition to distorting the tax system.

Tax avoidance and tax evasion
In the light of disappointing tax revenues, all parties have highlighted the need to clamp down on tax avoidance and evasion. Large corporations like Google, Starbucks and Amazon have been heavily criticised for shifting income to lower-tax jurisdictions. The coalition

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2 http://cep.lse.ac.uk/pubs/download/cp346.pdf
4 Following objections from the EU and Germany, the policy is to begin to be phased out after 2016 (Crafts, 2015), see also: https://ipcopy.wordpress.com/2014/12/04/reports-of-the-death-of-the-uk-patent-box-are-greatly-exaggerated/
government introduced a ‘general anti-abuse rule’ (GAAR) to prevent the use of ‘abusive’
tax avoidance schemes. It is too early to evaluate its success, but Bowler (2009) shows that
GAARs in varying forms have had only mixed success and OBR (2014) finds that the anti-
avoidance measures implemented between 2011 and 2014 were disappointing overall. A key
issue appears to be that taxpayers are able to anticipate changes in the tax system.

The UK corporate tax gap has been estimated at £4.1 billion in 2010-11, nearly 10% of the
total tax that should have been received (HMRC, 2012). Clearly, the extra tax income raised
by tackling tax avoidance more effectively could translate into significantly reduced cuts in
public spending.

**The science budget**
The science budget was £3.4 billion in 2007-08, more than double its 1997 level. Since the
global financial crisis, this has been frozen in nominal terms. These *real* terms cuts have been
larger than those experienced by the UK’s international peers and they are likely to have been
harmful for productivity since public R&D leverages in private sector investment (Hughes et

**Targeted SME policies**
There is a plethora of schemes, mainly targeted at SMEs, to help with finance, equipment and
expertise, run by the Department for Business, Innovation and Skills (BIS) and Innovate UK.
The rationale for such schemes is often unclear. Because SMEs have lower productivity and
pay lower wages, a concern is that firms have incentives to stay small to take advantage of
these subsidies (Garicano et al, 2012) and this could depress aggregate productivity. One area
where there is a better rationale for support is providing finance for *innovative* SMEs.
Financial constraints are likely to be particularly high for such companies.

There is a general paucity of high quality evaluations of these targeted SME schemes. This
needs to change, and would require policy-makers to work with researchers to implement
controlled policy experiments to allow robust evaluation.

Nevertheless, a few studies have found individual financing schemes to have positive effects
– for example, the UK Small Firms Loan Guarantee Scheme (Cowling, 2010) and the Smart
programme, which provides funding for R&D (PACEC, 2001 and 2003). But one recent high
profile scheme – Funding for Lending (which offers incentives to banks and building
societies to increase lending to SMEs) – is not considered to have made much of an impact
(House of Commons, 2014).

Measures aimed at providing coaching and expertise are even less likely to have been
evaluated (Ramlogan and Rigby, 2012), and it is unclear what difference they make. This is
unfortunate as some of them are expensive (for example, the £200 million Growth
Accelerator programme).

There are some international studies suggesting that schemes to promote collaboration
between business and academia do help to stimulate investment and innovation (Cunningham
and Göök, 2012). The *Catapult network* is a scheme of this type, so far considered a success
(Hauser Review, 2014). Seven Catapult⁵ centres have been established to date, and these
enable companies to access the equipment, expertise and information to develop and

⁵ [https://www.catapult.org.uk/](https://www.catapult.org.uk/)
commercialise innovative ideas by connecting them with research and academic communities. Each centre specialises in a different area of technology. A commitment has been made to invest in two new Catapults in 2015-16.

Since the global financial crisis, more targeted industrial policy aimed at specific sectors or technologies has made a comeback after decades of being out of favour. In 2012, the business secretary Vince Cable introduced support for key sectors and technologies seen as crucial for the success of the UK economy (see Annex 2). These measures seek to have long-term impacts, and it is therefore too early to evaluate their success.

**Banking sector reform and the British Business Bank**

A lack of competition in banking is seen as an impediment to firms accessing finance (Besley and Van Reenen, 2013). The coalition government has implemented a number of measures aimed at restructuring the market and increasing effective competition. In particular, the government has been focusing on removing barriers to entry in the sector, and implementing the Vickers Report (2013) recommendation to internally separate retail from investment banking. Measures to facilitate consumer switching across banks include a new seven-day current account switching service (see Annex 3 for more detail on policies to increase competition in banking).

The government has also entered the banking space directly, by establishing the British Business Bank (BBB), a publicly owned enterprise that aims to increase the supply of credit and other forms of finance via private sector partners to SMEs. In 2013, its programmes made £660 million of finance available to SMEs.

So far, these reforms have not injected substantial competition into the banking system. Indeed, since the merging of many banks during the crisis, the already highly concentrated UK banking sector has become even more concentrated. Moreover, the Financial Conduct Authority (FCA) has found that while the customer switching service is working well, there is a lack of awareness and confidence in the service, which severely limits its effectiveness.  

**Corporate governance reforms**

Can corporate governance structures be designed to encourage businesses to take a longer-term view of performance? The Financial Reporting Council has recently updated the UK Corporate Governance Code to get remuneration committees to design pay packages that promote the long-term success of the company. But evidence shows that CEOs are usually able to get around these (Bell and Van Reenen, 2012).

Proposals to link equity voting rights to investment duration – for example, restricting the voting power of short-term shareholders during takeover bids – have also been debated but have so far been rejected (for example, BIS, 2014). The main concern is that the differential treatment would allow incumbent majority shareholders to have too much control.

**Competition policy**

A number of studies have found that increases in product market competition boost productivity – for example, Blundell et al (1999). Pro-competitive reforms implemented after 1979 helped to drive productivity growth in the decades that followed (Crafts, 2012). The

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1998 Competition Act and the 2002 Enterprise Act strengthened competition further. Indices of product market liberalisation and the quality of competition enforcement regularly place the UK as the best in Europe and sometimes the OECD. Independent regulation and competition authorities (the new Competition and Market Authority) are designed to be more independent of the lobbying and media pressures faced by politicians.

**Policies for business after 2015**

There is consensus in many areas, but where do the parties differ?

Labour wants to do more to encourage long-term shareholding via corporate governance or tax changes and commissioned the Cox Review (which examined ways to overcome short-termism in British business) in 2013. They have indicated that they would restrict voting rights on a takeover to those already holding shares when a bid is made, and broaden the public interest test for takeovers to take into account the impact on the UK’s science base. On taxes, Labour is considering reducing the bias towards debt by introducing an allowance for corporate equity – which would be a very welcome move – and the possibility of tapering capital gains tax on shares and dividends.

While the Conservatives would keep the main rate of corporate tax low, Labour has indicated that they would raise it (from 20% to 21%, although it would still be low relative to other G7 countries). Labour proposes using increased proceeds from corporation taxes to lower business rates.

All parties are highlighting the need to tackle tax avoidance and evasion. The coalition government introduced a proposal for a ‘diverted profits tax’ (DPT) in 2014. But the Treasury Committee has raised concerns about the unilateral character of this tax, and the decision to announce this type of tax ahead of the conclusion of the OECD’s work on ‘base erosion and profit shifting’ (BEPS) may be undesirable.7 Labour are taking a tougher stance, and Ed Miliband has said he will demand that UK tax havens be put on an international blacklist within six months of a Labour government taking office unless they produce a public register of offshore company owners.8

There is agreement over the importance of targeted innovation policies, in particular for SMEs and key sectors or technologies. In general, there are differences in the detail (for example, to which sectors the industrial policy would be extended). Labour would establish a Small Business Administration modelled on the United States version, which would work with the British Business Bank and co-ordinate support for small businesses across government, reducing unnecessary regulation.

To promote more competition in banking, Labour would consider establishing a legal threshold for the market share of personal accounts and small business lending for any single bank. Both Labour and the Liberal Democrats would consider breaking up retail banking so that it is separate from riskier investment banking. All major parties agree that the British Business Bank should be further developed and play a central role in addressing the lack of

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8 Such a blacklist of non-cooperative countries with respect to tax evasion has been operated by the French government since January 2014. Those on the list face additional taxation on capital moving between them and France.
growth finance for SMEs, but Labour and the Liberal Democrats have plans to build on this with a regional banking network.

Finally, if elected, Labour would overturn aspects of the regulatory system where there are concerns over the effectiveness of competition. They would freeze gas and electricity bills until 2017 and introduce a tougher regulation regime so that if wholesale prices fall and this is not passed on fairly to consumers, the regulator would have the power to cut prices. There is nothing wrong in principle with delegating extra power to regulators, but ad hoc fixing of prices by ministers is undesirable. It undermines the principle of independent regulation. The much bigger problem is the security of supply of energy as UK generating capacity is running dangerously low (Besley and Van Reenen, 2013).

**Conclusions**

A key policy challenge is to address the UK’s chronic productivity underperformance, an issue that has been heightened since the global financial crisis. To achieve this, the UK needs a long-term framework for investment and innovation. This ties in with many other policy areas, not least ensuring that there is an adequate supply of skills and a strong infrastructure network.

All parties agree on the importance of improving the UK’s productivity performance, and that business policies to boost innovation and investment are key, in particular through improving firms’ access to finance, information and expertise. There is also consensus for support for key industries via the new form of industrial policy.

The parties appear to be committed to ring-fencing the science budget, but no party has so far committed to protecting it in real terms, which is a concern since government-financed R&D is important both in its own right and through spillovers to the private sector.

Differences in policy are emerging on taxation structures, regulation and corporate governance, with Labour taking a more interventionist stance.

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Further reading


Annexes

1. **Explanations of the productivity puzzle**

It is hard to account for weak productivity in the UK since the global financial crisis. In this annex, we set out the key explanations put forward so far, grouped by theme. Some of these stem from deficient demand since the crisis. But others are due to more structural, supply-side forces. So far the consensus is that both the supply and demand sides matter, but that even adding the effects of all the explanations together, we are still unable to explain all of the productivity puzzle (for example, Bank of England, 2014).

**Cyclical explanations**
Productivity usually falls or slows down in a recession. When faced by low demand firms ‘hoard’ labour, or divert resources to low (immediate) productivity activities such as business development. This implies that firms have some spare capacity, and should be able to raise productivity when demand recovers.

Demand explanations have become less compelling over time as spare capacity reduces and employment rates recover to pre-recession levels. But this recession has been unusual in both its severity and slow recovery – the worst since the inter-war period. There remains controversy over the degree of UK spare capacity. Although surveys suggest relatively low amounts these are very crude and subjective. More statistically based measures of spare capacity suggest a larger output gap (4% of GDP in IFS, 2015, for example) and this is consistent with high levels of under-employment, very low wage growth and the weakness of the youth labour market. Monetary policy-makers have kept interest rates near zero, consistent with the view that there is little inflation risk.

Hence, it is likely that some part of the low productivity is still due to demand shortfalls, even if it cannot be all of the explanation.

**Depressed investment**
Low investment appears to be important for understanding the productivity puzzle. Low growth in capital per hour means low growth in GDP per hour. Since the global financial crisis, business investment has suffered due to increased uncertainty, cuts in public investment and dislocation in financial markets. Even though base interest rates are near zero, the banking crisis increased the cost of capital for UK businesses, especially for SMEs. Moreover, real wages have fallen by 8-10% since 2008, making labour cheap relative to capital. Real investment by the private and public sectors collapsed in 2008 and has only recently returned to anything near pre-crisis levels (Figure A1). The picture excluding intellectual property products is even worse (Figure A2).

**Misallocation of capital**
Lower aggregate labour productivity could have resulted from a misallocation of capital from high to low productivity firms, and some consider this to be an important factor in understanding the productivity puzzle. Misallocation may be due to unproductive firms staying in business, enjoying relatively low labour costs and interest rates. Further, during a banking crisis, banks may be reluctant to call in non-performing loans, a phenomenon known as ‘forbearance’, keeping ‘zombie’ companies in business. Equally, banks are unlikely to take
on new risks, so it may be much more difficult for new, potentially high productivity companies to grow.

Despite the popularity of this story, direct evidence is rare. It is true that exits have not been as great in this recession as previous ones, but this is rather indirect.

**Measurement**

Output or labour inputs may be mis-measured, which in turn means that labour productivity may be mis-measured. This would result in a slower trend than that witnessed in recent decades, implying that the true gap is smaller. For example, National Accounts data do not currently capture well investment in intangible assets such as marketing, management and innovation. Goodridge et al (2013) allow for intangible capital in analysing UK productivity growth through 2010 and argue that about a third of the productivity slowdown could be due to mis-measurement of intangible capital.

**Industry composition**

Aggregate productivity growth can slow because high productivity growth sectors have permanently shrunk relative to low productivity growth sectors. The oil and gas sector and the financial sector are two high productivity growth sectors in the UK and these have both shrunk. But the magnitude of these changes is not big enough to matter. Productivity growth within these sectors also appears to have slowed, but this is another way of describing rather than explaining the problem.

2. **Industrial policy: key sectors and technologies**

The *Industrial Strategy* announced by Vince Cable in 2013 includes government support for 11 *Key Sectors* and eight *Key Technologies*. The key sectors – aerospace, agricultural technologies, automotives, construction, information economy, international education, life sciences, nuclear, offshore wind, oil and gas and professional and business services – are all seen as strategically important, ‘tradable’ and with a ‘proven commitment to innovation’.9

Support has involved forums for industry leaders and government to discuss barriers to growth; the development of specific training institutions or initiatives within the sector; and some match-funded financial commitments to certain aspects of the sectors.10

The eight key technologies – big data, satellites, robotics and autonomous systems, synthetic biology, regenerative medicine, agri-science, advanced materials and energy storage – all have established roots in the UK (either through academia or business), and high growth potential.

Funding for the development of R&D centres for these technologies has been provided, some of which has been used to set up or enlarge Catapult centres. These types of activist industrial policies have been an international phenomenon in the years following the financial crisis.11 Labour has also been developing its own vision of industrial policy (Adonis Review, 2014).

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9 BIS, Industrial strategy: UK sector analysis, September 2012.
3. Competition in banking

Measures to create a less concentrated market structure
In April 2014, the Payment Systems Regulator (PSR) was created as a subsidiary of the Financial Conduct Authority (FCA). The PSR will be fully operational in April 2015, and will have ‘market investigation reference powers’ – that is, the power to take competition action over payment systems.

The FCA and the Prudential Regulation Authority (PRA, which is part of the Bank of England) published ‘A review of requirements for firms entering into or expanding in the banking sector’ in 2013. This report describes ways to reduce barriers to entry. The review set out changes in two key areas: reforms to the authorisation process for bank applicants; and a shift in the approach to the prudential regulation of banking start-ups (for example, reduced capital requirements at authorisation).

The coalition government has committed to undertaking the recommendation from the Vickers Report (2013) to separate banks’ retail and investment arms by 2019, as set out in the Banking Reform Act 2013. The main objective is to protect customer deposits from the riskier activities carried out by investment banks, but separation also helps to level the playing field between the existing banks’ retail arms and potential new entrants in retail banking.

In addition, the coalition government introduced a new bank levy in January 2011, an annual tax on the value of all of the debts of the UK banks intended to encourage banks to move to less risky funding profiles (such as deposits and UK government debt). The levy raised £2.3 billion in tax receipts in 2013-2014.

Measures to increase effective competition
The coalition government reached an agreement with major current account providers to give customers their account data in a simple, standardised format that can be used in comparison sites (midata project) and enable switching.

The Current Account Switching Service was launched in 2013. The FCA has published a review of its effectiveness, finding that while the service works well, there is a lack of customer awareness and confidence. The FCA has recommended full account number portability to make switching even more convenient.

A number of measures have been implemented for SME banking specifically, some key measures are summarised here.

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12 The FCA is the financial services regulator which replaced the FSA following the Financial Services Act 2012.
A survey of SME banking was commissioned by George Osborne in 2014. The results have been published on a website (http://www.businessbankinginsight.co.uk/), providing businesses with a tool to compare different banks based on the experiences of their peers. This enables firms to make more informed choices about which services are best suited to their needs.

There are also measures aimed at supporting SMEs that want to take finance from more than one provider, which often involves the need to decide the ‘deed of priority’ where finance is backed by securities (that is, the order of claims on assets). Banks are required to speed up the process, and this should increase competition, making it easier for SMEs to obtain finance from challenger banks or alternative finance providers.

In addition, the government has established a mandatory process to help match SMEs that have been rejected for finance with other lending opportunities from challenger banks and alternative finance providers (the Small Business, Enterprise and Employment Bill, 2014-15). When a loan application has been unsuccessful, banks have a duty to provide specified information about the SME to designated finance platforms that will help the business find alternative finance opportunities.
Additional figures

Figure A1: Quarterly gross fixed capital formation chained volume measures, Q2 2008=100


Figure A2: Quarterly gross fixed capital formation, excluding intellectual property products, chained volume measures, Q2 2008=100

5. UK Housing and Planning Policies: the evidence from economic research

Christian Hilber
UK Housing and Planning Policies: The evidence from economic research

- In 2014, UK house prices per square metre were the second highest in the world (topped only by Monaco), with especially high valuations in London and the South East. New houses are about 40% smaller than in similarly densely populated European countries.

- Over the last 40 years, house price growth in the UK has been faster than in any other OECD country and has far outstripped earnings growth. Consequently, a ‘housing affordability crisis’ has developed. The homeownership rate has been in decline since the turn of the millennium, falling from 69.6% in 2002 to 63.6% in 2013. Extending Right-to-Buy might halt this decline, but it would be likely to worsen the affordability crisis.

- The ratio of London house prices to average UK house prices has increased substantially since the 1970s. The price-to-income multiple in the Greater London area in 2014 was 8.5; for the UK as a whole, it was 5.0.

- The UK’s planning system is the main cause of the affordability crisis, especially in London and the South East. Despite population growth and rising real incomes, construction of new housing has been decreasing steadily since the 1970s, leading to a substantial housing shortfall.

- Where supply is constrained, the main effect of policies that stimulate housing demand – such as Help-to-Buy – is to increase house prices rather than supply. These policies may thus be an ineffective waste of taxpayer money at best, and counterproductive at worst.

- A similar argument applies to property-related tax reforms. In supply-constrained areas, higher taxes are capitalised into lower property prices.

- The failure to revalue the council tax since 1992 and introduce effective property taxes has made the idea of a ‘mansion tax’ popular. Such a tax would be likely to reduce the prices of expensive houses making them more affordable for wealthy would-be buyers and imposing a one-time negative wealth effect on current owners. It may have the effect of encouraging owners to subdivide their properties in an attempt to circumvent the tax.

- The evidence firmly suggests that the stamp duty land tax – which taxes property transactions – reduces household mobility. The resulting mismatch in the housing market exacerbates the affordability crisis.

- The ‘bedroom tax’ is most likely to affect landlords, who reduce rents to keep their tenants. This limits the potential to free up used space. To the extent that landlords do not fully take the hit, it has the potential to trigger displacement as shortages of smaller properties in some areas imply that tenants have to move away.

- A local annual property tax with automatic annual revaluation could provide incentives for residential development by generating local tax revenue that is tied to local development. This could help to reduce the chronic housing shortfall.


Introduction

‘This is a really big issue. That is, of course, why no politician dares touch it.’ (Martin Wolf on the UK’s housing crisis, Financial Times, 5 February 2015).

Housing affordability is a key concern of an ever-larger fraction of UK voters who are crammed into artificially limited space. At the same time, a lot of wealth lies in housing assets and there are many vested interests in keeping things this way (such as current homeowners and private landlords). Substantive reforms could solve the housing crisis, but politicians of all stripes back away from such reforms out of fear of being demonised by the vested interests. Instead, proposed policies tend to tackle the symptoms – rather than the causes – of the UK’s housing crisis.

This Election Analysis provides an overview of the key issues and the underlying causes. It discusses the merits and demerits of key policy proposals from the major parties. It concludes with a discussion of those reforms that ought to be on the policy agenda.

The housing affordability crisis

The central housing policy issue in the UK is the so-called ‘affordability crisis’ – the fact that both private rental and owner-occupied housing have become ever more unaffordable, especially for younger households trying to get on the housing ladder.

House prices in the UK – particularly in London and the South East – are among the highest in the world.1 At the same time, housing unit sizes are much smaller than in comparable European countries. New houses in the UK are 38% smaller than in densely populated Germany and 40% smaller than in the even more densely populated Netherlands (Statistics Sweden, 2005).

This makes housing space in the UK some of the dearest in the world. In a ranking of the buying price per square metre of a ‘comparable flat’ in a prime inner city area of a country’s prime city (London), the UK comes second, only topped by the tiny city-state and tax haven Monaco (Globalpropertyguide.com, 2015). The rental price of the same ‘comparable’ flat in London is also the second dearest in the world. Table 1 provides the relative housing costs by country (city) with London being the benchmark.

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1 UK house prices are also extremely volatile. Real house price swings in the UK were substantially larger during the last full real estate cycle than those in even the single most volatile metro area in the United States (Cheshire, 2009, and Hilber and Vermeulen, forthcoming).
Table 1: International comparison of relative housing costs (prices and rents per m²; by country (city); UK (London) = 100%; 2014)

<table>
<thead>
<tr>
<th>Country (City)</th>
<th>Price/m² in % relative to UK (London)</th>
<th>(Rank)</th>
<th>Rent/m² in % relative to UK (London)</th>
<th>(Rank)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monaco</td>
<td>174.1%</td>
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<td>101.8%</td>
<td>(1)</td>
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<tr>
<td><strong>UK (London)</strong></td>
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<td><strong>(2)</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>(2)</strong></td>
</tr>
<tr>
<td>Hong Kong</td>
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<td>(3)</td>
<td>58.5%</td>
<td>(4)</td>
</tr>
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<td>(4)</td>
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</tr>
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<td>(5)</td>
<td>47.2%</td>
<td>(6)</td>
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<td>(6)</td>
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<td>(7)</td>
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<td>(8)</td>
<td>39.1%</td>
<td>(9)</td>
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<tr>
<td>India (Mumbai)</td>
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<td>(9)</td>
<td>24.5%</td>
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<td>(15)</td>
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<td>Luxembourg</td>
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<td>Australia (Sydney)</td>
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</tbody>
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*Source: All data derived from [www.globalpropertyguide.com/most-expensive-cities](http://www.globalpropertyguide.com/most-expensive-cities) (last accessed: 1 February 2015). Relative prices and rents are based on own calculations.*

UK housing costs are not only very high in absolute terms and relative to other countries but also relative to incomes. Conventionally measured ‘affordability’ – median house price to median income – in the Greater London area is now at its worst since data became available, despite the Great Recession. According to Demographia (2015), the price-to-income multiple in the Greater London area in 2014 was 8.5. For the entire UK, the multiple was 5.0. The Demographia study also notes that housing is particularly unaffordable in those countries that have adopted the UK’s ‘urban containment model’ (that is, the UK’s planning system).

The UK’s affordability crisis has been developing slowly since the 1960s. Real house prices – but not real incomes – have grown faster in the UK over the last 40 years than in any other OECD country (Hilber and Vermeulen, forthcoming).

Who are the losers in this affordability crisis? The obvious answer is young households, but although existing homeowners seemingly benefit from higher asset prices, most of them are also adversely affected. This is because they cannot realise the ‘gains’ unless they downsize their housing consumption, give up owner-occupation and rent or sell their house to move abroad. In the interim, they have to live in cramped spaces (Hilber and Vermeulen, forthcoming).
What caused the housing affordability crisis?

Despite rising real incomes and strong population growth, construction of new housing has been decreasing steadily since the 1970s, leading to a substantial housing shortfall. All major political parties agree that today there is a serious shortage of housing, that there is not enough housing construction and that housing should be more affordable.

Empirical research points clearly to the UK’s planning system – in conjunction with strong demand for housing in some regions, notably the South East – as the main cause of this housing affordability crisis (Cheshire, 2009 and 2014, Cheshire et al, 2014, Hilber and Vermeulen, 2010 and forthcoming, and Overman, 2012). This system, which dates back to the Town and Country Planning Act of 1947, is extraordinarily rigid by world standards. This is a consequence of urban containment through ‘green belts’, strict controls on height, lack of fiscal incentives at the local level to develop and ‘not in my backyard’ (NIMBY) behaviour facilitated by the planning regime. The system’s rigidity is exacerbated by the use of ‘development control’, which makes all decisions about whether development can go ahead subject to local political calculations and therefore more uncertain.

Evidence for England suggests that planning constraints magnify the impact of growing housing demand on house prices across the country, but the effects are starkest in London and the South East. Housing is being built where there are the fewest disincentives to permit development rather than where demand is greatest.

Research analysing data for England over recent decades finds that in places with tight regulatory constraints, house prices respond much more strongly to labour demand shocks than in places with less tight constraints (Hilber and Vermeulen, forthcoming). According to the estimates, house prices would have risen by about 100% less in real terms between 1974 and 2008 if, hypothetically, all regulatory constraints were removed.

Removing all constraints is of course neither practicable nor desirable. More pragmatically, if the South East (the most tightly regulated English region) had the regulatory restrictiveness of the North East of England (less regulated, but still restrictive by world standards), house prices in the South East would have been roughly 25% lower in 2008 and perhaps 30% lower in 2015.

Why are not all regions and local authorities equally restrictive? Hilber and Robert-Nicoud (2013) argue that land use constraints benefit owners of developed land via increasing prices, but hurt owners of undeveloped land via increasing development costs. In this setting, more

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2 According to the Department for Communities and Local Government (2015a), the UK built close to 380,000 new homes in the fiscal year of 1969-70 (when statistics began). Housing construction subsequently gradually declined – despite a growing population and growing incomes – until it fell below 200,000 from 1990-91 onwards. Since 2009-10, the figures are firmly below 170,000. Housing construction reached a record low in 2012-13 with less than 135,510 new homes. In 2013-14, figures were only slightly higher at 140,930 new homes, reflecting the typical increase in housing construction associated with an economic recovery.

3 The effects of the UK’s planning system are not confined to housing. Cheshire and Hilber (2008) provide evidence that firmly links regulatory constraints to the extraordinarily expensive price of UK office space. Cheshire et al (2015) demonstrate that ‘Town Centre First’ policies in England imposed a loss of output of 32% on a typical store opening after the rigorous implementation of the policy in 1996.
desirable locations (such as London boroughs) are more developed and, as a consequence of political economy forces, more regulated.

More tangibly, in wealthy local authorities with strong demand pressures, homeowners and landlords have most assets to protect so they have the strongest incentives to restrict local development either via voting or lobbying. Struggling places with weak demand and high unemployment may be more prone to permit commercial development to create local jobs. Even residential development may become palatable since it creates construction jobs.

