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# INVESTING FOR PROSPERITY: SKILLS, INFRASTRUCTURE AND INNOVATION

**Timothy Besley\***, **Miguel Coelho\*\*** and **John Van Reenen\*\*\***

What policies and institutions are needed to sustain long-run growth in the UK? We describe an optimistic story of the UK economy over the past 30 years. From the late 1970s, the UK reversed a century of relative decline in terms of per capita GDP with our main counterparts in the US, France and Germany. A key factor behind this improvement was an array of policy changes including an expansion of higher education and greater competition in product and labour markets. However, major weaknesses with respect to long-run investment in human capital, infrastructure and innovation remain. These are hampered by problems of short-termism and policy risk. We propose a series of radical reforms to address these problems: such as more flexibility in schooling with a new focus on disadvantage; a new architecture for national infrastructure decisions and more competition in banking.

Keywords: UK economy; investment; productivity; policy risk

JEL Classifications: O20, O52

## Introduction

At the end of January 2013 the LSE Growth Commission produced a report looking at the institutions and policies that should underpin growth for the next 50 years (LSE Growth Commission, 2013, henceforth ‘The Commission’). In the course of a year we brought together a range of perspectives from academia, policymaking and business with nine Commissioners,<sup>1</sup> many public evidence sessions and a full time secretariat “boiling the ocean” for existing relevant material. The Commissioners were united by two shared beliefs. First, that it is vital to look beyond the next budget cycle, the next spending review and the next parliament when making long-term investment decisions. Second, that in developing a UK growth strategy it is important to take political economy seriously because the policy proposals must be both politically feasible and robust to swings in policy-makers’ sentiments.

At the time of writing, the nation remains scarred by the worst economic crisis in many generations, casting a shadow over the prospects for the next half-century and what it will bring. Output has been depressed for a longer period than it was in the Great Depression, with the Gross Domestic Product (GDP) still over 3 per

cent below the level of 2008. Serious concerns remain about the ability of the institutions of UK economic policymaking to steer the economy out of nearly five years of stagnation and into a sustainable recovery.

Despite the current gloom, the UK has many assets that it can mobilise to its advantage, such as the 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 and we can do this again.

The Commission argues that the UK should build on these strengths, but needs to address its weaknesses. Our weaknesses are reflected in years of inadequate long-term investment in skills, infrastructure and innovation. This failure to invest is rooted in an inability 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 posed by a world economy

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where skills, flexibility, openness and receptiveness to technological change are becoming ever more important for prosperity.

This paper offers a summary of the core analysis and propositions presented by the Commission. Section 2 makes a few remarks on the growth process. This is followed by an overview of the UK's economic story to date in section 3. Section 4 focuses on skills. Section 5 looks at investment in infrastructure, namely transport and energy. Section 6 discusses private investment and innovation issues. We finish with comments on the measurement of economic prosperity (section 7), followed by a few concluding thoughts.

### The growth process

Modern growth theory argues that, in the long run, it is the accumulation of ideas – scientific, technological and managerial – that makes it possible to do more with the raw materials that we have (e.g. Aghion and Howitt, 1992, 1998). Sustainable growth is not about increasing raw labour input but rather about finding ways to do new things as well as doing the same things more efficiently.

A dynamic economy requires investment of three main varieties: in people (human capital), in equipment and physical structures (infrastructure) and in new ideas and technologies (innovation). 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 (Griffith, Redding and Van Reenen, 2004).

There is no reliable evidence suggesting that the growth potential of an economy is limited by the size of the government over the wide range that we observe in the OECD countries. The twentieth century witnessed a significant increase in the size and responsibilities of government throughout the developed world alongside large and sustained significant increases in living standards (e.g. Tanzi and Schuknecht, 2000). The historical diversity of international experiences suggests that different types of market economy can be successful with high or moderate 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 and more about whether the state is smart in the way it taxes, regulates and spends. Having a government

