

The background of the entire page is a photograph of a lush green lawn. In the upper right corner, a silver metal watering can is tilted, pouring a stream of water onto the grass. The water creates a misty spray as it falls. The lawn is vibrant green and appears to be well-maintained.

LSE

Growth
Commission

Investing for Prosperity

**Skills, Infrastructure and Innovation
Report of the LSE Growth Commission**

Philippe Aghion
Tim Besley
John Browne
Francesco Caselli
Richard Lambert
Rachel Lomax
Chris Pissarides
Nick Stern
John Van Reenen

in partnership with

**INSTITUTE
FOR
GOVERNMENT**

 CENTRE *for* ECONOMIC
PERFORMANCE 

Executive summary

What institutions and policies are needed to sustain UK economic growth in the dynamic world economy of the twenty-first century? After years of inadequate investment in skills, infrastructure and innovation, there are longstanding structural weaknesses in the economy, all rooted in a failure to achieve stable planning, strategic vision and a political consensus on the right policy framework to support growth. This must change if we are to meet our current challenges and those that may arise in the future.

The nation is scarred by the worst economic crisis in many generations and we are left wondering what the next half-century will bring and how to prepare for it. The pace of change is sometimes bewildering. The world's centre of economic gravity has been shifting eastwards, bringing a new global division of labour; innovation has created rapid change, with new online giants emerging from almost nowhere; the global crisis led to the demise of several financial behemoths overnight; and climate change may fundamentally alter the physical environment in which we live.

Despite the current gloom, the UK has many assets that can be mobilised to its advantage, including strong rule of law, generally competitive product markets, flexible labour markets, a world-class university system and strengths in many key sectors, with cutting-edge firms in both manufacturing and services. These and other assets helped to reverse the UK's relative economic decline over the century before 1980. Over the course of the following three decades, they supported faster growth per capita than in the UK's main comparator countries – France, Germany and the US. These assets must be fostered and enhanced, as ill-conceived policies can cause collateral damage (for example, putting our universities at risk, as discussed below).

This report argues that the UK should build on these strengths and, at the same time, address the inadequate institutional structures that have deterred long-term investment to support our future prosperity. This requires stable, well-informed policy frameworks anchored in a broad political consensus around a strategic vision for growth.

The reforms we propose here are crucial to respond to a rapidly changing world where skills, flexibility, openness and receptiveness to technological change are becoming ever more important for prosperity. Together, they constitute a 'Manifesto for Growth', which we call on all political parties to support.

We propose improving investments in human capital to foster inclusive growth. The UK needs to put an end to the waste of human resources that comes through poor education and the inability of a significant proportion of society to participate effectively in the economy. This involves improving the quality of teaching by:

- Improving teacher quality through expanding the intake of teachers and engaging in more rigorous selection.
- Creating a 'flexible ecology' of schools, by which we mean more autonomous primary and secondary schools, greater parental choice and easier growth for successful schools and their sponsors.
- Linking targets, inspections and rewards more effectively to hold schools to account for the outcomes of disadvantaged pupils.

We propose developing a new institutional architecture to address the poor quality of our national infrastructure. This would dramatically reduce the policy instability that arises from frequent changes in political personnel and priorities, particularly in transport and energy. The new structures would create the strategic vision required to stimulate investment in these areas, comprising:

- An Infrastructure Strategy Board to provide independent expert advice to parliament to guide strategic priorities.
- An Infrastructure Planning Commission to support the implementation of those priorities with more powers to share the gains from infrastructure investment by more generously compensating those who stand to lose from new developments.
- An Infrastructure Bank to facilitate the provision of finance, to bring in expertise and to work with the private sector to share, reduce and manage risk.



We propose improving the provision of finance for private investment and innovation through:

- Increasing competition in retail banking.
- Having the proposed Business Bank make young and innovative firms its top priority.
- Encouraging a long-term investment perspective through regulatory changes (for example, over equity voting rights) and tax reforms (for example, reducing the bias towards debt finance).

Prosperity is strengthened when everyone has the capacity to participate effectively in the economy and the benefits of growth are widely shared. ***We propose reforming the way we measure and monitor changes in material wellbeing and its distribution, including regularly publishing median household income alongside the latest data on GDP.***

Our core proposals can provide the stable policy framework that has long been lacking in the UK, one that will encourage long-term investment. By ensuring that difficult and contentious long-term decisions are based on the best available independent expertise, they would help to break the damaging cycle of institutional churn, political procrastination and policy instability.

The principle that policy should be evidence-based is now widely accepted, but often more in word than deed. Many of the areas where there are potential benefits to growth are largely untested. The benefits to long-term growth from properly conducted policy experiments in some areas could be significant while the costs of experimentation are modest.

We therefore recommend creating an independent National Growth Council to review relevant evidence and to recommend growth-enhancing policy reforms that could be subject to rigorous evaluation. The body should also challenge government on why successful policies are not introduced and/or why unsuccessful ones are not closed down. It would provide the kind of evidence that is needed to underpin an industrial and growth strategy focused on removing barriers to the growth of firms, industries and geographical clusters.

Implementing an ambitious long-term growth programme will demand sustained direction from the centre of government. Institutional change in this area is overdue. The Whitehall machinery for providing strategic advice and overseeing implementation is relatively small-scale and informal and has been prone to radical change from one government to the next. The absence of stable machinery at the centre of government makes it more difficult to develop and implement a long-term strategy for promoting economic growth.

Important challenges lie ahead for the UK. We have seen what damage financial instability can do to current living standards and their prospects in the medium term. Severe inequalities may be a source of political instability by fostering a sense of injustice. Managing the substantial risks of climate change and fostering the transition to a low-carbon economy will not be easy. Failure to tackle these and other emerging challenges could compromise the sustainability of growth in the longer term: the UK must be prepared to respond effectively to them. Our proposals aim to equip the nation for this task.

But we cannot foresee all future challenges. There is, therefore, a premium on policies and institutions that foster anticipation, flexibility and discovery. This means creating a system that celebrates and encourages entrepreneurship, innovation, opportunity and creativity. Building a strong, stable and credible investment climate for human, physical and innovation capital will be a decisive step towards creating prosperity over the next 50 years.

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<http://lse.ac.uk/researchAndExpertise/units/growthCommission/home.aspx>

I. Introduction

At the beginning of 2013, the outlook for the UK economy remains highly uncertain. Output has been depressed for a longer period than it was even in the Great Depression, with GDP still below the peak level of early 2008.

Institutions once thought of as emblematic of the UK economy are under stress. The City of London has been tarnished by being at the centre of the global financial crisis that began in 2007 and worsened dramatically in late 2008. There are serious concerns about the ability of the institutions of UK economic policy-making to steer the economy out of nearly five years of stagnation and into a sustainable recovery.

Changes outside our national borders are also having a profound effect. The continuing crisis in the eurozone is weighing down on our major export market. Over the longer term, the emergence of China, India and other countries as major economic powers is shifting the global division of labour and will challenge us in areas where the UK has historically enjoyed a comparative advantage.

Over the past 12 months, the LSE Growth Commission has looked at the institutions and policies that should underpin growth for the next 50 years. We believe that it is vital to look beyond the next budget cycle, the next spending review and the next parliament. Although austerity is one of the current headline debates to which several of the commissioners have contributed, we are not focusing on the appropriate fiscal and monetary policy stance in the near term. Indeed, we fear that impassioned debates about the short term are clouding even more important debates over the longer-term direction of the UK economy.

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We take an optimistic view as there are many underrated strengths of the UK economic framework. Competitive product markets, flexible labour markets, openness to foreign investors and migrants, independent regulators and good levels of higher education have helped to reverse a century of relative UK decline prior to the three decades leading up to the crisis. They should keep playing important roles in the future.

But significant reforms are needed to address the major challenges that we face, including productivity levels that still lag behind other major countries. Effective reform requires learning from both our failures and successes. Our primary failures are to invest in the long term and to tackle the rising inequalities that accompanied the improvements in our growth performance before the financial crisis.

Policies for prosperity require providing the right conditions for investment in skills, infrastructure and innovation. This will not happen without creating institutions that are built to last and that diminish rather than exacerbate policy uncertainty. These institutions must support an economy that is both resilient to adversity and capable of seizing new opportunities.

Our report discusses what should be done to build for the future by *investing for prosperity*.

Our approach

The area we are tackling is huge, well-trodden and daunting. Our value added is to bring together a range of perspectives from academia, policy-making and business. We draw on the existing literature summarised in independent documents prepared by the LSE Growth Commission Secretariat and available at lse.ac.uk/researchAndExpertise/units/growthCommission/documents/home.aspx. We draw on the best available research, but a recurring theme is the paucity of high quality evaluation of policies. Unfortunately, even when such evidence is available, it is too often ignored by policy-makers.

We focus on our **three long-term investments – skills, infrastructure and innovation** – because there is a strong analytical basis for the claim that they are important for growth; because there are some longstanding problems with UK performance in these areas; because these problems are not being adequately addressed by the current trajectory of policy; and because we have some concrete proposals for what needs to be done.

The report begins with an overall analysis of the UK's economic story to date. Then, in each of the three main chapters, we describe why each investment matters for growth and offer a diagnosis of the UK's failure to invest sufficiently. This analysis underpins our policy proposals, which are organised into two groups: core and supplementary. At the end of each main chapter, we ask why adequate policy solutions have not already been implemented: political bottlenecks and institutional rigidities loom large in understanding this problem. Finally, we make the case for a new measure of economic progress. We also discuss the structures at the heart of government that are needed to drive the growth agenda forward.

Acknowledgements

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The views expressed here are those of the Commissioners, they do not necessarily reflect the views of the LSE, the Institute for Government or any of the other institutions or individuals mentioned above.

Signed,

Co-Chairs



Tim Besley



John Van Reenen



Growth Commissioners



Philippe Aghion



Rachel Lomax



John Browne



Chris Pissarides



Francesco Caselli



Nick Stern



Richard Lambert

II. The economic story of the UK

The growth process

Economic growth is the increase in a country's capacity to produce goods and services. We care about such gains because they lead to improvements in citizens' material wellbeing through higher consumption, greater leisure and/or improved public services. We prefer these fruits of growth to be as *inclusive* as possible rather than for them to be appropriated by a small, fortunate slice of society. Thus, all advanced economies have mechanisms for distributing the fruits of growth more widely through taxes, benefits and the provision of public goods such as education. And equipping citizens with skills gives them the best chance of participating in the process of growth.

Policies that have a small positive effect on the annual rate of economic growth can have a huge effect on long-term human wellbeing as these increases become compounded over time. An economy that grows at 2 per cent per annum in real terms (which was the UK's average growth rate between 1830 and 2008) doubles its material living standards every 35 years.

The modern theory of economic growth argues that the world's potential to grow is determined in the long run by the accumulation of ideas – scientific, technological and managerial – that make it possible to do more with the raw materials that we have. Sustainable growth is not about increasing the basic labour input of the population but rather about finding ways to do new things as well as doing the same things more efficiently.

Creating a dynamic economy requires investment of three basic kinds: in people (human capital), in equipment and physical structures (infrastructure) and in new ideas and technologies (innovation). Our report focuses on all three. Investments in education and research and development (R&D) help to create new ideas and extend the technological frontier. But they may also help a country to catch up with leading edge countries, making it possible for firms to learn about and absorb innovations from elsewhere.

The modern era of economic growth began around 1800 when a collection of economies initially led by the UK pulled away from the rest. The growth sparked by the industrial revolution was impressive, but what remains remarkable is how few countries emulated the success of the UK and, not long after, France, Germany, Scandinavia and the US. This is because investment requires a supportive climate in which to flourish.

History shows that markets need government support with predictable rules and regulations. Government also plays a key role in supporting a productive economy through encouraging investments in skills, infrastructure and new technologies. But the quality of government depends on institutions that encourage a focus on long-term economic needs. Without these, the powerful forces unleashed by market incentives cannot be harnessed for the common good.

There is no reliable evidence that the growth potential of an economy is limited by the size of the government over the wide range we see in OECD countries. Indeed, the twentieth century witnessed a significant increase in the size and responsibilities of government throughout the developed world alongside large and sustained increases in living standards. Different market economies can be economically successful with high or low levels of state spending – for example, Scandinavia versus the US.

Thus demands for ever greater deregulation and reductions in government spending as a panacea for the UK's growth problems are misguided. Growth is less about the precise size of the state; it is much more about whether the state is smart in the way that it regulates and spends. Having a government that plays a major role in the economy – as we do in the UK – places a premium on well-designed policies that support growth. Achieving this is heavily dependent on having an institutional framework that supports good policy.

Growth is also shaped by global developments. In recent years, the international division of labour has expanded as countries such as China catch up and in some areas take a lead. The UK faces pressure in a range of industries, particularly the manufacturing sector, although over the medium term, we should expect this to apply to parts of the service sector too. Such changes also create opportunities to move up the value chain and export to China and other emerging economies in areas where we can retain or gain a comparative advantage. Understanding where and how to collaborate and compete will be a crucial part of reinvigorating growth.