What about physical, geographical and topographical constraints? Constraints due to scarcity of developable land mainly apply to highly urbanised areas (Hilber and Vermeulen, forthcoming). But in these areas – most pronounced in the Greater London area – the effect is large in the sense that due to scarcity constraints, house prices increase strongly in response to positive demand shocks.

Put differently, house prices in London would still be fairly high by world standards if the planning system was reformed and various regulatory constraints relaxed. Moreover, such reforms would be likely only to lower price pressures gradually and over longer time periods.

**Does Help-to-Buy (or other mortgage subsidies) create new housing and more homeowners?**

The government’s ‘Help-to-Buy’ scheme is intended to stimulate housing demand – which, in theory at least, should translate into new housing being supplied and higher homeownership.

But evidence from the United States (Hilber and Turner, 2014) suggests that there is only a very weak link at best between mortgage subsidies and homeownership attainment. In fact, in tightly regulated housing markets, the subsidies have a negative effect on homeownership because the price effect – through increased demand – more than offsets the income effect from the tax deduction. In less regulated markets, subsidies do have a positive effect on homeownership rates, but only for higher income groups.

Longstanding UK evidence, summarised in Barker (2003), shows that housing supply is incredibly unresponsive to demand shocks. In large part this is due to an extraordinarily inflexible planning system. This effect is most pronounced for London and the South East. Consistent with this, a related study finds that central government grants in the UK are roughly fully capitalised into house prices – that is, the present value of the change in the grant allocation roughly equals the change in house price (Hilber et al, 2011).

The effect of Help-to-Buy, which also works through stimulating the demand side, can thus be expected also to become fully capitalised. Consistent with this, according to Nationwide, following the announcement of Help-to-Buy, house prices in London shot up by 25.8% between 2013Q2 and 2014Q2, and a residential building boom failed to emerge.

Moreover, the scheme may have created a systemic risk in that the government (that is, the taxpayer) assumes most of the risks associated with the guarantee schemes, with the remaining risk being assumed by the marginal homebuyers (that is, those who could not obtain loans in the absence of the scheme).
So who benefits from mortgage subsidies such as Help-to-Buy? Almost certainly it is not the young first-time buyers who are the supposed main beneficiaries. Instead, the main beneficiaries are wealthy and older homeowners via the increase in their property values, especially those who are thinking about downsizing or moving abroad.

Proponents of Help-to-Buy have argued that the equity loan scheme only applies to new build homes. This should only increase the demand for new build homes and thus lead to more construction. But as Hilber (2013) explains, this is a flawed argument: existing homes, new build homes and rental homes are all reasonably close substitutes, so Help-to-Buy will affect aggregate demand for housing and not just that of new build.

There are a number of further concerns with the Help-to-Buy scheme and other potential schemes that are designed to stimulate housing demand. These are discussed in Hilber (2013, 2015a and 2015b) and the Annex.

**Does Right-to-Buy help to solve the affordability crisis?**

The Conservatives’ manifesto proposes to extend the Right-to-Buy to tenants of housing associations. To the extent that the discount granted to tenants is substantial, this has the likely effect of nudging many housing association tenants to become homeowners, probably slowing down and possibly reversing the decline in the homeownership rate – a trend observed since 2001.4

Increasing homeownership attainment may be desirable. There is some evidence for the United States that homeownership is associated with social benefits, particularly in places with tight supply constraints (Hilber and Mayer, 2009, and Hilber, 2010). But there is also evidence suggesting that (leveraged) homeownership may impair the labour market (for example, Blanchflower and Oswald, 2013) or adversely affect entrepreneurship (Bracke et al, 2014). So it is not per se clear whether the Right-to-Buy subsidy to housing association tenants – which more or less randomly benefits some lower income households – is justifiable from a social welfare point of view.

What is clearer is that the policy imposes significant costs to the taxpayer. This is because housing associations receive public funding and they presumably must be compensated for their policy-induced losses. Otherwise, the policy would significantly harm housing associations and endanger their ability to finance new homes. Also, the policy will not solve the affordability crisis. In fact, it is likely to make it worse, even if the ability of housing associations to finance new homes is unaffected. This is for two reasons:

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4 According to the Department for Communities and Local Government (2015b), the UK homeownership rate peaked at 69.6% in 2002. It had fallen to 63.6% in 2013. This decrease can be attributed to a dramatic decline in attainment among younger households. According to the Office for National Statistics (2015), in 1991, 67% of the 25-34 age group were homeowners but by 2011-12, this had declined to 43%. Similar trends were observed for the 16-24 age group (from 36% to 10%) and for the 35-44 age group (from 78% to 64%). By contrast, older age groups were more likely to own in 2011-12 than in 1991. The decline in homeownership attainment since the 1990s has essentially been driven by two short periods with dramatic declines in the number of first-time buyers taking out a mortgage. The number declined by 31% between 2002 and 2003 and by 47% between 2007 and 2008. Since 2008, the number has been roughly stable and a slight recovery can be observed since 2011. But the overall homeownership rate continued to decline between 2011 and 2013: from 65.0% to 63.6%.
• First, a transition from housing association tenant to homeowner does not create any new home. Total supply of and demand for housing are unaffected.

• Second, the incentive of a converted homeowner to oppose new construction is likely to be much larger than the incentive of the identical person as a tenant. Thus, a Right-to-Buy induced increase in homeownership will, due to political economy forces (see Hilber and Robert-Nicoud, 2013), make building new homes even more difficult and thus accelerate the housing affordability crisis. This is a particular problem in the UK since the planning system encourages NIMBY behaviour.

**Tax reforms: council tax, mansion tax, stamp duty land tax, inheritance tax and bedroom tax**

Most housing-related reforms that are currently on the political agenda propose some changes to the tax or welfare system.

**Council tax and mansion tax**

One key cause of the lack of residential construction in the UK is the fact that local authorities have virtually no fiscal incentives to permit development. In many countries where planning decisions are taken at the local level, local property or income taxes provide incentives to local authorities to permit development. The only local tax in the UK is the council tax. One key flaw of this tax is that there has not been a revaluation since 1992 – postponed by successive governments as being politically too difficult. This has had two consequences:

• The tax bears little relation to underlying property values and it has little weight in the tax system compared with other countries (and compared with what it would be under an efficient tax system – see Mirrlees et al, 2011).

• Moreover, the equalisation system, which redistributes revenues on what is called a ‘needs’ basis, more or less eliminates any revenue gain in the medium term for local authorities that permit more development relative to those that are more restrictive.

Thus, the council tax provides insufficient incentives to local authorities to permit development within their boundaries. The lack of incentives coupled with NIMBY behaviour (which is encouraged and facilitated by the UK’s planning system) can largely explain the massive housing shortage.

Partly as a response to the flaws of the council tax, the Liberal Democrats and Labour propose a so-called ‘mansion tax’ on homes worth over £2 million. This is understandable in light of the failure to uprate council taxes, but it would be likely to have a number of adverse and unintended consequences:

• First, it makes national a component of tax revenue that would be better local (see City Growth Commission, 2015). This further reduces any (remaining) fiscally induced incentives at the local level to permit residential development. This is because the increased property-related tax revenue (that is, the benefit from...
government perspective) goes to the central government, whereas the infrastructure-related costs and other expenses associated with new residential development (that is, the cost from the government’s perspective) are still assumed by local authorities. So there is an even bigger wedge between the costs associated with development and the corresponding (lack of) benefits from the perspective of local authorities.

- Second, depending on the tax rate, the mansion tax may lead to the subdivision of homes to circumvent the tax. Whether this happens will in part depend on whether the potential savings from subdivision exceed the cost of now having to pay council tax on all subdivided units.

- Third, the mansion tax is likely to be negatively capitalised into property prices, implying that fewer houses than expected will be above the threshold.

- Fourth, this negative capitalisation of the tax (the expected present value of the tax should equal the change in house price) also implies a one-time negative wealth effect for existing owners of expensive homes. The tax would thus hit wealthy and long-term residents in London hardest since virtually all homes above £2 million are located in London. It would not hit wealthy would-be buyers from abroad. The tax is thus likely to be highly ineffective in reducing purchases of London properties by wealthy foreigners.

**Stamp duty land tax reforms**

The latest stamp duty land tax (SDLT) reform, announced in the Autumn Statement 2014, eliminated a longstanding anomaly of the tax. Under the old rules, homebuyers had to pay the tax at a single rate on the entire property price leading to large discontinuous jumps in the tax at threshold property prices. For example, a house sold for £250,000 implied a tax liability of £2,500, whereas a house sold for £250,001 implied a liability of £7,500.

Under the new rules, homebuyers only pay the rate of tax on the part of the property price within each tax band – like the income tax. While this reform is a step in the right direction, it does not address the fundamental problem of the SDLT, namely that it creates a disincentive for people to move house, which has adverse consequences for the functioning of housing and labour markets.

Research strongly suggests that the adverse effects of the SDLT on housing transactions and household mobility are very large. Whereas Besley et al (2014) find that the 2008-09 stamp duty holiday temporarily increased transactions by 8%, Best and Kleven (2015) estimate the effect of the elimination of the tax on the transaction volume to be 20% in the short run. Hilber and Lyytikäinen (2013) find that the increase in stamp duty from 1% to 3% at the cut-off of £250,000 reduces the annual rate of mobility by 2 to 3 percentage points or about 30%. This adverse effect is confined to short-distance and non-job-related moves, suggesting a distortion in the housing rather than the labour market.

The key conclusion of all this research is that the SDLT is highly inefficient. The recent reforms are by and large sensible, but they do not address the crucial issue of the tax, namely that it constrains household mobility and thereby discourages downsizing by the elderly and upsizing by expanding young families. An annual local tax on property should be strongly preferred to the SDLT for at least two reasons:
• First, such a tax does not affect the decision to move and thus does not distort housing and labour markets.

• Second, annual local taxes on the value of property provide greater incentives to permit development (additional tax revenue for the local authority and local taxpayers).

Inheritance tax reform
The Conservatives’ manifesto proposes effectively to take family homes out of inheritance tax for all but the richest households by raising the threshold for couples to £1 million. This policy helps existing homeowners and their children but hurts existing tenants and their offspring. It hurts tenants and their offspring because they co-finance the policy via forgone tax revenue without receiving any benefits. The policy thus cements wealth inequality. In fact, it may cement the increase in wealth inequality. This is because, as Rognlie (2015) demonstrates, surging house prices are almost entirely responsible for the growing returns on capital that have been associated with increasing inequality in the rich world.

Bedroom tax
The ‘bedroom tax’ restricts the amount of housing benefit that council and housing association tenants can claim. The housing benefit is cut for tenants who have a spare bedroom, which presumably means either the landlord has to reduce the rent (if it is private accommodation), the tenant has to find housing in a cheaper area (if they want to keep an extra room) or else move to a smaller housing unit.

The aim of the policy has been mainly to reduce costs, but the policy has a number of additional effects. To the extent that affected tenants move or can move to smaller units, this will free up ‘unused’ space. But evidence from the 1990s UK housing benefit reforms (Gibbons and Manning, 2006) is suggestive that the incidence of the bedroom tax may fall predominantly on landlords who reduce the rents to discourage tenants from moving to smaller homes or more affordable locations. This limits the potential to free up ‘unused space’. To the extent that the incidence does not fall fully on landlords, the tax has the potential to trigger displacement (since there are shortages of smaller properties in some areas) with possibly adverse implications for children’s education.

Supply-side reforms
The analysis thus far has highlighted the pitfalls of existing and proposed housing policies, mainly on the demand side. Following the logic of the evidence, more promising reforms would aim to focus on the supply side and, in particular, on reforms of the planning system.

One could think of short- or longer-term and more fundamental reforms to increase land supply. Either way, changes should reflect issues of market failure so as to ensure that land-based public goods (such as urban open spaces, wildlife habitats, national parks, areas of outstanding natural beauty, historic districts in cities or heritage buildings) are adequately supplied and externalities (that is, the fact that enjoyment and value of any parcel of land depends not only on what one can do with the parcel in question but also on the uses of all other parcels in the neighbourhood) reflected.
In the short term, the specific boundaries of the green belts could be revised to release some accessible land with low or negative environmental value and low amenity value (Cheshire, 2014). In practical terms, this would imply re-designating some land that is high intensity agricultural use or perhaps used for golf courses or derelict and near current or planned transport routes or access points. In London, for example, three tube stations are situated within the green belt, as are several Crossrail stations, including Shenfield, Taplow and Iver.

One estimate (Stringer, 2014) is that there are 20,000 hectares of land within 800 metres of a station in London’s green belt that do not have markers of environmental quality. Even if only half of that area were re-designated, there would be space for 500,000 houses (at 50 houses to the hectare) taking less than 2% of London’s green belt. This would assume taking no land in an area of outstanding natural beauty, a site of special scientific interest, a designated wildlife site or an area that was used for recreational purposes.

In the longer term, one could revert to protecting all land only on the basis of its environmental or amenity value taking account of infrastructure costs and carbon footprint. This could be done by increasing the areas of outstanding natural beauty so that there were substantial green spaces within reach of all major cities (‘green fingers’ more than ‘green belts’), retaining all habitat or national park protection but using land price differentials as price signals to let planners know where or when land would be more usefully used in some other use.

There would be a presumption in favour of development if the price of land, to be developed for an alternative use, exceeded its current value by more than a fixed amount (a ‘threshold’ acting largely as a greenfield development tax) and it could be shown that this price differential was not justified by the environmental or amenity benefits associated with the land in its present use (Cheshire and Sheppard, 2005). In fact, the Guidance to the National Planning Policy Framework (NPPF) issued in 2014 already incorporates this idea although not as a presumption to allow development.

Other supply-side reforms could work via altering fiscal incentives at the local level. In fact, the coalition government introduced the New Homes Bonus in an attempt to encourage local development. This has been ineffective since the fiscal incentive is only of a temporary nature (for three years) and is far too timid to offset the local authority’s costs associated with residential development.

More fundamental reforms would be necessary to provide sufficient incentives to local authorities to change their ways. In an ideal world this would work by replacing the council tax, the proposed mansion tax and the stamp duty land tax with a proper annual local property tax with automatic annual revaluation based on neighbourhood specific price changes. This could be designed to be revenue neutral. Such a reform is politically difficult but it would help to address various housing-related issues in one go.

An alternative, and much less radical proposal, would be to provide fiscal incentives through the central government grant allocation system by tweaking the grant allocation formula and taking account of the amount of housing development granted. Local authorities that facilitate residential development could be compensated with permanent and sizeable fiscal ‘development grants’ that exceed the cost to local authorities. Alternatively, they could be allowed to tax developers so they are compensated for any extra infrastructure or other expenses a community would need to incur to accommodate additional development.
Finally, the planning laws could be altered to allow developers (potential winners) to compensate NIMBYs (potential losers) in an attempt to gain planning permission.

Conclusions

Empirical research points clearly to the UK’s rigid planning system as the main cause of the housing affordability crisis. Demand-side policies such as Help-to-Buy do not work in this setting because they merely increase house prices.

The current property-related taxes are inefficient, especially the council tax and the stamp duty land tax. While the former is regressive and does not provide sufficient incentives to permit development at the local level, the latter hampers household mobility and generates distortions in the housing markets. Importantly, it discourages downsizing of the elderly and upsizing of expanding young families.

This Election Analysis presents a set of more supply-side friendly policies. The obstacles to moving to such policies are vast since these policies antagonise vested interests, which appear to have been created in perpetuity. But the long-run consequences of political inaction – and the continuation of excessively low rates of new building – could prove socially explosive and economically traumatic.

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Further reading


Hilber, CAL (2013) ‘Help to Buy will Likely Have the Effect of Pushing Up House Prices Further, Making Housing Become Less – Not More – Affordable For Young Would-Be-


Annex on Help-to-Buy

There are a number of further concerns with the Help-to-Buy scheme and other potential schemes that are designed to stimulate housing demand (Hilber, 2013 and 2015a).

First, introducing such schemes is politically fairly straightforward and often popular. But withdrawing them may possibly pose a threat to the macroeconomy since the withdrawals will be likely to affect house prices adversely, especially if they coincide with an economic downturn. This will create obvious losers and may therefore be politically infeasible.

Second, the taxes needed to finance schemes such as Help-to-Buy have a ‘deadweight loss’ – a pure welfare loss to the society.

Finally, such schemes may have ‘systemic risks’. In the case of Help-to-Buy, all risks including the default risk are assumed by the marginal homebuyers who take up Help-to-Buy (and who, by their nature, are likely to be risk-neutral or risk-loving, have low income and/or uncertain job prospects) and by the government (that is, the taxpayer).

In contrast to the United States or Canada, there is no ‘cushion’ in the form of private mortgage insurance companies that bear the risks associated with a house price bust. And unlike in the United States where securitisation markets spread the mortgage-related risks such as the default risk to various investor groups, in the UK the government assumes all risks associated with a serious housing downturn. The fact that mortgages in the UK are not non-recourse (unlike in most of the United States) helps in the sense that there would be fewer defaults (compared with the United States) but would also arguably mean prolonging the crisis.
6. Energy and the Environment: a cold climate for climate change policies?

Ralf Martin, Jonathan Colmer and Antoine Dechezleprêtre
Energy and the Environment: a cold climate for climate change policies?

- Global temperatures have increased by 0.8°C since pre-industrial times. Without additional efforts to reduce emissions, temperatures are likely to rise by between 2.6°C and 4.8°C before the end of the twenty-first century. Cautious calculations suggest that global income will be 5% lower as a result of these changes.

- World leaders agreed in 2010 to adopt the target of limiting temperature increases to 2°C. This requires reducing (net) emissions to zero by the end of the century. It also requires a reduction of about 40% (relative to 1990 levels) by 2050.

- Between 1990 and 2012, UK emissions fell by a quarter, meeting the Kyoto target and the objective of the first ‘carbon budget’ proposed by the UK government covering the period 2008-12. Most of this (18.4%) happened after 1997 when Labour came to power.

- Climate policies have been effective in reducing UK emissions, but an important factor in achieving these reductions over the last five years has also been the recession: because of lower economic activity, emissions fell faster than expected.

- While production-based emissions have fallen since 1990, there has been an increase in consumption-based emissions, which account for the emissions contained in net imports by the UK. Consumption-based emissions have only slowed in the wake of the Great Recession, implying that they are likely to increase as the economy recovers.

- The UK lags behind most OECD countries in innovation and the adoption of clean technologies.

- UK climate policy consists of a patchwork of different policy instruments and exemption rules, resulting in a diverse menu of carbon prices. This is inefficient as different emitters face very different incentives to reduce emissions even though the damage that a tonne of carbon is always the same irrespective of where it is emitted.

- A good strategy would be to work towards harmonising carbon prices by abolishing exemption rules and increasing carbon taxes for emitters that currently face low prices. This will reduce emissions, enhance efficiency and raise additional revenue that can be channelled towards research and development (R&D) in clean technologies.
Introduction

While UK political leaders have pledged to combat climate change whatever the result of the general election, actions speak louder than words. This Election Analysis explores the environmental and energy policies of recent governments in the light of the UK’s commitments to address climate change.

The last Labour government was instrumental in introducing a number of important climate change policies, which have all been continued by the coalition government. In addition, new policy initiatives have been started. Hence, there is no question that all the main parties have been very active in this area.

In fact, one criticism that could be levelled is that of too much activity. There is an increasingly confusing array of policies that aim to regulate greenhouse gas (GHG) emissions. These policies vary considerably in the explicit or implicit cost that they impose on the release of a given unit of emissions.

This creates economic inefficiencies: the same reduction in emissions could be achieved at lower cost if all emitters were facing a uniform carbon price. But in many instances, the same emitters are subject to overlapping policies. This often triggers complex procedures to avoid multiple regulations over the same unit of emissions, increasing compliance costs. Furthermore, where exemption rules are only partially successful, much overlap remains, distorting the incentives to reduce emissions.

Nevertheless, at first glance, the UK’s overall record on emissions looks impressive. Total emissions have fallen by a quarter in the last 25 years. Consequently, the UK met both its Kyoto protocol commitment and fell within the ‘carbon budget’ set by the Committee on Climate Change. This group of eight independent experts is charged with advising the government on a reduction path that will lead to an 80% reduction in annual emissions compared with 1990 levels by 2050.

While research conducted by the CEP and others has shown that many climate policies have been instrumental in reducing emissions, an important driver of the observed emissions reductions was also the recession, which reduced economic output and any associated emissions contained within output. This raises concerns that emissions will not continue to meet targets once the economy bounces back, requiring a further tightening of policy.

Another concern is the UK’s performance in the innovation and adoption of clean technologies. While efforts have improved in recent years, the UK still lags behind other countries. This is important because clean technology leadership and the development of a specialisation in this area could potentially have medium-term economic benefits irrespective of its long-term impact on climate change.

This points to an opportunity for UK climate policy to move forward. Harmonising carbon prices across emitters and abolishing exemptions from policies will provide further incentives to reduce emissions while also generating additional revenue for the government. This additional revenue could, in turn, be earmarked for further R&D support in areas such as clean innovation to improve the UK’s performance and standing as a leader in the ‘new’ industrial revolution.

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1 Financial Times, 14 Feb 2015 (http://tiny.cc/hp8qvx).
The UK’s emissions performance

In 2012, emissions were down by 25% compared with levels observed in 1990, keeping the UK comfortably within both its Kyoto allocation (the red line in Figure 1) and the carbon budget set by the UK’s own Committee on Climate Change (the blue lines in Figure 1). This was partly achieved by the continuous reduction in the emissions intensity (GHG/GDP) of the economy.

But as Figure 1 illustrates, emissions only nudged below the carbon budget target as a result of the contraction in output following the onset of the economic crisis in 2007-08. If the economy had continued on the same output trend that it had prior to the recession (2000-07), emissions would still have fallen, but they would have exceeded the domestic targets set by the Committee on Climate Change.

Nevertheless, when compared with most other countries, the UK’s performance is notable. Compared with eight of the largest economies in terms of GHG emissions, only Germany and Russia have reduced emissions by a similar amount relative to their 1990 levels. By contrast, the United States, Canada, Japan, India, China and South Korea all have emissions levels that are greater than their 1990 levels.

Figure 1: UK emissions and GDP – actual and counterfactual projections

Notes: Red line = Kyoto Target, blue lines = various carbon budgets. Counterfactual projections for GDP and GHG/GDP are based on 2000 to 2007 values. The GHG projection is the GHG/GDP projection times the GDP projection. Source: Authors’ calculation based on data from the UNFCCC (emissions) and the Penn World Tables (GDP).

3 The Russian emissions reduction appears to be a consequence of the collapse of the socialist economic system rather than any active climate policy-making.

4 See Figure A1 in the Annex.
An important consideration is the difference between emissions that are produced domestically and the emissions that are consumed through trade. Drawing on data from the Global Carbon Budget 2014,⁵ which provides estimates of domestically produced and consumed carbon emissions, we map the UK’s progress since 1990 in Figure 2.

![Figure 2: Consumption versus production emissions for the UK](image)

Notes: The data are updated from Peters et al, 2011. For an explanation of the issues around consumption emissions, see Peters et al, 2012. Source: Global Carbon Budget 2014.

While the domestic production of carbon emissions has fallen substantially during this period and is the main contributor to reductions in total GHG emissions, the consumption of carbon emissions in the UK is at the same level as it was in 1990. Comparing the UK’s experience with the other eight largest emitters of GHG emissions, we observe a series of interesting patterns.⁶ For developed economies like Germany, Japan, the UK and the United States, consumption emissions are greater than production emissions – that is, these countries are net consumers of carbon emissions. By contrast, developing countries such as China and India have production emissions greater than consumption emissions – that is, these countries are net producers of carbon emissions.⁷

Since countries like China face less stringent regulation on emissions than countries within the European Union (EU), this could raise concerns about carbon ‘leakage’ – that far from reducing worldwide emissions, climate policy in the UK or Europe simply shifts these emissions elsewhere. But attempts to identify direct evidence for leakage – some of which we discuss below – have not been very successful, which is good news. It is therefore more

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⁵ [http://www.globalcarbonproject.org/carbonbudget/](http://www.globalcarbonproject.org/carbonbudget/)

⁶ See Figure A2 in the Annex.

⁷ For the remaining countries in our sample – Canada, Russia, and South Korea – the pattern is less clear with the relationship between consumption and production emissions changing over time; but for the most part production emissions exceed consumption emissions, that is, similar to India and China, these countries are net producers of carbon emissions.
likely that the pattern reflects other factors such as low labour costs and capabilities for manufacturing in China.

Nevertheless – as many critics of climate policy have pointed out – the UK only emits a small share of global emissions, accounting for 1.2% of global emissions in 2012 – a decrease from 2.5% in 1990. By contrast, the major polluting countries – China, India and the United States – accounted for 49% of global emissions in 2012, an increase from 35% in 1990. Unless these countries take more drastic action, a reduction in UK emissions to zero would have very little direct impact on global emissions, even if there were no carbon leakage whatsoever.

Clean innovation

The UK's impact is potentially larger if the policies implemented domestically lead to technological innovation in clean technologies that can be adopted elsewhere. Moreover, innovation in clean technologies can have direct positive effects on economic growth. This can happen via ‘knowledge spillovers’ – that is, if innovations not only benefit the original inventors and their customers but also other companies and future inventors.8

Climate policy typically encourages clean innovation while discouraging dirty innovation.9 Hence, for climate policies to generate a positive growth effect, it is necessary for the social returns from innovation in clean technologies – the knowledge spillovers – to outweigh the social returns from the dirty technologies that they replace.

Recent CEP research estimates that across a wide range of clean technologies, this condition holds so that there is a net social benefit associated with innovation in clean technologies.10 Furthermore, evidence suggests that the returns from these spillovers are localised – that is, the additional beneficiaries of clean innovation spillovers tend to be located in the same country as the original innovator. This is good news for unilateral climate policy that manages to promote innovation. It also suggests that there might be a direct benefit from being a global leader in innovation in clean technologies.

So what does the UK’s performance look like when it comes to clean technologies? The left panel of Figure 3 presents the share of clean innovation (measured by patent counts) in total innovation by UK-based inventors. There is clear evidence of an increase in the importance of clean innovation in the UK. But when the UK is compared with other leading economies, as presented in the right panel of Figure 3, it is equally clear that the UK is lagging behind. The UK also appears to be losing ground as countries such as South Korea and China have overtaken it in recent years.