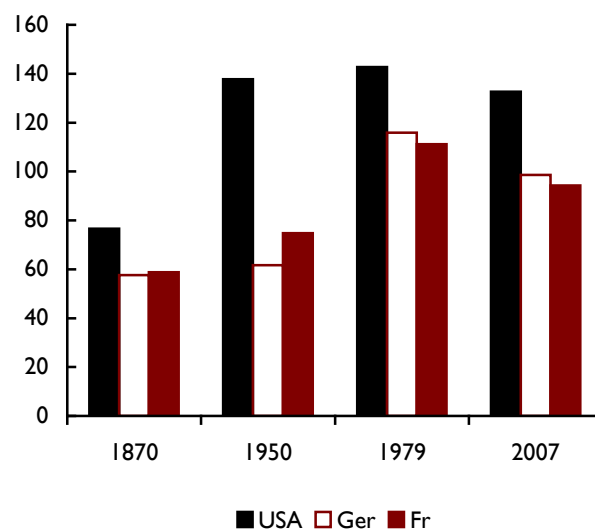
that plays a major role in the economy – as in the UK – places a premium on well-designed policies that support growth. Achieving this is dependent on having an institutional framework that is able to support good policies.

Growth in its most traditional sense – i.e. GDP growth – reflects the increase in real output. Society values these gains in so far as they may lead to improvements in citizens' wellbeing through higher consumption, greater leisure and/or improved public services. The fruits of growth are particularly meaningful when they are inclusive, i.e. affecting a large share of society rather than being exclusively appropriated by a small, fortunate part of it (e.g. Sen 1976, 1979; Atkinson, 1970; Stiglitz *et al.*, 2009). Some of the investments discussed below have an important impact on the inclusiveness of growth – for example, equipping citizens with appropriate skills gives them the best chance of participating in the process of growth.

### UK decline and rebound

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

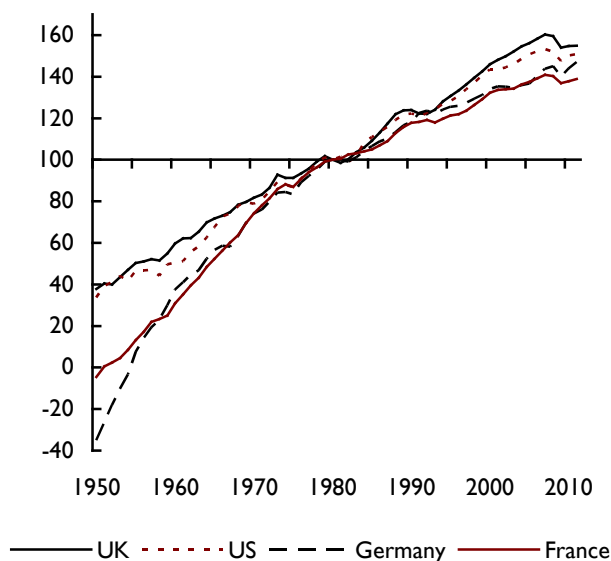
Figure 1. GDP per capita 1870–2007 (UK=100)



Source: Crafts (2012).

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 per cent higher GDP per capita than the UK. GDP per capita is expressed in 1990 International Geary-Khamis dollars.

Figure 2. GDP per capita 1950–2011 (1980=100)



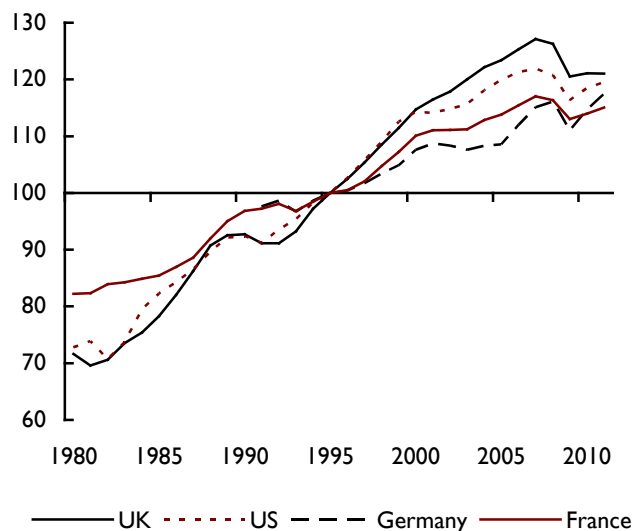
Source: Conference Board data, extracted on 8 June 2012.  
 Notes: GDP is US\$, constant prices, constant PPPs, base year 2011. For each country the series is set to one hundred in 1980, so the level of the line in any year indicates the cumulative growth rate (for example, a value of 110 in 2001 indicates that the series has grown by 10 per cent between 1980 and 2001). The steeper the slope of the line, the faster growth has been over that period.