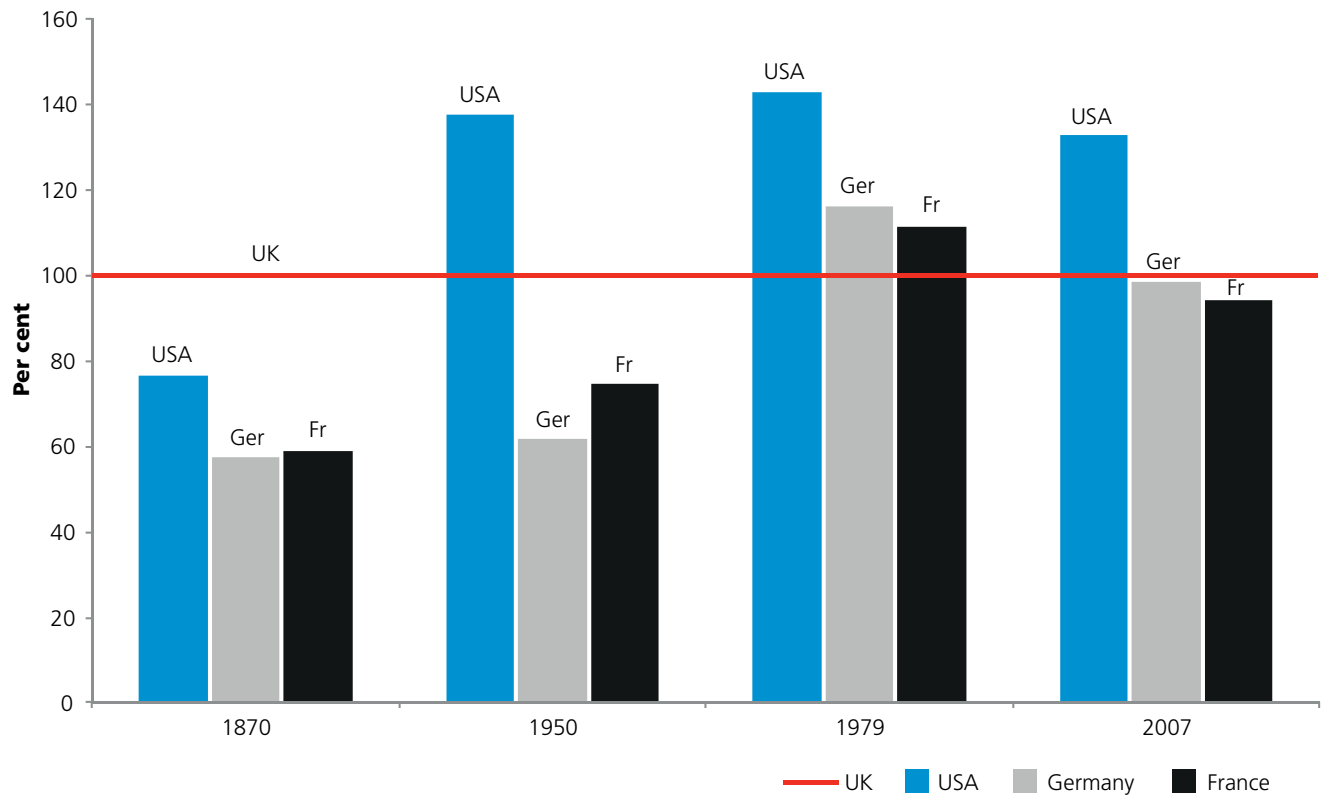
The challenge of restoring growth must also address the problem that faces all countries of managing climate change. An industrial revolution driven by the search for low-carbon technologies is likely to emerge as one of the most important areas for innovation in the coming years.

UK decline and rebound

It is sometimes remarked that the British are the only people who indulge in *Schadenfreude* about themselves, revelling in stories of national decline. This is perhaps the inevitable legacy of being the first industrial nation and the global superpower of the nineteenth century. Although the UK has enjoyed significant improvements in material wellbeing for well over two centuries, UK GDP per capita was in *relative* decline compared with other leading countries, such as France, Germany and the US, from around 1870.

At first, the UK's relative decline reflected an almost inevitable catch-up of other countries whose institutions created the right kind of investment climate. But by the late 1970s, as Figure 1 shows, the UK had been comprehensively overtaken: US GDP per capita was 40 per

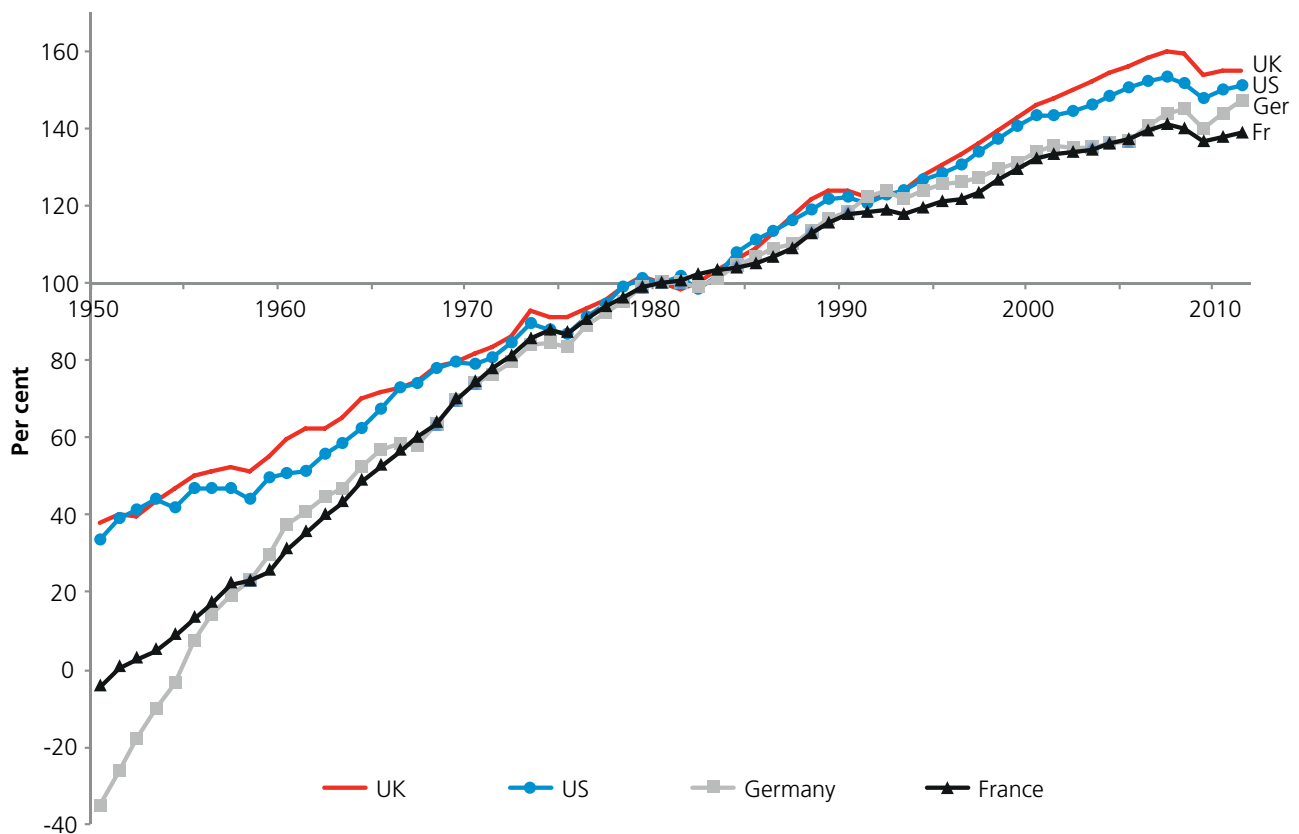
Figure 1: GDP per capita 1870-2007 (UK=100)



Notes: In each year the base is UK=100 and each country's GDP per capita is relative to this. So a value of US=120, for example, implies the US has a 20% higher GDP per capita than the UK.

Source: Crafts (2012)

Figure 2: GDP per capita 1950-2011 (1980=100)



Notes: GDP is US\$, constant prices, constant PPPs, base year 2011. For each country the series is set to one hundred in 1980, 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 1980 and 2001). The steeper the slope of the line, the faster growth has been over that period.

Source: Conference Board data, extracted on 8th of June 2012.

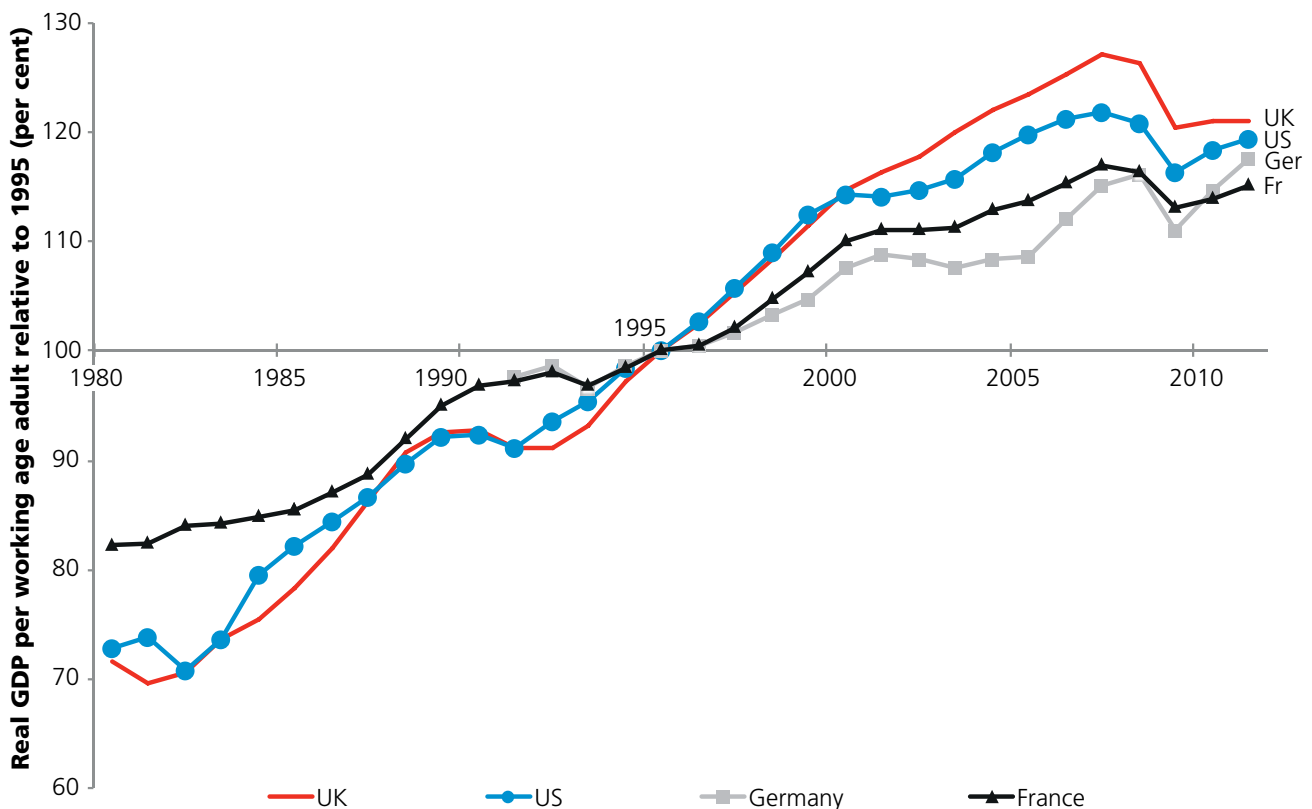
cent higher than the UK's and the major continental European countries were 10-15 per cent ahead. The subsequent three decades, in contrast, saw the UK's relative performance improve substantially so that by the eve of the crisis in 2007, UK GDP per capita had overtaken both France and Germany and reduced significantly the gap with the US.

Figure 2 shows trends in UK GDP per capita since 1950. After falling behind for most of the post-war period, the UK had a better performance compared with other leading countries after the 1970s. Figure 3 focuses on the later years (partially correcting for demographics by looking at GDP per adult rather than GDP per capita) and shows a similar story of a strong relative performance especially before 2008.

The improvement in GDP per capita can be broken down into increases in the employment rate (the proportion of the adult population that is working) and increases in labour productivity (GDP per worker or GDP per hour worked). Jobs growth in the UK was facilitated by an improvement in the functioning of the labour market through more activist employment policies and greater wage and job flexibility. But productivity growth was also impressive: among the G6 countries, the growth of UK GDP per hour was second only to the US in the decade to 2007 and the growth of the employment rate was better than that of the US.

Some commentators have suggested that these productivity improvements were all based on one narrow sector, finance. But this claim is wrong. As Figure 4 shows, productivity growth between 1980 and 2007 was *not* mainly due to the financial services sector. If we focus on the 'market sector' (by removing health, education, public administration and property, all sectors in which output is very hard

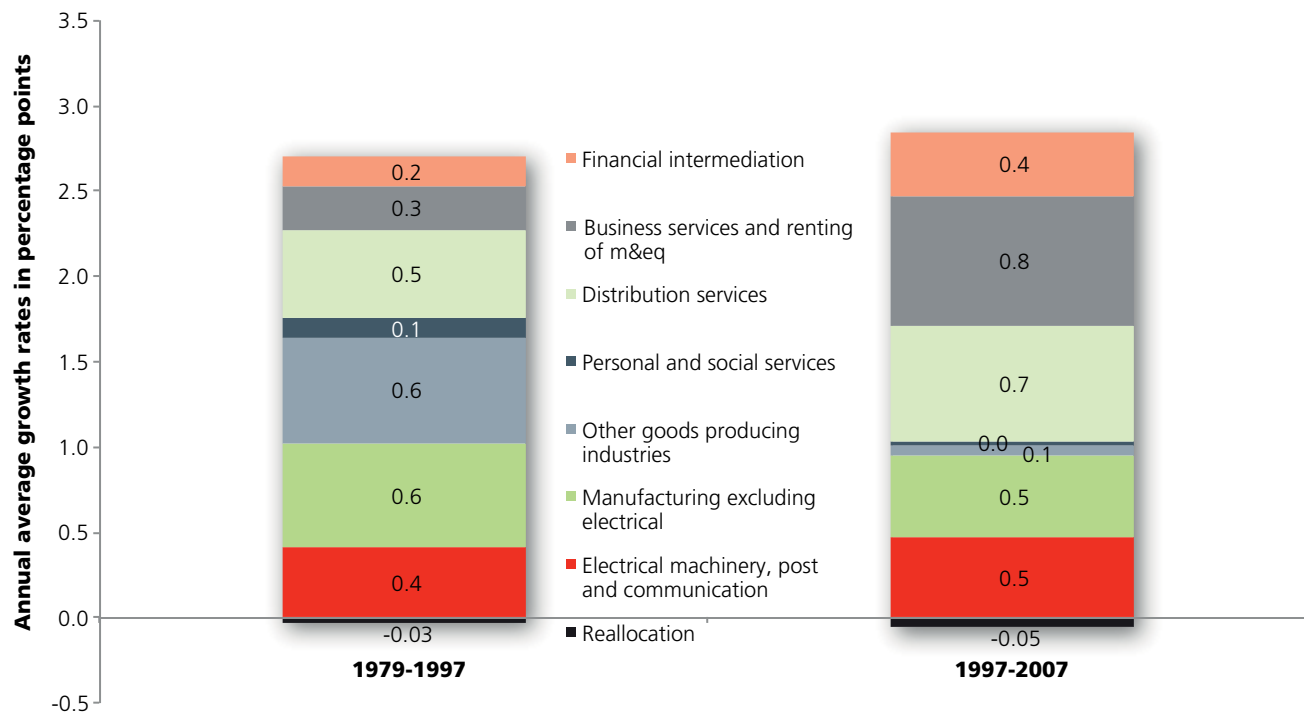
Figure 3: Trends in real GDP per working age adult, 1980-2011 (1995=100)



Notes: GDP is US\$, constant prices, constant PPPs, base year 2011. The number of working age adults, which is obtained from the US Bureau of Labour Force Statistics, includes the civilian population aged over 16. Data for unified Germany is from 1991. For each country the series is set to one hundred in 1995, 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 1995 and 2001). The steeper the slope of the line, the faster growth has been over that period.