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8 For example, Apple’s invention of the iPhone surely was a good move for Apple. But it also helped other companies such as Google and Android to come up with improved products highly valued by their customers. It also was the basis for thousands of innovative app developers and service providers who built a business model around iPhone-like smartphones.

9 See Aghion et al (2012) for evidence of this for the automotive industry.

10 For details, see Dechezleprêtre et al (2014b).
Further analysis (see Figure A3 in the Annex) shows that the UK is lagging in all areas except ocean and hydro technologies, a niche field that currently accounts for only 2% of global innovation. Looking at a key measure of clean technology adoption (the share of electricity generated using renewable technologies), a similar pattern emerges. The share has increased sharply from below 5% in 2004 to over 10% in 2012, but compared with other countries, the share remains low in the UK.

**UK climate policy**

UK climate policy consists of a patchwork of policies that address emissions from a variety of different sources. Some policies are further motivated by auxiliary issues, such as specific barriers to the adoption of technologies or the need for additional incentives for innovation. This section provides a brief overview of the key policies.

**Long-term targets**

With the 2008 Climate Change Act, the UK government committed itself to reducing domestic emissions by 80% in 2050 compared with 1990 levels. This is in line with the target of limiting emissions to 40% of 1990 levels globally (UNEP, 2014), which can only be achieved if industrialised countries such as the UK reduce emissions by more. Against this overall target, the Committee on Climate Change has specified five-yearly carbon budgets, as checkpoints to reaching this overall target.

**The European Emissions Trading System (EU ETS)**

The European Union Emissions Trading scheme (EU ETS) is the first – and still by far the largest – international cap-and-trade system for carbon emissions. Since its inception in 2005, the EU ETS has changed the way that business is conducted in Europe by establishing a uniform carbon price for around 45% of the EU’s emissions (5% of global emissions).
Since its inception, the EU ETS has been heavily criticised. Interestingly, the two main concerns conflict: on the one hand, the EU ETS is accused of being ineffective; on the other, it is accused of being too effective in increasing the costs of regulated firms, thereby endangering their competitiveness in global markets.

CEP research has explored both of these concerns in depth. Using data for Germany and France, we find a significant causal effect of the EU ETS on carbon emissions, suggesting that the EU ETS reduced emissions by more than 10% in regulated firms. We also interviewed nearly 800 managers in firms across six European countries. In most sectors, we find no evidence that climate policy would lead to downsizing or business relocation abroad. We also examined country-level emissions data for a sample of approximately 400 multinational enterprises, finding no evidence that such firms are shifting emissions away from Europe.16

The evidence suggests that the EU ETS has by and large been effective at reducing emissions without endangering the competitiveness of regulated firms, in direct contrast to the criticisms levied against it.

**The Climate Change Levy and Climate Change Agreements**

Introduced in 2011, the Climate Change Levy (CCL) is a tax on the energy consumption (including electricity) of businesses. Tax rates vary across fuel types, to some extent increasing in the carbon content of fuels; but coal is relatively under-taxed, as a result of lobbying by industry. Climate Change Agreements (CCA) allow for exemptions from the levy in exchange for firm-level targets on emissions for the most energy intensive sectors.

The official policy rationale is that the CCA achieves emissions reductions that are similar to if not stronger than the CCL, but without the financial burden on firms associated with paying the CCL. The aim is to mitigate any effects on competitiveness or employment in energy intensive sectors.

But CEP research shows that firms not receiving exemptions reduced energy consumption and in turn emissions by more than CCA firms, which suggests that these targets were rather lax and probably not enforced. The same research also finds no evidence of job losses in several sectors that were not eligible for CCAs despite being relatively energy intensive, raising the question of whether the policy had any serious effects on competitiveness at all.

**The CRC energy efficiency scheme – formerly known as ‘carbon reduction commitment’**

The CRC was introduced in 2010 to reduce emissions in energy intensive businesses not regulated by the EU ETS. It requires regulated businesses to purchase carbon allowances at a fixed mandated price for the carbon contained in their gas and electricity consumption.

Initially, the scheme included a benchmarking exercise (where businesses were ranked according to their success in reducing emissions) along with a rebate scheme, where any revenue from the scheme was supposed to be returned to businesses according to their performance in the benchmarking exercise. But as a result of the government’s efforts to

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14 We are still working on results for the UK.
15 For details, see Martin et al (2014b, 2014c).
18 In practice this means businesses consuming more than 6GWh of electricity per year.
reduce the deficit, this rebate was cancelled along with the benchmarking exercise so that the CRC is now effectively another carbon tax in all but name.

Given the characteristics of the CRC and in the absence of the benchmarking and rebate exercise, one questions whether it is justified as a separate policy. Arguably, it would make a lot of sense to simply combine it with the CCL, resulting in a more stringent policy. Initial results suggest that the policy has had a statistically significant effect in reducing carbon emissions in regulated firms compared with unregulated firms.

Support for renewable energy sources
The EU ETS provides some support for renewable energy by making fossil fuel power generation technologies more expensive. But generally the current price level in the EU ETS is too low to close the cost (and risk) gap fully. This is the rationale for a number of policies giving particular support for this sector. These include:

- A renewable obligation: energy suppliers are required to source a certain amount of their supply from renewable sources.
- A feed-in-tariff for small-scale renewable generators: this gives small-scale generators (for example, homeowners with solar panels) a fixed mark-up on the market electricity price.
- A carbon price floor: fossil fuel energy suppliers are required to pay an additional levy on carbon when the EU ETS price falls below a certain limit.

Measures for domestic emissions
Compared with non-domestic sectors, where in some cases overlapping policies distort the incentives of emitters, there is little intervention concerning emissions from domestic sources. Specifically, domestic emissions are not explicitly priced other than through the impact of the EU ETS on the electricity consumed by households. Nevertheless, there are a few policies that target domestic emissions. These include:

- *The Green Deal*: this is a scheme to make it easier for homeowners to invest in energy saving home improvements. Government-approved consultants and providers identify and implement energy saving improvements, and homeowners pay for the improvements through charges included in their subsequent energy bills. As energy efficiency improves, this should result in lower energy bills, resulting in an implicit subsidy. Most importantly, if homeowners sell their property, they are not liable to continue payments, as the financing arrangement remains attached to property.
- *Carbon emissions reduction targets* (CERT): this is a regulation imposed on electricity suppliers, but it targets energy consumption by household customers. It requires energy suppliers to finance energy saving measures for its customer base, such as the provision of insulation or energy saving light bulbs.

The Green Investment Bank
The Green Investment Bank was launched in 2012. Its sole shareholder is the UK government and it provides (low cost) funding for projects in a variety of areas related to GHG emissions. To date, it has invested around £2 billion, primarily in bio-energy and offshore wind projects.
**Government funding for energy R&D**

One important lever for governments to affect GHG emissions is through the provision of subsidies and support for energy R&D. Figure 4 shows the share of energy R&D support by government for various countries over time.

While the UK share has increased in recent years, levels are still far below the expenditure shares observed during the early 1980s when spending amounted to as much as 0.1% of GDP. Furthermore, with a spending share of less than 0.02%, the UK is lagging behind other countries (as can be seen in the second panel of Figure 4, which shows the figures for the last available year across countries). The UK deficiency is especially weak with regard to spending on renewable energy.

**Figure 4: Share of government R&D spending on energy technologies**

![Graph showing share of government R&D spending on energy technologies over time and by country.](image)

Source: Authors’ calculations based on International Energy Agency data.

**Discussion and recommendations**

At face value, climate policy in the UK has been a resounding success. There is a long-term emissions reduction target combined with a wide range of active policies to achieve it. Moreover, the evidence suggests that these policies have, so far, been effective with all targets having been met to date. But closer inspection raises a number of issues:
• An important factor in meeting current targets was the recession. It is far from clear that future targets will be achieved with the current policy levels once the UK has fully recovered from the recession.

• Emissions targets and the focus of climate policy are in terms of production emissions. In light of this, there should also be concern for the consumption of emissions through trade. Defined in this way, there is no sign of any reduction in emissions.

• The complex interactions between different climate policies has resulted in considerable variability in the effective carbon price, and consequently in the incentives that different types of emitters face.

• The UK’s performance in terms of clean innovation and the adoption of clean technologies is disappointing.

These issues lead to a number of considerations. First, given that the reduction in output during the recession was responsible for the UK meeting its recent emissions targets, there is no room for complacency. Rather, there is scope for further tightening of climate policies, especially where there is already slack.

A policy measure that could directly address consumption emissions is the introduction of consumption-based carbon taxes\textsuperscript{19} whereby imported goods would face a tax that tries to account for the difference in carbon pricing between the UK and the origin countries of imports. But at present, there seems little appetite among policy-makers to pursue such policies. There are fears that going down this route could antagonise trading partners and undermine efforts to liberalise world trade (potentially violating World Trade Organization rules).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure5.png}
\caption{Estimated effective carbon prices in selected sectors by country}
\end{figure}

\textit{Source: OECD, 2013.}

\textsuperscript{19} Taking into account carbon content of goods in their origin country.
Second, Figure 5 illustrates the dramatic variability in the pricing of emissions between different emitters. For the UK, the biggest gap arises between emissions from electricity generation and transport emissions where carbon is priced to the tune of around £100, whereas household emissions (from non-electricity sources) are not priced at all.

One of the factors making politicians reluctant to act on domestic users is ‘fuel poverty’. But there are many ways in which incentives to act on emissions could be deployed in progressive ways, thus minimising the burden on the poor.

Carbon price variability within the non-domestic sector is also substantial. Many firms now pay a carbon price three times for the same amount of carbon: all firms pay for the electricity they consume via the EU ETS, as well as implicitly via the renewable support schemes; most firms also pay for the CCL, which nets out at about £10 per tonne of carbon; some firms pay in addition for the CRC allowances, which, at present prices, adds another £12 (£15 from next year onwards).

But some of the most energy intensive firms are almost exempt from all carbon prices. They can claim a reduction on the CCL of 90%–100% in a few cases – through the CCA scheme. Consequently, these firms pay £21 less per tonne of carbon than a firm that does not receive these exemptions.

This suggests the following strategy for improving UK climate policy: by moving towards a more harmonised carbon price across different emitters, through the abolition of exemptions, combined with an increase in carbon prices for emitters that face lower prices, the UK will strengthen climate policy, reduce inefficiency and raise additional funding that can be earmarked for clean R&D subsidies or other investments.

As an illustration, the tax revenue lost as a result of CCA exemptions is in the order of £360 million. If the CCA was abolished and the resulting revenue channelled towards R&D on renewables and hydrogen, the UK would become the world leader on R&D spending in this category (as a share of GDP – compare Figure 4). These funds would increase further if firms were in addition liable to pay the CRC.

Where do the UK parties stand on climate change?

The three main parties have pledged to combat climate change whatever the result of the general election. Yet much of the discussion is largely rhetoric, with limited focus on actionable policy commitments.

An exception is Labour whose leader Ed Miliband has committed to making the UK’s electricity supply carbon-neutral by 2030 and reducing policy uncertainty to encourage green investment and innovation. But there appears to be a conflict between Labour’s climate change and energy policies: while they are committed to act on climate change, they also aim

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20 The graph also illustrates that the UK is not the only country with heterogeneous carbon pricing.
21 For example, the government could implement a tax on domestic fuels combined with a tax-free allowance that decreases with fuel consumption.
22 This was in response to concerns that these firms might face threats to their competitiveness as discussed earlier. But CEP research suggests that such concerns are not well founded (Martin et al, 2014a).
23 Comparable to 0.02% of the UK’s total GDP in 2011.
24 Financial Times, Feb 14th 2015 (http://tiny.cc/6e9qvx).
to freeze energy bills until 2017 and set up regulation to reduce energy prices. Unfortunately, a move to carbon-neutral generation is likely to increase costs and feed into price increases.

Most action on climate change is happening as the result of policies implemented by the last Labour government. Indeed, the Conservatives and Liberal Democrats have arguably been less committed to action on climate change since coming to power. In their manifesto, the Conservatives aim to continue support for the Climate Change Act while expanding nuclear and gas (including shale), and removing subsidies for onshore wind farms. The Liberal Democrats’ manifesto seeks to introduce a number of ‘green laws’ and encourage innovation and R&D spending. While the renewed commitment to tackling climate change is honourable, the lack of commitment while in power raises the question of whether such policies will result in real action or a lot of hot air.26

The Greens, unsurprisingly, have a lot to say about climate change; indeed, their website and manifesto reads like a veritable Wikipedia page of information and positions relating to green issues. But their position in many areas reads as idealism rather than practical policies.

UKIP have proposed the most actionable policies on climate change: they would repeal the Climate Change Act (which is the legal basis for the carbon budgets); abolish ‘unnecessary government departments’, including the Department of Energy and Climate Change (DECC) and the Department for International Development (DfID); scrap green subsidies; and abolish green taxes. It should be apparent that these policies are the complete antithesis of the commitments made by the main parties.

In addition to a renewed commitment to combatting climate change by the major parties, it is our hope that whatever the outcome of the general election there will also be renewed action on climate change. By following a strategy that focuses on tightening existing climate policies, reducing inefficiencies, and earmarking revenues to support innovation and R&D in clean technologies, the UK will experience improvements, not only in its environmental performance, but also its economic performance, positioning itself as a leader in emerging global markets.

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26 Both metaphorically and literally.
Further reading


Annex

Emissions – comparing the UK with other countries

Compared with most other major economies, the UK has reduced emissions by more. While UK emissions have reduced compared with 1990, they have increased in most other countries with the exception of Russia and Germany (Figure A1).

But things look rather different when looking at consumption-based emissions – that is, accounting for the (net) emissions contained in imports minus exports. Before the recession, these were sharply increasing relative to 1990. With the onset of the recession, there was a sharp decline: in the last year for which data are available, emissions are still as high as they were in 1990 (Figure A2).

In the UK, the gap between consumption- and production-based emissions is particularly large. But the UK follows the same pattern as other industrialised countries of having higher consumption than production emissions. This is reversed for emerging economies such as China or India, where production emissions are higher than consumption emissions.

Figure A1: Emissions trends for selected countries

Notes: Data on GHG emissions are collected for Canada, Germany, Japan, South Korea, Russia, the UK and the United States. Data on carbon emissions are collected for China and India as data are not available on total GHG emissions from the UNFCCC.
Source: UNFCCC and Global Carbon Budget 2014.
The UK’s clean technology performance by technology field

The UK is lagging behind other major economies in most technological fields with the exception of hydro and marine energy generation technologies (Figure A3). While this is encouraging, hydro and marine technologies are still a niche area accounting for less than 2% of all innovation activity globally (Figure A4). The UK is also lagging behind when it comes to adoption of renewable technology as Figure A5 illustrates, even though the share of electricity generated from renewables as been increasing steadily in recent years.
Figure A3: The UK’s relative performance in selected innovation areas

Notes: Each graph shows the contribution of the top 15 inventor countries in selected climate change mitigation technologies globally for the period 2001-11.

Source: Authors’ calculations based on the PATSTAT database.
Figure A4: Clean inventions by technology 2001-11 (world)

Source: Authors’ calculations based on the PATSTAT database.

Figure A5: Share of electricity generated from renewable sources in major EU countries

Source: Authors’ calculations based on Eurostat data.
Policy Area:

Public Services
7. Health: how will the NHS fare in a cold climate?

Alistair McGuire
John Van Reenen
CEP ELECTION ANALYSIS

Health: How Will the NHS Fare in a Cold Climate?

- The NHS absorbs a fifth of all public spending and constitutes 8% of UK GDP. This percentage is set to fall over the next Parliamentary session.

- Recent NHS spending has been relatively low, growing only at 0.7% per year in real terms between 2010 and 2015, well below the long-run average growth rate of 4% per annum.

- The coalition government have been partly successful in achieving efficiency savings. But growing demands – due to demographics, technology and people’s expectations – have stretched service provision.

- A majority of NHS foundation trust hospitals are in financial deficit, and those in surplus have seen their surpluses fall from previous years. Waiting time targets are being missed.

- Predictions by NHS England show that even with continued efficiency savings, there will be a minimum shortfall of £8 billion in the NHS budget by 2020-21.

- The Cancer Drug Fund, which provides additional money for certain drugs has no clear rationale given the role of NICE in assessing NHS treatments.

- The coalition government’s 2012 Health and Social Care Act caused a large-scale reorganisation of the NHS, but appears to have been largely ineffective in improving services.

- Reforms from the mid-2000s and onwards that increased choice competition between publicly run NHS hospitals led to improved quality of care for patients, higher productivity and reduced inequality between rich and poor.

- The private sector plays a very small role in direct service provision in the NHS and no party is planning to increase this substantially.
Introduction

The NHS – and healthcare generally – has already become a central issue of the general election. The parties are debating funding, the form of provision, quality and productivity. All agree that they will not devote substantially more resources to the NHS in real terms.

The Conservatives wish to continue to pursue competition among providers, whereas Labour want to ‘abolish’ such competition. Both parties want more integration of care across health and social care providers. The Liberal Democrats’ statements seem similar to Labour’s, although they would base integration around local authority control, a model recently proposed as a pilot in the Manchester area.

Resources spent on health

Healthcare comprises a fifth of all UK public expenditure. Total NHS spending was £129.5 billion in 2013-14 (see Figure 1) and it is planned to be £131.4 billion in 2015-16. This funding is allocated across England (£102 billion), Scotland (£11 billion), Wales (£6 billion) and Northern Ireland (£3.8 billion).¹ Current plans are for increases across England (1.1%), Scotland (0.3%) and Northern Ireland (2%), but a fall (of 1%) in Wales 2014-15. In fact, from 2009-10 to 2015-16, spending on the NHS in England will have risen by around 4% compared with a 1% fall over the same period in Scotland.

Between 2008 and 2012, private healthcare spending has fallen by over 2.5% per annum, to the lowest proportion (17%) of total healthcare expenditure since the mid-1990s.

Figure 1: UK healthcare expenditure 1998-99 to 2015-16

![Figure 1: UK healthcare expenditure 1998-99 to 2015-16](image)

Source: HM Treasury Public Expenditure Statistical Analysis (PESA) (Table 4.3)

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¹ Public Expenditure: Statistical Analysis (PESA) 2014, Tables 1.13, 9.11 Total Managed Expenditure (real terms) and Table 4.3 Public sector expenditure by function, UK Treasury July 2014, Cm8902.
The majority of health spending is staff costs. The NHS employs over 1.6 million people: 147,000 doctors, 372,000 nurses, 154,000 support staff and 36,000 managers. A further 150,000 provide infrastructure support (central services, catering, hotel-type services), and 289,000 provide support to clinical staff. Although the number of doctors has continued to rise since 2010, the number of nurses has hardly risen. There is also growing concern over the level of GP recruitment.

The NHS record under the coalition government

The coalition government inherited an NHS that had seen dramatic real expenditure growth over the previous decade. The annual growth in the 2000s was about 7%, compared with an historical average of 4%. This resulted in almost a doubling of real expenditure on the NHS between 1999 and 2010, which rose to about 8% of GDP by 2010.

Since 2010, the NHS budget has been almost frozen in real terms. Over 2010-11 to 2014-15, the NHS budget rose by £4.8 billion, representing an increase of only 0.7% in real expenditure per year.

This does not include expenditure allocated to local authorities to promote better integration between the NHS and social services. This expenditure has been under £1 billion per year, but from next year, in line with the recommendations from the Barker Commission (2014), £3.8 billion will allocated to support better integration. While this is a significant absolute amount, almost £2 billion is a transfer from the NHS budget to the local authorities at a time when social services expenditure on adult services has itself fallen by 12% in real terms since 2010.

Demand and cost pressures have continued to grow during this period of flat-lining expenditure, so consequently there has been increasing reliance on ‘efficiency savings’ to maintain the provision of NHS services. The ‘Quality, Innovation, Productivity and Prevention’ initiative began in 2011 and called for £20 billion of savings over the period to 2015 to ensure that the NHS would be able to maintain delivery of services at an acceptable quality. As a result, for most of this Parliament, efficiency savings of 4% per year have been sought, to ensure demand is met and quality of provision is maintained. These are substantial efficiency gains, given that over the 15 years prior to 2010, NHS productivity growth averaged less than 0.5% per year.

The implementation of productivity gains were given a strong boost in the first two years of the coalition government due to the imposed public sector freeze on pay, which helped to keep cost pressures down in the NHS and were estimated to account for 40% of the efficiency savings.

A further 40% of savings were to come from tougher negotiation over contracts. Here it was envisaged that budget-holding ‘primary care trusts’ (PCTs, which have since morphed into ‘clinical commissioning groups’) would contract better with hospitals, squeezing hospital tariff prices while maintaining quality. Although some maintain that such hospital tariff cuts are hindering hospitals rather providing them with incentives, the UK Health Committee
reported that just under half of these tariff efficiencies were made through reductions in staff costs.\(^2\)

The setting of targets on waiting times and access to care, and publicly available information on various metrics of hospital quality were aimed at providing further incentives in the system in a manner that would supplement efficiency savings. But recently an increasing number of hospital trusts have been failing to meet such targets. A further 20% of savings were unattributed, but some have come from a Treasury-led initiative to reduce NHS administration costs.

The efficiency gains have helped to produce increases through constraining inputs rather than through increasing NHS output holding inputs constant.\(^3\) It is unlikely that cuts in contract prices and staff costs can be maintained going forward as the private sector of the economy recovers. The combination of little increase in NHS expenditure, the reliance on efficiency gains to generate real resource increases and growing demand pressures has taken a cumulative toll on NHS services, especially in hospitals. One policy institute estimates that NHS productivity fell by almost 1% in 2012-13 and 2013-14, which given a reliance on efficiency savings to release resources to meet demand promises a bleak future (Health Foundation, 2015).

According to the NHS regulator Monitor, over a quarter of NHS foundation hospital providers ended the financial year 2013-14 in deficit (Monitor, 2015). By the end of the calendar year 2014, 60% of hospital foundation trusts were in deficit. Those NHS hospitals in surplus saw their average surplus fall. Indeed, the NHS in aggregate had a projected budget overspend of £625 million in 2014-15 (Health Foundation, 2015).

Various performance indicators signal a system under strain. The A&E waiting time target of servicing 95% of attendees within four hours has been consistently missed recently. Similarly, the target that 90% of inpatient referrals be treated within 18 weeks has also been substantially missed over the past year. The waiting list targets for cancer care have not been met since the end of 2013-14.

Such has been the concern over waiting times generally that in June 2014, £250 million of additional funding was found to treat individuals with exceptionally long waiting times. A further £150 million was then allocated by NHS England to provide further relief of waiting time pressures.

Transfers of care and delayed discharges are causing further concern. Specific areas, such as mental health services, appear to be suffering dramatic staff shortages and a consequent decline in the quality of provision. Given the historic under-provision of such services (Layard and Clark, 2014), this is a major concern.

Given all the current circumstances, NHS England has predicted that if real expenditure was not increased, if there were no further efficiency gains and if demand pressures continued to rise as they always have in the recent past, the NHS would face a £30 billion shortfall over the next five years.

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\(^3\) There have recently been useful changes made to NHS output definitions to include quality improvements and increasing NHS throughput. See, http://www.ons.gov.uk/ons/rel/psa/public-sector-productivity-estimates--healthcare/2012/index.html.
If efficiency gains averaged the long-term norm of 0.5%, there would be a £21 billion shortfall. If efficiency savings remained at recently attained levels of 1.5% per annum, the shortfall would be £16 billion. Even if it were optimistically assumed that efficiency gains were 2-3% per annum, there would still be an £8 billion shortfall by 2020-21.

As a direct result of these calculations, NHS England successfully lobbied the coalition government to increase NHS expenditure in 2014-15 by a further £1.25 billion. Without this, it is likely that the NHS would have ended the financial year in deficit. Moreover, as many have commented, it remains to be established whether this uplift will continue for each of the following years if either member of the coalition government is returned. Unless it is, on present projections, a shortfall of over £5 billion will be the most optimistic future for the NHS over the next Parliament.

**Competition**

One important policy of the coalition government, adopted from the previous Labour administration, has been the introduction of competition among hospital providers. In particular, hospital trusts were granted more autonomy, money followed the patient, and patients themselves (through their GPs) were given much greater choice over where they could go to hospital. Hospitals could only compete on quality (and not price), so the idea was that hospitals would improve performance or risk losing revenue as patients went elsewhere seeking higher quality. Major investments in improving information, regulation and targets (for example, over waiting times) were designed to support this market between (mainly) public providers.

There is a substantial body of evidence that this competition improved efficiency and patient outcomes. Hospitals facing increased competition improved efficiency (for example, reducing the average length of stay between admission and operations: Cooper et al, 2014) and the quality of care (for example, as measured by mortality rates: Cooper et al, 2011; Gaynor et al, 2012; Gravelle et al, 2014). Some of the improvements generated by competition came from improved management practices (Bloom et al, 2015).

Moreover, equity of access to hospital elective care also improved (Cooper et al, 2009), so inequality fell as quality increased. Hence if Labour do try to abolish competition, this will not only be another unnecessary upheaval, it will be likely to reduce efficiency and equity further.

The coalition government claims to have strengthened competition through the implementation of the 2012 Health and Social Care Bill. The legislation launched a full-scale reform of the NHS (in England), by creating clinical commissioning groups to replace PCT purchasers and a variety of regulators and other bodies (including NHS England itself). These large organisational reforms, coming at a time of limited resources, have been ‘distracting and damaging’ (King’s Fund, 2015). It is unlikely that the reforms have led to increased competition and there is no evidence they have improved services.

**‘Privatisation’**

There was an expectation among some that the Health and Social Care Bill would lead to
much greater private provision of NHS services, given the encouragement to use any willing provider, including private hospitals. It is important here to distinguish between competition and privatisation. Competition for patients is entirely different from privatisation – the positive effects of competition discussed above were among public NHS hospitals.

In any event, the NHS has only awarded a mere 5% of contracts by value to the private sector. So the recent emphasis by Labour on inhibiting private sector involvement by having a profits cap of 5% represents a sideshow to the main debate around the NHS. No major party is proposing any increase in charges for NHS services or a substantial increase in (free) private provision of NHS services.

Cancer Drugs Fund

In 2011, the government established the Cancer Drugs Fund. This Fund was set up to provide extra money for cancer treatments that NICE (the National Institute of Clinical and Healthcare Excellence) had deemed too ineffective or too expensive for NHS provision. This was a politically popular and motivated partly to counter the rising cost of new cancer therapies, but as importantly to manage rising treatment expectations.