the US, from at least 1870 onwards (see figure 1). 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 the UK had been comprehensively overtaken; US GDP per capita was 40 per 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 2007, on the eve of the crisis, 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 postwar 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

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

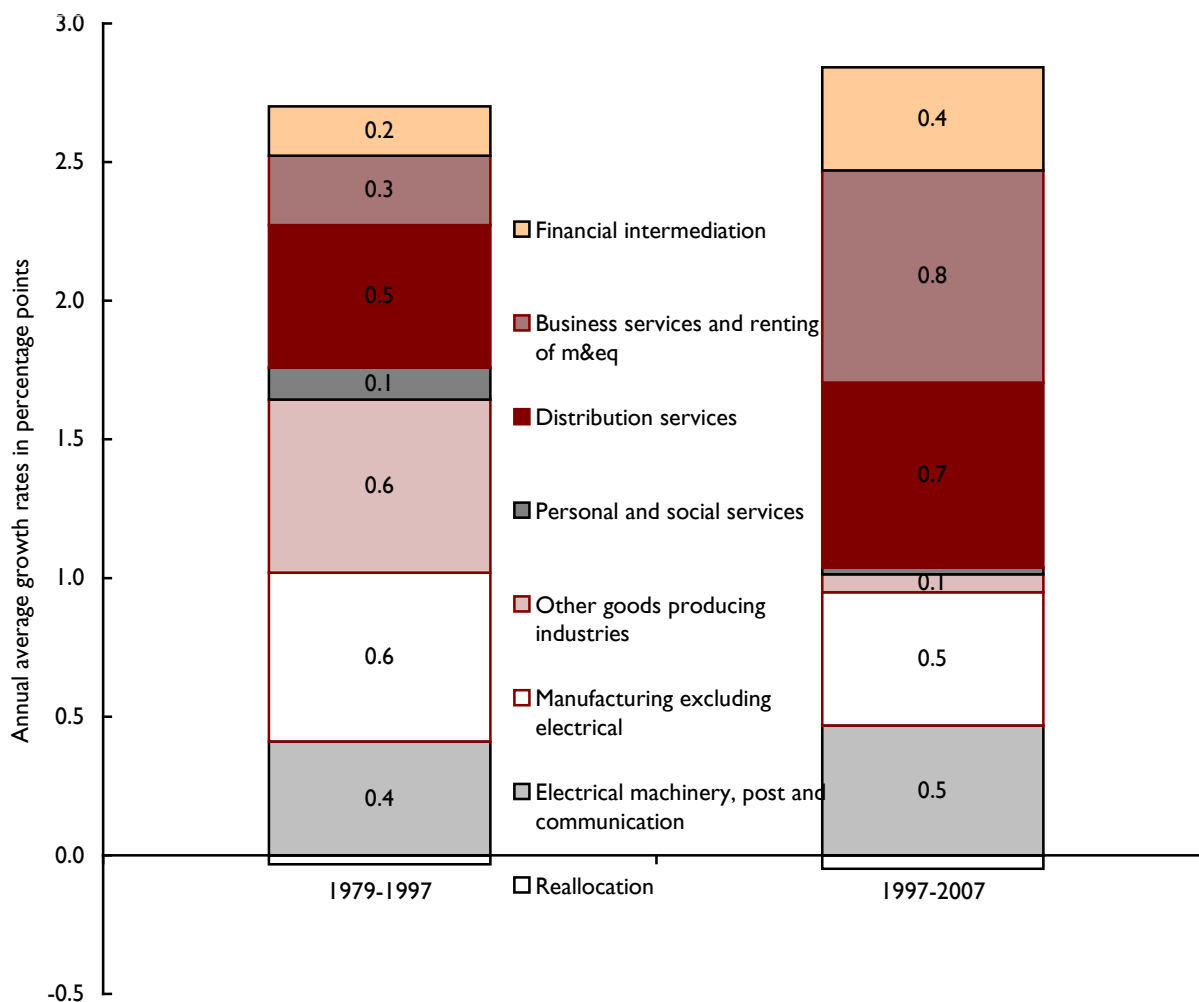


Source: Conference Board data, extracted on 8 June 2012.  
 Notes: GDP is US\$, constant prices, constant PPPs, base year 2011. The number of working age adults, which is obtained from the US Bureau of Labour Force Statistics, includes the civilian population aged over 16. Data for unified Germany is 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 per cent between 1995 and 2001). The steeper the slope of the line, the faster growth has been over that period.