Source: Conference Board data, extracted on 8th of June 2012.

Figure 4: Finance directly contributed only a small part of market sector productivity growth



Notes: These numbers are for the ‘market economy’. This excludes the sectors where value added is hard to measure: education, health, public administration and property.

Source: Corry et al (2011) using EU-KLEMS data.

to measure), productivity (real output per hour) grew at around 2.8 per cent per annum between 1980 and 2007. Finance only accounted for 0.4 per cent of the 2.8 per cent annual productivity growth in the market economy between 1997 and 2007. Distribution and business services were much more important contributors to productivity growth.

The other way to see that the UK’s positive pre-crisis performance was not driven mainly by finance is through the two versions of GDP growth published by the Office for National Statistics (ONS). One uses an output measure based on summing value added growth across industries, which could in principle be subject to a bias from overestimating output in financial services (although Figure 4 shows that this is not a major issue). The second measure, based on the ‘expenditure’ side, adds up the growth of real consumption, investment, government spending and net exports. The output of financial services would only affect these calculations through an overstatement of net exports (at most 0.1 per cent of GDP growth).

If there is a discrepancy between these two measures of GDP, the ONS uses the expenditure-based measure. Since this is not biased by mismeasurement of financial services output, finance cannot have caused direct overstatement of GDP in the years before the crisis.

So if it wasn’t all a finance-driven statistical mirage, what led the UK to achieve those improvements? The answer is that policies mattered.¹ It is worth focusing on important policy *changes* to understand where the economic gains in Figures 1-3 came from:

- Increases in product market competition through the withdrawal of industrial subsidies, movement to effective competition in many privatised sectors with independent regulators, a strengthening of competition policy (for example, through the 1998 Competition Act) and our membership of the European Union’s (EU) common market.

¹ There is good evidence that policy reforms helped to foster UK growth. Card et al (2004) summarise the evidence from the Thatcher-Major era and Corry et al (2011) summarise the evidence from the Brown-Blair era. OECD (2012a) shows the international evidence of how such reforms foster growth.

- Increases in labour market flexibility through reform of the public employment service in improving job search for those on benefits, reducing replacement rates, increasing in-work benefits and restricting union power.
- Openness to foreign business and global talent: restrictions on foreign direct investment were eased in the 1980s and restrictions on immigration relaxed in the late 1990s.
- Sustained expansion of the higher education system: the share of working age adults with a university degree rose from 5 per cent in 1980 to 14 per cent in 1996 and 31 per cent in 2011, a faster increase than in France, Germany or the US.

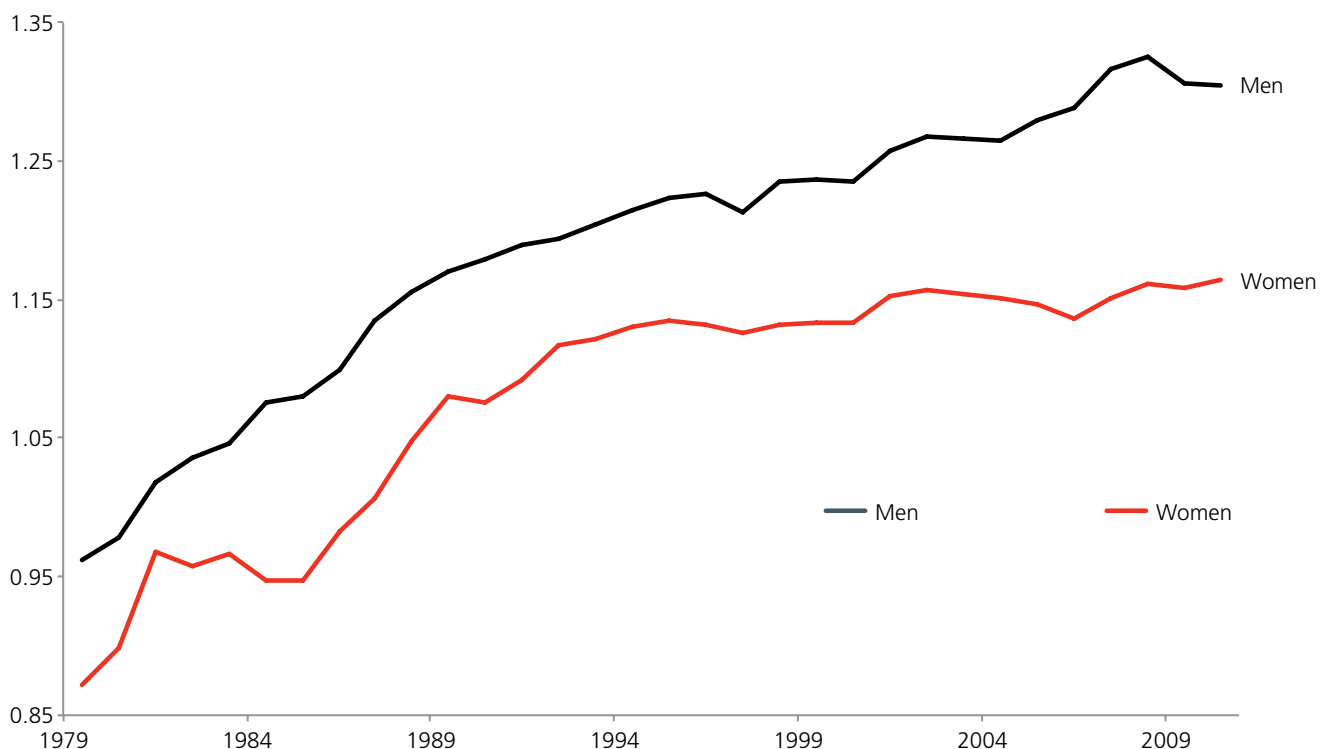
In spite of these policy successes, a number of long-term investment failures have not been tackled. The most important of these are:

- a failure to invest in mid-level skills.
- a failure to build adequate infrastructure – particularly in transport and energy.

- a failure to provide a supportive environment for private investment and innovation.
- a failure to distribute the fruits of growth more widely: alongside the improvements in the UK's growth performance in the three decades before the crisis, the country has experienced substantial increases in inequality.

UK levels of inequality are much higher than those in continental Europe and Japan. As in the US, UK inequality rose dramatically from the late 1970s onwards. Figure 5 gives one illustration of this phenomenon, showing the difference between the richest 10 per cent and poorest 10 per cent of workers (separately for men and women) between 1979 and 2010. There was a large increase in wage inequality, especially in the 1980s. Although some of this was related to worldwide pressures of technological change and international trade which have increased the demand for skilled workers, policies such as the weakening of unions and the lowering of welfare benefits also played a role. The distribution of income has widened and the median household's income (that is, those in

Figure 5: Wage inequality 1979-2010



Notes: Difference in the natural logarithm of weekly wages of full-time ("FT") workers at the 90th percentile (richest tenth) and 10th percentile (poorest tenth).

Source: Lindley and Machin (2012) using data from NES and ASHE (1% sample of all UK workers).

the exact middle of the distribution) has risen more slowly than the average household. Hence, focusing on the median paints a less rosy picture of economic progress over the last three decades than looking at the average.

Increasing inequality is not an inevitable by-product of growth, especially if policies are pursued that make growth more inclusive. A strong education system and an efficient labour market help people to participate in productive processes. Redistribution helps society to deal with the dislocation caused by innovation and globalisation. Although the UK's tax and benefit system is progressive and softens earnings differences, lower marginal rates on the better-off and reductions in real benefit levels during the 1980s exacerbated the degree of post-tax income inequality. This trend was reversed in the mid-1990s as in-work benefits became much more generous (for example, working family tax credits). In addition, the national minimum wage, introduced in 1999, helped to narrow inequality at

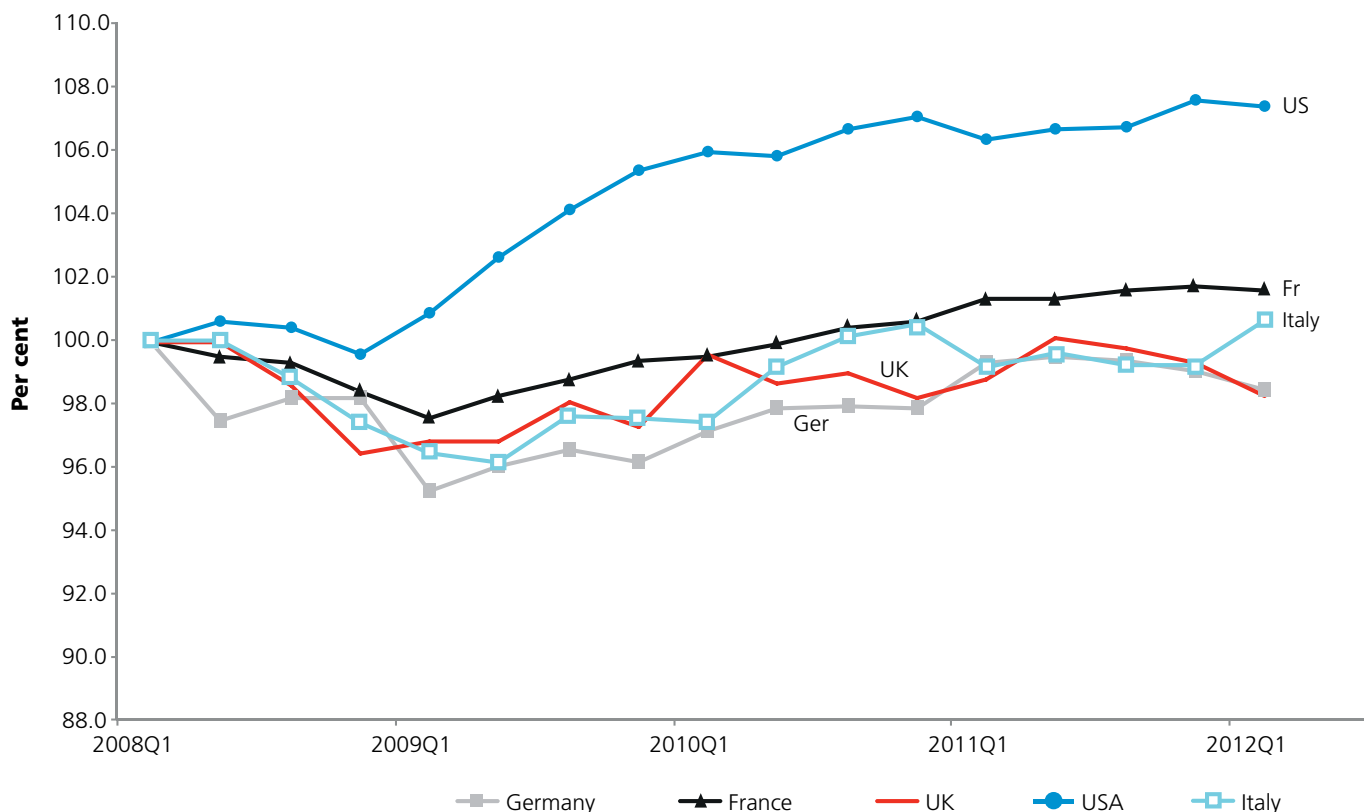
the lower end of the wage distribution. But less has been accomplished in addressing some of the sources of wage inequality, for example, by improving mid-level skills.

Decline again after the crisis?

In the wake of the crisis, the public mood has shifted from euphoria to depression with the general belief that the UK's previous economic success was illusory. We do not think that this is the case, but GDP does still remain around 3-4 per cent below its peak in early 2008 and the pace of recovery is slower than in every previous UK recession. The crisis has taken a severe toll on all OECD countries with the UK faring somewhat worse than average in terms of GDP but better than average in terms of jobs.

UK labour productivity has fallen since the crisis began and is about 10 per cent below where it would have been had the pre-2008 trends

Figure 6: Output per hour (2008 Q1=100), seasonally adjusted



Notes: US output per hour only covers the business sector.

Source:ONS (2012) 'The Productivity Conundrum, Explanations and Preliminary Analysis' (http://www.ons.gov.uk/ons/dcp171766_283259.pdf)

continued. But as Figure 6 shows, the UK is hardly unique: just about every OECD country has seen such a decline in productivity with the exception of the US, which had a much larger shakeout of jobs. This suggests that the causes of depressed productivity are common across the advanced economies rather than due to a UK-specific issue. Further, as discussed above, the evidence in Figure 4 shows that the pre-2007 UK productivity gains were not primarily due to the financial services bubble.

Many possible explanations have been put forward for the low output and productivity of the UK and other advanced economies since the onset of the crisis.

Demand-side explanations of the continued slow recovery emphasise the way that fiscal austerity has been a drag on growth, especially when simultaneously pursued by most advanced economies with interest rates stuck at close to zero. The UK government has so far kept to a tough austerity programme and that seems destined to last for a number of years. Low domestic demand has been sharpened by a recession in the eurozone, the UK's main export market, which is also struggling with fiscal retrenchment, banking crises and sovereign debt problems. This uncertainty has been compounded by the unresolved fiscal issues in the US.

The principal supply-side explanation of the slow recovery stresses the damage done by the shock to the financial sector:

- The first problem is that banks are repairing their balance sheets, which is making them reluctant to lend.
- The second problem is that small and medium-sized enterprises (SMEs) are finding it hard to access finance and this is inhibiting growth and new entry.
- The third problem is one of exit: while low interest rates and some forbearance by banks have led to fewer defaults by households and businesses, this has slowed the adjustment process. Many businesses and households would go bankrupt under normal market conditions.

Together, these three factors have created a problem of capital misallocation and debt overhang that may take many years to unwind. This weighs down on incentives to invest in housing and private capital.

These demand- and supply-side factors are interrelated. There is a risk that if high levels of unemployment persist for many years, the long-term unemployed will lose their skills, motivation and networks, thus reducing potential supply. If there are fewer innovative new entrants, this will drag down potential growth for many years.

Even though these factors create serious headwinds, standard growth theory and economic history suggest that permanent falls in the rate of

growth are unlikely. For example, growth rates did not fall permanently after the Great Depression. Although there may be some permanent loss in the level of output, this loss has tended not to be large in most past recessions. Hence, although policy remains important in determining the speed of the recovery from recession, we do not believe that the crisis has revealed that the pre-2008 improvements in the UK's economic position relative to the EU and the US are likely to unravel. Nevertheless the effectiveness of these improvements will be undermined if we do not address the problem of investment failure.