Expenditure on the Fund has grown continually over the four years of its operation, but even so, by 2013-14, it was £30 million overspent. In response, the government has increased the budget by £80 million in each of the next two years, and the Fund now stands at £340 million. These increases were to be offset by potential savings arising from pharmaceutical price cuts over the next year, and coupled with a de-listing of 16 oncology products associated with 25 treatments. The government has since indicated that future overspending would not be allowed.

The Fund will run at least until April 2016, with Labour now pledging to expand it, but its rationale remains unclear. NICE is an important innovation that makes transparent decisions to fund treatments based on evidence and cost-effectiveness. The Fund is a blatant circumvention of NICE. There is no obvious justification for considering cancer treatments more generously than, say, treatments for strokes, heart attacks or mental health.

What are the main parties promising?

All the main parties are focused on public sector cuts to rebalance the economy and the size of the public debt. As in other countries, the UK has historically experienced rates of growth in healthcare higher than the growth rate in GDP. As public expenditure comes under pressure, healthcare as a percentage of GDP will fall, even if the parties pledge to maintain the NHS in real terms.

In 2009-10, UK NHS expenditure was 8.2% of GDP and this fell to 7.9% by 2013-14. The Office for Budget Responsibility (2014) forecasts NHS expenditure to be 6.4% of GDP by 2019-20, the same level as in 2003-04. While this will be a larger level of expenditure in absolute terms, it is likely to provoke a deterioration in service delivery. Even promises to maintain real levels of NHS expenditure are therefore going to prove problematic over the next Parliamentary session.
The Conservatives
The Health and Social Care Act 2012 will continue to shape the Conservatives’ health policy. This embeds competition among any willing providers of healthcare in a regulated structure, which promotes patient choice based on increasing public information over aspects of delivery.

There is a recognition that further efficiencies are required given that there will be no rise in expenditure in real terms and a policy of assuring patients of GP access ‘8 ‘til 8’ and at the weekends is to be guaranteed. At the same time, there is a move to allow GPs to hold patient budgets and commission care directly, and to increase the link between GP pay and performance.

While unclear on priorities, the draft manifesto promised improved focus on cancer, strokes, mental health and a reduction in infections. Various forms of integrated care spanning health and social care are proposed, including ‘integrated community commissioning’, multi-specialty community providers, and integrated primary acute care specialty provision.

At an individual level, those with complex, chronic conditions can be given a personal budget with which to purchase health and social care. There will also be an offer of an £8,000 insurance premium to protect housing assets being sold to cover social care costs for the elderly.

Most recently, the Conservatives announced a proposed piloting of a scheme where the NHS would transfer £6 billion of the annual health budget to the 10 local authorities defining Greater Manchester, which would take responsibility for some areas of expenditure including staffing, regulation and capital spend. Local clinical commissioning groups would continue to exist and work alongside the Greater Manchester local authorities, aiding priority setting and purchase of care.

The Conservatives have also recently announced that hospital care quality will be improved through guaranteeing that consultant care is extended to weekend coverage. This is partly to re-address higher weekend within hospital mortality rates. There has been no detail forwarded, yet, on how these moves will be incorporated within NHS consultant contracts or paid for.

Indeed details of all proposals are scant. In particular, details of the transfer of healthcare budget to local authorities, which mimics the original organisational structure of the NHS when it was established in the late 1940s, have yet to emerge. Some commentators have applauded the move, suggesting that it supports the general regional transfer of public funds and power to Greater Manchester Combined Authority, the flagship of proposed devolved regional democracy. Others have raised concerns that it represents another ill thought through NHS reorganisation.

Labour
Labour have set out a 10-year plan for the NHS that will abolish the Health and Social Care Act 2012, fostering greater integration across NHS providers through enactment of preferred providers. While this does not rule out private provision of healthcare to NHS patients, it will give priority to NHS and voluntary providers.
Labour have also promised to recruit 20,000 more nurses, 8,000 more GPs, 3,000 more midwives and 5,000 more homecare workers over the timeframe of the next Parliament. This will help with the guarantees to get access to a GP within 48 hours, a single point of contact for complex cases with personalised care plans, cancer diagnosis within one week and increased emphasis given to mental health and prevention generally.

Labour have also pledged to integrate health and social care and for the system to be regulated by Monitor and provided with incentives, for example, through year-of-care tariffs to cover chronic diseases. This would be paid for through further efficiency savings and by an estimated £2.5 billion to be raised from a mansion tax, more penalties for tax avoidance and a new levy on tobacco firms. Pay restraint and assurance of the efficiency of the increased tax base will be the basic issues moving forward. Once again, little detail has emerged with the announcement of these proposals.

*The Liberal Democrats*

The Liberal Democrats’ headline policy is that they will increase NHS funding to provide 6,000 more clinicians, lower waiting times and improve cancer care. They will increase mental health funding by £400 million and will improve access to GP care, in a similar manner to the Conservatives. But like Labour, they will promote the integration of health and social care and a retreat from competition in the delivery of healthcare.

**Conclusions**

The NHS has become a dominant area of debate for this election. This debate is being played out against a background of recognition that resource constraints are already beginning to bite hard within the NHS. All parties are seeking to portray an NHS protected from major public sector expenditure cuts, with expansion in some areas. This is only viable through further efficiency savings of some kind, and even then it is not clear how resource levels will be maintained.

The threat to the NHS is certainly not going to be creeping privatisation, but rather on extending or adding more ill thought through reforms that target inputs, rather than focusing on improving the value of NHS outcomes. The important matter to concentrate on here is what achieves higher quality service provision, given the expenditure constraints.

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Further reading


8. Schools: the evidence on academies, resources and pupil performance

Sandra McNally
The UK continues to perform at about the OECD average in international rankings of pupil achievement with an unchanged performance over the last 10 years.

Under the coalition government, half of secondary schools have become academies: schools that are more autonomous and funded directly by central government rather than through local authorities. Research evidence suggests that under Labour, there was a large improvement in the first 100 or so schools to become ‘city academies’ within four years of their conversion.

Generalising from these early academies is difficult because the schools that have converted since 2010 have very different characteristics. For example, the early academies were set up in disadvantaged areas whereas the current 4,403 academies have relatively advantaged pupils in schools formerly rated as ‘outstanding’.

The schools budget has remained stable as a proportion of GDP since 2010 (6% in 2011), even though the average class size in primary schools is high by OECD standards (25 versus 21). Research evidence indicates that school spending matters for pupil achievement, especially for disadvantaged pupils.

There is broad agreement that high quality teaching matters hugely for pupil achievement, but the parties differ on where they place emphasis on the curriculum. The Conservatives emphasise basic skills in literacy and numeracy at primary school, whereas Labour’s emphasis is on a broader curriculum in secondary school and the post-16 agenda.

David Cameron has promised an expansion of free schools – schools similar to academies except that they are new entrants rather than converters. One of the concerns about this policy is whether or not it will be implemented with a view to meeting the projected demand for places in different areas of the country arising from demographic changes.
How are the UK’s schools performing?

A natural place to start an assessment of the UK’s education system is with the pupil performance measures published at age 16. In England, Wales and Northern Ireland, educational performance in secondary schools is often measured by the percentage of pupils attaining five or more GCSEs at grades A*-C (including English and maths). Currently, England and Wales are performing similarly to one another at GCSE (performance in Wales used to be considerably lower than in England), whereas average performance in Northern Ireland is higher than both. It is perhaps more informative to use international tests when making comparisons (see below) because of differences between countries in how GCSEs are taught.

In England, the performance indicator for primary education is the percentage of pupils achieving the required standard (as defined by the national curriculum) at the end of key stage 2 (age 11). Figure 1 shows how the measures of primary and secondary school performance have evolved in England since 2004-05.

Figure 1: Percentage of pupils achieving required standard by age 11 and 16 in England

Source: Department for Education. UK.

If we compare the most recent (2014) figures to the year of the last general election in 2010, all measures show an improvement. But for key stage 2 reading, the indicator has fluctuated within a narrow band with no clear trend (83-89% of pupils achieving the target). There has been a more convincing upward trend in maths (from 79% of pupils achieving the target in 2010 to 86% in 2014). For GCSEs, there has been an increasing trend up to 59% in 2011, after
which there has been no change and a small dip in 2014, probably reflecting changes to the exam and to what can be included in the indicator.

This still leaves 40% of all 16 year olds without at least five ‘good GCSEs’ – a grade C or better in five subjects including English and maths. This qualification matters for pupils not only because of what it represents in terms of achievement but also because it gives them access to A-level courses in sixth form colleges or a BTEC level 3 at a college of further education. Thus, the opportunities for the 40% without this qualification are much more restricted.

National statistics can be difficult to interpret because there is always the suspicion that results could be driven by ‘teaching to the test’ and/or attempts by schools to manipulate their performance (for example, by encouraging pupils to take easier subjects). The muted performance since the last general election could reflect either no improvement or measures introduced to try to make the system tougher (for example, reducing ‘easy’ options for pupils). International tests may be a more useful barometer as these problems do not arise.

But the news is not good for the most high profile international test, the Programme for International Student Assessment (PISA). This is a survey of the educational achievement of 15 year olds organised by the OECD. In 2012, there were 65 participating countries.

There has been no significant change in UK performance in reading or maths since 2006, which is at the OECD average (494 points). The current ranking for the UK is 26th place for maths (just behind France) and 23rd place for reading (just ahead of the United States) out of 65 countries, which is broadly similar to the previous PISA performance in 2009. Within the UK, scores for maths were similar for England and Scotland; lower for Northern Ireland; and lowest in Wales. In both Wales and Northern Ireland, the scores deteriorated a little from the PISA scores in 2009; in England and Wales, they were almost unchanged.

More bad news for England and Northern Ireland is shown in the OECD’s 2013 survey of adult skills, the Programme for the International Assessment of Adult Competencies (PIAAC). This suggests that younger people in the UK are not performing better than older people with respect to tests of either literacy or numeracy; whereas in most other countries, younger cohorts are doing much better. Specifically, those aged 16-24 performed worse than those aged 55-64. This left the young age group in the UK ranked 21st out of 23 OECD countries for literacy and 20th out of 23 for numeracy.

Given current relatively weak performance – and the difficulty in shifting performance – the aspirations of the education secretary, Nicky Morgan, for the UK to be within the top five countries of PISA in 2020 is most probably unattainable. The current fifth ranking country (South Korea) is well ahead of the UK in PISA. South Korea is 59 points and 36 points ahead

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1 It is difficult to make comparisons with earlier versions of PISA. In 2000, the UK did not meet the OECD school response rate for PISA 2000. In 2003, participation rates both at school and pupil level did not meet OECD requirements and the UK was excluded from international comparisons.

2 [http://www.bbc.co.uk/news/uk-31079515](http://www.bbc.co.uk/news/uk-31079515)
of the UK in maths and reading respectively. This translates to the UK being between one and one and a half school years behind the top five, which is an extremely large gap to bridge.

Educational performance needs to improve, not least because of its impact on economic growth, as argued by the LSE Growth Commission (Besley and Van Reenen, 2013). Hanushek (2012) suggests that 100 points on the PISA assessment is related to a two percentage point difference in annual growth rates of GDP per capita.

There is no quick fix for problems of poor educational performance, particularly since it is not only about what goes on in schools. Countless studies demonstrate that most variation in pupil test scores is due to family background, parental inputs, natural pupil abilities and purely random variation, which are not easily manipulated by educational policy directly targeted to the school environment. Among the important policy issues for schools are what to emphasise in the national curriculum, school autonomy and accountability, and overall school resources.

**The national curriculum: an emphasis on basic skills?**

In recent speeches, the prime minister David Cameron and Nicky Morgan have emphasised a ‘war on illiteracy and innumeracy’. They mean to pursue this by prescribing changes in primary school on the content of teaching and how learning is tested (for example, knowing times tables off by heart, accurate punctuation, grammar and spelling). The recent curriculum focus for Labour (as reflected in their leader Ed Miliband’s recent speech to a school in Haverstock) is to broaden provision at the secondary phase such that creative and vocational subjects get more attention than at present. Labour have also emphasised an ‘apprenticeship guarantee’ (by 2020) for all school leavers who achieve the required grades.

The differences in emphasis of the two biggest parties are not mutually exclusive. The emphasis on literacy and numeracy, however, makes sense in light of the continual poor performance of young people in these areas and the apparent stagnation over time (described above). Without an adequate foundation in basic skills, too few people have the prerequisites for good quality educational or vocational options later on in life.

**Autonomy and accountability**

Several countries have enabled a certain proportion of state-funded schools to operate with greater autonomy than the norm. The structure and rules differ between (and sometimes within) countries, but they also have much in common – for example, ‘charter schools’ in the United

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3 The ‘London effect’ has been much discussed following the rapid improvement seen in London schools. But Burgess (2014) shows that this can be attributed to the faster growth of immigration in London: the children of immigrants tend to show faster improvement in test scores than the children of natives).

States; ‘free schools’ in Sweden and ‘academies’ in England. The rationale is that by giving schools more freedom, they might be better able to respond to local circumstances and become more innovative. There is descriptive evidence that more autonomous schools have better management practices (for example, Bloom et al, 2015). But there is a ‘health warning’ from Andreas Schleicher of the OECD, which is that autonomy needs to be accompanied by a culture of peer learning and accountability to be effective.  

In England, sponsored academies are run by their sponsors (for example, a charity or university) and boards of governors. They have responsibility for employing all staff, agreeing pay and conditions, freedom over most of the curriculum (except for core subjects) and all aspects of school organisation. The programme commenced in 2000 and was originally devised for a limited number of schools in disadvantaged areas (about 200 under Labour).

The programme has massively expanded under the coalition government and is no longer aimed specifically at schools in disadvantaged areas. From 2010, any school that has been rated as ‘outstanding’ by Ofsted is allowed to become an academy on a fast-track route (so called ‘converter academies’). Other schools may also apply, with some additional conditions. There are also schools that appear to be either pressurised or required to become academies. Over time, many of the original requirements to become an academy have been removed. As of January 2015, there were 4,403 open academies—over half of all secondary schools and about 10% of primary schools.

As the expansion of the academies programme is very recent, it is too soon to make a judgement on the overall impact of the programme. But there have been evaluations of schools that became academies up to 2008-09 (Eyles and Machin, 2015; Eyles et al, 2015; Machin and Silva, 2013; Machin and Vernoit, 2011). These studies compare outcomes for pupils attending academy schools from 2002-03 to 2008-09 with those who attend schools that convert to academies later.

Eyles and Machin (2014) find that GCSE performance increases by around 0.2 of a standard deviation for pupils who spend four years in an academy school (that is, those who enrol in year 7 and the school converts the following year). Furthermore these gains are twice as large if the school converts from a community school (the school with the least initial autonomy).

Although these effects are quite large on average (perhaps 20 PISA points), they have not been spread equally. Machin and Silva (2013) find that the benefits are concentrated among pupils of medium to high prior attainment (as measured by attainment at the end of primary school) and do little to help the lowest achieving pupils. Nevertheless, these pre-2010 converters typically had a much higher proportion of pupils on free school meals (FSM, an indicator of economic disadvantage) and lower scores at both GCSE and key stage 2 than the national

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6 Bagaria et al (2013) give a good discussion of policy details and the evolution in the ‘academy’ movement over time.
average (Eyles et al, 2015). So although the policy did not reach the worst performers within schools, it did improve things for a generally disadvantaged population.

The differences between pre- and post-2010 academies make extrapolation tricky. Post-2010 converters are the mirror image of the early academies because they have a more advantaged intake with higher prior performance.

Although there is a political consensus behind academies, there remain concerns. So far, academies are mainly focused among secondary schools: will they work in the smaller and more numerous primary schools? Do the leaders and governors of such schools have the breadth of expertise and the time to take on the responsibilities of greater autonomy?

Another concern is what happens to the community role that used to be performed by local education authorities in relation to badly behaved pupils (exclusions) or pupils with special educational needs? Is there more of a danger that vulnerable pupils will slip through the net?

**Protecting school resources**

Schools have been protected from cash expenditure cuts imposed on many other government departments. As a result, education spending has stayed at roughly the same level (as a percentage of GDP) as it was in 2006. At 6% of GDP, this is higher than the OECD average (5.6%) and the proportions in France, Germany and the United States. But as Table 1 shows, compared with the OECD and all these countries, the average class size in primary schools is still higher in the UK (and did not change between 2006 and 2011). With population pressures growing, it will be hard to maintain even the (relatively) large average class size within the same budget.

**Table 1: Resources and class sizes in schools**

<table>
<thead>
<tr>
<th></th>
<th>Expenditure on education as a percentage of GDP (2011)</th>
<th>Average class size in primary education (2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>6.0%</td>
<td>25</td>
</tr>
<tr>
<td>United States</td>
<td>5.1%</td>
<td>21</td>
</tr>
<tr>
<td>Germany</td>
<td>5.0%</td>
<td>23</td>
</tr>
<tr>
<td>France</td>
<td>5.7%</td>
<td>21</td>
</tr>
<tr>
<td>OECD average</td>
<td>5.6%</td>
<td>21</td>
</tr>
</tbody>
</table>


Does this matter? Researchers have found it very difficult to establish the relationship between school resources (usually measured by expenditure or the pupil/teacher ratio) and academic achievement. It is certainly not possible to make inferences simply by comparing the change in expenditure with the change in academic achievement. This is because in many school
systems, spending is disproportionately allocated to schools in disadvantaged areas (which tend to have lower results). Similarly, in many schools, weaker pupils are placed in smaller classes.

There is a huge body of research that tries to overcome these problems. A recent review by Gibbons and McNally (2013) focused on high-quality research designs in the last 10 years, which tended to support the positive effects of school resources on attainment, although there is a wide range of estimates about the exact magnitude of the effect.

CEP’s own work on English primary schools (Gibbons et al, 2011) finds effects at the upper end of the range. About a 30% increase in average expenditure per pupil (over four years – between age 7 and 11) is expected to produce an increase in achievement of a level equivalent to 25-30 points on the PISA scale.

One notable point arising from our review is that increases in resources are usually more effective for disadvantaged schools and/or pupils. If this indicates that disadvantaged pupils are genuinely more responsive to resource-based interventions, then targeting resources at these pupils will lead to higher average achievement, as well as more equitable outcomes.

This bodes well for the ‘pupil premium’ policy, which provides additional resources for disadvantaged FSM pupils. The pupil premium started at £430 per pupil per year in 2010-11 (approximately £450 in 2009 prices) and rose to £1,300 in 2014-15 (approximately £1,150 in 2009 prices). But FSM pupils are only 17% of pupils nationally. Therefore, since the pupil premium is simply additional funding for some schools, and is not necessarily used for resources targeted specifically at FSM children, it amounts to additional income of at best about £100 per pupil initially, rising to £200 by 2014-15 (again at 2009 prices). ⁸

According to our estimates, an additional £200 per student per year could be expected to raise achievement by around 5 points on the PISA scale. If the premium is spent on FSM pupils in schools with high proportions of FSM pupils, the effects could be substantially higher and the final pupil premium could go some way to closing the large gap between FSM and non-FSM pupils.

The Conservatives and Labour have made explicit commitments with regard to school expenditure over the next Parliament. The Conservatives say that they would protect school expenditure in cash terms whereas Labour say they would protect school expenditure in real terms. Neither have made an explicit commitment to protect expenditure in either the early years or post-16.

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⁸ Note, taking into account inflation and freezes in other sources of school funding, there may be no overall increase in funding, only a redistribution across schools and pupils.
Free schools

David Cameron, has promised a big expansion of free schools, which are like academies in that they have much autonomy but are new entrants rather than converters. Their new entrant status makes free schools more like charter schools in the United States, which have had mixed success. There is strong experimental evidence that urban charters, especially the ‘no excuses’ variety serving disadvantaged populations, can be very successful. But suburban charters have not done so well in terms of performance.

An additional problem with free schools is that they may not meet the need for supply in areas undergoing a larger population growth of young people. This depends on the extent to which free schools are set up in areas with a projected shortage of school places. The Select Committee report on academies and free schools finds mixed evidence on the extent to which this has happened to date. It would certainly be of concern if the expansion of free schools were pursued without sufficient regard for the need to manage capacity in the system as a whole.

Conclusion

The parties seem to agree on the overall direction of travel in education policy – mass academisation and protecting school funding – even though they differ on where they place emphasis (for example, primary versus secondary school curriculum) and on the details of policy (for example, whether to protect school funding in nominal or real terms). There is surprisingly little discussion over the radical shake-up of the schools system under the academies programme. But the battleground is more clearly drawn over the desirability of free schools.

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9 http://www.publications.parliament.uk/pa/cm201415/cmselect/cmeduc/258/258.pdf
Further reading


9. Paying for Higher Education

Gill Wyness
Paying for Higher Education

- Additional earnings for degree holders compared to those with A-levels are between £105,000 and £250,000 over a lifetime. The proportion of UK workers with higher education rose from 4.7% in 1979 to 28.5% in 2011. Over the same period the wage return to being a graduate has also risen (from 39% to 56% for men).

- The tuition fee cap increased from £3,375 to £9,000 per year for students beginning their courses in 2012/13.

- Despite this, university applications have continued to increase, and applications from disadvantaged students (on free school meals) have grown at a faster rate than those from their richer counterparts.

- Only 15% of disadvantaged pupils who were eligible for free school meals enrolled for university in 2014 (up from 13% in 2011). This is low compared with advantaged groups, whose participation rate stands at 30%.

- The 2012 reforms did not achieve much savings. Fees were intended to shift the cost of higher education to graduates, allowing the government to make large cuts to university funding. But recent estimates show a large cost of financing the government-backed income-contingent student loans – with a loss to the exchequer of 45p in every £1 loaned out.

- Labour intend to reduce the fee cap to £6,000 a year, and compensate universities with money raised by reducing tax relief on pensions. This policy does little to help poor graduates – they do not earn enough to repay their fee loans even at £6,000 so could never benefit from a fee cut. The policy also makes universities more reliant on government rather than their students.

- In an attempt to limit immigration the government introduced tough regulations on universities’ right to sponsor overseas students and abolished post-study work visas. Research shows that domestic students benefit from the presence of overseas students, whose unregulated fees boost university finances, increasing the number of places for all students.
Introduction

The UK has dramatically increased the supply of graduates over the last four decades. The proportion of workers with higher education has risen from only 4.7% in 1979 to 28.5% in 2011 (Machin, 2014). Rather than this enormous increase in supply reducing the value of a degree, the pay of graduates relative to non-graduates has risen over the same period: from 39% to 56% for men and from 52% to 59% for women. This implies a strong and continuing employer demand for education, a factor that pushes up wage inequality.

The expansion of universities helped raise growth and productivity (Besley and Van Reenen, 2013), but placed a strain on government finances as home student costs are subsidised. To help address this, the tuition fee cap was raised to £9,000 per year in 2012 from £3,375. The fee increase was accompanied by large cuts to university funding, with some non-science courses essentially receiving no government teaching subsidy at all. The idea was to transfer the burden of the cost of higher education from the taxpayer to graduates. Students from low income families are protected by a combination of more generous maintenance grants for the very poor, and for the less poor the fact that no loan would have to be paid until the student graduated and earned more than the median wage of £21,000. The hope was that the reforms would also make the sector more competitive: it was expected that only the top universities would charge the full £9,000 per year, while the others could compete on price as well as quality.

Widespread fears that participation in higher education would plummet as a result of the fee increase, and that those from poor backgrounds would be frozen out of university, failed to materialise. In fact, participation continued to grow and is at record levels for poor students. There remains much inequality as only 15% of disadvantaged 18 year olds enrolled in 2014, compared with over 30% of richer students (UCAS, 2014). Of course, much of the inequality arises from the fact that the A-level attainment of disadvantaged young people is far lower than those from better off backgrounds, making them less likely to be accepted to university (Chowdry et al, 2013).

The reforms have not delivered the savings the government hoped for. Recent projections (Crawford and Jin, 2014) suggest that around three quarters of students will not repay their government-backed student loans in full, making the new system almost as expensive as the one it replaced. Nor has a more market based sector yet materialised: there is almost no variation in tuition fees, with the average fee standing at £8,735 per year (OFFA, 2014).

But there has been good news for postgraduate students during this Parliament, with the announcement that fee loans will be extended to postgraduates under the age of 30 from 2016. These loans will be repaid concurrently with current fee loans, potentially increasing exchequer costs.

Labour have declared that they will cut the tuition fee cap to £6,000 per year.

Participation continued to grow despite the fee increase

The fee increase passed through parliament in December 2010. But apart from a sharp decline in applications in 2012 (largely as a result of a spike in 2011 as students anticipated the fee
increase), they have continued to grow and now stand at record levels, with over 214,000 18 year olds applying in 2014 (UCAS, 2014).

Participation rates among poor students have grown at a faster rate than richer students since 2012 (see Figure 1). This is reassuring as it implies that university access hasn’t been harmed. But this is starting from a pretty small base: only 13% of disadvantaged pupils who were eligible for free school meals applied to university in 2011, compared with nearly 30% of those who were not eligible (UCAS, 2014). In 2014, the figures had moved to 15.3% and 30.3% respectively – indicating a continuing wide gulf in access. It is hard to know for sure what would have happened to participation growth in the absence of £9,000 fees, but there is no clear change in trend after fee introduction.

![Figure 1: Participation in UK universities (UCAS)](image)

**Source:** UCAS 2014.

**Notes:** Entry rates for English 18 year old state school pupils by free school meal (FSM) status at age 15.

Despite the steady increase in the number of graduates, the labour market for graduates remains favourable. Graduate unemployment stands at just 4% (compared with 8% among those with just GCSE level qualifications – see ONS 2013) and returns to degrees are still considerable. Recent evidence estimates returns for degree holders (compared with those with A-levels) at between £105,000 and £250,000 over the lifetime (BIS, 2013).

**Postgraduate students are set to benefit**

There is a growing trend towards postgraduate education (Machin and Lindley, 2014) with more than a third of all graduates in the UK having a postgraduate qualification by 2009 – around 10% of the workforce. But the relative wages of postgraduates have also risen, which means that their earnings premium outstrips that of graduates.

Many feared that the undergraduate reforms would have a knock-on effect on demand for postgraduate qualifications, if already debt-ridden graduates were put off from further study.
Financing a postgraduate degree is already difficult for many students, since, to date, government loans have been unavailable and funded places limited.

It was announced in the 2015 budget that fee loans up to £25,000 will be available for research-based masters and PhD programmes from 2016/17\(^1\). This is on top of the 2014 announcement that fee loans of up to £10,000 will soon be available for taught postgraduate degrees. The loans will be repaid concurrently with undergraduate fee loans, which could potentially increase costs to the government. But it is likely that the government will charge these loans at a higher rate than undergraduate loans to increase the likelihood of their being paid back. The government is planning to carry out a consultation to examine how best to design these loans.