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 (such as Restart and the New Deal for Young People) 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.

The current crisis has led some to question if these productivity improvements were a mere statistical illusion, driven by artificial productivity increases in finance. The evidence we reviewed, however, strongly suggests this was not the case. First, the improvements were widely spread across industrial sectors (figure 4). Second, the way the Office of National Statistics measures GDP places substantial limitations on the potential for the measurement of financial services to bias GDP calculations significantly (Oulton, 2013).

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



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

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.

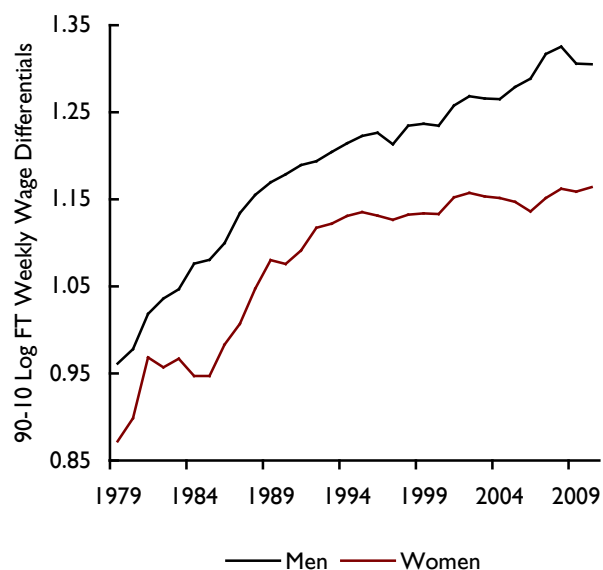
There is a substantial body of evidence suggesting that a range of important policy changes underpinned these economic gains (see for example Corry, Valero and Van Reenen 2011; Card, Blundell and Freeman 2004; OECD 2012a). These include increases in product market competition through the withdrawal of industrial subsidies, a movement to effective competition in many privatised sectors with independent regulators, a strengthening of competition policy and our membership of the EU's internal market. There were also increases in labour-market flexibility through improving job search for those on benefits, reducing replacement rates, increasing in-work benefits and restricting union power. The UK was open 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. And there was a 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. The combination of these policies helped the UK to bridge the GDP per capita gap with other leading nations.

### Failure to invest

Although the UK's economic performance over the past three decades certainly has much to commend it, a number of issues went unresolved. Inequality rose

Figure 5. Wage inequality 1979–2010



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

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).

dramatically from the late 1970s onwards (figure 5). Some of this was related to worldwide pressures of technological change and international trade which have increased the demand for skilled workers (Van Reenen, 2011). Policies such as the weakening of unions and the lowering of welfare benefits also played a role. 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 skills at the lower half of the distribution.

Failure to invest was not confined to skills but extended to infrastructure. This contrasts with the industrial revolution when the UK's major investments in roads, canals and railways supported growth and industrial transformation. 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 dynamism that saw the provision

of infrastructure enabling the growth of the UK as an industrial power seems to have all but evaporated.

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. Thus, to understand the recent lack of investment dynamism we need to understand why the UK has failed to create an enabling environment in a number of important areas for growth. This, in turn, requires an understanding of the nature of the institutions that support investment.

The evidence suggests that policy instability is an enduring feature of these institutions in the UK. This is compounded by a number of properties of the UK 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.<sup>2</sup> 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. 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 are typically 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 serve an instrumental purpose, leaving many of the key problems unaddressed.