Investment failure: the UK's fundamental problem

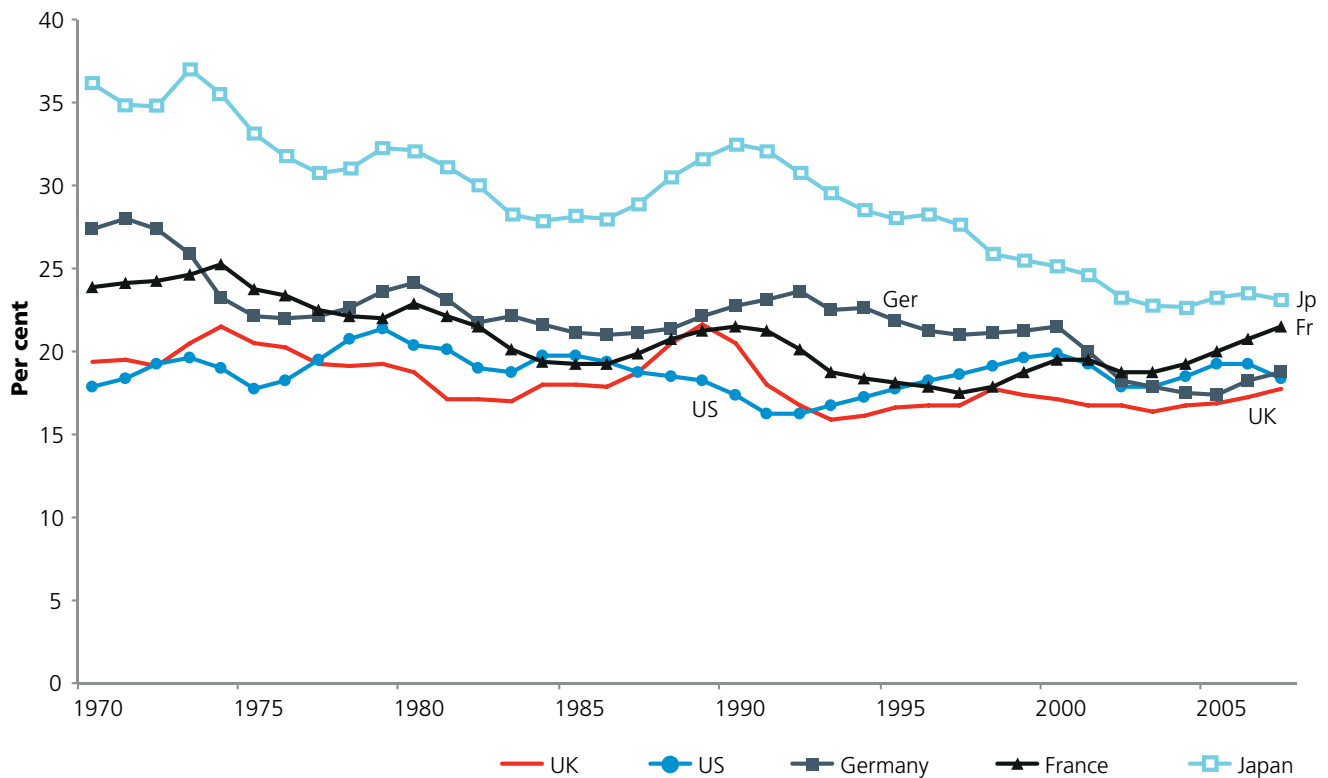
The UK was once a paragon of investment. Around the time of the industrial revolution, major investments in roads, canals and railways supported growth and industrial transformation. For example, the turnpike trusts, which were created to extend the road network as well as canal-building programmes, harnessed private initiative to alleviate transport bottlenecks at a time when the absence of infrastructure would have been very damaging. In the late nineteenth and early twentieth century, the UK was also at the forefront of investments in electrification and sanitation, enabling dramatic gains in living standards. The UK had the structures needed to be adaptable to the economic challenges of the time.

The dynamism that saw the provision of infrastructure that enabled the growth of the UK as an industrial power has all but evaporated. Successive policy initiatives have failed to put in place adequate structures to support the identification, planning, implementation and financing of infrastructure projects, particularly in transport and energy. Thus, the provision of infrastructure now constitutes a persistent and major policy failure, one that generations of governments from all parties have failed to address.

The failure to provide infrastructure is matched by the failure of policy since the 1970s to address longstanding problems of low investment. In some cases, policy reforms may actually have made the problems worse. While it is well-known that public and private investment rates have been slashed in the wake of the crisis (with public investment falling from £51.1 billion in 2009/10 to £26.7 billion in [2011/12](#)), investment levels have in fact been low in the UK for many decades (see Figure 7).

These problems of underinvestment are not confined to capital in the classic sense: indeed, they cut across aspects of *skills, infrastructure and innovation*. Despite much evidence on these problems and their impacts on growth (which we document in more detail below), successive governments have failed to address them effectively. Three problems loom large:

Figure 7: Investment as a percentage of GDP, 1970-2007



Notes: This indicator is calculated as the ratio of gross fixed capital formation to GDP. Data refer to fiscal year.

Source: OECD (2012c) Factbook 2009 - Economic, Environmental and Social Statistics.

First, relatively large numbers of children are still exposed to poor quality teaching and leave school inadequately prepared for the rest of their lives. In 2011, 58 per cent of pupils in England got five good GCSEs (A* to C), including English and maths. But only a third (34 per cent) of pupils from disadvantaged backgrounds (classified as those on free school meals or in local authority care) achieved this benchmark. Improvements in human capital are arguably the best way to achieve more inclusive growth and to reverse increases in inequality without putting further pressures on the benefit system.

Second, infrastructure has been neglected, particularly in the areas of transport and energy. For example, more than a fifth of the UK's electricity-generating capacity will go out of commission over the next decade and Ofgem, the energy sector regulator, has warned of power shortages by 2015.

Third, the UK is home to one of the most dynamic world centres for financial services, yet the country seems unable to deliver adequate long-term finance for innovation and private investment.

UK investment levels are significantly below those of other EU countries (see Figure 7). In 2008, the UK's share of total GDP devoted to R&D stood at 1.8 per cent, a lower proportion than in the US (2.8 per cent), Germany (2.7 per cent) or France (2.1 per cent).

In spite of the evidence that low investment in skills, infrastructure and innovation imposes major constraints on growth, poor policies persist along with institutions that fail to provide long-term frameworks for investment and action. The result is that although there were improvements before the crisis, UK productivity levels still lag behind other major countries. In 2011, UK GDP per hour was 27 per cent below the level in the US, 25 per cent behind France and 22 per cent behind Germany.

Why does the UK fail to invest for prosperity? To understand this, we need to understand the nature of the policy successes and failures and the institutions that support them.

The right policy-making environment

Long-term investments require a stable policy environment within which investors can manage risk since returns often accrue over decades, well beyond the typical parliamentary cycle. Stability is fostered by having a predictable policy framework, where possible backed by a cross-party consensus. Failure to create such conditions undermines investments, posing a serious impediment to growth. The evidence suggests that the UK has failed to create an enabling environment in a number of important areas for growth.

The problem of policy instability is compounded by a number of features of the political process:

- First, the time horizons of politicians are typically truncated as they are moved swiftly between ministerial posts and face the electorate every four or five years.
- Second, the adversarial nature of UK politics creates a tendency towards policy switches (and subsequent reinvention) as governments change. Sometimes this means rebranding and reorganisations. In some cases, there is genuine uncertainty about whether the policy framework that is in place will last. The pressure of bad publicity weighs heavily on political decisions and makes it harder for politicians to take unpopular decisions.
- Third, political debates often lack guidance from independent, evidence-based advice. For example, the civil service must maintain the confidence of ministers and is constitutionally barred from advising anyone but the government of the day. Civil servants' incentives appear to be more focused on helping to deliver policies than on helping governments (or others) structure their thinking in the longer-term interests of society as a whole.

Too often, the result is a costly cocktail of political procrastination, institutional churn and poor decision-making. 'Celebrity reviews' are often set up to come to the rescue, sometimes as a genuine attempt

to fill an institutional gap but more often to make it appear that action has been taken, whereas many of the key problems are left unaddressed or action is indefinitely postponed.

In some policy areas, the UK has led the way in seeking innovative institutional solutions for designing and implementing policy more effectively. In many cases, this has been achieved by creating a better balance between political discretion, technocratic input and predictable rules. Perhaps the longest standing is our system of common law, which has allowed independent courts to oversee the evolution of the law while operating at a distance from political interference. More recent examples include:

- The conduct of competition policy under the 1998 Competition Act and the 2002 Enterprise Act, which strengthened the Competition Commission and the Office of Fair Trading (OFT): these two institutions were made more independent and political lobbying was removed from decisions over large-scale mergers.
- The decision to give the Bank of England independence to set interest rates after 1997: a series of structures was put in place to allow for the idiosyncrasies of monetary policy, particularly the need for credible, long-term policy commitments based on sound and transparent expert advice. The UK went from having one of the most unstable macroeconomic environments in the 1970s and 1980s to having one of the most stable. While lessons are now being learned from the crisis, this approach is also being followed in 'macro-prudential regulation' of financial markets.
- The regulators of privatised services, such as telecoms (Ofcom), energy (Ofgem) and water (Ofwat): these agencies aim to provide a framework of rules that safeguard the public interest along with a stable investment climate. They draw heavily on independent expert advice overseen by judicial process.
- The National Institute for Health and Clinical Excellence, which has helped to create a better informed and less polarised debate around the choices of health treatments in the NHS: the government remains rightly in charge of overall spending rules but no longer directly manages difficult detailed decisions where clinical expertise is of primary importance.
- The Migration Advisory Committee, which set up the points-based system for immigration; the Low Pay Commission, advising on the minimum wage; the National Pay Review Bodies for public sector workers; and the Climate Change Committee. In all of these cases, expert opinion is used within a clearly defined framework.

“The UK has failed to create an enabling environment in a number of important areas for growth. The result is a costly cocktail of political procrastination, institutional churn and poor decision-making.”

- The Office for Budget Responsibility (OBR), which has taken over the UK's fiscal forecasting functions from HM Treasury: the new institution monitors the degree to which the government is on track to meet its own fiscal goals; produces long-term assessments of fiscal sustainability; and scrutinises the Treasury's costing of budget measures. In these various roles, the OBR helps to strengthen the external credibility of fiscal policy and raises the quality of the political debate.

Two main lessons follow from these experiences:

First, they have put politics in the right place. The strategic choices, rules and high-level objectives are set by government. Independent bodies make decisions based on the technical criteria laid down by politicians and are held to account by parliament. In so doing, these bodies have mitigated the problems of indecision and unpredictability that are important impediments to investment and growth. By focusing the politics where it should be, they improve accountability, transparency and democracy.

Second, in these successful cases, the political debate is supported by a framework for independent and transparent expert advice, with clear lines of accountability.

Throughout this report, we discuss how these principles of policy-making success can be extended further to foster a better climate to encourage investments in human capital, infrastructure and innovation.

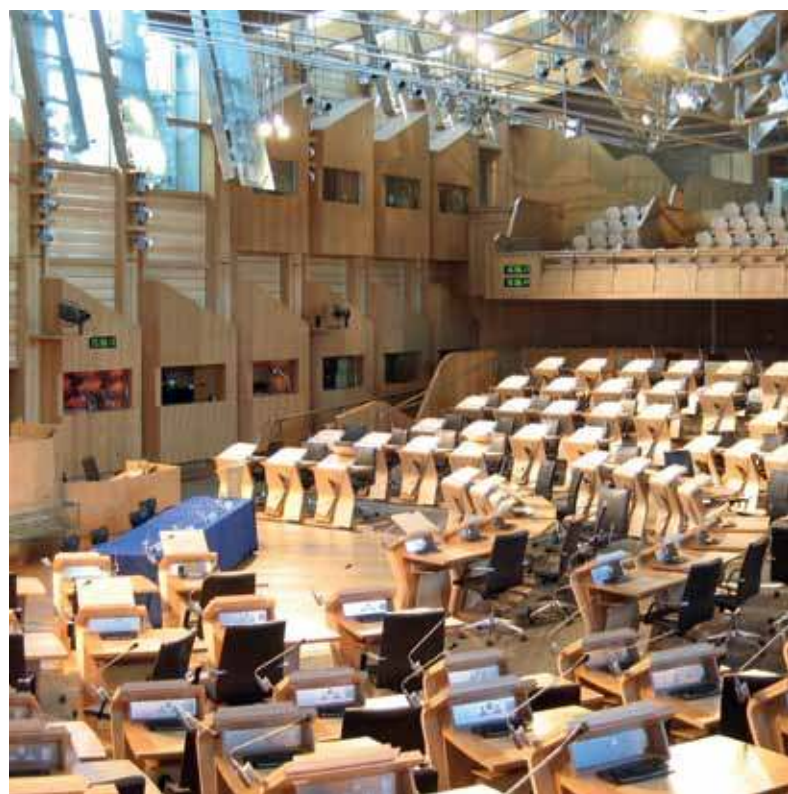
In thinking about institutional ways to reduce policy instability, we also need to consider our relationship with Europe. We cannot predict what will happen with any degree of accuracy. But we shall surely still have Europe as our main trading partner for the foreseeable future and, as discussed above, the common market has been an important driver of productivity-enhancing competition. Hence, calls to leave the EU through a referendum are not only misguided: they create the very uncertainty that will damage investment and productivity right now. It is analogous to the needless self-inflicted wounds that the US is causing in its debates over the debt ceiling and fiscal cliff.

The structure of our report

The remainder of this report is about how the UK can create better conditions for investment. First, we show how the causes of lower UK productivity levels are linked to investment failures – in human capital (Section III), in infrastructure (Section IV) and in private investment and innovation (Section V).

In each section, we ask why the type of investment particularly matters for growth and document the UK's specific problems in these areas. We then give our recommendations, dividing these into the most important core policies first followed by some more auxiliary measures. We also take up the challenge of answering the political economy question: why have these problems not been dealt with adequately before?

The last parts of the report suggest a better way of accounting for our progress in promoting inclusive growth (Section VI) and a call to all sides of the UK political spectrum to sign up to a 'Manifesto for Growth' (Section VII).



III. Human capital²

Why human capital matters

Both economic theory and empirical evidence show that in the long run, human capital is a critical input for [growth](#). The growth dividend from upgrading human capital is potentially enormous and improving the quality of compulsory education is the key to achieving these gains. Evidence suggests that increasing UK school standards moderately (say, to the level of Australia or Germany) could put us on a growth path that would more than double long-term average incomes compared with current trends. An even more ambitious target – to raise our educational standards to those of leaders, such as Finland – would generate even more spectacular gains. It is important, therefore, to frame debates about improving school quality as a growth issue.