Not only is this policy good news for students considering a postgraduate degree, but it could also have an impact on wage inequality. Rising relative wages of post-graduates means that there is a strong connection between the increased presence of postgraduate workers in the labour force and rising wage inequality over time. Improving access to postgraduate qualifications for poorer graduates, therefore, help reduce wage inequality.

**Student support remains a contentious issue**

Of potentially greater concern to students than tuition fee debt, is the issue of how they support themselves while at college. Students with no other means of support can borrow up to £5,555\(^2\) for maintenance loans. Poorer students – those with parental incomes below £42,000 – can also access non-repayable maintenance grants worth up to £3,387 in 2014.

The value of student grants rose just 1% in 2013, and was frozen in 2014 and 2015. Students who rely on these grants and loans face a funding shortfall according to recent estimates (NUS, 2013). The figures, which analysed available statistics for the cost of living for students for the 2013 academic year and compared it to typical payments for government maintenance loans and grants for the same period, showed an estimated average funding shortfall of about £7,600.

Labour have pledged to increase maintenance grants by £400 to ‘help students from lower and middle-income families’. While this is a fairly small increase, student support is important since costs do matter for participation. Dearden et al (2014) finds a £1,000 increase in maintenance grants increases participation by just under 4 percentage points.

**Is the current system financially sustainable?**

Fee and maintenance loan repayment terms are still very generous under the new system. Though an interest rate has been added, the repayment threshold and length of the loan have been increased. And because loans are even bigger than before (driven by the increase in tuition fees), even more money will remain unpaid (around three quarters of graduates will not clear their government-backed loans before the end of the 30-year repayment period\(^3\)) and have to be covered by the taxpayer.

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The latest estimate of the Resource Accounting and Budgeting (RAB) charge (which takes account of both the fact that not all loans will be repaid, plus what it costs the government to borrow the money it lends to students) is 45% – in other words, for every £1 it loans out, the government loses 45p.⁴

The upshot is that increasing fees to £9,000 per year actually costs the taxpayer money. It is only after taking account of the large cuts in the universities teaching grant – which saw many courses losing funding altogether – that the government will eventually make a saving – of around £760 million on the previous system (Chowdry et al, 2012).

Nevertheless, the announcement of the 45% RAB was controversial, particularly since the government originally estimated a RAB of 28%.⁵ Much speculation has followed that the system is unsustainable, some suggest that a 48.6% RAB charge would make the new system more expensive than the system it replaced.⁶ There is much uncertainty surrounding what will be the eventual level of student debt that will have to be written off. Since the system has only recently come into being much depends on the future evolution of the level of wages for graduates, which is hard to predict and the degree of delinquency in paying. Certainly, the real wages of young people have fallen very rapidly over the last 7 years (see CEP Election Analysis on Living Standards, 2015), but it is likely that things will be much better in the future than they have been since the onset of the crisis. Further, since the new system has only recently come into being, changing it rapidly again would create a lot of undesirable uncertainty in the university system.

**A more competitive university sector?**

The government also hoped that by setting a high cap of £9,000 per year that price competition would drive university quality. This marketplace has not yet materialised. This is partly why the RAB charge is so high: the government underestimated the amount that universities would charge, and hence the unpaid fee and loan liability.

For prices and information to be converted into a functioning market, supply must also become flexible. To date, universities have faced strict caps on the number of students they can recruit, making demand far outstrip supply and enabling universities to charge the maximum price. But these quotas have been slowly relaxed and will be completely removed in 2016, improving the chances of a functioning market. Hence, it may be advisable to see how the new system works before beginning a new overhaul of university finances.

There is also a problem of information, since for a functioning market consumers need to be well informed. CEP research (McGuigan et al, 2014) suggests that this is not the case. The study, which aimed to find out what school pupils know about the costs and benefits of going to university, revealed large gaps in pupil knowledge. Fewer than half of pupils knew that fees are paid after university once they have a job, while fewer than half regarded student loans as a ‘cheaper/better way to borrow money than other types of borrowing’. It is likely that knowledge about fees will improve as the regime beds down.

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⁴ Source: [http://www.davidwilletts.co.uk/content/business-innovation-and-skills-questions-3](http://www.davidwilletts.co.uk/content/business-innovation-and-skills-questions-3).
Tougher immigration rules have threatened demand from lucrative overseas students

The government attempted – and failed - to reduce net immigration to under 100,000 (CEP Election Analysis on Immigration, 2015). Since EU immigration and UK emigration cannot be controlled, it turned to restricting foreign students. Post-study work visas were abolished in December 2010, so non-EU students are forced to go home straight after their course is finished, rather than being allowed to work temporarily after completing a degree. The policy has been blamed for a sharp decline in foreign students, from India in particular.7

From 2014, the laws on universities’ ability to sponsor foreign students were also tightened: universities can now lose their sponsorship powers if more than 10% of those to whom places have been offered, are refused a visa. This followed a crackdown that saw London Metropolitan temporarily lose the right to sponsor their 2,700 international students.

Vice-chancellors are right to be concerned about these measures. CEP research (Machin and Murphy, 2014) shows that domestic students benefit from the presence of overseas students, whose unregulated fees boost university finances, increasing the number of places available for all students. Rather than being crowded out, domestic students actually benefit from an increased availability of places subsidised by foreign fees.

What do the party policies mean for universities, graduates and students?

That tuition fees do not appear to have harmed participation strengthens the argument for an increase in the fee cap8 (which the Conservative Party have so far refused to rule out) and could help create a market-driven system, with the likely impact being greater variation in tuition fee levels.9

But such a system could be more expensive, given that it would mean fewer graduates repaying their loans in full. Thus, to make such a policy financially sustainable, the Conservatives would have to accompany their fee increase with punitive changes to the repayment system – potentially through raising the interest rate or reducing the threshold at which graduates repay their loans.

Labour have taken the opposite stance promising to reduce the fee cap to £6,000 per year from 2016.10 Among graduates, the only beneficiaries of this policy would be high earners. A cut to £6,000 would only benefit those graduates who earn enough to repay their loans in full, or who manage to pay back annual fee debts somewhere between £6,000 and £9,000 – top earning graduates.11 The remainder – low earning graduates, many of them female - don’t earn enough to repay.

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8 http://www.timeshighereducation.co.uk/news/cable-warns-that-tories-could-raise-tuition-fees-significantly/2016231.article
9 http://www.telegraph.co.uk/education/educationnews/11009244/Fees-at-Oxbridge-could-rise-to-16000-a-year.html.
their loans even at £6,000 so could never benefit from a fee cut. The Conservatives have picked up on this point, with George Osborne calling the policy ‘neither progressive nor fair’ in his budget statement.

Will it encourage more students to go to university? There is some evidence that many young people are still put off from going to university because of the cost (McGuigan et al, 2012). But it is unclear that potential students should ignore all potential costs in making a decision – we should be most worried about whether highly able students from low income families are put off. Labour’s change would not help them, but maybe it would have a psychological effect. However, the fee increase seemed to have no effect even for the disadvantaged students, so this seems unlikely.

Labour intend to compensate universities for the loss in tuition fee income by cutting the lifetime pension cap, reducing the amount of pension contributions attracting tax relief and by reducing tax relief on pensions for higher earners. The pension policy is misguided as it involves doubly taxing people when they save for pensions and when they receive the pension income (IFS, 2015). Elsewhere in the budget, however, the Conservatives declared that they intend to cut the lifetime pension cap from £1.25m to £1m, meaning that at least part of the money Labour earmarked for their policy will no longer be available. The Shadow Chancellor Ed Balls responded to this news by promising to find the money elsewhere\(^\text{12}\).

If Labour do compensate the £2.7 billion\(^\text{13}\) cost of the reform from tax rises, universities will be no worse off financially. Collectively, they actually came out of the 2012 reforms with a funding increase of roughly £5,370 per graduate (Chowdry et al, 2012), although this varied a lot between universities depending on their proportion of home students.\(^\text{14}\)

On the other hand, the policy would end the hopes of creating a more competitive system for universities to increase quality and cost effectiveness. A larger part of university budget would again become reliant on the whim of government. And yet another change in the funding system is a recipe for further uncertainty and instability in the system.

**Conclusions**

The university system has successfully produced a huge increase in mass higher education over the last 40 years to meet an increased demand for skilled workers. It is one of the UK’s most successful export industries in terms of attracting foreign students and is second only to the US in terms of scientific prestige. The coalition government’s efforts to transfer the financial burden of higher education away from the taxpayer and towards graduates, and create a more efficient, competitive sector, have not yet materialised. In fact, the current system has almost no price variation and is almost as expensive as the one it replaced.


\(^\text{14}\) [http://www.universitiesuk.ac.uk/highereducation/Pages/LettertotheTimeshighlightingconcernswith%C2%A36,000tuitionfeesproposal.aspx#.VOs_iSy2V8E](http://www.universitiesuk.ac.uk/highereducation/Pages/LettertotheTimeshighlightingconcernswith%C2%A36,000tuitionfeesproposal.aspx#.VOs_iSy2V8E).
Labour’s intention to reduce the fee cap to £6,000 per year at a cost of around £2.7 billion a year will do nothing to help low income graduates and there is no evidence that the hike in fees discouraged poor (or rich) students from participating. On the other hand, the low recovery rate from student debt is a cause for concern. The question is whether the new system should be given some time to work before launching into yet another costly overhaul.

Higher education may again prove a tough nut to crack.

March 2015

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Further reading


10. Fighting Crime: Can the Police do more with less?

Brian Bell
CEP ELECTION ANALYSIS

Fighting Crime: Can the police do more with less?

- There were just over 3.7 million crimes recorded by the police in England and Wales in 2013-14, a fall of 21% since 2008-09.

- The decline is even more substantial using another measure of crime: the Crime Survey of England and Wales (in which respondents report whether they have been victims of crime, and which therefore includes crimes not reported to the police). This shows a fall of 29% since 2008-09, though the number of crimes is higher, at 7.3 million.

- Over the same period, the number of police officers has fallen by just over 16,000, a drop of 11%. There has been an even larger decline in the numbers of police staff and Police Community Support Officers (PCSOs).

- The evidence suggests that fewer police officers would tend to lead to a rise in crime. Given the reduced crime figures, this suggests that either the productivity of the police has risen or fewer people are turning to crime – or both.

- On productivity, there is evidence that forces have realised substantial efficiency gains and are policing in a more effective way.

- On criminal behaviour, there are long-run trends, such as an ageing population, that point in the direction of reduced criminality. In addition, technological change appears to have reduced some opportunities available to criminals.

- Whether the pace of reductions in the police workforce that have occurred so far can be sustained without slowing – or reversing – the decline in crime is an open question.
Introduction

Crime has continued to fall over the last few years despite substantial reductions in the number of police officers employed and the continued weakness of the domestic economy – both factors that one might have expected to generate a rise in criminality.

This decline in crime is also reflected in its relative importance as an issue for voters. According to an Ipsos MORI survey, 37% of respondents rated crime as an important issue facing the UK at the end of 2007. By the end of 2014, this figure had fallen to 12%.

Trends in crime

The police recorded just over 3.7 million crimes in England and Wales between April 2013 and March 2014. The three main types of property crime – theft and handling, burglaries and criminal damage – accounted for 63% of the total, while violent crimes – sexual offences, violence against the person and robbery – accounted for just over 20% of all recorded crimes (see Figure 1).

Figure 1: Recorded crime in England and Wales, 2013-14

![Pie chart showing the distribution of recorded crimes in England and Wales, 2013-14.]

Source: Crime in England and Wales, year ending March 2014.

However it is recorded, there has been a sustained reduction in crime over the last decade. In England and Wales, two principal measures are used:

- First, the police record the crimes that are reported to them.¹ These are the data used in Figure 1.

¹ It should be noted that there have been two substantial changes in the way that police record crime (in 1998-99 and 2002-03) that makes comparisons over the longer term less robust.
Second, the Crime Survey of England and Wales is a long-running victimisation survey, which asks a large representative cross-section of individuals in households whether they have been victims of crime. This series is not affected by the reporting changes so may give a better sense of long-run trends. It also has the advantage of capturing crimes that are not reported to the police.

Figure 2 shows the total crimes for each measure since 1981. While there are differences between the two series, it is clear that crime rose in the 1980s and early 1990s and has fallen significantly in the 2000s.

Figure 2: Trends in crime, 1981-2014

Source: Crime in England and Wales, year ending March 2014.

The reduction in crime over the last few years has been observed across a wide range of crime categories. Table 1 documents the percentage falls in crime between 2008-09 and 2013-14 for a set of different offence categories. With one notable exception, crime has fallen across all categories.

The notable exception is sexual offences, where there has been a rise of 28% over the period. This is partly explained in terms of a rise in the probability of reporting such offences (and improved compliance with reporting standards by the police) rather than a straightforward rise in the number of offences, though it is hard to attribute the exact extent of this effect (note that the Crime Survey of England and Wales does not ask about sexual offences).
One other important point to note is that crime here is measured by counts of offences. One might also be interested in the ‘size’ of the offence – for example, an internet scam may be a much more serious offence in terms of losses and victims than a chip-and-pin offence. There are no reliable publicly available data that give a sense as to trends in the severity of crime.

Table 1: Percentage changes in crime between 2008-09 and 2013-14

<table>
<thead>
<tr>
<th></th>
<th>2008-09</th>
<th>2013-14</th>
<th>Percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Police recorded crime</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4,703</td>
<td>3,718</td>
<td>-20.9%</td>
</tr>
<tr>
<td>Violence against the person</td>
<td>709.0</td>
<td>634.6</td>
<td>-10.5%</td>
</tr>
<tr>
<td>Robbery</td>
<td>80.1</td>
<td>57.8</td>
<td>-27.8%</td>
</tr>
<tr>
<td>Sexual offences</td>
<td>50.2</td>
<td>64.2</td>
<td>+27.9%</td>
</tr>
<tr>
<td>Burglary</td>
<td>581.6</td>
<td>443.2</td>
<td>-23.8%</td>
</tr>
<tr>
<td>Criminal damage and arson</td>
<td>930.3</td>
<td>506.2</td>
<td>-45.6%</td>
</tr>
<tr>
<td><strong>Crime Survey of England and Wales</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10,283</td>
<td>7,333</td>
<td>-28.7%</td>
</tr>
<tr>
<td>Violence</td>
<td>1,774</td>
<td>1,327</td>
<td>-25.2%</td>
</tr>
<tr>
<td>Robbery</td>
<td>262</td>
<td>166</td>
<td>-36.6%</td>
</tr>
<tr>
<td>Domestic burglary</td>
<td>991</td>
<td>785</td>
<td>-20.8%</td>
</tr>
<tr>
<td>Vehicle-related theft</td>
<td>1,447</td>
<td>934</td>
<td>-35.5%</td>
</tr>
</tbody>
</table>

*Source:* Crime in England and Wales, year ending March 2014. Figures are in thousands.

Finally, the downward trend in crime that has occurred in England and Wales over the last decade has been, more or less, reflected across the developed world. Figure 3 shows the annual percentage change in the burglary rate for a broad set of countries over the period from 2003 to 2012. England and Wales experienced one of the largest falls (from a reasonably high rate by international standards), but there were falls in almost all countries. This strongly suggests that at least some of the decline in crime has been as a result of changes that are not unique to the UK.
**Figure 3: Annual percentage changes in burglary rate, 2003-12**

Source: United Nations Office on Drugs and Crimes.

**More with less?**

It is perhaps surprising that crime has continued to fall, given the substantial reductions in headcount that police forces have witnessed in the last few years. Since the peak of 2009, the total number of police officers in England and Wales has fallen by 16,000 – a drop of 11%. Police officer numbers are now back to the level seen at the end of the 1990s, as shown in Figure 4.

To an extent, police forces have managed to protect front-line policing by making more substantial headcount reductions in non-officer numbers. So over the same period, there has been a 19% reduction in police staff and a 23% fall in the number of PCSOs. At the other end, there has been a substantial delayering of management, with a 25% drop in the superintending ranks.
Figure 4: Police officer numbers, England and Wales, 1996-2014

The research evidence tends to suggest that when there are more police on the street, there is less crime. This may seem obvious, but the difficulty is that police officer numbers often change in response to crime trends, so cause and effect is often difficult to identify.

An investigation of surges in the number of police personnel deployed after the 7/7 terrorist attack in London in 2005 suggests that there are large effects of police patrolling the streets on crime (Draca et al, 2011). This research compares differences in crime rates in Central and Outer London before and after the terrorist attack, and finds that they fell by about 10% where there was a sizable (over 30%) increase in the number of police officers deployed.

But it is not just the number of police officers that matter: equally important are what they are doing and how effectively they are doing it. Evidence from the Street Crime Initiative in 2002 finds that a policy of allocating extra money to some forces to combat robbery reduced such crimes by about 20% (Machin and Marie, 2011). Interestingly, the effect appears to have come not just from having additional manpower but also from the introduction of innovative police practices, such as greater and more systematic inter-agency co-operation.

More generally, evidence suggests that strategies such as hot-spots policing – which exploits the fact that a large share of crime often occurs in very localised areas – can be effective in reducing crime (Braga, 2007).

There is also evidence that targeting and monitoring individuals who are responsible for committing large volumes of offences in their communities can reduce crime (Machin et al, 2014). Examination of the effect of early introduction of the Prolific Offender Strategy in 2002

Source: Crime in England and Wales, year ending March 2014.

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2 This was a strategy to target known prolific and priority offenders by establishing multi-agency partnerships in local areas to focus on prevention, conviction and rehabilitation.
certain areas of the UK before it was rolled out nationally in 2004 indicates that it had a substantial impact on reducing burglaries, the crime that these types of offenders are most likely to commit.

Overall, the evidence shows that what police do seems at least as important as police numbers. Improvements in policing strategy, often driven by increased availability of data, can have substantial effects on productivity.

**Fewer criminals, fewer opportunities?**

There is a large body of research evidence showing that education and labour market opportunities influence criminal behaviour. All else equal, those who did badly at school and who face a bleak labour market are more likely to commit crime. For property crimes, the potential relative rewards for such marginal individuals are higher, and may easily outweigh the returns to legitimate work or the alternative of unemployment.

The fact that there is a strong empirical link between a lack of labour market opportunities and crime, might have suggested that crime would have risen as a result of the global financial crisis in 2008-09 and during the subsequent recession and anaemic recovery in the UK. Two points suggest that this may be too simplistic:

- First, unemployment did not rise as substantially as many expected and is now back at similar levels to those observed pre-crisis.

- Second, those at the very bottom of the income distribution have been protected somewhat as a result of the minimum wage and some pay policies that gave annual cash increases favouring the low paid.

Increasing levels of educational attainment for children in the UK are also likely to have reduced criminality over time. There is evidence that the increase in the compulsory school leaving age from 15 to 16 in England and Wales, which occurred in the 1972-73 school year, had important long-term crime-reducing effects (Machin et al, 2011). With over 40% of 18 year olds now attending university, there is a much smaller group of youths who are at risk of leaving school with no qualifications and facing the starkest trade-offs between crime and legitimate work.

More generally, the evidence seems to suggest that younger cohorts are becoming more sober – in all senses of the word. Alcohol consumption among the young seems to be declining, with a 40% rise in the proportion of young adults who report that they do not consume alcohol at all between 2005 and 2013. Teenage pregnancies are at their lowest level since 1969, and persistent truancy from secondary schools has fallen from 10.2% in 2008-09 to 6.4% in 2012-13.

There is no extant evidence that these changes in society have caused the reduction in crime rather than simply occurring at the same time as the fall in crime, but it is likely that such a mechanism exists.
Crime and technology

Crime can be reduced by technological change. We are all familiar with the number of CCTV cameras that cover our high streets and these are often used as evidence in court. They are also likely to deter crime – and given their prevalence, it seems unlikely that they simply displace crime to non-covered areas.

In contrast, there is evidence that technology that makes car theft harder has had a substantial effect on crime. The introduction of mandatory electronic engine immobilisers in the European Union is estimated to have reduced car theft by 40%, accounting for both the protective effect on cars with the device and the displacement effect on cars without the device (van Ours and Vollaard, 2015).

It is important to recognise, however, that technological change is not a one-way street. Indeed, the new forms of cybercrime show that there is increased opportunity for large-scale fraud as a result of the internet and, more disturbingly, increased potential for child exploitation. The police (and the authorities more generally) increasingly need to upgrade their skills to combat these latest forms of crime.

Conclusions

There have been welcome falls in crime over the last decade or so. The crime falls are evident however one measures crime and for most criminal offences – with the exception of sexual offences.

The fact that reductions in crime have occurred against a background of significant reductions in police headcount – and that they are seen in both recorded crime numbers and in victimisation counts – suggest that there has been an improvement in the way that the police are operating. In addition, more general trends suggest that crime would be falling anyway, due to secular trends that are seen both in the UK and overseas.

The projected further reductions in government spending for the next Parliament are likely to result in substantial further real-terms cuts in police budgets – as no party has thus far suggested ring-fencing the Home Office budget. It is hard to see how these cuts will be achieved without even further reductions in headcount.

Whether it is feasible for police forces to continue to make cuts without some deleterious effect on criminal activity is a key question on which policy-makers will need to focus. Our analysis suggests that increased knowledge transfer of best practice is likely to be crucial in further improving productivity, and the role of the new College of Policing in this aspect will be important.3

Other potential efficiency savings include increased co-operation between forces (for example, sharing of back-office operations) or indeed mergers – though the transitional costs of such structural change may be substantial.

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3 The College of Policing is the professional body for policing and, among other objectives, provides evidence-based analysis of the best ways to deliver policing (http://www.college.police.uk/Pages/Home.aspx).
Further reading


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Or Romesh Vaitilingam on 07768-661095 (romesh@vaitilingam.com)
Policy Area:

The Distribution of Living Standards

- Real wages + living standards
- Inequality
- Taxes
- UK cities
- Gender
11. Real Wages and Living Standards

Stephen Machin
CEP ELECTION ANALYSIS

Real Wages and Living Standards

- Real wages of the typical (median) UK worker have fallen by almost 10% since 2008. Compared with the trend of 2% yearly real wage growth (from 1980 to the early 2000s), this represents around a 20% shortfall. This recent experience is weaker than in the majority of other OECD countries.

- Very recently, real wage growth has started to pick up a little, but this is mainly due to falling price inflation, not improved nominal wage growth.

- Low wages have helped price workers into jobs. But some groups have been hit harder by the downturn: young workers in particular have suffered the ‘double whammy’ of greater falls in real wages and bigger rises in unemployment.

- Falls in real wages have occurred right across the earnings distribution.

- The post-2012 fall in unemployment has not yet had a discernible impact in fostering wage growth. In the recoveries from the 1980s and 1990s recessions, real wages grew as unemployment fell. This time, median real wages have actually dropped a little as unemployment has fallen.

- Median family incomes have not fallen by quite as much as median wages, in part due to the ‘automatic stabilisers’ like welfare benefits, but also through tax changes such as increases in the personal allowance.

- Falling real wages is a principal reason why the living standards of working age households are doing worse than before the crisis whereas pensioner households have fared much better.

- No party has a coherent policy on what can be done substantively to improve the real wage position of UK workers. Higher minimum wages, living wages and cajoling employers into paying more are unlikely to alter median wages.

- Labour market policy should be focused on improving the position of the young who have fared so badly in recent years.
Introduction

Since the global financial crisis, workers’ real wages and family living standards in the UK have suffered to an extent unprecedented in modern history. Real wages of the typical (median) worker have fallen by almost 10% since 2008; and real family incomes for families of working age by almost the same. This Election Analysis discusses what has happened to real wages and family incomes, and links the patterns of change to the current policy debate.

Falling real wages

Figure 1 shows that median real wages grew consistently by around 2% per year from 1980 to the early 2000s. There was then something of a slowdown, after which real wages fell dramatically when the economic downturn started in 2008. Since then, real wages of the median worker have fallen by around 8-10% (depending on which measure of inflation is used as a deflator – the consumer price index, CPI, or the housing cost augmented version CPIH\textsuperscript{1}). This corresponds to almost a 20% drop relative to the trend in real wage growth from 1980 to the early 2000s.

![Figure 1: Annual ASHE median real weekly earnings, 1980 to 2014](image)


\textsuperscript{1}CPIH is a new (since 2005), non-official, price index, which adds owner-occupiers’ housing costs to the CPI. The 2008-14 fall is -9.7% for CPI and -8.5% for CPIH.
Figure 2 focuses on the recent experience using monthly official average weekly earnings (AWE) numbers deflated by CPI. Growth in AWE outstripped consumer price inflation growth until June 2008. From July 2008 onwards (with the exception of two months, March and April 2010), real wages did not grow until the most recent October, November and December 2014 numbers. Growth in wages in the last quarter of 2014 just about crept above CPI growth, and this is mainly because price inflation has been falling, rather than arising from any notable strength in nominal wage growth.

![Figure 2: Three-month nominal AWE and CPI growth, 2002 to 2014](image)

**Figure 2: Three-month nominal AWE and CPI growth, 2002 to 2014**

<table>
<thead>
<tr>
<th>Month</th>
<th>3 Month Nominal AWE</th>
<th>3 Month CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-02</td>
<td>AWE To June 2008</td>
<td>CPI To June 2008</td>
</tr>
<tr>
<td>Jan-05</td>
<td>AWE From July 2008</td>
<td>CPI From July 2008</td>
</tr>
<tr>
<td>Jan-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec-14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes**: AWE and CPI numbers (three month averages) from ONS.

Table 1 shows variations across different groups of workers. Men have seen larger falls in real wages (12%) compared with a fall of 7% for women. The young have been hit hardest, with a 16% fall for those aged 18-24. Young people have faced a double whammy, taking the brunt of the unemployment increases that have occurred in this downturn (which overall have been more modest than in the previous two recessions of the early 1980s and 1990s), alongside big real wage falls.

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2 AWE is the average weekly earnings index produced by the Office for National Statistics (ONS).
3 These two months show growth because of the big fall in the corresponding months of the previous year, which was driven by bonuses falling that year (Taylor et al, 2014).
Table 1: Percentage falls in median real wages by group since 2008, ASHE

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>-10%</td>
</tr>
<tr>
<td>Men</td>
<td>-12%</td>
</tr>
<tr>
<td>Women</td>
<td>-7%</td>
</tr>
<tr>
<td>Age 18-24</td>
<td>-16%</td>
</tr>
<tr>
<td>10th Percentile</td>
<td>-10%</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>-11%</td>
</tr>
</tbody>
</table>

Notes: Updated CPI deflated numbers from Gregg et al (2014b).