Uncertainty and poor decision-making are not inevitable outcomes of governing collective affairs in a democratic framework. They are instead the result of flaws in the design of the institutions that define that framework,

distorting the incentives of those who represent the electorate, and clouding transparency and accountability. That this is not an inevitability of a modern democracy can be readily inferred from other areas where the UK has led the way in seeking innovative institutional solutions for designing and implementing policy. This has often involved refining the balance between political discretion, technocratic input and the use of rules. Perhaps the longest standing example 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 which under the 1998 Competition Act and the 2002 Enterprise Act, reduced political lobbying in large-scale mergers; the decision to give the Bank of England independence to set interest rates after 1997, allowing monetary policy to be based on sound and transparent expert advice; the regulation of privatised services, such as telecoms, energy, and water underpinned by a framework of rules that safeguards the public interest along with a stable investment climate; the National Institute for Clinical Excellence, which has helped to create a better informed and less polarised debate around the choices of health treatments in the NHS; and a number of advisory bodies such as the Low Pay Commission, advising on the minimum wage; the National Pay Review Bodies for public sector workers; and the Climate Change Committee.

Two main lessons follow from these experiences. First, it is important to focus politics on the debates and decisions that involve strategic choices, definition of high-level objectives and rules. Other aspects of policy formulation and implementation often benefit from some degree of insulation from short-term political pressures. This is particularly relevant for policies that have effects on investments with long gestation periods (e.g. infrastructure), including those where problems of time inconsistency are more likely to develop. Second, the political debate needs to be framed by independent, transparent, expert advice, subject to parliamentary oversight and strategic political guidance. In the rest of the paper, we discuss how these lessons can be extended further to foster a better climate to encourage investments in human capital, infrastructure and innovation.

## Human capital

### *Diagnosis*

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. There is also a double dividend from improving human capital, especially at the bottom of the skills distribution. Not only will this improve growth, but because most of the gains would accrue to the less well-off inequality will also be reduced.

A large number of international studies show that high quality teaching is the key to improving schools (Slater *et al*, 2009; Hanushek and Rivkin, 2010). 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 modest in comparison with the large benefits that could be realised by increasing the quality of teachers (Hanushek and Rivkin, 2006).

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 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 because most schools face weak incentives to focus on their performance. First, parental choice is seriously constrained by place of residence and is still mainly a prerogative of better-off families who

can buy houses near good schools (Burgess *et al.*, 2009). Second, school autonomy remains limited since 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. Third, the accountability system is not working to the advantage of deprived children – the framework for school inspections places insufficient emphasis on pupil performance across the range of achievement levels; while government’s ‘floor targets’<sup>3</sup> fail to focus on the ‘lower tail’ of performance within schools.

Deficiencies in teacher recruitment and training are another compounding factor. 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 (Allen and Burgess, 2012).

### Core recommendations

We argue that the school system should deepen into a ‘flexible ecology’ with four critical 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<sup>4</sup> to grow, both by making physical expansion easier, but more importantly through enabling networks of academies to expand through takeovers and so spread best practice. 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 changing information on school performance in league tables, the regulator’s inspections regime, and in national ‘floor targets’ to reflect better the progress of disadvantaged children. This should involve moving away from undifferentiated average performance targets (such as one of the current ‘floor targets’, 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.

The expansion of new sponsored (a sponsor may be a university, business or private/public network that brings in management and leadership skills) 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, 2010). But the post-2010 academies are less focused on this group of schools.

Teacher recruitment and training would be improved through better conditions for both *entry and exit*. To achieve that we recommend expanding Teach First (renowned for its outstanding track record in recruiting high quality graduates) until it becomes one of the main routes into school teaching; making mainstream teacher recruitment more concentrated in the best providers (i.e. best universities and schools), following a national recruitment process; extending the probation period – for example, by doubling it from two to four years; relaxing policies that rely on grades, qualifications and backgrounds so as to encourage a wider range of applications and reflecting the fact that teacher effectiveness is not highly correlated with crude background indicators (Rivkin *et al.*, 2005); and finally, encouraging more strongly mechanisms for teachers and schools to share best practice (in this respect, aspects of the ‘London Challenge’ programme have shown how successful this could be (Hutchings *et al.*, 2012).

## Infrastructure

### Diagnosis

Investments in infrastructure, such as transport, energy, telecoms and housing, are essential inputs into economic growth.<sup>5</sup> 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 (e.g. Helm, 2010; Jamison *et al.*, 2005).