There is a double dividend from improving human capital since many of the gains from growth would accrue to the less well-off, thereby reducing inequality. Increasing the quality and quantity of skills of disadvantaged children will make growth more inclusive through reducing the high levels of wage inequality in the UK (see Figure 5 above). In addition to the benefits from lower inequality, reducing the fraction of poorly educated will reduce the welfare rolls and the numbers caught up in the criminal justice system.

Although our principal focus is on education between the ages of 5 and 18, it is important to promote excellence in higher education and lifelong learning as well as dealing with other longstanding problems in vocational training, pre-school education and adult skills. We also suggest reforms in these areas.

A large number of international studies show that high quality teaching is the key to improving schools. There are well-established positive effects from extra resources, improved buildings, higher pay (especially when linked to performance), extended provision of information technology and smaller class sizes. But these effects appear to be very modest in comparison with the large benefits that could be realised by increasing the quality of teachers.

Unfortunately, predicting who will be an effective teacher before they start working is very hard and is not well-captured by the formal teaching qualifications held nor by number of years in the profession. But once teachers have been in front of a class, parents, pupils and especially head-teachers have a good idea of who are the really excellent teachers. In addition, there is now much more data on pupil progression. Thus, a system for improving the quality of teachers has to use information acquired from observing teachers at work and being responsive to their performance.

Diagnosis: the problems of education in the UK

The UK is mid-table overall in most international rankings of schools: it is mediocre in the internationally comparable tests in the OECD's PISA scores (taken at age 15), although it does somewhat better in the more curriculum-based TIMSS (taken at ages 10 and 15). Indicators of the UK's average educational outcomes have shown significant improvements, some of which is grade inflation, but some of which is real. Most impressive is the increase in the proportion of the workforce with a university degree (from 5 per cent in 1980 to 31 per cent in 2011).

One major systemic failing in the UK education system is the 'long tail' of poorly performing schools and pupils compared with other countries, particularly at the secondary level. A significant part of the explanation for this is the stubborn link between pupils' socio-economic background and their educational attainment. For example, a fifth of children in England on free school meals (a common measure of disadvantage) do not reach the expected maths level at age 7 (Key Stage 1) and this proportion rises to a third by age 11 (Key Stage 2). The correlation between disadvantage and poor academic attainment



² For a more detailed discussion please see lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/HumanCapital.pdf.

is particularly strong in the UK. Our failure to provide adequate education to children from disadvantaged backgrounds constitutes a waste of human resources on a grand scale. It holds back economic opportunities and is detrimental to growth.

Disadvantaged children are found in many schools and generally perform poorly compared with their better-off peers even when located in better schools. Disadvantaged children lose out in schools because:

- Most schools face weak incentives to focus on their performance. Parental choice is seriously constrained by place of residence and, in particular, distance from home to school. Despite numerous initiatives to facilitate greater parental choice, including several changes to the schools admissions code, the ability to choose schools is still mainly a prerogative of better-off families who can buy houses near good schools.
- The framework for school inspections by the regulator, Ofsted, places insufficient emphasis on pupil performance across the range of achievement levels.
- Government ‘floor targets’ are themselves flawed.³ They do not focus on the ‘lower tail’ within schools and so schools can meet them largely by ignoring the bottom third.

Current funding arrangements give more resources to local authorities in areas with more disadvantaged children. But the evidence suggests that these resources fail to reach them effectively. This is true, for example, because much of this money is not ring-fenced for individual schools or even for disadvantaged pupils within schools. In response to this, the ‘pupil premium’ was introduced as a funding stream attached directly to disadvantaged children. As with an educational voucher, this should increase the incentives for schools to admit disadvantaged pupils and increase their financial resources. But although such payments are better targeted than standard local authority funding, survey evidence suggests that schools generally do not use these funds specifically to help disadvantaged pupils.

Another problem in schools is due to deficiencies in teacher recruitment and training. Selection into teacher training is tight at the beginning of the course but negligible thereafter. Tightening academic entry requirements still further is not the answer: such policies restrict the number of recruits without having a significant impact on teaching effectiveness.

“Our failure to provide adequate education to children from disadvantaged backgrounds constitutes a waste of human resources on a grand scale. It holds back economic opportunities and is detrimental to growth.”

Although the UK scores reasonably by international standards, school autonomy remains limited because a large number of schools still operate under heavy constraints due to the power of local authorities. Local authorities are generally reluctant to allow popular schools to expand and underperforming schools to contract. Thus, in practice most schools have a guaranteed intake, regardless of how they perform. This is changing under the expansion of the academies programme started by the last government and extended in the 2010 Academies Act by the coalition government. Academies have significantly greater freedoms in management (although, quite rightly, not the freedom to select their pupil intake on ability) and they are directly funded by the Department for Education.

School autonomy *combined with* a strong accountability framework centred on quality provides the best hope for improving school performance. There is evidence that more autonomous schools respond better to local parental choice, so increasing parental choice will not lead to higher standards without greater decentralisation to empower head teachers. Accountability is also fostered through better governance and leadership through sponsorship from successful external organisations, such as universities or school networks.

³ According to the Department for Education, primary schools are underperforming unless one of the following criteria is met in English and maths: (i) at least 60% of pupils achieve the expected level (level 4) or higher; overall; (ii) pupils make the expected degree of progress between the end of infants (Key Stage 1) and the end of juniors (Key Stage 2). Secondary schools are underperforming if less than 40% of pupils achieve five good GCSE – or equivalent qualifications – graded A* to C, including English and maths (this threshold will rise to 50% by 2015); and fewer pupils make good progress in English and maths between Key Stage 2 and Key Stage 4 than the national average.

“We need a school system with.. strengthened central accountability ... wider parental choice and more flexibility for successful schools and their sponsors to expand.”

Core recommendations on education

Our proposals go with the grain of the academies movement. But the system needs to deal more squarely with the UK’s failure to develop the talents of disadvantaged pupils. We therefore propose some direct steps, particularly financial and non-financial incentives, to address this fundamental problem.

The ‘academisation’ of the school system should deepen into a ‘flexible ecology’, building on aspects of the higher education system (see below). There are four integral parts: greater school autonomy, strengthened central accountability (transparent information and inspection), wider parental choice and more flexibility for successful schools and their sponsors to expand.

To improve school governance, leadership and management, it must become easier for outstanding sponsored academies to grow. Ideally this operates at the school level by making physical expansion easier. But there may be spatial limitations, which is why expansion through the growth of networks of sponsored academies is also an important way to spread better practices. By the same token, it should be made easier for underperforming schools to shrink and, if they do not improve, to be taken over or, in extreme cases, closed down.

Changes to help to develop the talent of **disadvantaged pupils** include:

- Information on school performance needs to be changed to also reflect the performance of disadvantaged children within the school. Such changes should apply to league tables and targets and they should be more closely reflected in Ofsted’s inspection regime. Improving the performance of disadvantaged children should be given a central role when Ofsted awards an ‘outstanding’ grade to a school.
- ‘Floor targets’ must be redesigned to become effective in addressing poor school performance and should be aligned with the guidelines defined in the framework for schools inspection. This should involve moving away from undifferentiated average

performance targets (such as the current target, which requires 40 per cent of A* to C passes at GCSE level). These are ‘blind’ targets that distort schools’ incentives to target resources and support towards those children who can more readily be expected to reach the pre-defined threshold.

- Contextual value added (school exam results adjusted for intake quality) should be published by school for pupil premium children and for the medium-performing Key Stage 2 group.

The expansion of new sponsored academies should be focused on underperforming schools serving disadvantaged children. The original programme was shown to be very successful in doing this ([Machin and Vernoit, 2011](#)). But the post-2010 academies are less focused on this group of schools.

Teacher quality needs to be improved through better conditions for both *entry and exit*. Teacher recruitment and training could be improved by:

- Teach First (which is renowned for its outstanding track record in recruiting high quality graduates) should expand until it becomes one of the main routes into school teaching.
- Mainstream teacher recruitment should become more concentrated in the best universities and schools, following a national recruitment process.
- The probation period for teachers should be extended in length – for example, by doubling it from two to four years.
- Policies that insist on grades, qualifications and backgrounds should be relaxed to encourage a wider range of applications to reflect the fact that teacher effectiveness is not highly correlated with crude background indicators.
- Mechanisms for teachers and schools to share best practice should be more strongly encouraged. The ‘London Challenge’ programme has shown how successful this could be.

Our proposed measures would, we believe, work together to increase the skills that are needed to make the UK economy a more competitive and dynamic place to do business and directly tackle the longstanding problem of poor intermediate and low-level skills. Together they would ensure that fewer of our children leave school ill-equipped to work in the competitive international environment that we now face. These proposals would also reduce disadvantage without compromising the achievements of other children.

Other policies to support human capital

Further recommendations for schools

- To provide additional support for disadvantaged pupils, the criteria for receiving the pupil premium should be expanded to reflect a wider measure of disadvantage than simply free school meals. This need has now been acknowledged by making eligibility for the pupil premium dependent on whether a family has ever been eligible for free school meals in the last six years. But available databases could expand the definitions of eligibility further.
- The pupil premium is planned to increase from £600 to £900 in 2014/15. We recommend that part of the premium should be given in cash to the pupils and families to provide an individual incentive. This should be conditional on improvements in performance after age 14, such as attendance and grade improvement beyond pre-agreed baseline expectations. This kind of 'conditional cash transfer' programme has proved to be effective in a wide variety of programmes (in welfare reform, for example, re-employment vouchers are usually more effective if the bonus is kept by the jobseeker rather than the firm). The precursor to this approach was the Educational Maintenance Allowance, which evaluations show was effective in encouraging children from disadvantaged backgrounds to remain in school. We recommend that the bursary scheme that replaced Educational Maintenance Allowance should be wrapped back into this.
- More resources should be made available for programmes that provide better information to low income children and parents on the economic returns to different subjects.
- In the spirit of encouraging better teaching, a more flexible system of rewards should be introduced for pay and promotion. This would include ending automatic increments; basing pay on performance and local market conditions; and extra rewards for teachers of core subjects in tough schools. We need swifter action on improved professional development and movement out of the classroom for underperforming teachers. Some of these changes are starting to happen and we expect this process to accelerate under the flexible education system that we are recommending, which should give head-teachers the incentives and capabilities to make these reforms.
- UK education policy has traditionally lacked rigorous, independent evaluations. Positive steps have been taken in this direction with the creation of the Education Endowment Foundation, but much more could be done. For example, we recommend piloting the release of teacher-level information on performance (in similar vein to NHS data available on surgeons).

Higher education

The UK has a world-class system of higher education, home to many of the world's leading universities. For example, the UK is the only country outside the US represented in the [Shanghai ranking](#) of the world's top 10 universities and has more major scientific prizes per capita (for example, Nobel prizes) than the US. The benefits from maintaining funding for research and an open environment in which universities can compete for the best minds as students and faculty cannot be overestimated. The knowledge and understanding created in universities play a central role in building a flexible and adaptable economy. The higher education sector benefits the UK economy as a source of skills, of innovations that raise productivity and of valuable exports earnings in the form of foreign students who choose to study here (an enormous industry of global growth). There are potential advantages to the UK from having the world's leaders in economy, society and government educated here.

- It is essential that the UK continues to attract the best students and faculty from around the world. The current policies on student visas and work visas for non-UK citizens are damaging because of their direct impact on the ability to recruit. We recommend that if the net immigration target itself is not dropped, then students should be removed from the target. These policies send a signal to the world that the UK is becoming insular and will damage our position in higher education and, if they are sustained for any length of time, they will constrain growth.
- One of the main reasons for the UK's success in higher education is a framework of rules and accountability that emphasises excellence in teaching and research. Universities are largely autonomous in their operational decisions and it is important that this is sustained. There is now a settled institutional framework through the Higher Education Funding Council for England (HEFCE) and the funding councils to channel funds towards centres where research is objectively evaluated. The flexible ecology of higher education allows freedom to build bridges with industry, either in the form of sponsored research or through collaborations in student degree programmes. There is further scope to strengthen and enhance these linkages in undergraduate programmes.

“It is essential that the UK continues to attract the best students and faculty from around the world.”



delivery of course material and lectures online, for example, by the [Khan Academy](#). Given the dominance of the English language in science and the flexibility of the higher education sector, this should be an area where the UK can seize an opportunity.

Vocational training

Intermediate skills are particularly poorly developed in the UK, as are the transitions between schools and the workplace, hence our relatively high proportion of young people 'not in education, employment or training' (NEETs). There is now a cross-party consensus that the number of apprenticeships should be increased as they are a vital way to tackle the problem of low/intermediate skills. There has been a significant expansion of apprenticeships since 2010, but unfortunately these have mainly been for the over-25s in relatively low skilled, low paying jobs.

Several recent reports on apprenticeships by Hilary [Steedman](#), Alison [Wolf](#) and Doug [Richard](#) have a common theme. The most important thing is to get employers more involved through a mixture of carrots (devolving more of the skills budget directly to them) and possibly sticks (for example, an industry-specific training levy). Apprenticeships need to be longer, they should pay a training wage (English apprenticeships are relatively highly paid by international standards, which deters many employers) and their administration must be radically simplified. Potential learners need accurate information on training and good advice that does not pretend that all types of learning will be equally economically rewarding.

The UK has a longstanding problem of poor adult basic skills and particular shortcomings in literacy and numeracy. Many reports (for example Kang et al, 2012) estimate that around a fifth of the adult population lack such basic skills. Our policies to improve education and the apprenticeship system will have a long-term effect on reducing this serious problem.

Apprenticeships must be of much higher quality - too much of the expansion of apprenticeships over the last six years has been around low quality apprenticeships. There should be an element of 'off-the-job' training. There must also be an element of compulsory basic skills in English and maths which in the long run would help to tackle the problem of poor adult basic skills. Every other country concentrates on improving the language and maths ability of its post-16 vocational students and so, belatedly, should the UK.

“Apprenticeships need to be longer, should pay a training wage and their administration must be radically simplified.”

Pre-school education

Early years' pre-school education has immense potential to increase skills since small improvements at an early stage of life will cumulate over an individual's lifetime. Thus, it is far better to intervene early on to improve human capital than to wait until someone is struggling for a job as an adult. Early life experiences will be a source of disadvantage that is later reflected in poor performance in schools. There are some high quality randomised controlled trials outside the UK that suggest large returns to intensive interventions such as the [Perry Preschool project](#), the [Abecedarian Project](#) and [Nurse-Family Partnership](#).