Real wage falls have occurred right across the earnings distribution, dropping by 10% at the 10th percentile and 11% at the 90th percentile. Interestingly, these similar falls (and that of 10% at the median) imply that wage inequality, measured by the difference between the two, has not gone up during the downturn. This contrasts with long-run wage inequality trends since 1980, which peaked at the start of the downturn (Machin, 2011).

Since the global financial crisis, UK wages have fallen by more than in other OECD countries. Figure 3 uses comparable hourly earnings data for 2008 to 2013 for 26 countries. The UK’s relative performance is very poor, placing 23rd above only Hungary, the Czech Republic and Greece.

Figure 3: International real hourly earnings growth, 2008-13

Recent falls in unemployment

Figure 4 shows that the fall in unemployment that has occurred since 2012 has had no discernible impact on improving real wage growth. In the recessions of the early 1980s and 1990s, real wages grew as unemployment fell, but this has not happened so far. Median real wages have actually dropped a little as the unemployment rate has come down from its peak.

Figure 4: Median real wages and the unemployment rate, 1980 to 2014

Notes: Median wages from ASHE, ILO unemployment rates from ONS.

These overall patterns of change, when coupled with the UK’s continued poor productivity performance (see CEP’s Election Analysis on Productivity and Business Policies, 2015), do not paint a promising picture of wages picking up significantly during the election campaign and beyond.

Family income

Overall, median family incomes have not fallen by quite so much as median wages. Table 2 shows that median real (after-tax) income fell by 4% between 2007-08 and 2012-13. The smaller fall is partly due to the tax-benefit system’s automatic stabilisers (at the start of the downturn), to tax changes that increased the annual personal allowance (which in turn has reduced income tax receipts) and importantly because pensioner households have actually fared much better than working age households.

For a consistent definition between 2007-08 and 2012-13, there was a fall of 7% in real incomes for the working age group, while the pensioner age group experienced a 4% increase. The real
income gains of pensioners arise from three factors: first, state pensions were linked to inflation under the 'triple lock'; second, older workers were increasingly likely to be working in (mostly) part-time jobs; and third, as the personal allowance rose, this work income became less likely to be taxed.4

Table 2: Percentage changes in median real family income by group, 2007-08 to 2012-13

<table>
<thead>
<tr>
<th></th>
<th>2007-08 to 2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>-4%</td>
</tr>
<tr>
<td>Working age families</td>
<td>-7%</td>
</tr>
<tr>
<td>Pensioner families</td>
<td>+4%</td>
</tr>
</tbody>
</table>

Notes: Based on Family Resources Survey, from Belfield et al (2014) with additional numbers provided by Robert Joyce. Calculations of the percentage falls in median real income are after tax and before housing costs.

The clear picture, however, is that poor real wage performance has also mapped into reduced living standards measured by overall family income for the working age group. From the political perspective, falling real wages and reduced living standards are one and the same, and they can be traced back to worsening rewards for workers in the labour market.

The election context

All parties recognise that less money from work going into people’s pockets is an important political issue. That said, at the moment, none of the parties are particularly coherent on what can be done substantively to improve the real wage position of UK workers.

There are piecemeal policies on the table that could improve some aspects of the poor real wage position. Some policies that have been discussed are: higher national minimum wages; increases in minimum wages in higher cost areas (for example, ‘living wages’ in London); and employers taking on a responsibility to pay more (for example, firms who benefited from the recent oil price drop) or more generally sharing out more profits with all workers. For family income, there are also the usual ‘making work pay’ arguments around taxes and benefits. Some of these policies are potentially useful. But the real key to generating substantial gains that could make serious inroads into getting back to 2008 levels is raising productivity and, if a productivity boost does come, ensuring that workers across the entire wage distribution share in the gains. One worrying feature of research in this area suggests that well before the downturn, economy-wide median wage growth became more weakly correlated with economy-wide productivity growth.5

4 Giles (2015) has pointed out that the choice of different income measures (for example, before or after housing costs), inflation measure and how the most recently available 2012-13 Family Resources Survey numbers are uprated can result in different conclusions being drawn on what real income trends say about falling living standards. But the main point made here – that the trends in family incomes for working age households are more in line with wage trends – remains the case (and also the case, therefore, that pensioner families have done relatively better).

Increased productivity must be a necessary condition for a return to wage growth. Thus, policies to raise productivity – especially those linked to skills (for example, building human capital for those with poor basic and intermediate skills) – are important. But productivity improvements may be insufficient to raise wages if the benefits are mainly appropriated by shareholders or pensioners.

Even if average wages increase, these may benefit median workers by much less if wage inequality once again starts to rise. The ‘Britain needs a pay rise’ campaigns and even the discussion around raising the pay of workers in companies that have benefitted from the drop in the oil price are useful for policy debates to raise awareness on these issues.

Finally, improving the labour market prospects and opportunities for young people is an important policy aim. In the longer run, this is down to education and skill acquisition. But there are labour market policies – such as raising minimum wages and offering properly funded apprenticeship and vocational skills programmes – that could play a major role in repairing some of the damage done by the combination of sizable real wage falls and poor employment opportunities that have hit the wages and living standards of the young so badly.

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Further reading


12. Inequality: Are we really 'all in this together'?

Gabriel Zucman
CEP ELECTION ANALYSIS

Inequality: Are we really ‘all in this together?’

- The UK’s richest 1% have between 12.5% and 15.5% of all income. This is mid-way between the United States (with a top 1% share of 20%) and continental Europe (where in France and Spain, it is 8%). The income share of the UK’s top 1% has been rising steadily since the late 1970s, mainly due to labour income (wages) but also with a role for capital income (dividends, capital gains, housing rents, etc.).

- Wage inequality has steadily escalated for the top half of the earnings distribution. In 1978, the top 10% earned 1.6 times those in the middle. By 2013, this had risen to a factor of three to one.

- For the bottom half of wage earners, inequality expanded rapidly in the 1980s before stabilising for men from the mid-1990s and actually falling for women.

- Changing wage inequality is partly due to increased demand for skilled workers because of new technologies. But institutions such as unions and minimum wages also matter.

- In the 2008-09 crisis, inequality fell but it has been stable since then. Average wages and incomes have fallen for just about every group since the crisis. It is too soon to tell whether inequality will resume its rising trend as the economy fully recovers.

- Net income (after tax and benefits) is more equally distributed than pre-tax and benefit income. The richest fifth have 15 times the pre-tax income of the poorest fifth, but only four times as much after taxes and benefits. Nevertheless, the increase in post-tax income inequality has followed the same trends as that of pre-tax inequality.

- Modelling changes to direct taxes, tax credits and benefits since the coalition government came to power shows that overall policies have been mainly regressive. The bottom half of the income distribution lost more from cuts to tax credit and benefits than they gained from higher income tax allowances. Pensioners have done especially well compared with the young.

- The top 1% enjoy about 40% of capital income flows. There is much uncertainty on the stock of wealth inequality. Wealth will be increasingly important for inequality as it is rising faster than aggregate income, and the concentration of capital income is much greater than the concentration of labour income.

- To combat wage inequality, increasing skills, especially for the disadvantaged, is vital. In terms of capital inequality, Labour’s proposals to abolish non-domiciled residents’ tax status will reduce inequality, whereas the Conservatives’ policy of boosting inheritance tax allowances will increase inequality.
Introduction

In his March 2015 Budget speech, Chancellor George Osborne emphasised that austerity measures over the 2010-15 Parliament had been fairly shared: inequality had fallen and the British people were ‘all in this together’. This Election Analysis examines how the UK stands in terms of the levels and changes in inequality of pre-tax and benefit income, net incomes and wealth. It also explores the role of the coalition government’s policies in influencing these outcomes.

Trends in the distribution of pre-tax and benefit income

The UK has a high level of pre-tax income inequality. The share of taxable income earned by adults in the top 1% of the distribution has been in the range of 12.5% to 15.5% (see Figure 1). This is much higher than in most continental European countries – in France and Spain, for example, the income share of the top 1% is about 8% – but it is lower than in the United States, where the share is about 20%.

The share of the top 1% was about 6% in the 1970s, but it has been rising ever since. There was a particularly strong rise in the decade leading up to the financial crisis of 2008-09. Two thirds of the growth in the share of the top 1% appears to be due to bonuses in the financial sector (Bell and Van Reenen, 2014).

The measured share of the top 1% fell in 2009-10, but this was heavily influenced by bringing forward income in advance of the introduction of the tax on bankers’ bonuses and the new 50% additional tax rate. The shares for the following years were correspondingly reduced (see CEP’s Election Analysis on top taxes – Manning, 2015). It is too soon to tell whether the financial crisis marks the end of increasing shares of the top 1% or if inequality will resume its rising trend once aggregate wages start growing again.
Figure 1: Rising pre-tax and transfer income inequality in the UK, 1970 to 2011

Notes: Data from the World Top Income Database (http://topincomes.parisschoolofeconomics.eu/). The series has a break in 1990 (change in tax units from family to individual basis). The top income shares estimates for 2009-10 were affected by a significant bringing forward in that year in advance of the introduction of the 50% top tax rate; the shares for the following years were correspondingly reduced.

Tax data are likely to underestimate the extent of inequality among residents of the UK. Non-domiciled (‘non-dom’) residents who choose to be taxed on a ‘remittance basis‘ only pay taxes on the (possibly very low) fraction of their income brought into the UK. In other words, the dividends, interest, and capital gains earned on their foreign stocks and bonds are tax-exempt if not transferred to a UK bank account. There is no other large economy with a comparable tax provision.

The number of non-doms has risen from 83,000 in 1997 to 114,800 in 2012-13.¹ The 46,700 non-doms who use the remittance basis must pay an annual flat tax (£30,000 if resident for seven years, £60,000 after 12 years and £90,000 after 17 years). This status is obviously only advantageous to wealthy individuals. With the data currently available, it is not possible to estimate the worldwide income of non-doms, but it might be large enough to affect the top 1% income share reported in Figure 1 significantly.

Labour have promised to abolish non-dom status except for short-term residents. This could potentially raise revenue of £1 billion and end an anachronistic system. But some non-doms might respond by leaving the country, although there is no compelling evidence that such migration responses would be large. This would reduce wealth inequality, but it would also reduce tax revenues.

Rising labour income inequality

The rise of overall inequality is clearly related to a rise in wage earnings inequality. Figure 2 shows the ratio of earnings at the top decile (the person 10% from the top) to the median earnings (the person in the middle of the distribution) expressed as a percentage. Earnings at the top of the distribution have been rising faster than median earnings: the 90-50 ratio has increased from 165% in 1978 to 197% in 2013.

Figure 2: Rising wage inequality at the top in the UK, 1970 to 2013

The picture is more nuanced in the bottom half of the earnings distribution. Figure 3 compares inequality of hourly wages for those in the top half (‘90-50’ as in Figure 2) with inequality in the bottom half, the median relative to the bottom 10% (‘50-10’) for men and women separately.

Inequality in both halves of the distribution moved in tandem in the 1980s. But from the mid-1990s, inequality stopped rising in the bottom half of the distribution for men and it actually fell for women. The introduction of the National Minimum Wage in 1999 has been an important factor in reducing inequality for low paid women (especially part-timers).²

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² See CEP’s Election Analysis on gender gaps in the labour market for more details – Azmat, 2015.
Figure 3: Inequality of hourly wages in the top half (‘90-50’) and bottom half (‘50-10’) of the earnings distribution

**Source:** NES/ASHE. The 90-50 is the proportionate difference of hourly wages for workers at the 90th percentile of the distribution compared with those at the median. The 50-10 is the proportionate difference of hourly wages for workers at the median of the distribution compared with those at the 10th percentile of the distribution.
An important factor in rising inequality is an increase in the wage premium for higher education. This has come in spite of an enormous increase in the fraction of workers with an undergraduate degree (which went from 4.7% in 1979 to 28.5% in 2011 – see CEP’s Election Analysis on higher education – Wyness, 2015). This indicates that the demand for human capital has continued to rise strongly over the last 40 years. This seems to be less a result of increasing trade with less developed countries like China, but is mainly linked to technological change, which has tended to increase the value of general skills (see, for example, Michaels et al, 2014).

During the financial crisis and its aftermath, real wages fell across the spectrum, as Table 1 shows. For all workers, median real wages fell by 10% between 2008 and 2014, and the fall was roughly the same at the 10th and 90th percentiles of the distribution. The most heavily affected group was workers aged 25 and younger, for whom median real wages fell 16% (see CEP’s Election Analysis on real wages and living standards – Machin, 2015).

Table 1: Percentage falls in median real wages by group since 2008, ASHE

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>-10%</td>
</tr>
<tr>
<td>Men</td>
<td>-12%</td>
</tr>
<tr>
<td>Women</td>
<td>-7%</td>
</tr>
<tr>
<td>Age 18-24</td>
<td>-16%</td>
</tr>
<tr>
<td>10th percentile</td>
<td>-10%</td>
</tr>
<tr>
<td>90th percentile</td>
<td>-11%</td>
</tr>
</tbody>
</table>

Notes: Updated numbers from Gregg et al (2014). The Table uses Annual Survey of Hours and Earnings (ASHE) data.

Rising capital inequality

Capital is poorly reported in survey data and we know less about trends in capital inequality than trends in labour income inequality. Taxable capital income is extremely concentrated. Using a sample of tax returns (the Survey of Personal Income), Alvaredo et al (2015) find that the top 1% individuals earned about 40% of all taxable capital income in 2010 (the latest available data point), whereas the share was only 35% in the late 1990s. This is as much as in the United States, a country with considerable capital income and wealth concentration (Saez and Zucman, 2014).

Does the large concentration of capital income (a flow) mean that wealth (a stock) is also very unequally distributed? Capital income is equal to wealth times the rate of return to wealth. The high and rising concentration of capital income therefore has two possible causes: either the inequality of wealth is high and rising; or the inequality of rates of return to wealth is high and rising (or both). With the data currently available, it is not possible to disentangle the two possible effects.3

3 In the Wealth and Asset Survey, the top 1% share of wealth is about 13%. This is much lower than capital income and may be because the survey does not get enough responses from the richest individuals (the overall response rate was 64% in 2010-2012). For more analysis on the Wealth and Asset Survey, see CEP’s Inequality video: https://www.youtube.com/watch?v=tvN8zvoDrY.
Capital may well play an increasingly important role in the distribution of economic resources in the future (Piketty, 2014). At the macroeconomic level, the ratio of wealth to income has grown significantly in the UK over the past decades (see Figure 4). In the 1970s, private wealth was the equivalent of three years of national income (the wealth/income ratio was 300%); this ratio has increased to 560% in 2013.

One of the key factors behind the rise in the wealth-income ratio is the increase in house prices (see CEP’s Election Analysis on Housing – Hilber, 2015). The rising importance of real estate means that a growing fraction of national income derives from housing rents. In the early 1970s, rents accounted for 2% of national income, but this had risen to 7% by 2013. The growth has accelerated in recent years, as housing rents increased much faster than national income during the crisis.

Apart from the non-dom issue discussed above, another policy to reduce wealth inequality would be to increase inheritance taxes. The Conservatives’ policy is to move in the opposite direction, allowing main residences to be exempt from inheritance tax when they are passed on to children – a total allowance of £1 million for a couple, twice as generous as today’s levels. The children of those with estates in the £1-2 million range will benefit most from these changes, which will benefit families at top of the distribution the most and therefore aggravate wealth inequality.

Figure 4: Rising wealth-to-income ratio in the UK, 1970 to 2013

The wealth-income ratio, 1970-2013

Notes: Figures updated from Piketty and Zucman (2014).
Trends in net income inequality (post-tax and transfer)

Taxes and benefits lead to income being shared more equally between households. Before taxes and benefits, the richest fifth of households have incomes almost 15 times greater than the poorest fifth, but after all taxes and benefits are taken into account, this ratio is reduced to four-to-one.

As with pre-tax income, inequality of disposable income has risen since the 1970s. It increased a lot in the 1980s, and then was stable, growing only slightly. As Figure 5 shows, the Gini coefficient\(^4\) is now around 10 percentage points higher than in 1980.

### Figure 5: Rising inequality of disposable (after tax and benefit) income

![Graph showing rising inequality of disposable income](image)

**Notes:** Gini coefficient of equalised (modified OECD scale) disposable household income for all persons in the UK (Great Britain up to 2001-02) from Family Expenditure Survey from 1961 up to financial year 1993/4 (calendar years up to 1992), thereafter from the Family Resources Survey.

Breaking this down in more detail, Figure 6 shows that between 1996-97 and 2009-10, there was a moderate increase in inequality. Although income rose across the distribution, it was slowest in the bottom decile (1% per year) and fastest in the top decile (2% per year). In contrast, inequality fell in the depths of the Great Recession, with the bottom decile staying the same and the top decile taking a 7% cut in net income. Between 2010-11 and 2012-13, incomes fell by 1-2% yearly almost equally across the entire distribution.

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\(^4\) The Gini coefficient is a measure of income inequality: Gini coefficients can vary between 0 and 100 and the lower the value, the more equally household income is distributed.
The effect of policies on net income distribution

Although there has been little change in inequality since the coalition government came to power, this outcome is due to a combination of changes in the economy, policies inherited from Labour and new policies introduced. The latter are hard to assess fully since detailed distribution data is only available through to 2012-13.

There have been several important policy changes (see Hills, 2015, for more details):

- First, the personal allowance has been steadily increased (to £10,500 in 2015-16).
- Second, the uprating of working age benefits was tied to the consumer prices index (CPI) rather than the retail prices index (RPI) since 2010. Since the CPI increases more slowly than the RPI, this will reduce the value of benefits. But since real wages have fallen by 8-10% since 2008 (see Table 1), uprating benefits with prices protected these groups more than workers.
- Third, the state pension is under a ‘triple lock’, increasing by whatever is greater among the CPI, average wages or 2.5%. This has led to a generous deal for pensioners.
- Fourth, working age benefits were cut in real terms from 2012.
Figure 7 shows changes in real spending across three groups: families with children, other working age benefits and pensioners since 1997. Pensioners have had steady increases in real spending throughout this time period, although there is a larger upwards blip at the end. Families with children did very well during the Labour years thanks to increased in-work benefits (Working Family Tax Credit and its successors) and lone parent benefits. Since 2010, these benefits have been scaled back. Real spending on families with children has fallen. Finally, other adult benefits fell 1997-2007 due to a strong labour market and reduced generosity of unemployment benefits. By contrast, when the recession hit, spending on these benefits increased as more people were unemployed.

**Figure 7: Changes in spending on social security and tax credits since 1996-97 (Great Britain)**

![Graph showing changes in spending on social security and tax credits](http://www.casedata.org.uk/show-chart?id=cash-benefits/full/figure/1b)

**Source:** Hills (2015), Figure 1(b) [http://www.casedata.org.uk/show-chart?id=cash-benefits/full/figure/1b](http://www.casedata.org.uk/show-chart?id=cash-benefits/full/figure/1b)

**Notes:** Shows changes in spending from direct taxes, tax credits and benefits relative to 1996-97. £billion in 2009-10 prices.

Hills (2015) reports a simulation model of the effects of tax and benefit policy changes from May 2010 onwards (see Figure 8). The measures have been mainly regressive. On average, those below median income have suffered losses due to policy changes, especially the bottom 10%. The main gains are those above the median to around the 90th percentile. The top 5% are about the same and the next 5% have slightly lost out.
Looking ahead, there are several changes that are likely to make net income inequality worse. For example, there will be a cap on the overall level of welfare and a £26,000 limit on how much benefits can be claimed per household. The effects of tying benefits to the CPI will depress the real value of the benefits as wages start recovering.

Conclusions
Inequality in pre- and post-tax income has risen remarkably in the UK since the late 1970s. Much of this was because of changes in labour market income, but increasing capital income inequality is also becoming important. Inequality growth was strongest in the 1980s, but has continued steadily for those in the top half of the income distribution (especially the top 1%).

Inequality of net income fell in the crisis as the welfare system ‘did its job’. But there are signs that it is rising once again and the tax and benefit changes since 2010 have been largely regressive. Perhaps the main cleavage is between pensioners who have done relatively well compared with those of working age, especially the young and households with children.
Further reading


13. Top rate of income tax

Alan Manning
The Top Rate of Income Tax

- In 2010, Labour raised the top rate of income tax (the ‘additional rate’) from 40% to 50% for those with taxable income over £150,000. The personal allowance was phased out for those with income above £100,000, leading to a marginal tax rate of 60% for the affected workers.

- The coalition government reduced the additional rate to 45% in 2013 but retained the phase-out of the personal allowance.

- In the current election campaign, the Labour manifesto proposes to restore the 50% rate for those with taxable income over £150,000 while the Greens propose to raise it to 60%. The UKIP manifesto mentions the ambition to lower the rate to 40%. The Liberal Democrat and Conservative manifestos do not mention the top rate of tax, though it was widely reported that the Conservatives wanted a rate of 40% when the rate was reduced in 2013.

- In 2012-13, only 0.9% of taxpayers (273,000 people) had taxable income above £150,000. They received 11% of total taxable income and paid 25% of income tax.

- Compared with the average taxpayer, top taxpayers are male, aged 35-54, living in London and the South East, working in finance, and company directors.

- Reported taxable income falls as tax rates increase. So rises in the top tax rates bring in less government revenue than one would predict assuming taxable income does not respond. Indeed, tax revenue might even fall.

- The magnitude of this change is very unclear. For example, a change from the current rate of 45% to 50% would bring in an extra £1-1.8 billion in income tax in 2014-15 using HMRC estimates. But there are likely to be changes in national insurance receipts, VAT receipts and other taxes if income is shifted to other sources. A pessimistic evaluation of all the effects might suggest a fall of £0.4 billion but an optimistic evaluation might suggest a rise of £2.8 billion.

- Taxable income falls after tax rates rise because (i) people work less so earn lower incomes and/or (ii) people spend more resources on avoidance and even evasion, which can take many forms.

- Theory and evidence both show that the level of work of high paid employees hardly responds to changes in tax rates (there is no reliable evidence for the self-employed).

- There is clear evidence that avoidance responds to changes in tax rates, for example, shifting income between tax years and income types in response to changes in tax rates. Avoidance is probably the main problem when raising the top rate of income tax.

- Evidence from other countries suggests that making avoidance harder and high rates of tax are complements to each other.
Introduction

In the 1970s, the highest rate of income tax on earned income was 83%. Margaret Thatcher’s government reduced it to 60% in 1980 and 40% in 1989 (equal to the higher rate). From 1989 to 2010, the highest rate of income tax remained at 40% and this was not a live political issue.

But the marked rise in income inequality in recent decades together with the deterioration of the public finances after the financial crisis led the Labour government to raise the top rate to 50% (the ‘additional rate’) for those reporting taxable income in excess of £150,000 per annum, taking effect in April 2010. At the same time, the personal allowance was reduced for those with income above £100,000 leading to a marginal tax rate of 60% for those who were affected – those with incomes between £100,000 and £120,000.

The coalition government published a review of the revenue effect of this in March 2012. Based on that analysis, they announced a cut in the top rate to 45%, taking effect in April 2013.

In the current election campaign, the Labour manifesto proposes to restore the 50% rate for those with taxable income over £150,000 while the Greens propose to raise it to 60%. The UKIP manifesto mentions the ambition to lower the rate to 40%. The Liberal Democrat and Conservative manifestos do not mention the top rate of tax, though it was widely reported that the Conservatives wanted a rate of 40% when the rate was reduced in 2013.

The additional rate in national and international context

The highest marginal income tax rates in selected countries in 2013 are shown in Table 1. The UK is the lowest among these countries, but the rates are quite similar. The academic discussion focuses not on the top tax rate but on the overall tax burden, including employer and employee national insurance contributions, and indirect taxes like VAT. This is used to produce a measure of what is called the marginal effective tax rate (METR – see Annex for details). The METR measures the fraction of what one produces that is claimed by the government taking account of all taxes. The second column of Table 1 shows an estimate of this for top earners and the third column for someone at average earnings.

<table>
<thead>
<tr>
<th>Country</th>
<th>Highest tax rate</th>
<th>Marginal effective tax rate (top 1%)</th>
<th>Marginal effective tax rate (average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>45.0%</td>
<td>60.4%</td>
<td>49.1%</td>
</tr>
<tr>
<td>United States</td>
<td>46.3%</td>
<td>51.4%</td>
<td>44.7%</td>
</tr>
<tr>
<td>France</td>
<td>54.5%</td>
<td>69.2%</td>
<td>67.2%</td>
</tr>
<tr>
<td>Germany</td>
<td>47.5%</td>
<td>55.9%</td>
<td>66.6%</td>
</tr>
<tr>
<td>Denmark</td>
<td>56.2%</td>
<td>65.0%</td>
<td>53.8%</td>
</tr>
<tr>
<td>Sweden</td>
<td>56.7%</td>
<td>73.6%</td>
<td>58.4%</td>
</tr>
<tr>
<td>Japan</td>
<td>50.8%</td>
<td>53.9%</td>
<td>39.2%</td>
</tr>
</tbody>
</table>


Table 2: Indicative marginal and average tax levels for selected levels of earnings, UK, 2014-15

<table>
<thead>
<tr>
<th>Taxable Income</th>
<th>Percentile of earned income distribution</th>
<th>Marginal income tax rate</th>
<th>Marginal NI rate (employee only)</th>
<th>Combined marginal tax rate</th>
<th>Average income tax</th>
<th>Average NI rate</th>
<th>Total average tax rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>£22004</td>
<td>50</td>
<td>20%</td>
<td>12%</td>
<td>32%</td>
<td>11%</td>
<td>9%</td>
<td>19%</td>
</tr>
<tr>
<td>£30945</td>
<td>75</td>
<td>20%</td>
<td>12%</td>
<td>32%</td>
<td>14%</td>
<td>9%</td>
<td>22%</td>
</tr>
<tr>
<td>£48250</td>
<td>90</td>
<td>40%</td>
<td>2%</td>
<td>42%</td>
<td>19%</td>
<td>9%</td>
<td>27%</td>
</tr>
<tr>
<td>£105000</td>
<td>97</td>
<td>60%</td>
<td>2%</td>
<td>62%</td>
<td>31%</td>
<td>5%</td>
<td>36%</td>
</tr>
<tr>
<td>£122000</td>
<td>99</td>
<td>40%</td>
<td>2%</td>
<td>42%</td>
<td>35%</td>
<td>5%</td>
<td>40%</td>
</tr>
<tr>
<td>£150000</td>
<td>45%</td>
<td>2%</td>
<td>47%</td>
<td>36%</td>
<td>4%</td>
<td>4%</td>
<td>42%</td>
</tr>
<tr>
<td>£200000</td>
<td>45%</td>
<td>2%</td>
<td>47%</td>
<td>38%</td>
<td>4%</td>
<td>2%</td>
<td>46%</td>
</tr>
<tr>
<td>£1,000,000</td>
<td>45%</td>
<td>2%</td>
<td>47%</td>
<td>44%</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: This excludes the employer NI contributions, currently at 13.8%. Percentiles taken from ASHE. This assumes all income is earned as an employee.