Given the proven importance of early intervention we support a greater policy focus on improving children's centres as a means of delivering targeted interventions to improve the prospects of children who are most at risk of developing weak cognitive and non-cognitive skills. Children's centres are essentially a scaled down version of Sure Start, which also struggled to deliver high quality services for disadvantaged children (partly because most of the staff are volunteers). The extra resources needed for children's centres needs to be concentrated on the disadvantaged with an emphasis on evaluating best practice and propagating it throughout the system.

Why have problems with human capital persisted?

Since the UK's education system has been an area of intense interest and policy reform over the past 15 years, it may seem surprising that so many problems persist. There have been welcome movements towards greater school autonomy and improved educational standards. Much has been learned about what is effective, but there are factors that are holding back reforms and these problems need to be addressed.

First, information (such as league tables), targets and Ofsted focus on the average pupil rather than those nearer to the bottom of the distribution. Politicians tend to accept this focus because they often target the average voter in elections.

Second, the reforms we discuss threaten a number of vested interests in maintaining the status quo. Some people are understandably fearful of the ideas of changing teachers' contracts, reducing the role of local authorities and allowing greater movement of pupils between schools. Combining the move to a more flexible system with an emphasis on disadvantaged children should help to allay those fears.

Third, because of the high public profile of the education system, there is a tendency for national politicians to tinker with certain areas of human capital policy to give the impression that the government is actively working to improve things. There is also too great a readiness to create the perception of party differentiation.

Apprenticeship policy is an example of these problems. The 2011 Wolf Review emphasised that the attempted micro-management of vocational training by central government with overlapping directives, constant policy reversals and expensive bureaucracy is at the heart of the problem. As with other areas highlighted by our Commission, the policy uncertainty engendered in this area has been highly counterproductive.

Summary on human capital

Growth depends on improving human capital and this starts with higher quality teaching in schools. We propose a flexible system for education, which gives schools greater autonomy and the ability to grow within a national accountability framework that places a premium on radically raising the standards of the bottom ability group. Together with improved choice for parents, better quality information (across the entire distribution of achievement) and more effective incentives for teachers and schools, this will improve the quality of teaching. The UK's world-class university system must also be sustained and strengthened as a key potential advantage in a rapidly changing world.

IV. Investment in infrastructure⁴

Why infrastructure matters

Investments in infrastructure, such as transport, energy, telecoms and housing, are essential inputs into economic growth. They are complementary to many other forms of investment. They also tend to be large-scale and long-term, requiring high levels of coordination to maximise the wider benefits that they offer. This makes it inevitable that governments will play a vital role in planning, delivering and (to some extent) financing such projects.

Diagnosis: the problems of infrastructure in the UK

In the 2012 World Economic Forum report on global competitiveness, the UK was ranked only 24th for 'quality of overall infrastructure'. In a 2011 infrastructure survey by the Confederation of British Industry, nearly half the respondents rated the UK's transport networks as well below average by international standards. Nowhere is the problem of UK infrastructure better illustrated than by airport capacity in the South East, where generations of politicians have prevaricated to a point where there is serious risk to London's position as a major hub.

Improving infrastructure requires a radical change in how to initiate, decide and implement policy in a much more coherent way. Historically, attempts to overcome market failures in infrastructure investment have led to a mixture of government ownership and provision on the one hand and private sector regulation on the other. This, in turn, has exposed infrastructure investment to important policy risks and decision-making biases that damage investment prospects.

“Nowhere is the problem of UK infrastructure better illustrated than by airport capacity in the South East, where generations of politicians have prevaricated to a point where there is serious risk to London's position as a major hub.”

Among the key problems that need addressing in relation to all areas of infrastructure are:

- Vulnerability to policy instability – a lack of clarity about strategy, frequent reversals and prevarication over key decisions. For example, it has taken 12 years of reviews, white papers and some legislation for government to come forward with a substantial set of energy policy reforms (the most recent being the 2012 Energy Bill).
- Difficulty in basing decisions on sound advice and assessment of policy alternatives built on unbiased appraisals (as opposed to lobbyists).
- The limitations of a planning system that does not properly share the benefits of development from implementing strategy and tackling problems. This has created chronic NIMBYism (local resistance to new developments on the grounds of 'not in my backyard') because of the incentives for small groups of influential citizens and politicians to veto or cause egregious delay to projects with wide economic benefits.
- A series of public sector accounting distortions that have made it difficult to weigh up benefits and costs in a coherent way. In particular, targets for fiscal policy often draw on measures of public debt while failing to account for the value (and depreciation) of public assets.

These problems affect all major public sector capital projects to some degree, but they vary in their severity. The consequences for long-term growth and patterns of development in the UK also vary. We focus mainly on transport and energy where the problems are well-understood and where the potential damage to growth is likely to be more severe. But we also briefly discuss housing and telecoms.

Transport

Transport needs to adapt to a growing population and changing needs in different parts of the country. Underinvestment and inadequate maintenance characterise the provision of roads, railways and airports. There are particular inefficiencies in how transport is priced and how decisions are made and financed. The 2006 Eddington Review⁵ cited a potential cost of £22 billion per annum in increased congestion by 2025 if the transport network does not keep up with demand.

⁴ For a more detailed discussion please see [lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/Infrastructure.pdf](https://www.lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/Infrastructure.pdf)

⁵ The Eddington Review was commendable in that it (i) looked at a clear, credible forward-thinking framework; (ii) tackled the problems and bottlenecks in terms of their severity and economic and social returns; and (iii) drew on strong academic advice. The fact that it got 'buried' illustrates the problem with UK policy-making and the inadequacies of the one-off review approach.

The UK lacks a long-term strategic vision based on coherent and transparent criteria.

In terms of usage and economic importance, the **road** network is the most important means of transport. It provides three quarters of passenger travel and two thirds of freight. UK road congestion is among the worst in Europe, particularly in urban areas, reflecting inadequate investment over several decades. Responsibility for maintaining, operating and improving the network of national roads resides with the Highways Agency, but the remainder of the network is the responsibility of local authorities. This fragmentation means that there is a lack of long-term, strategic thinking. While the government has established a systematic process of five-year plans for railways with an associated funding commitment, there is nothing comparable for roads.

The **aviation** sector suffers from constrained airport capacity, particularly hub runway capacity in the South East. UK international gateways have some of the worst delays in Europe: a quarter of Heathrow and Gatwick flights are delayed for over 15 minutes. Both Heathrow and Gatwick are operating at near full runway utilisation. Given that the UK has a comparative advantage in international business services where face-to-face relationships are vital, failure to deal with these issues demonstrates remarkable complacency.

Longstanding failings are also apparent in the management and operation of **railways**. These include a poor reliability record by international standards. There is still insufficient emphasis on implementing long-term plans to reduce carbon intensity or on alleviating problems of passenger crowding at peak times, especially in the South East. Persistent problems with high costs have also not been confronted adequately. We have committed to long-term funding of rail projects with relatively low benefits in relation to their costs in preference to investment in roads where the benefits are unambiguously greater.

Energy

In common with other OECD countries, the UK faces significant challenges in trying to achieve a balance of *security*, *stability* and *affordability* in energy supply, while at the same time complying with relatively stringent *carbon targets*.

Successive UK governments have failed to deliver stable, credible long-term policy/regulatory environments that are capable of attracting private investment in the scale and manner required to meet these challenges. Investors see policy as unstable because of either *ad hoc* tinkering or major changes in political objectives. For example, uncertainty about the level of subsidy for wind projects means

that businesses have lacked long-term clarity on the basis of which to invest. Similarly, in the last decade, North Sea operators have experienced four major changes to the taxes they have had to pay. These changes create inefficiencies, as a windfall tax in one year's budget is followed by tax breaks in a subsequent budget.

This has all occurred against a background where more than a fifth of UK's electricity-generating capacity will have gone out of commission within the next ten years. Ofgem, the regulator of the energy sector, has warned there could be an imminent drop in spare electricity capacity from a margin of 14 per cent at present to just 4 per cent by 2015 (Ofgem, 2012).

The [Electricity Market Reform](#) is geared towards providing a framework for investment. But it will take time to build confidence, which has been dented by constant internal bickering in government resulting in revisions to the framework every few years. The current policy framework assumes big increases in future gas and oil prices, which may turn out to be wrong. Technological change is making substitution between different sources of energy easier and creating new sources of energy and new ways of storing it. Revolutionary changes are being brought about by unconventional gas production. In the US, gas production from tight formations such as shale and coal ('fracking') has provided the country with enough gas to meet



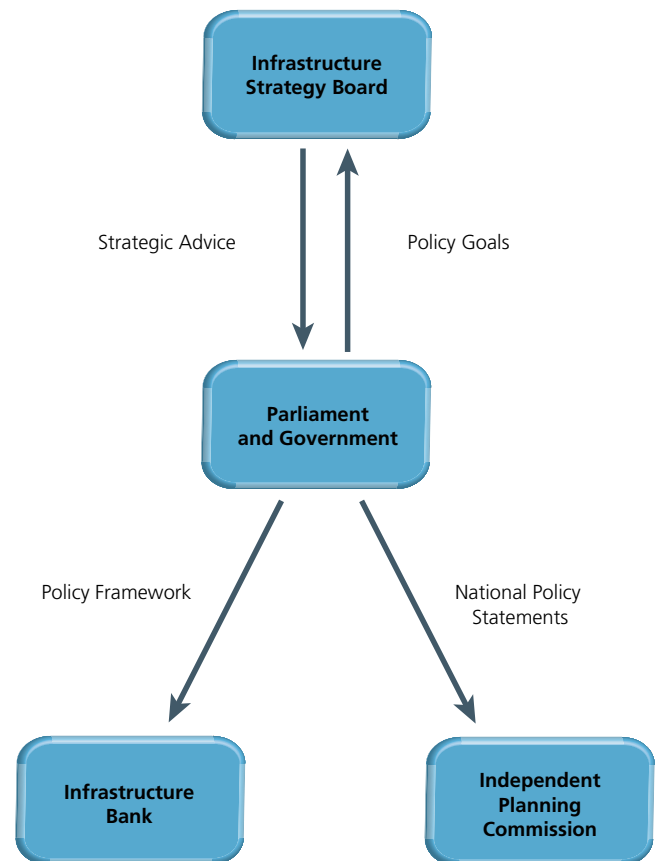
domestic electricity demand for over 500 years at current levels. If other countries succeed in commercialising these reserves in the same way as the US has, then gas will fundamentally change the way we think about resource scarcity and will provide a cheap, abundant and cleaner fossil fuel to pave the way to a low-carbon economy.

Such changes put a premium on flexibility and diversity of supply rather than becoming locked into a limited number of energy sources. They also mean that plans to reduce greenhouse gas emissions should be developed in a timely way, establishing a predictable framework that can take account of potential changes in markets and technologies.

Core recommendations on infrastructure

The persistent failure of infrastructure policy in the UK requires a new approach. Our main proposal is for a new institutional architecture to govern infrastructure strategy, delivery and finance. A set of complementary institutions is illustrated in Figure 8.

Figure 8: The new institutional architecture for infrastructure



Our proposal has three core institutions:

- An *Infrastructure Strategy Board* (ISB) to provide the strategic vision in all areas: its key function would be to provide independent expert advice on infrastructure issues. It would lay the foundation for a well-informed, cross-party consensus to underpin stable long-term policy. The ISB would support evidence-gathering from experts and operate through transparent and wide-ranging public consultations, engaging interested parties and members of the public in the debate over the costs and benefits of policy options. The ISB would obtain its authority from and be accountable to parliament. Its mandate would be laid down by statute. As a standing body, it would produce regular reports on infrastructure needs and long-term priorities and challenges. The ISB would be governed by a high profile, independent management board, which would be directly accountable to and appointed by parliament.



- An *Infrastructure Planning Commission* (IPC), which would be charged with delivering on the ISB's strategic priorities. This body existed in the recent past. It has now been replaced by the Infrastructure Planning Unit under the auspices of the Department for Communities and Local Government. This change reintroduced ministerial approval for projects and we believe that independence from ministerial decision-making should be restored. The IPC is designed to give predictability and effectiveness to (mostly private) investment that drives implementation of strategy. It must not be misunderstood as a 'central planner'.
- An *Infrastructure Bank* (IB) to facilitate the provision of stable, long-term, predictable, mostly private sector finance for infrastructure. There are good theoretical reasons for the creation of such a bank: it can help to overcome key market failures in capital markets in a direct and constructive way. In particular, it can help to reduce policy risk and, through partnerships, to structure finance in a way that mitigates and shares risk efficiently. This will require a whole range of financial instruments including equity and structured guarantees. There are good practical examples that show the advantages of a bank with this sort of mandate, such as Brazil's BNDES, Germany's KfW, the European Bank for Reconstruction and Development and to some extent the European Investment Bank. The IB would develop banking and sector-specific skills in new and important areas. It would use its special ability to make investments that could then provide powerful examples with catalytic effects on private investment through its partnerships. It could have a very strong multiplicative impact so that its investments have effects much larger than the amount of capital it puts in. The IB would be governed by an independent board with a clearly defined mandate and access to capital markets. Further details are available at lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/BInfrastructure.pdf.
- We need to institute *generous compensation schemes* to extend the benefits of infrastructure projects to those who might otherwise stand to lose, either due to disruption caused by the construction phase or by the long-term impact on land and/or property values. The principle is to share the broad value that the implementation of the national strategy will bring. Such compensation schemes should be enshrined in law and built into the thinking of the ISB and the operations of the IPC. At present, the UK does not provide adequate compensation for individuals who bear the costs of development. This contrasts with other countries, where mandatory compensation due, for

example, to noise, travel or other disruptions is commonplace. The UK's problem arises partly because the level of compensation is low and partly because existing compensation schemes are primarily communal. Both communal and individual schemes are necessary.

Our proposed infrastructure institutions would facilitate long-term planning and reduce policy instability in the planning, delivery and financing of an infrastructure strategy for the UK. The new institutional architecture would allow government to choose its priorities and decide on strategy. But crucially, it would ensure that political decisions are taken in the right place; that they do not expand to aspects of strategy and/or implementation where they add little value and can be a costly source of instability (for example, planning); and that they represent credible commitments for current and prospective investors. In addition, the new framework would support a political debate informed by rigorous, independent assessment of policy alternatives, fostering the formation of cross-party consensus where possible, making political procrastination harder and thus generally improving the quality of policy-making.

The projects considered by the Infrastructure Strategy Board, delivered by the Infrastructure Planning Commission and financed by the Infrastructure Bank would be those of greatest national priority, such as ones in roads, aviation and energy. But the programme of work could also be responsive to large-scale regional project infrastructure proposals from outside parliament. For example, local enterprise partnerships (collaborations of businesses, local authorities and other groups in an economically meaningful unit) may put together a bid for building a cluster of science parks, which would involve many outlays on transport, buildings, energy and telecoms supplies.