Table 2 shows the marginal and average tax rates for income tax payable in the UK for selected levels of earned income. The phase-out of the personal allowance for those with taxable income above £100,000 causes this group to face a marginal tax rate of 60%, considerably above the marginal rate for other high earning workers. This is an undesirable anomaly.

Who pays the additional rate?

HMRC reports that there were 273,000 income taxpayers in the tax year 2011-12 with reported taxable income above £150,000 and hence liable for the additional 50p rate, out of a total of 30.6 million taxpayers. So 50p taxpayers represented 0.9% of all taxpayers.

In 2012-13, additional rate taxpayers received 11.1% of total taxable income. After income tax, they received 8.2% of total after tax income. They paid about 25% of all income tax. Income tax is about 25% of total tax revenue.

Compared with other taxpayers, the top 1% (which is almost identical to the additional rate taxpayers) are more likely to be male, aged 35-54, in London and the South East, working in financial services, and self-employed or the director of a company. The average reported taxable income of the 1% is over £255,000, of which about 90% is earned income and 10% is investment income.

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2 Source is https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/403272/Income_Tax_Liabilities_Statistics_-_February_2015.pdf. Many statistics are reported for the top 1% of taxpayers though this group is not exactly the same as the additional rate taxpayers.
Table 3: Top rate taxpayers compared with other income taxpayers

<table>
<thead>
<tr>
<th>Taxable income</th>
<th>More than £150k</th>
<th>Less than £150k, more than £100k</th>
<th>Less than £100k, more than £75k</th>
<th>Less than £75k, more than £50k</th>
<th>Less than £50k</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of total taxpayers</td>
<td>0.6</td>
<td>0.7</td>
<td>1.1</td>
<td>3.4</td>
<td>94.3</td>
</tr>
<tr>
<td>% male</td>
<td>86</td>
<td>80</td>
<td>77</td>
<td>73</td>
<td>52</td>
</tr>
<tr>
<td>% aged &lt;35</td>
<td>7</td>
<td>8</td>
<td>12</td>
<td>15</td>
<td>32</td>
</tr>
<tr>
<td>% aged 35-54</td>
<td>67</td>
<td>64</td>
<td>62</td>
<td>60</td>
<td>35</td>
</tr>
<tr>
<td>% aged 55+</td>
<td>26</td>
<td>28</td>
<td>26</td>
<td>26</td>
<td>33</td>
</tr>
<tr>
<td>% London &amp; South East</td>
<td>55</td>
<td>44</td>
<td>43</td>
<td>38</td>
<td>26</td>
</tr>
<tr>
<td>% finance</td>
<td>29</td>
<td>15</td>
<td>14</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>% professional</td>
<td>21</td>
<td>19</td>
<td>17</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>% self-employed</td>
<td>33</td>
<td>26</td>
<td>16</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>% directors</td>
<td>22</td>
<td>22</td>
<td>17</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Average total taxable income (£k)</td>
<td>344</td>
<td>120</td>
<td>86</td>
<td>59</td>
<td>15</td>
</tr>
<tr>
<td>Average total earned income</td>
<td>311</td>
<td>105</td>
<td>76</td>
<td>54</td>
<td>14</td>
</tr>
<tr>
<td>Average total investment income</td>
<td>33</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Average total tax paid</td>
<td>133</td>
<td>36</td>
<td>22</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Income tax paid as % of taxable income</td>
<td>38.7</td>
<td>30.0</td>
<td>25.6</td>
<td>20.7</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Source: Author’s calculations from Survey of Personal Incomes, 2010-11. Note that reported taxable income (and especially investment income) for the highest earners in this year is probably artificially reduced because this was the first year of the additional rate – see Table 4 below.

Economic analysis of the top rate of tax

The main aim of increasing the top rate of tax is to raise revenue at a time when the public finances are in poor shape. So how much revenue is raised is a key question. A naïve approach to computing the revenue raised from the 50p rate would be to add up all taxable income above £150,000 at the old rate and multiply this by the increase in the tax rate – this is called the pre-behavioural yield by HMRC.3

HMRC currently forecasts it will raise £30.3 billion in 2014-15 from the additional rate,4 and a rise of the top tax rate from 45% to 50% would lead to a rise in income tax revenues of about £3.3 billion if reported taxable income did not fall as the tax rate rose. But there is good evidence that a behavioural response leads to a smaller tax take than the pre-behavioural yield would suggest.

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3 The academic literature tends to call this the mechanical revenue effect.
First evidence for a behavioural response?
The simplest way to show a behavioural response is to show that there is bunching of reported taxable income at the points where tax rates change, as it is hard to explain this except as a behavioural response to taxes. Figure 1 presents the distribution of taxable incomes for incomes above £20,000 per annum in the UK in the tax years 2009-10 and 2010-11. They are shown separately for employees and the self-employed/directors. The red lines correspond to the points where the tax rate changes – the start of the higher rate, the point where the personal allowance starts to be phased out and the introduction of the additional rate. The last two lines only apply in the tax year 2010-11.

For the self-employed/directors, there is clear bunching and evidence of bunching in 2010-11 that did not exist in 2009-10 and which reflects changes to the tax system in 2010-11. It is clear that there is a behavioural response. For employees, there is little if any evidence of bunching perhaps, suggesting a smaller behavioural response for this group.

![Figure 1: Bunching in reported taxable income](image)

Source: Author’s calculations from the Survey of Personal Incomes, an administrative dataset.

The size of the behavioural response
The most common measure of the behavioural response is the elasticity of taxable income with respect to one minus the marginal tax rate – this measures the percentage reduction in reported taxable income for a 1% fall in 1 minus the marginal effective tax rate. The higher

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5 See Saez (2010) for a more detailed explanation of this.
6 See Saez et al (2012) for a survey of this concept and evidence on it.
the elasticity of taxable income, the lower the tax rate that maximises revenue (often known as the ‘Laffer rate’). More details on this are in the Annex.

One would not want a rate higher than the Laffer rate, but one might choose a lower rate if one thought that taxes at the top should not just be set to maximise revenue.

There is ample evidence that reported taxable income does vary with tax rates but the size of the estimated elasticity varies considerably across different types of workers (typically being higher for the self-employed), different types of income (typically being higher for investment income than labour income) and in different tax systems (typically being higher in tax systems that give more opportunity for avoidance and evasion).

For the UK, we have a number of estimates but most do not go much further than ‘back-of-the-envelope’ and all emphasise the large degree of uncertainty in the estimate. Brewer et al (2010) estimate an elasticity of taxable income of 0.46 based on the changes in top tax rates in the 1980s. A similar estimate was used by HMRC and the Office for Budget Responsibility (OBR) in their analysis of the 50p rate. In contrast, the 2010 Budget that proposed the 50p rate used an elasticity of 0.35 based on studies from other countries.

But there is considerable uncertainty about the elasticity and other underlying assumptions behind these calculations. The Annex shows how calculations of the Laffer rate depend on a lot of things about which we know very little and that it is not possible to answer questions such as ‘how much extra revenue would be raised by raising the top rate from 45% to 50%?’ with any degree of confidence. Similarly, estimates of the total impact on government revenues are also very uncertain.

Nevertheless, it is possible to consider a range of estimates. The HMRC and OBR forecasts relate to the consequences for income tax receipts from those paying the additional rate – this can be estimated simply once one assumes a value for the elasticity of taxable income. Based on the HMRC forecasts of incomes in 2014-15, a rise of the additional rate to 50% from the current 45% would raise income tax receipts by £1 billion if the elasticity of taxable income were 0.45, and by £1.8 billion if it were 0.3. If one takes account of changes in national insurance payments, the change in receipts would be £0.5 billion or £1.5 billion.

But there are also consequences for other tax receipts. If the lower taxable income is shifted to other sources where it is taxed, then tax revenue from other sources will change. But if total post-tax income changes, consumption might also change and, hence, indirect tax receipts.

If one wanted to make a pessimistic evaluation of a move from 45% to 50%, one might assume a high elasticity of taxable income – that none of the reduction in taxable income shows up as income elsewhere and that consumption falls one-for-one as taxable income falls. In this case the rise from 45% to 50% would reduce total tax revenues by about £0.5 billion.

On the other hand, if one wanted to make an optimistic evaluation of a move from 45% to 50%, one might assume a low elasticity of taxable income, that all of the reduction in taxable income shows up as income elsewhere where it is taxed at a high rate and that all variation in income for high earners results in changes in savings. In this case, one could argue that total...
tax revenues would rise by about £2.5 billion. A wide range of intermediate outcomes are possible – this is discussed in the Annex.

The causes of the behavioural response
There are a number of reasons why taxable income may respond to changes in tax rate:

a. Labour supply responds: for example, people work fewer hours, put in less effort, retire earlier or emigrate.
   b. People spend more resources on tax avoidance and even evasion.

The evidence for the UK is that the avoidance/evasion response is more important than the labour supply response.

The impact of tax rates on hours and effort
In the economic analysis of labour supply, the impact of a change in tax rates is often divided into an income effect and a substitution effect. The substitution effect of a higher tax rate is that the post-tax real hourly wage falls, which means an extra hour of labour can buy fewer goods and services and tends to reduce hours of work and effort. The income effect is that a rise in taxes means that fewer goods can be bought overall which tends to increase hours of work. The theoretical prediction about the impact of a rise in taxes on hours of work is ambiguous.

The coalition government’s assessment of the 50p rate argued that ‘most evidence for high earners suggests the substitution effect may outweigh the income effect i.e. the overall effect of a tax rate increase on labour supply is negative’. For employees, the data do not support this position. A rise in the marginal tax rate for the highest earners would reduce their post-tax hourly earnings to the level of those slightly lower in the current earnings distribution so it is reasonable to suppose their hours would be similar to those worked for that group.

Figure 2 plots average hours of work against percentile in the earnings distribution. Above the median, it is clear there is no relationship between post-tax hourly earnings and hours of work.

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Figure 2: Average hours of work across the distribution of earnings: UK, 2013

Source: Author’s computations from Annual Survey of Hours and Earnings.

Figure 3: Changes in post-tax real hourly earnings and average hours for the median and top 1%

Source: Author’s computations from Annual Survey of Hours and Earnings.

Figure 3 plots average real post-tax hourly wages for the median worker and the top 1% over the period 1999-2014 together with the average hours of those two groups. This figure shows a number of things. First, over the 30-year period, the incentive to work for the top 1% has risen hugely both in absolute terms and relative to the median worker. But their hours of
work have fallen both in absolute and relative terms. The introduction of the 50p rate reduced the incentives to work for the 1% to where they had been in the late 1990s. There is no reason to think their labour supply would have been any different from then and this is a very similar level of hours of work.

This is consistent with the findings from Denmark in Kleven and Schultz (2013) of an elasticity of labour income of 0.085 for the top 10% of Danish wage earners.

It may be that it is effort not hours that responds to changes in taxes. Effort is hard to measure, but Figure 4 presents some suggestive evidence based on the fraction of employees who report that their job requires very hard work.

**Figure 4: Fraction of employees who strongly agree that their job requires “very hard work”**

![Figure 4: Fraction of employees who strongly agree that their job requires “very hard work”](image)

*Source: Author’s analysis of Workplace Employee Relations Survey*

Figure 4 suggests the higher paid do see themselves as working harder than do the lower paid although all groups report higher effort in 2011. But there is little evidence here of a response to changes in post-tax earnings here – between 1998 and 2004 the earnings of those at the top rose relative to the average (see Figure 3) but their effort did not.

It should be noted that all of this relates to employees – we lack any credible data on the behaviour of the self-employed.
The conclusion that there is no credible evidence of a labour supply response is in line with a recent survey that concluded that ‘there is no compelling evidence to date of real economic responses to tax rates… at the top of the income distribution’ (Saez et al, 2012).

**Migration**
This is not a marginal decision so it will most likely be based on the overall tax burden not marginal tax rates. But for the very highest earners, the average and marginal tax rates will be very similar. Recent research by Kleven et al (2013, 2014) does find a migration response for professional footballers and immigrants to Denmark. So high marginal tax rates may discourage some immigration though fluctuations in exchange rates lead to much bigger changes in the attractiveness of living in different countries. But native emigration is not found to be sensitive to taxes.

**Effects on economic growth**
It is sometimes argued that the contribution of the highest earners to the economy other than themselves is higher than the tax revenue they pay because their entrepreneurial activities raise economic growth. There is little evidence for this claim.

Piketty et al (2014) find no evidence that top tax rates have a detrimental effect on economic growth. And the Scandinavian countries have had high tax rates for decades without drifting ever further behind other countries, as one would expect if there was a sizeable growth effect.

**Tax avoidance and evasion**
Tax avoidance involves legal steps to reduce the tax paid while evasion is illegally avoiding tax. The dividing line between legal and illegal is a continual battle between HMRC and tax planners – with HMRC actively pursuing what it deems to be ‘aggressive tax avoidance’ schemes. The coalition government has implemented a number of policies to reduce tax avoidance and all the main parties currently say they will do more to combat avoidance with Labour mentioning a target revenue of £7.5bn.8

Tax avoidance is the central problem when trying to raise tax revenue from the wealthy and can take many forms. To give a specific example, consider the tax-shifting that occurs when individuals have some discretion over when they receive income or the form in which they receive it and choose to declare income when the tax rate is lower. For example, if one’s income in one tax year is £155,000 and another is £145,000, there is a tax saving if one can find a way to report taxable income of £150,000 in both years.

With tax-shifting, care needs to be taken in computing the revenue consequences of raising tax rates. Less tax revenue will be raised if declared income just switches to sources that are less heavily taxed.

It is clear that tax-shifting is possible and can be large-scale. When the 50p rate was introduced, it was announced in advance and there is clear evidence of income being paid before April 2010 when it would be subject to the 40% tax rate. This is consistent with international evidence. Tax-shifting is likely to be particularly marked when a large tax change is signalled in advance – but precise estimates of the effect are hard to come by.

8 For example, [https://www.gov.uk/government/publications/tax-avoidance-schemes-currently-in-the-spotlight](https://www.gov.uk/government/publications/tax-avoidance-schemes-currently-in-the-spotlight) details 23 schemes that HMRC believes are being widely offered to help those using them to avoid tax.
Table 4 presents the changes in reported income between 2009-10 (when the top tax rate was 40% but it was known to be going to rise to 50% for the top 1%) and 2010-11 (when the additional rate was in place).

<table>
<thead>
<tr>
<th></th>
<th>Top 1%</th>
<th>Top 10% but not Top 1%</th>
<th>Top 50% but not Top 10%</th>
<th>Bottom 50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Taxable Income</td>
<td>-16.9</td>
<td>-0.1</td>
<td>1.5</td>
<td>5.6</td>
</tr>
<tr>
<td>Total Earned Income</td>
<td>-7.3</td>
<td>0.0</td>
<td>2.0</td>
<td>5.1</td>
</tr>
<tr>
<td>Total Investment Income</td>
<td>-56.3</td>
<td>-2.6</td>
<td>-7.5</td>
<td>18.3</td>
</tr>
<tr>
<td>Dividends</td>
<td>-65.3</td>
<td>-0.7</td>
<td>1.8</td>
<td>7.1</td>
</tr>
</tbody>
</table>

*Source: Author’s computations from Survey of Personal Incomes.*

It is notable that the fall in the reported taxable income is much larger for the top 1% than for other groups and that the fall in reported taxable income is much larger for investment income than earned income and especially large for dividends. This is strongly suggestive of substantial tax-shifting.

International evidence suggests that the elasticity of taxable income is higher in tax systems with more potential for avoidance. For example, a recent survey by Kleven (2014) argues that Scandinavian countries can sustain high levels of taxation because their tax systems have a broad tax base and limited opportunities for avoidance. This means that strong rules against avoidance and high tax rates are likely to be complements to each other rather than substitutes.

**Conclusions**

Having a top tax rate of 50% compared with 45% will bring in less than the £3.3 billion revenue expected if there is no behavioural response. It is unlikely that top taxpayers will work less hard, but it is likely they will try harder to avoid paying tax. This means tougher enforcement will be needed if taxes rise.

The actual change in tax revenue depends on how much income is diverted to other sources, the rate at which that income is taxed and the extent to which consumption responds to changes in income for the wealthy, factors about which we know very little. One could argue that tax revenue would fall by £0.5 billion or that it will rise by £3 billion.
Further reading


Suppose the tax payable on a reported taxable income of \( Y \) is \( T(Y) \) – for simplicity assume there is no distinction between types of income in determining the amount of tax.

The **marginal tax rate** (MTR) is the fraction of each extra pound earned that is paid in tax – for the non-mathematical this can be thought of as \( MTR = \frac{T(Y+1) - T(Y)}{Y} \). For the mathematically inclined it is \( MTR = \frac{dT(Y)}{dY} \).

The **average tax rate** is the fraction of income that is paid in tax, that is \( ATR = \frac{T(Y)}{Y} \).

Although the policy discussion and this note are phrased mostly in terms of the rate of income tax, most academic discussion is about the **marginal effective tax rate**. This includes all taxes – those paid by the employee (income tax and employee NI contributions), those paid by the employer (employer NI contributions) and indirect taxes. If marginal income tax rate on worker income is \( \tau \), the marginal employee NI contribution rate is \( \tau_{NI} \), the marginal employer NI contribution rate is \( \tau_{NI\text{emp}} \) and the indirect tax rate (mostly VAT) is \( \tau_{IND} \) then the overall METR is given by:

\[
METR = 1 - \frac{(1 - \tau - \tau_{NI})}{(1 + \tau_{NI\text{emp}})(1 + \tau_{IND})}
\]

This is for earned income – the treatment of investment income is a bit different.

The **Elasticity of Taxable Income**, ETI is the percentage change in taxable income for a 1% change in \( (1 - METR) \). In mathematical terms it is:

\[
ETI = \frac{d \log Y}{d \log (1 - METR)}
\]

**Computing the Laffer rate in the UK**

This section contains a lot of algebra but its main purpose is to make the point that calculations of the likely tax revenue raised from the top rate of income tax depend on a lot of assumptions about behaviour, almost all of which are unknown. The discussion is phrased in terms of the Laffer rate, the top rate of income tax that maximises tax revenue.

Here are the assumptions that are made – assume the top rate of income tax is \( \tau \) on taxable income, \( y \) above \( y^* \).

**National insurance**
The division of this income between earned and investment income matters for tax revenue. Suppose earned income is \( y_{EMP} \) and investment income \( y_{INV} \). For the purposes of this example we will consider taxpayers whose earned income exceeds \( y^* \). Earned income will
typically attract national insurance contributions, both employer and employee. Denote the overall marginal national insurance contribution by $\tau_{NI}$. Currently this is 2% for employee contributions, and an extra 3.8% in employer contributions for employees (about 1/3rds of earned income among the top 1% is from the self-employed who do not pay this). This means that the tax payable on earned income above $y^*$ will be given by:

$$T_{EMP} = (\tau + \tau_{NI})(y_{EMP} - y^*)$$

(0.1)

**Investment income**

For investment income, national insurance is not payable. The tax rate on investment income depends on the form of the investment income but most is dividends. This is taxed at 12.5% less than the top rate of income tax. Suppose that the marginal rate of taxation on investment income is $\tau_{INV}$ less than the rate on earned income.

This means that total income tax payable on investment income can be written as:

$$T_{INV} = (\tau - \tau_{INV})y_{INV}$$

(0.2)

**Indirect taxes**

If taxable income changes and consumption falls as a result then tax revenues from indirect taxes will fall. Suppose that a fraction $c$ of every £ of post-tax income is consumed. Then the indirect tax revenue from reported taxable income can be written as:

$$T_{IND} = \tau_{IND}c[(1-(1+\tau_{NI}))y_{EMP} - y^*) + (1-\tau_{INV})y_{INV}]$$

(0.3)

The appropriate value of $c$ might depend on the time horizon, being lower in the short rather than the long-run. One might also think that income not consumed generates future investment income that attracts taxation – we do not consider this. Evidence suggests that wealth persists over generations so it may not be appropriate to assume all is eventually spent.

**The elasticity of taxable income**

Assume that the elasticity of total earned income with respect to one minus the marginal effective tax rate on earned income is given by $e_{EMP}$. This can be written as:

$$\frac{\partial \ln y_{EMP}}{\partial \ln (1-\tau - \tau_{Nlemp})} = e_{EMP}$$

(0.4)

Where $\tau_{Nlemp}$ is the rate of employee contributions to national insurance. Equation (0.4) can be written as:

$$\frac{\partial y_{EMP}}{\partial \tau} = -\frac{y_{EMP}e_{EMP}}{(1-\tau - \tau_{Nlemp})}$$

(0.5)

Assume that the elasticity of total investment income with respect to one minus the marginal effective tax rate on investment income is given by $e_{INV}$. This can be written as:
\[
\frac{\partial \ln y_{\text{INV}}}{\partial \ln (1-\tau + \tau_{\text{INV}})} = e_{\text{INV}}
\]  
(0.6)

Which can be written as:

\[
\frac{\partial y_{\text{INV}}}{\partial \tau} = -\frac{y_{\text{INV}} e_{\text{INV}}}{(1-\tau + \tau_{\text{INV}})}
\]  
(0.7)

**Tax-shifting**

When taxable income falls as a result of a rise in the top rate of income tax, there may be some shifting of income to other forms or periods when it attracts a lower tax rate. Assume that a fraction \( \phi_{\text{EMP}} \) of lost earned income is transferred to other forms where it is taxed at a rate \( \eta_{\text{EMP}} \) and that a fraction \( \phi_{\text{INV}} \) of lost investment income is transferred to other forms where it is taxed at a rate \( \eta_{\text{INV}} \). This will typically include indirect taxes so will be influenced by the marginal propensity to consumer discussed earlier.

**The Laffer rate**

Suppose we choose the income tax rate to maximise tax revenue which can be written as:

\[
T = \left[ (\tau + \tau_{\text{NI}}) + \tau_{\text{IND}} c (1-\tau - \tau_{\text{NI}}) - \phi_{\text{EMP}} \eta_{\text{EMP}} \right] (y_{\text{EMP}} - y^*) \\
+ \left[ (\tau - \tau_{\text{INV}}) + \tau_{\text{IND}} c (1-\tau + \tau_{\text{INV}}) - \phi_{\text{INV}} \eta_{\text{INV}} \right] y_{\text{INV}}
\]  
(0.8)

Where (0.5) and (0.7) tell us how earned and investment income respond to changes in tax rates. The value of \( \tau \) that maximises tax revenue is given in Table A1.

<table>
<thead>
<tr>
<th>Table A1: The revenue-maximising tax rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal propensity to consume</td>
</tr>
<tr>
<td>High elasticity of taxable income – 0.45</td>
</tr>
<tr>
<td>Measure of tax-shifting</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>0.2</td>
</tr>
<tr>
<td>0.4</td>
</tr>
<tr>
<td>Low elasticity of taxable income – 0.3</td>
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<tr>
<td>Measure of tax-shifting</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>0.2</td>
</tr>
<tr>
<td>0.4</td>
</tr>
</tbody>
</table>

*Note:* The other parameters are \( \tau_{\text{IND}} = 0.15, \tau_{\text{NI}} = 0.158, \tau_{\text{INV}} = 0.075, a = 1.8 \), and a share of investment income of 0.125.

**Computing the revenue consequences of a rise in the additional rate from 45% to 50%**

One question one might be interested in is the consequences for government revenue of raising the additional rate from its current rate of 45% to the 50% proposed by Labour and the Liberal Democrats.
The forecast here will use as a baseline the forecast for revenue raised from the additional rate in 2014-15 published by HMRC in February 2015\(^9\). It should be recognised that this forecast is hard to make in recent years because of the impact of the financial crisis and the clear shifting of income between tax years that has taken place as the additional rate was introduced and then changed.

HMRC estimate there will be 313,000 individuals paying the additional rate in 2014-15 with total income tax receipts from the additional rate of £30.3 billion.

Row 1a of Table A2 shows the pre-behavioural yield i.e. the revenue raised if there was no change in reported taxable income. Row 1b shows the effect on income tax receipts if there is a behavioural response for both a high elasticity of taxable income (0.45) and a low one (0.3).

Row 2 then shows the consequence for national insurance receipts under the assumption that earned income pays the employee rate for higher earners of 2% and two-thirds of employment income is from employees when an employer rate of 13.8% is also payable.

Row 3a presents an estimate of the reduction in indirect tax receipts from the reduction in post-tax taxable income under the assumption that the marginal propensity to consumer for this group is 1 and that the indirect tax rate is 15%. Row 3b does the same but under the opposite extreme assumption, namely that the marginal propensity to consume for this group is zero.

Row 4 presents an estimate of extra tax revenue from other sources under different assumptions about the extent to which a reduction in taxable income generates tax revenue elsewhere. Row 4a assumes no extra tax revenue is raised while Row 4b assumes a high rate of 40%.

Finally Row 5 adds up all the effects. Row 5a presents the most pessimistic scenario while Row 5b the most optimistic.

It should be emphasised that we know very little about many of the parameters needed to estimate the total revenue effects.


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<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Change from baseline – elasticity of taxable income=0.45</th>
<th>Change from baseline – elasticity of taxable income=0.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Pre-behavioural yield</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>1b</td>
<td>Income tax receipts after response of taxable income</td>
<td>1.0</td>
<td>1.8</td>
</tr>
<tr>
<td>2</td>
<td>Change in NI receipts</td>
<td>-0.5</td>
<td>-0.3</td>
</tr>
<tr>
<td>3a</td>
<td>Change in indirect tax receipts if all change in taxable income is consumed</td>
<td>-0.9</td>
<td>-0.8</td>
</tr>
<tr>
<td>3b</td>
<td>Change in indirect tax receipts if none of change in taxable income is spent</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4a</td>
<td>Change in other tax receipts if all reduction in taxable income is lost</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4a</td>
<td>Change in other tax receipts if other tax revenue 40% of reduction in taxable income is lost</td>
<td>2.0</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Pessimistic scenario 1b+2+3a+4°</td>
<td>-0.4</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>Optimistic scenario 1b+2+3b+4b</td>
<td>2.5</td>
<td>2.8</td>
</tr>
</tbody>
</table>
14. The Economic Performance of UK Cities: Can Urban and Regional Policy Make a Difference to the North-South Divide

Henry Overman
CEP ELECTION ANALYSIS

The Economic Performance of UK Cities: Can urban and regional policy make a difference to the North-South divide?

- There are large variations in economic performance across UK cities and on some measures, they have widened since the global financial crisis. All main parties promise action to reduce them, but there is little difference between them in terms of the policies that they would pursue to meet this objective.

- The traditional policy mix – central government investments in local growth projects, transport and other infrastructure, funding for business support and access to finance, and a host of other interventions – is largely ineffective.

- Greater local control is needed to improve policy effectiveness. The coalition government has used ‘local enterprise partnerships’ (which have replaced regional development agencies) and city and local growth deals. It is too early to assess their effectiveness, although there have been problems with central government in allocating money and local government in spending it.

- There is disagreement about the methods of devolving power. It is important that policies that have wide scale impacts (such as transport and housing) are coordinated across local areas.

- Greater experimentation at the local level combined with effective evaluation would help improve policy, but this is highly unlikely given the short-term political focus on being seen to ‘do something’, which favours the announcement of new projects over the long-term development of policy effectiveness.

- London’s strong economic performance plays a large part in explaining widening disparities. Providing an effective counter-balance to London may require policy aimed at ‘rebalancing’ to be more spatially focused – for example, on Manchester.

- We ultimately care about the effect of policies on people more than on places. Efforts to rebalance the economy should be judged on the extent to which they improve opportunities for all, rather than whether they narrow the gap between particular places.
Introduction

There are large variations in economic performance across the cities and regions of the UK. There is a broad North-South pattern to these disparities. But there is also substantial variation within those broad areas: some Northern cities (such as Manchester) are doing well and some Southern cities (such as Hastings) are doing relatively badly. Despite many policy initiatives by the current and previous governments, these disparities remain large and persistent. On some measures, they have widened since the global financial crisis.

Table 1 shows how these differences play out in terms of population growth for a selection of UK cities. The table highlights three important trends: first, the continued strength of London; second, the recent improvement in performance of some cities; and third, the variation in performance, which is apparent even for neighbouring cities.

Table 1: Differences in population growth rates for a selection of UK cities

<table>
<thead>
<tr>
<th>Place</th>
<th>Region</th>
<th>1991-2001</th>
<th>2001-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Britain</td>
<td></td>
<td>4.1%</td>
<td>7.5%</td>
</tr>
<tr>
<td>London</td>
<td>London</td>
<td>7.2%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Birmingham</td>
<td>West Midlands</td>
<td>0.5%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Stoke</td>
<td>West Midlands</td>
<td>-0.1%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Manchester</td>
<td>North West</td>
<td>-1.0%</td>
<td>9.3%</td>
</tr>
<tr>
<td>Liverpool</td>
<td>North West</td>
<td>-2.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Newcastle</td>
<td>North East</td>
<td>-0.2%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Sunderland</td>
<td>North East</td>
<td>-3.5%</td>
<td>-1.3%</td>
</tr>
</tbody>
</table>

Source: Cheshire et al (2014); authors’ own calculations based on census data.

Cities Outlook\(^1\) is the most useful source of detailed data on the economic performance of UK cities. The latest report shows that between 2004 and 2013, population growth in cities in the South was twice the rate of cities elsewhere. The growth in businesses was similarly unbalanced with over a 25% increase in cities in the South compared with an increase of nearly 14% elsewhere. The figures for jobs are even more dramatic: cities in the South had over 12% more jobs in 2013 than in 2004, while cities elsewhere saw only around a 1% increase.

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The differences are even more marked for private sector employment (because public sector employment is more evenly distributed). This has been disputed by the coalition government, who argue that 60% of the rise in employment since 2010 has taken place outside London and the South East. But their figures are misleading on two counts:

- First, they use a strange definition of private sector employment.\(^2\)
- Second, they look at short-term recovery from recession rather than long-term performance. As areas outside the South were hit hardest by the recession, it is not surprising that they have shown stronger recoveries.\(^3\)

In short, because the impact of recession was very uneven, recovery is not as uneven as suggested by City Outlook. But those figures do highlight the limited progress towards reducing long-run differences. This is unsurprising. The economic processes that drive spatial differences are poorly understood by policy-makers, and evidence plays little part in the formulation of policy. As a result, there is confusion about what urban and regional policy can do, a confusion that is shared by all political parties.

**Understanding differences in performance: London versus the rest**

What are the economic forces polarising the UK? As the figures make clear, a big part of the story concerns the geographical concentration of economic activity in London (and the South East). Is this concentration good for those who live or work in London but bad for those who don’t? Is the attraction of London creating an economy that is distinct from the rest of the UK? And what are the implications?

Neither finance nor the globally oriented part of the London economy are as important as suggested by popular discussion. Financial services are clearly important, but most of London’s long-term job growth has come outside finance or those sectors closely linked to it. For example, London has strengths in a range of business and information services well beyond the financial sector.

London is a preferred location for the super-rich, but this is a tiny, if much publicised, minority. For example, while the fraction of foreign buyers in London residential properties worth over £2 million is a little over 50%, these transactions represent less than 0.5% of overall transactions. Even in terms of overall transactions, recent increases in foreign demand are swamped by increases in demand from first time buyers and other sources of domestic demand.\(^4\) It is domestic sources of demand that drive the London housing market.

In fact, what is most distinctive about London’s economy is its competitive strength and skill levels across a wide range of services. A large part of the superior economic performance of London (and the broader South East) comes from the concentration of skilled workers who would be paid relatively well wherever they lived. In turn, that

\(^2\) Figures are from the Public Sector Employment series and include, for example, sixth form colleges, general practitioners and universities.
\(^3\) See ‘How Did London Get Away With It?’, CentrePiece (http://cep.lse.ac.uk/pubs/download/cp333.pdf).
\(^4\) See http://spatial-economics.blogspot.co.uk/2013/05/foreign-buyers-and-london-property.html.
concentration is partly because London provides greater opportunities for such individuals to use and develop their talents.

All of this means that London has higher wages, more expensive housing and a greater general cost of living, with the gap in all of these rising as wage inequality has grown since the late 1970s. But at least for those who are young, able and willing to economise on housing costs, London offers opportunities that are simply not available elsewhere. And since many later move on to other areas of the country, London also acts as a source of highly skilled workers for local economies throughout the UK.

Whether this seems good or bad for the UK partly depends on how we tell the story about what is going on. If, as is popular, we talk about London sucking the talent from the rest of the UK, then this sounds like a pretty bad thing. But if we think of London’s performance as the result of a large number of people responding to the opportunities that London offers, then this changes the debate:

- First, it becomes clear that we need to think about individual winners and losers. Some of the basic effects are described in the Annex.
- Second, it helps to focus attention on why London offers those opportunities and whether they could be created elsewhere. A large body of evidence suggests that both size and the concentration of skilled workers is key to generating these opportunities, which makes it harder to generate similar opportunities elsewhere.

On the implications for overall economic growth, the debate is polarised. For some, it is obvious that spreading growth across the UK would make use of underused resources. For others, London and the South East are key, and we should focus on making sure they continue to perform.

Since there is already a lot of redistribution away from London, the questions are first, whether there should be a lot more spatial redistribution than now, and second, whether we should put a high value on policies restraining London’s growth (for example, tougher green belt policies; even lower London allowances for public sector workers, etc.). There is no evidence pointing to large benefits from spatial redistribution and much evidence that very restrictive planning in London and the South East has been harmful (see CEP’s Election Analysis on housing and planning, 2015). Hence, artificially restraining London’s growth does not seem like a desirable policy.

**Policy responses: who and where?**

Rather than focus on London’s dominance, we should ask why other large UK cities do not offer similar economic opportunities and what can be done about it? Looked at this way, the evidence suggests that what we need is, paradoxically, the growth of one or two other large cities so that they provide similar opportunities. This is because overall population size helps generate more opportunities (as a result of what economists call ‘agglomeration economies’). So too does the concentration of skilled workers and of certain types of knowledge-intensive industries (which employ those high-skilled workers).
City size
If size matters, perhaps the issue is not that London is too big, but that some of our second cities are too small. International comparisons are suggestive. For example, applying Zipf’s Law (which suggests that the second largest city tends to be half the size of the largest, the third city a third the size of the largest, and so on), the UK’s larger cities after London all look too small.

Part of the reason for this is that population is quite spread out across a number of cities. Concentrating population in a smaller number of larger cities would bring us more in line with other countries. A powerful body of research points to the importance of agglomeration economies and the barriers to realising the benefits from those economies (in particular the UK planning system). In short, these international comparisons do raise questions about the relative size of our cities.

Local growth policies
In principle, the coalition government’s changes to the institutions and structures that deliver local growth policy allow for greater policy variation across areas. The move from 10 regional development agencies (RDAs) to 39 ‘local enterprise partnerships’ (LEPs) in most cases moved strategic decision-making on economic development policies – particularly on transport – to a more appropriate scale: somewhere above local authorities (which are usually too small) but beneath regions (which are too big). The deal-making approach5 – first through city deals for a limited number of cities, and subsequently through local growth deals for all enterprise partnerships – also allowed for greater policy variation.

In practice, however, decisions on deals are still ultimately made by central government. And this, combined with the centralised dispersion of funds from the Regional Growth Fund continues to constrain local decision-makers. The coalition government seems willing to go further – at least in areas with a good track record and credible governance arrangements. For example, recent announcements of ‘Devo Manc’ involve considerable devolution to Manchester (in line with recommendations from the City Growth Commission (2014) to increase devolution). But this ‘earned autonomy’ model is criticised by those who would like to see more systematic devolution to all local areas.

Policy variation across areas
While in principle, the coalition government’s reforms allow for greater policy variation across areas, the extent to which central government politicians can live with the consequences – in terms of variations in economic performance – remains to be seen. The Chancellor’s ‘Northern powerhouse’ agenda – which aims to create a counterbalance to London by better integrating and empowering the collection of Northern cities – highlights these tensions. The evidence suggests that agglomeration economies work at smaller scales than the entire Northern economy, so more uneven development across Northern cities may be necessary if we want one of these cities to provide the kind of opportunities available in London.

Labour, with their focus on inequality, find these issues even harder to address and have a tendency to focus on the objective of improving growth across all failing areas – regardless of whether this is achievable or the best way to help individuals.

To try to resolve this tension, it is always worth remembering that ultimately we care about the effect of policies on people more than on places. If growth for all requires us to provide opportunities for all, then it just may be that we have to put up with the fact that some places will always do better than others.

**Policy responses: what?**

Discussion around the systems through which urban and regional economic policy is delivered often distracts attention from more fundamental questions about the effectiveness of particular policy interventions.

*Transport infrastructure*

London’s success depends on transport investment, but it is not driven by transport investment. Public sector transport investments are already quite evenly distributed, and evening out transport investment further will not be particularly effective in generating opportunities elsewhere.\(^6\) It is also highly debatable whether HS2 will narrow disparities with the government’s own analysis pointing to disproportionate benefits for cities on the line (including London).

*Housing*

One major barrier to creating additional opportunities in London and other more successful places is that supply restrictions mean that house prices rise very fast in response to local demand growth. Relaxing planning restrictions and building on the green belt would help (see CEP’s Election Analysis on housing and planning, 2015).

*Area-based initiatives*

Policies that offer support for particular areas of cities or regions (such as enterprise zones) are unlikely to be effective in addressing broad disparities in opportunities. The evidence mostly suggests that these lead to displacement from other nearby areas rather than creating a large amount of new job growth. Similar problems limit the economic impact of other regeneration policies.

*Business support*

There is a depressing paucity of high quality studies evaluating business support policies, but there is some evidence that job growth can be improved. For example, Criscuolo et al (2012) find job increases from European regional aid but only for small and medium-sized enterprises and there does not seem to be a sustainable increase in productivity. Evidence of how such interventions can be effective in the long run suggests that very large-scale investments are needed (for example Bloom et al, 2014; and Kline and Moretti, 2014). Overall, the current evidence on business support policies (such as improving access to finance, or offering advice and expertise) suggests that these types of policies are not very effective at generating employment growth. For more discussion, see CEP’s Election Analysis on

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\(^6\) [http://spatial-economics.blogspot.co.uk/2014/06/local-transport-expenditure.html](http://spatial-economics.blogspot.co.uk/2014/06/local-transport-expenditure.html)
productivity and business policies (2015) and the What Works evidence review on business support.

Skills
Local differences in the skill levels of workers play a large role in explaining disparities across cities. This suggests that education and training may have an important role to play in helping address these disparities. As with business support, policy needs to address similar concerns about cost-effectiveness although there does appear to be growing support for experimentation and evaluation aimed at improving the cost-effectiveness of policies. For more discussion, see CEP’s Election Analysis on education policy (2015).

Conclusion

There are large variations in economic performance across UK cities and on some measures, they have widened since the global financial crisis. All main parties promise action to reduce them, but there is little difference between them in terms of the policies that they would pursue to meet this objective.

The traditional policy mix – central government investments in local growth projects, transport and other infrastructure, funding for business support and access to finance, and a host of other interventions – is largely ineffective. There is a growing recognition that greater local control is needed to improve policy effectiveness, although there is disagreement about the form this devolution should take. Whatever happens, it is important that policies that have wide scale impacts (such as transport and housing) are coordinated across local areas.

London’s strong economic performance plays a large part in explaining widening disparities. Providing an effective counter-balance to London may require policy aimed at ‘rebalancing’ to be more spatially focused – for example on Manchester. Concentrating resources in this way is controversial and difficult for constituency-based politicians (in both central and local government).

It is helpful to remember that we ultimately care about the effect of policies on people more than on places. Efforts to rebalance the economy should be judged on the extent to which they improve opportunities for all, rather than whether they narrow the gap between particular places.

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Annex: who gains and who loses from London’s success?

If we focus only on average outcomes, we see population, wages and house prices increasing in London and falling (at least in relative terms) in other cities. But from the perspective of people who live in these different places, the economic impact is much more nuanced. Indeed, as is the case for the majority of significant economic changes, the story is one of gainers and losers in all cities (including London).

In London, higher wages (and better amenities) tend to offset higher housing costs. If this were not the case, then people would not be moving to the city and it would not be growing so spectacularly. But not everyone in London is better off. Individuals outside the labour market may be worse off due to rising housing costs. This is one of the reasons why deprivation measures can be high in London.

Rising housing costs may also lead to worse outcomes for those workers whose wages are not very responsive to local economic conditions (such as the low skilled, and nurses and teachers whose wages are set nationally). This effect is partly responsible for the arguments about affordability issues for ‘key’ workers.

Similar patterns also play out in other UK cities (such as Bristol and Manchester) that have recently seen faster growth. In cities that are doing less well, this story of winners and loser is also repeated. Individuals who are able to move away do well. For those who stay, the balance of changing income and housing costs determines who gains and who loses.
Further reading


15. Gender Gaps in the UK Labour Market: jobs, pay and family-friendly policies

Ghazala Azmat
Gender Gaps in the UK Labour Market: jobs, pay and family-friendly policies

- The proportion of prime age (25-65) women in the UK who work has increased from 62% in 1994 to 69% in 2014. Among men in the age group, 82% work, so even today there remains a large ‘gender gap’ in jobs of 13 percentage points.

- The difference between women and men’s pay – the gender wage gap – for full-time workers is 19%. This is down from 27% in 1994, which is a big improvement.

- In the UK, the gender gap in jobs is better than average for rich countries, but the gender gap in pay is worse.

- Male employment rates fell relatively more than female employment during the UK’s Great Recession.

- The presence of young children has a major effect in reducing female participation in work. Women with children are also more likely to work in part-time jobs, which suffer a pay penalty.

- The main political parties have promised improvements in childcare provision. Labour and the Liberal Democrats would extend free childcare for pre-school aged children. The Conservatives pledge to introduce a new scheme for tax-free childcare. This will help, but not radically change gender disparities.

- A recent reform of the 2010 Equality Act enables the government to make regulations requiring companies employing 250 or more people to publish information about differences in the pay of male and female employees.
**Introduction**

Over the last 20 years, there have been a number of reforms in the UK that aim to encourage women to participate in the labour market and to ‘make work pay’. Yet gender differences persist. Compared with other countries, gender differences in workforce participation in the UK are better than the OECD average (see Figure 1), but gender gaps in wages are among the worst (see Figure 2).

**Figure 1: Gender gap in participation**

![Graph showing gender gap in participation](image1)

*Notes:* Full-time employees aged 15-64. The gender gap in participation is defined as the difference between male and female participation divided by male participation.


**Figure 2: Gender wage gap for full-time workers**

![Graph showing gender wage gap](image2)

*Notes:* Full-time employees aged 15-64. The gender wage gap is unadjusted and defined as the difference between male and female median wages divided by the male median wages.

Gender gaps in wages and employment tend to be most pronounced among women with young children. To try to address this, the main political parties have promised improvements in the provision of childcare in their election campaigns.

Labour have promised more support for older children – the extension of free childcare from 15 to 25 hours for working parents with 3 and 4 year olds and the introduction of a primary childcare guarantee that primary school aged children can access childcare from 8am to 6pm through their local school.

In contrast, the Conservatives and the Liberal Democrats have focused on younger children. The Conservatives plan to introduce a new scheme for tax-free childcare from the autumn of 2015 and say that they will focus on offering a ‘choice’ for parents about whether to return to work or stay at home. The Liberal Democrats have pledged 20 hours of free childcare to all parents with children aged 2-4.

This Election Analysis describes recent changes in UK gender gaps in labour market outcomes and focuses on workforce participation and wage changes over the last decade. It also considers some possible explanations for the gaps.

The gender gaps in employment and hours

In recent decades, there have been a number of initiatives that have sought to reduce the gender gaps in employment and hours. For example, in 1997, the government introduced several ‘active’ labour market policies that were designed to target low-income families and, in particular, groups such as women with young children that had low attachment to the labour market.

Figure 3 plots the employment rate over the last 20 years for men and women aged 25 to 65. The female employment rate increased from 62% to 69% between 1994 and 2014. But the gap between male and female employment persisted over the period. Part of the closure in the gap seems to result from a decline in male employment rate during the crisis, which was larger than for women. Between 2008 and 2009, male employment rates fell by 1%, while female employment remained constant.
Pre-school age children form a large part of the explanation for the gender gap in employment. In the late 1990s, in-work benefits (the Working Families Tax Credit) was both extended and made more generous than its predecessor (Family Credit) – and twice as many families became eligible. As a direct result of the policy, employment and hours worked increased, especially for single mothers (Azmat, 2014).

This will be replaced by the new Universal Credit in 2017. Estimates suggest that the new system will lead to both winners and losers in the long run. While the poorest are likely to do better, especially couples with children, some single parents and the secondary earner in a family are likely to lose out in the longer term (Brewer et al, 2011).

There has been a plethora of other policies as part of the in-work benefit schemes. For example, workers are given up to £55 a week in childcare vouchers after taking a ‘salary sacrifice’ of the same amount from pre-tax salary (made less generous for high earners after April 2011). Figure 4 shows that compared with women with older children or no children, the employment rate of women with children of pre-school age has been increasing more rapidly over the last two decades.

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Notes: Employment rates defined as percentage of working age adults aged 25-65 years in work; excludes full-time students. Gender gap is defined as the difference between (average) male and female employment rate divided by male employment rate.


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1 The Universal Credit is set to replace six means-tested benefits and tax credits (Jobseeker’s Allowance, Housing Benefit, Working Tax Credit, Child Tax Credit, Employment and Support Allowance and Income Support).
Figure 4: Female employment rate by age of youngest child (%)

Notes: Employment rates defined as percentage of women aged 25-45 years in work; excludes full-time students. No dependent children is defined as having either no children or no dependent children under the age of 16 years old. 

Other initiatives, such as the ‘right to request flexible working’ law, which was introduced in 2003, gives parents of children aged under 6 the right to request more flexible working arrangements. This could include requesting flexi-hours, working from home, term-time work, etc. The introduction of the part-time workers regulation in 2000 strengthened the employment rights of part-time workers, a majority of which are female. Research on the impact of these policies is limited.

Figure 5 shows the distribution of hours in 2014. Most men work around 40 hours (full-time), but the distribution of hours worked by women is more dispersed and part-time work is much more common.
Notes: Hours worked defined as usual hours worked per week for working age adults aged 25-65 years.

The gender gap in wages

The National Minimum Wage, introduced in 1999, helped to make work more attractive and contributed to reducing the gender gap in earnings. Minimum wages benefit low wage workers, who are disproportionately women. The Low Pay Commission report in 2009 estimated that around two thirds of minimum wage jobs were held by women.

Figure 6 compares the hourly wage rate of men and women. Although the gap has been closing – 27% in 1994 compared with 19% in 2014 – it remains sizeable and above the OECD average, which is around 15% (Figure 1).
Figure 6: Gender wage gap

Notes: Wages defined as average hourly pay for working age adults aged 25-65 years. Wages are defined as gross and excluding overtime. Gender gap is defined as the difference between (average) male and female hourly wage divided by male hourly wage.

Figure 7 shows that the gender wage gap increases with the time since schooling finished (‘potential labour market experience’). For people just starting to work after finishing school, there is essentially no difference in pay. But over time, gender pay differences emerge with the biggest gaps after 25-30 years when workers are in their forties. This reflects gender gaps in career breaks taken to care for young children.

Figure 7: Gender wage gap and potential experience

Notes: Wages defined as average (gross) hourly pay for working age adults aged 18-65 years, excluding overtime. Years of potential experience is defined as (age-18 years). Gender gap is defined as the difference between (average) male and female hourly wage divided by male hourly wage.
To help reduce gender gaps due to these career breaks, recent legislation offers generous paternity leave rights to fathers. Since 2011, as well as the standard two-week paid paternity leave, fathers are entitled to up to 26 weeks of paid additional paternity leave if the mother (or co-adopter) returns to work. From this year, employers must offer shared parental leave of up to 50 weeks for children born after 1 April 2015. But since the take-up rates of paternity leave are low, there is some concern that the policy will be largely ineffective. It has been reported that fewer than 1% of men take the current paternity leave of 26 weeks.\(^2\)

In March this year, a change in the law pushed by the Liberal Democrats called for greater transparency on wage gaps within firms. The regulation, which is likely to come into force within the next 12 months, would fine large firms up to £5,000 for not disclosing the average pay for male and female workers. It is unknown what effect this policy will have on helping to close the gender pay gap. But some caution is likely to be needed to ensure that greater transparency does not come at the cost of firms making compositional changes to their workforce or shedding discretionary flexible work policies, such as part-time work or generous maternity leave pay/leave.

**What explains the gender gaps in employment and wages?**

One factor that might be important in explaining gender differences in earnings is the types of occupations that men and women choose (‘occupational segregation’). Figure 8 plots the relationship between the average pay in each of the nine major occupation groups and the proportion of women in those occupations.

With the exception of heavy manual work, such as skilled trade occupations and operatives, there is a negative relationship between average occupation wages and the proportion of women in those occupations. For example, fewer than 35% of women report being in the highest paid occupation of a manager or director, compared with over 80% working in catering and leisure services, which is one of the low paid occupations.

**Figure 8: Percentage of women and wages by occupation**

![Graph showing the relationship between average weekly wage and percentage of women in each occupation group.](image)

*Notes: Wages defined as average (gross) weekly pay for all adults aged 25-65 years working in each of the nine major occupational groups. The Figure also shows the percentage of women aged 25-65 years working in each of these occupational groups.*

*Source: Labour Force Survey, 2014 (Quarter 2).*

\(^2\) Figures published by TUC (13\(^{th}\) June 2013).
This relates more broadly to the disparities in the types of jobs that men and women choose. The share of male and female employees working part-time from 1988 to 2009 is in Table 1. In 2009, almost two thirds of women with children aged 2-4 worked part-time, compared with about a quarter of women with no dependent children and 7% of (all) men.

Manning and Petrongolo (2008) show that part-time work is associated with a significant pay penalty. They find a significant hourly pay difference of around 25% between full- and part-time workers. On closer inspection, they find that compared with women working in full-time jobs, women working in part-time jobs tend to have lower levels of education and more (and younger) children. Taking this into account, they can explain around half of the pay gap between full- and part-time jobs. But the remaining part is largely explained by occupational segregation or the types of jobs that are available on a part-time basis.

Table 1: Part-time employment rates by gender

<table>
<thead>
<tr>
<th>Year</th>
<th>All Male</th>
<th>All Female</th>
<th>Females by age of youngest child</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Age 0-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>3.19</td>
<td>41.16</td>
<td>61.86</td>
</tr>
<tr>
<td>1997</td>
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<td>60.93</td>
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<td>1998</td>
<td>5.20</td>
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<td>61.54</td>
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<td>2000</td>
<td>5.40</td>
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<td>2002</td>
<td>5.81</td>
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<td>60.49</td>
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<tr>
<td>2008</td>
<td>7.21</td>
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<td>57.89</td>
</tr>
<tr>
<td>2009</td>
<td>8.35</td>
<td>38.64</td>
<td>54.56</td>
</tr>
</tbody>
</table>

Notes: Table taken from Swaffield (2011). Part-time employment is self-assessed. Percentages are of working age adults in employment, excludes full-time students.


Conclusions

Gender gaps in employment and wages have fallen over the last 20 years, but there are still sizeable gaps. Certain factors, such as caring for young children, part-time work and occupational choice, help to explain a good part of these gaps. Recent and proposed policy changes have focused on supporting family-friendly employment. There is also evidence (for examples, from pharmacies) to suggest that changes in technology and the increased the prevalence of larger companies have helped to close the gender gap in hourly wages and make these jobs more family-friendly (Goldin and Katz, 2013).

Remaining gender differences in the labour market could be due to pure discrimination by employers who treat otherwise identical workers differently depending on whether they are a man or woman. But some of these inequalities could also be related to differences in
productivity or preferences between men and women. Analysing which of these three explanation is most important is very hard because of unmeasured confounding factors.

Moreover, there are often interactions between the different factors (Azmat and Petrongolo, 2014). For example, Azmat and Ferrer (2014) show that there are gender differences in performance among young lawyers that are partly driven by differences in career aspirations and not the result of discrimination. But there may be feedback effects from social norms or some other type of social pressures that help to form aspirations, so that fully disentangling these factors is not feasible.

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Further reading