Allowing such sub-national bids would ensure a more bottom-up approach to major regional projects that involve strategic thinking. This would help to use more local initiative and decentralised information than would be available at a national level. The abolition of Regional Development Agencies and regional offices has left a strategic

“The persistent failure of infrastructure policy in the UK requires a new approach. We propose a new architecture to govern infrastructure strategy, delivery and finance.”

planning vacuum between the national level and the very micro-level (districts). Indeed, the institutions that support regional economic development in England are a classic example of policy instability, being the subject of numerous reforms, often with radical policy swings following national elections.

An example of how our infrastructure proposals would help the impasse over the shortfall in runway capacity in the South East.

The Infrastructure Strategy Board would be a permanent, dedicated source of independent and analytically robust advice that would help to align political views. If it had existed now, it would have avoided the need to set up the Davies Commission to investigate the problem again from scratch. The expansion of Heathrow has already been discussed by [numerous](#) other inquiries (for example, the 1968 Roskill Commission). Rigorous information about the costs and benefits of different policy options would have been available from a team of experts long immersed in the strengths and weaknesses of the existing evidence.

The Infrastructure Planning Commission would operate under the same rules as currently used in National Policy Statements. It would ensure that planning is not used to re-open political debates each step of the way while implementing policy. The Infrastructure Planning Commission would deal with the ensuing planning practicalities, namely reviewing and deciding on specific applications for development consent. It would also decide about compensating those who stood to lose from the expansion of an existing airport or the building of a new one, following a set of clear rules enshrined in law. This would help to mitigate political bickering and deliver transparent and predictable planning decisions.

Other policies to support infrastructure

Public investment should not be hamstrung by accounting methods that impede a focus on economic returns. Therefore, for fiscal targets to be useful as a strategic management tool, they should incorporate the value of public sector assets rather than concentrating solely on public sector debt. Otherwise there is no distinction between extra borrowing to finance consumption and borrowing to finance investment in new assets or to repair the condition of existing assets. The failure to use proper public accounting methods makes public investment – for example, in road maintenance – look artificially expensive and hampers good decision-making. It is like judging a firm solely on the profit and loss account while ignoring the balance sheet. The UK is leading efforts in improving **public sector accounts** (for example, through the publication of *Whole of Government Accounts*). It is time for government to use these new accounts as the basis for policy-making.

Road pricing is an idea whose time has come. There are no major technological impediments to a system that would manage congestion, be fairer and improve incentives for building and maintenance. To the extent that there are political impediments with moving to comprehensive road pricing, these can be overcome in the longer term. A new regulator should administer the system following a regulatory asset base model, an approach that has proved to be successful in other areas of infrastructure. By creating dedicated revenue streams, this would help to provide a long-term solution to the problem of road investment, maintenance and finance. Road pricing could be made attractive to the electorate by accompanying its introduction with a cut in fuel duty as a large component of the tax is currently rationalised by the need to limit congestion. In some circumstances, national roads (operated by the Highways Agency) could be auctioned off and shadow tolls introduced in this section of the road network.

The under-supply of **housing**, especially in high-growth areas of the country has pushed up house prices. The UK has been incapable of building enough houses to keep up with growing demand. Many of the long-term issues of strategic planning and delivery that we have highlighted apply equally to housing investment even though most of the investment is undertaken by private business. The ISB and IPC should also take responsibility for long-term strategy and delivery of housing throughout the UK where this is naturally complementary with infrastructure goals. Schemes to increase the amount of land available for development need to overcome local resistance. Institutionalising a flexible system of compensation for those who stand to lose from new developments is important, for example, via funding local amenities, reductions in council tax payments or straightforward cash. Appropriately generous compensation schemes should, in particular, help to diminish local opposition to development.

With regards to telecoms, **broadband** plays an increasingly important role in connectivity. But the UK's broadband infrastructure is not outstanding compared with other countries. The UK ranks typically in the middle of the table in terms of raw broadband performance and deployment, including broadband speed and network coverage. But compared with other advanced economies, we tend to spend more time online, buy more online and the value added generated by internet-related activities represents a larger share of GDP than in almost any other country (OECD, 2012b). To continue taking advantage of the extraordinary opportunities that the internet offers, we must continue to be prepared to respond flexibly and promptly to a rapidly changing technological environment. Again, the institutional architecture we propose could help with problems here as they arise.

Why have problems with infrastructure persisted?

There is nothing new in recognising that poor infrastructure is a major UK problem with detrimental consequences for growth. The policy thrust has been away from investment programmes driven by the government because of a suspicion that such projects offer low efficiency and poor value for money. This is understandable and similar infrastructure problems exist in the even more free market US. It must be recognised, however, that infrastructure inevitably requires a long-term government strategy.

In the 1930s and 1940s, infrastructure investments were largely made in the private sector. The private sector then came to be widely regarded as taking too short-term a view; its investment record was considered insufficient and so it was forced to give way to government. Privatisation in the early 1980s came about while important shifts in the economy were taking place, including economic activity moving from large energy-intensive industries towards services. In addition, the assets built by the public sector in the 1960s and 1970s were still far from the end of their lifecycle. The result was that the need for policy frameworks that provide stability to investors was largely overlooked and the lessons of the 1930s and 1940s were forgotten.

Although procrastination is possible for long periods of time as these are long-lived investments, it is clear now that these problems can no longer be avoided as the existing infrastructure grinds to a halt.

The adversarial nature of UK politics means that we have a great deal of policy 'flip-flopping'. In some areas, the costs of such policy instability do not matter too much. But in areas that require investments for the long run – infrastructure (as well as skills and innovation) – political uncertainty is extremely costly.

Summary on infrastructure

We propose a new institutional architecture for infrastructure to provide better strategy, delivery and funding of major infrastructure in transport and energy. Together, the Infrastructure Strategy Board, the Infrastructure Planning Commission and the Infrastructure Bank will unblock projects and share the gains from development. We believe that this will dramatically reduce the policy instability that has led the UK's infrastructure to be poor in comparison with other countries and which is holding back growth.

“Together, the Infrastructure Strategy Board, the Infrastructure Planning Commission and the Infrastructure Bank will unblock projects and share the gains from development.”

V. Private investment and innovation⁶

Why private investment and innovation matter

Investment in equipment and new ideas (technological and managerial) are crucial engines of growth. Investing in capital allows existing firms to incorporate new technologies and can be an important part of their strategies to reorganise production processes towards global best practice. The dynamism of innovative new firms which introduce new products and processes is also important for growth via the process of 'creative destruction' that propels economic change.

Fostering a supportive environment for investment and innovation is central to having a dynamic and productive economy. For example, access to finance is essential to support investment, allowing firms to compete effectively in the global marketplace and helping them to anticipate and respond to changing markets and opportunities.

Even though investment and innovation are key processes of the market economy, the policy environment plays an important supporting role. A climate of macroeconomic stability is an important background factor, but many other policies influence investment and innovation, including policies that affect competition, market access, finance, taxation and regulation.

⁶ For a more detailed discussion please see lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/PIInvestment.pdf

“Lasting benefits for investment and innovation could flow from increased competition in retail banking. The direction of travel in recent years has been in the opposite direction.”

Diagnosis: the problems of private investment and innovation in the UK

As Figure 7 (p.13) shows, UK investment levels as a share of GDP have historically been lower than those of France, Germany and Japan (and similar to the US). The composition of UK investment is also problematic. It is heavily weighted towards property and buildings and much lighter on equipment (which embodies newer technologies). UK intangible investment is also weak in certain areas:

- The UK punches above its weight with a strong science base and an internationally dynamic higher education sector with supporting structures through the 'research excellence framework' administered by HEFCE. Fewer than 4 per cent of the world's researchers are based in the UK yet they manage to produce 6.4 per cent of all scientific articles and receive 10.9 per cent of citations. But commercialisation of their insights and inventions has been historically weak in the UK with lower R&D and patenting intensity than in other major countries. Whereas most countries have been increasing their R&D intensity, the proportion of GDP spent on business R&D declined in the UK after the early 1980s.
- In measures of management quality, the UK is [mediocre](#) by international standards, ranked significantly below the 'premier league' of countries, such as Germany, Japan and the US. This gap matters because recent evidence suggests that about a third of international productivity differences can be attributed to [management](#).

Low investment and innovation generate lower levels of labour productivity or GDP per hour. There has been a longstanding productivity gap between the UK and three close comparators: France, Germany and the US. Despite some progress discussed above, the UK still has substantially lower GDP per hour than these countries.

The long-term capital investment gap in the UK has become more pressing in recent years. In 2012, it was around 15 per cent below its pre-recession peak. Yet large firms seem to be sitting on cash piles indicating they may be held back both by low expected demand and by uncertainty. SMEs have smaller reserves but they may be held back by banks' reluctance to lend while they rebuild their balance sheets.

The other failures of investment that we have highlighted in this report act as a deterrent to private investment. Firms may be discouraged from investing in the UK by a lack of skilled labour. Thus, efforts to increase human capital are likely to provide a boost to investment by firms. Relatively low levels of public investment in infrastructure are a further impediment. So we see increases in private investment

as an important further dividend from getting the right skills and infrastructure policies.

But there is a further issue holding back investment and innovation that we believe is equally worrying. There is evidence that UK investment performance has been weakened by a series of problems in the functioning of capital markets.

First, financiers take an excessively short-term outlook when weighing up investment opportunities. Long-term investment is discouraged by investor impatience and a hyper-active mergers and acquisitions market. The 2012 Kay Review concluded that corporate executives and financial intermediaries, such as fund managers and investment analysts, help to generate a short-term approach.

Such 'short-termism' is likely to be particularly acute for funding innovation, which is hard to collateralise and highly risky. Innovation is a public good in terms of the lessons it offers others. The high costs of undertaking due diligence steer private equity investors towards funding a smaller number of larger investments in later stage businesses at the expense of early stage venture capital for SMEs with high growth potential.

Second, a sizeable body of evidence suggests that there is a debt financing gap for younger businesses that lack a track record. The gap arises because of the difficulty that investors have in distinguishing between high- and low-risk entrepreneurs. Younger firms – mainly SMEs – are often the most innovative and hence this capital market failure has long-term growth effects.

The UK performs well in attracting inward investment but performs poorly in creating leading global firms. Productive entrants do not grow to scale nearly as quickly as in the US and this slow 'reallocation' is an important drag on relative productivity. Too often UK firms in high-tech and capital-intensive sectors are acquired by foreign businesses instead of being able to raise growth capital themselves.

Core recommendations on private investment

Addressing these problems is not easy. The Commission welcomes recent short-term measures such as the 'funding for lending' scheme to deal with the lending drought. But this scheme is not designed to deal with structural issues.

One important route with longer lasting benefits could be through spurring increased **competition** in retail banking. The direction of travel in recent years has been in the opposite direction since HBOS was absorbed by Lloyds-TSB in 2008. But there is a mounting case for



formulating a plan to reduce concentration in the retail banking sector. This would be a radical intervention, so before taking the step of referring such a proposal to the new Competition and Markets Authority with a narrow and time-limited remit, we recommend the measures that follow.

Liberalising entry conditions, including speeding up the process for obtaining a banking license, is essential. The OFT has committed to working with the Prudential Regulation Authority to review the application of prudential requirements to ensure that new entrants and smaller banks are not disproportionately affected, for example, by requirements to hold more capital than incumbents. It is important that the process is completed in a timely fashion.

In addition to the recently introduced automatic redirection service, further measures to reduce switching costs across banks are vital, including greater transparency. It should be as easy to transfer a bank account as it has now become to transfer a mobile phone number across operators.

Increased competition in banking would have a variety of benefits. It would encourage banks to seek out profitable lending opportunities more assiduously. It could also stimulate relationship lending as retail banks focus on more mundane finance rather than 'casino' activities. We document these potential benefits in more detail in section 3.3.3 at [lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/PIInvestment.pdf](https://www.lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/PIInvestment.pdf).

The Commission supports, with some provisos, current moves towards the creation of a **Business Bank**. At present, the remit of the bank is to deliver the existing programmes of the Department for Business, Innovation and Skills (BIS), with £1 billion (leveraged up to £10 billion) for additional lending to manufacturers, exporters and high-growth

firms. The rationale is that the bank will be able to access funds on more favourable terms than commercial banks (especially those currently saddled with a legacy of poor past investment decisions) and will therefore have a lower cost of capital.

The Business Bank's lower cost of capital and remit to consider social returns would allow it to make loans that would typically be avoided by commercial banks. In particular, it would be able to take a wider economic view of the benefits of investing in certain sectors, including cases where there are potential long-term social returns from developing new technologies. This would mean a particular focus on lending for innovation investments to new and growing firms, which experience the most acute financial market failures and where the externalities will be greatest. Since this would include green technologies, there would be a case for folding the Green Investment Bank into the Business Bank.

The Business Bank should play an important role in creating a corporate bond market for SMEs. This would require a platform for SME loan securitisation along the lines advocated by the 2012 Breedon Review. By removing the requirement for investors to analyse the credit quality of many small issuances from individual SMEs, such a platform would relax SME financing constraints and kick-start institutional investment in these firms.

The Business Bank does carry risks. To be effective, its governance has to be removed from immediate political pressures and it needs to operate on the basis of clearly defined economic objectives. We recommend that it is run by an appointed independent board to oversee operational decisions independently from BIS. It should also operate under a charter that clearly articulates its mission and ensures that the bank is held accountable for delivering that mission.

The proposal for a Business Bank also has to be a long-term commitment supported by cross-party consensus to avoid the perennial process of abolition, reinvention and rebranding that has characterised much government policy in the past. These features are shared with our proposals for infrastructure institutions (including the Infrastructure Bank), but the skills required for the Business Bank are quite distinct so the institutions should be kept separate.

Other policies to support private investment and innovation

Making the financial system more stable

The Commission endorses the Vickers Report on banking regulation and encourages the government to implement both the letter and spirit of its recommendations (Independent Commission on Banking, 2011). Some Commissioners wanted to go further and recommend the structural separation of the investment and retail arms of banks along the lines of the US Glass-Steagall Act. But the consensus was to wait and see how the current set of Vickers and Basel III reforms worked before deciding whether to press ahead with something more radical and potentially disruptive. Although such reforms would help make banking safer and more stable, in the short-term, higher capital requirements will often mean less lending, particularly to risky projects. Recent announcements that suggest a less stringent timetable for implementing the Basel III reforms therefore seem to be a sensible move so long as the delay is not too long.

Holding assets for longer

To combat short-termism, the Commission recommends that equity voting rights be linked to investment duration, with rights becoming stronger the longer the holding period. This would follow the spirit of the US Securities and Exchange Commission's proposal for a one-year holding period for shareholders to be able to amend or request an amendment to a firm's governing documents concerning nomination procedures for directors. A concern with this is that it could lead to control by insiders or 'tunnelling' as happens in many Southern European and developing countries. We view this as less likely in the UK with its strong rule of law, protection of minority



investors and transparent contracting environment. But clearly the design of this proposal must be carefully crafted.

Tax policy and innovation

Debt finance is less attractive for an innovative firm than an equity stake because of the inherent riskiness of future revenue streams. Our current tax system creates a bias towards debt and against equity that distorts investment incentives generally and investment in innovation in particular.

Following the recommendations of the 2011 Mirrlees Review, we support the introduction of an ‘allowance for corporate equity’ (ACE). This would offer a tax break on issuing equity to ensure equal treatment of equity- and debt-financed investments. There is a range of options under an ACE for creating a level playing field between debt and equity. Any resulting loss of corporate tax revenue could, in principle, be offset elsewhere in the tax system. For example, the Mirrlees Review proposes using a broad-based tax on consumption rather than increasing the corporate tax rate.

The Mirrlees Review estimates that introducing an ACE could boost investment by around 6.1 per cent and boost GDP by around 1.4 per cent. This is mainly because an ACE lowers the cost of capital. In addition, an ACE would help to rebalance the UK economy away from debt and towards equity finance. A corporate tax system of this kind has now been introduced in several countries. In addition to stimulating investment, an ACE has the potential to increase financial stability by reducing the bias towards debt finance.

The share of GDP devoted to business R&D has been rising in almost all OECD countries since the war, but it started *falling* in the UK in the 1980s. We view the R&D tax credit system introduced in the 2000s as a positive development, which helped to arrest this decline. HM Revenue and Customs defines R&D for tax purposes in a fairly narrow and formal way due to legitimate concerns over tax avoidance. So there needs to be ways of supporting investments in innovation directly without further complicating the tax code. One route is through the Business Bank as it can take a wider view of the social returns to innovative projects. This would help to address weaknesses in the commercialisation of inventions from the science base. The Business Bank could also be permitted to use a variety of venture capital-style financing approaches as well as making standard business loans.

Funding for innovative start-ups often comes from alternative sources, such as venture capital, angel funding and private equity in high-tech sectors. This is welcome and it is well-known that clusters like Silicon Valley have a deep seam of such liquidity. Unfortunately,

“Over-reliance on bank finance along with problems of bank concentration and short-termism are constraining firm growth, especially of dynamic and innovative SMEs.”

such ‘agglomerations’ of high-tech activity are extremely hard for governments to manufacture, although it can certainly hold them back through onerous regulations. Finance often follows after high-tech clusters have got going due to other factors, such as the presence of world-class universities like Stanford and Berkeley in California’s Bay Area. Finance helps the next stage of development, but it is not the prime mover. Hence, we do not support introducing additional tax breaks for such alternative investments.

Industrial strategy

Since the late 1970s, industry-specific ‘vertical’ policies have been unpopular due to fears that the ambition of ‘picking winners’ turns into an outcome of ‘picking losers’. But some recent successes (such as foreign direct investment in the automotive sector) and the need to generate more green industries have caused a re-think of a more activist industrial strategy. The convening power and coordination role of government can help to bring parties together to recognise and solve problems. So there is a role for strategic thinking, especially as the government touches on almost every industry in some way.

Of course, it is vital that industrial strategy does not divert attention from the importance of ‘horizontal’ policies, such as promoting competition, R&D, infrastructure and skills, which benefit all sectors of the economy. Nevertheless, spotting cases where there is an impediment to the growth of a sector is an important role for the government. Supportive interventions need not take the form of direct subsidies – removing specific regulatory barriers is more important.

Underpinning new thinking on industrial strategy should be a view of where the UK has some actual or latent comparative advantage. For such sectors or firms so identified, it must then be considered whether these are areas of global growth. This means taking an appropriately dynamic perspective. For example, investment in low-carbon technologies is likely to be an important area in the future. We recommend a tight focus on what factors inhibit the growth of such sectors and what policies could encourage their growth.

Moreover, it is important that this thinking is conducted transparently with the supporting analysis subject to independent scrutiny.

One example of how highly focused government intervention can help would be the relaxing of severe planning restrictions that are inhibiting the expansion of high-tech clusters in some parts of the country (such as Cambridge and Oxford) where the UK has strong comparative advantage in its universities. Planning restrictions on housing for workers, land use restrictions and slow roll-out of ultra-fast broadband are particular constraints on these dense centres of new economic activity. The infrastructure institutions we propose should help, but additional political attention needs to be focused on relaxing regulations that are impeding growth. Other examples are management training in the creative sectors; visa restrictions harming universities; and the prevarication over expanding airport runway capacity that harms our comparative advantage in international business services.

What kind of institutions can help to develop and deliver a better industrial strategy? We recommend creating an independent National Growth Council, which brings together expertise across all disciplines to review relevant evidence and to recommend growth-enhancing policy reforms that could be subject to rigorous evaluation. This body should also challenge government on why successful policies are not introduced and/or why unsuccessful ones are not closed down. The Council would work with BIS on formulating the evidence base needed to underpin an industrial strategy.

The lending strategies of the Business Bank and the Infrastructure Bank should be supportive of this type of industrial strategy. This could be important for industries where there is good evidence that access to finance is holding back investment and innovation. This is particularly true where large upfront investments are needed in an emerging area, such as developing low-carbon technologies.

Policies to improve management quality

Policies should be pursued that encourage good management practices. High levels of competition, meritocratic appointment of chief executives, proper management training and foreign direct investment all lead to improved management performance. Since management matters so much for growth are there more directed policies to improve it? Business education is growing in importance so we should be wary of stifling the growth of the sector with tough immigration controls that make it hard to recruit overseas faculty and students. There is also evidence that family-run businesses suffer from managerial deficits, so targeted support for management training could be useful for this group. The inheritance tax regime, which allows tax breaks on passing business assets between generations, should also be re-evaluated as it discourages reallocation of assets away from family ownership.

Why have problems with private investment persisted?

The thrust of financial policy prior to the crisis was generally *laissez-faire*. Charmed by the success of the City, politicians of all stripes lined up behind 'light-touch' regulation. More conservatively run financial institutions, such as building societies, were demutualised to take advantage of market opportunities that were otherwise denied to them. The need for government-led solutions, especially in an area like finance, went distinctly against the grain. Moreover, the concentration of the UK banking sector was often thought to be a source of stability, especially when protection for depositors was quite limited. The success of the City allowed senior financiers to speak with an authority that limited government interference in the activities of the sector. In contrast, our view is that correcting market failures is a pro-market intervention.

The evidence for both rich and poor countries that greater competition in banking (and in other sectors) improves productivity, management and innovation seems to have had little impact on UK policy thinking. The UK's retail banking system is extremely concentrated and attempts to promote more competition have floundered. In 2010, the four largest banks accounted for 85 per cent of SME current accounts (Independent Commission on Banking, 2011).

The UK is also unusual in not having a publicly supported bank to promote lending to small and new businesses. For example, the US has the Small Business Administration, which provided more than \$30 billion in lending to over 60,000 small businesses in 2011. The UK has instead relied on private commercial banking to provide finance to SMEs and commercial lenders rightly look at business funding in terms of profitable opportunities. But if competition is weak, then the high profits of the banks will result in otherwise commercially viable lending opportunities being overlooked.

Summary on private investment and innovation

Low levels of private investment and innovation in the UK are a reflection of capital market failures. Over-reliance on bank finance along with problems of bank concentration and short-termism are constraining firm growth, especially of dynamic and innovative SMEs. We propose increasing retail banking competition and developing a strategy for a Business Bank to deal with these issues. We have also proposed a range of complementary reforms to support private investment and innovation.

VI. GDP and beyond⁷

Discussions about economic growth typically focus on GDP, which attempts to measure a country's economic output. But changes in GDP are an inadequate measure of human wellbeing. For example, growth could be generated by damaging the environment with detrimental longer-term consequences. More fundamentally, assessing developments in wellbeing also requires looking at the distribution of market outcomes and improvements in public services. At present, however, the focus of public attention is almost exclusively on quarterly GDP releases as the barometer of economic progress.

The Commission does not believe that any single indicator captures all aspects of wellbeing. There will continue to be debates about progress on the environment, inequality, tax policy and public services – and each of these debates uses its own measures. There is an important role for independently produced statistics to support such discussions. Indicators of subjective wellbeing also have a role.

It is crucial that discussions of growth and development should not be confined to a single dimension. But given our limited collective attention span, there is some advantage in choosing to promote one additional indicator of how changes in GDP per capita affect average households.

Our preferred measure is median household income. Focusing on household income provides a better way of capturing what people actually receive out of national income. The median is better than the mean since it is reflective of progress in the middle of the income distribution. For example, increases in GDP that go solely to the rich would not increase this measure. Thus, looking at median income would create more focus on inclusive growth that generates wider benefits. It also reminds us to look more deeply into distributional issues, particularly for the poorest parts of society.

It is possible to produce up-to-date measures of the evolution of median household income by making use of household survey data. Thus, median household income could be published on a timely basis alongside GDP. As more accurate information becomes available, the measures could be updated (for example, through so-called 'nowcasting' techniques).

A new focus on median household income would, we believe, influence debates about growth policy. Median income growth has lagged behind GDP per capita since the early 1980s, in part because of the growth of income inequality so that average income has grown faster than the median. In the years running up to the crisis, GDP per capita grew much faster than median household income, in part because there was a significant increase in government spending on health and education, which is reflected in GDP but not in income. The median is not perfect of course, because inequality can still widen at other parts of the distribution, but it is better than ignoring distribution entirely and it is easy to communicate to the public.

While the key proposals in this report are geared towards raising GDP, monitoring developments in median household income would be a particularly valuable way of gauging the inclusiveness of the growth that is generated. Progress in improving skills towards the lower end of the distribution would, we believe, create an especially important dividend that could be measured using this indicator. But shifting the public debate towards monitoring median household income as well as GDP would allow us to look more widely at inclusive growth and living standards beyond income, including education, health and a sense of community.

“GDP is an inadequate measure of human wellbeing. However, the focus of public attention uses it almost exclusively as the barometer of economic progress.”

⁷ For a more detailed discussion please see [lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/BeyondGDP.pdf](https://www.lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/SecretariatPapers/BeyondGDP.pdf)

VII. How to get to where we want to go

Our core proposals constitute a manifesto for long-term growth that we believe can form the basis of a political consensus. This can provide the kind of stable policy framework that will encourage long-term investment in the UK.

But while cross-party commitment to the policies that are needed would be a good first step, it will not be enough by itself. If such policies are to have a material impact on growth, action must be sustained over several parliaments. The Commission's discussions have highlighted how in many crucial areas – notably education, infrastructure and financing for innovation – there has been a sustained failure to implement long-term strategic approaches to policy. This weakness has been recognised in many recent reviews.

We must break the familiar cycle of institutional churn and political procrastination to find ways of ensuring that difficult and contentious long-term decisions are based on the best available independent expertise. This is not a plea to take the politics out of long-term investment: apart from its moral imperative, a healthy democracy is vital for keeping policy responsive and government accountable. But politics is best in its right place – making strategic choices, setting objectives and holding executive bodies to account.

“We must break the familiar cycle of institutional churn and political procrastination and find ways of ensuring that difficult and contentious long-term decisions are based on the best available independent expertise.”

Drawing on examples of effective institutional innovation, we have proposed:

- Creating a ‘flexible ecology’ for schools with a greater institutionalised focus on the performance of disadvantaged children. There is also a need to reduce local authority control and provide a more flexible labour market for teachers with greater on-the-job performance evaluation.
- Creating a new institutional architecture to improve the planning and delivery of infrastructure of national importance: a body (or bodies) tasked with identifying strategic priorities for infrastructure and helping to create a more stable policy environment that will encourage the provision of long-term private finance for infrastructure investment.
- Increasing competition in retail banking and ensuring that the Business Bank has an independent board and a remit to support SMEs and innovation.

Implementation of an ambitious long-term growth programme will demand sustained effective direction from the centre of government. This is another area where institutional change is overdue. Unlike in many other democracies, the Whitehall machinery for providing strategic advice and overseeing implementation is relatively small-scale and informal and has been prone to radical change from one government to the next. This needs to change. The absence of stable machinery at the centre of government makes it more difficult to develop and implement a long-term strategy for promoting economic growth.

Strategy and performance management are vital functions that cannot be left to ad hoc units staffed by a shifting population of short-term, often party political staff. Without continuity, strategy is overwhelmed by short-term politics and performance management is interrupted and ineffective. Constant flux in Number 10 and the Cabinet Office leaves too much power in the hands of HM Treasury, which is above all a finance ministry. This cycle of ‘uncreative destruction’ is wasteful and inhibits the evolution of successful institutions.

There have been many proposals for creating a substantive and stable centre of government (as argued, for example, in Lord Heseltine's recent review: BIS, 2012). Elements of a system that could win broad-based support include the following:

- There must be a permanent, top-level political mechanism for setting strategic direction and overseeing implementation.
- This has to be supported by proper planning processes, which directly involve departments, to translate strategic direction into concrete plans and action across government.
- These implementation plans must be underpinned by clear accountabilities and proper management information to track progress.

The challenge now is to implement these ideas, to support a clearly articulated long-term growth strategy – and stick with them across governments.

In the next 50 years, the world will change radically – in terms of technology, sustainability and the global balance of economic and political power. Some of these changes may not be benign, causing instability – financial, fiscal, social, political and environmental – and potentially derailing paths to increasing prosperity. We can anticipate some of the emerging patterns, but not others. We must, however, be prepared to respond to all of them.

This means putting a premium on policies and institutions that foster anticipation and flexibility. It also means putting a premium on systems that celebrate and encourage entrepreneurship, innovation, opportunity and discovery. Establishing a strong, stable and credible investment climate for human, physical and innovation capital is a crucial step towards creating this kind of society. We call for a group across society and all the UK's political parties to work on a Manifesto for Growth as we have championed in this report.

“In the next 50 years, the world will change radically in terms of technology, sustainability and the global balance of economic and political power. We must be prepared to respond to all of these changes.”



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Note: All the existing literature drawn on by the LSE Growth Commission has been summarised in independent documents by its Secretariat and is to be found at lse.ac.uk/researchAndExpertise/units/growthCommission/documents/home.aspx

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Please contact: Jo Cantlay
Email: j.m.cantlay@lse.ac.uk



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