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: lack of clarity about strategy, frequent reversals and prevarication over key decisions;<sup>6</sup> difficulty in basing decisions on sound advice and assessment of policy alternatives built on unbiased appraisals; limitations of a planning system that does not properly share the benefits of development thus



incentivising small groups of influential citizens and politicians to veto or cause egregious delay to projects with wide economic benefits; and, finally, a series of public sector accounting distortions that have made it difficult to weigh up benefits and costs in a coherent way.<sup>7</sup>

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.

Underinvestment and inadequate maintenance characterise the provision of roads, railways and airports (Newbery, 2012). There are particular inefficiencies in how transport is priced and how decisions are made and financed. The 2006 Eddington review<sup>8</sup> cited a potential cost of £22 billion per annum in increased congestion by 2025 if the transport network does not keep up with demand. The UK lacks a long-term strategic vision based on coherent and transparent criteria.

More than a fifth of the 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). Yet, 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.

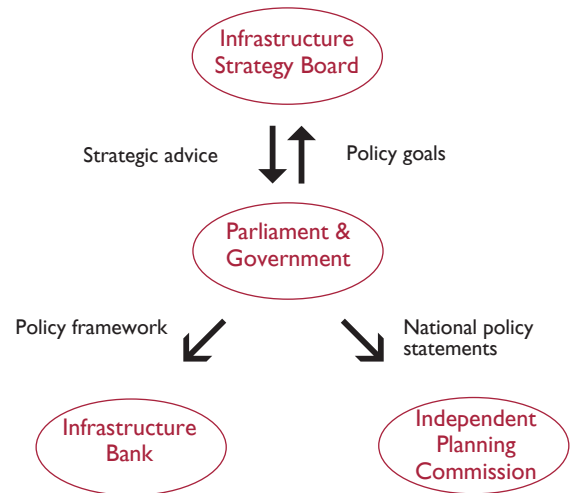
**Core recommendations**

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 6.

Our proposal has three core institutions:

- An *Infrastructure Strategy Board* (ISB): 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 thorough, 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.

Figure 6. The new institutional architecture for infrastructure



- 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. The creation of such a bank can help to reduce policy risk and, through partnerships, to structure finance in a way that mitigates and shares risk efficiently. Good practical examples that show the advantages of a bank with this sort of mandate include Brazil’s BNDES, Germany’s KfW, the European Bank for Reconstruction and Development and, to some extent, the European Investment Bank.<sup>9</sup>
- *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. Such compensation schemes should be enshrined in law and built into the thinking of the ISB and the operations of the IPC. Under current arrangements compensation is low and

primarily communal, so poorly targeted at those who incur costs from development.

We believe 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 at 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. Moreover, 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 policymaking.

## Private investment and innovation

### Diagnosis

Investment is central to innovation and the process of ‘creative destruction’ or reallocation, whereby more efficient and innovative firms grow and less successful firms shrink and exit. Much of the aggregate differences in productivity across countries and growth in productivity over time comes from this creative destruction (e.g. Bartelsman *et al.*, 2012). A supportive environment for investment and innovation is therefore paramount for a dynamic and productive economy.

Various dimensions of the policy environment have a bearing on investment and innovation.<sup>10</sup> Access to finance is amongst the most important (Beck, 2012) and yet many UK businesses still face structural obstacles in raising finance from external sources. The existence of structural financing gaps has been documented from as early as 1931 (Macmillan Committee, 1931). The Department for Business, Innovation & Skills (BIS) periodically conducts demand surveys among SME employers which suggest that there are still market failures that prevent viable SMEs from accessing finance.<sup>11</sup> While there are certain financing issues which are pervasive for firms of all sizes, a key focus is on SMEs and SME-specific funding shortfalls. SMEs are a large fraction of the UK economy, accounting for 99.9 per cent of all UK businesses and over half of private sector employment and turnover in 2011 (BIS, 2012).

One consequence is that the UK has for decades invested less than other rich European countries at each stage

of business development (NESTA, 2012).<sup>12</sup> 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).

Some of the problems with investment and innovation seem to be linked to a series of failures in the functioning of capital markets – including lack of competition in retail banking;<sup>13</sup> lack of economies of scale in SME lending (Skidelsky *et al.*, 2011); and hyperactivity of mergers and acquisitions (Kay, 2012) which incentivise short-termist behaviour (Haldane and Davies, 2011) and harm the financing of innovation (BIS, 2012). Businesses lacking track record and collateral have struggled to gain access to debt finance, despite advances in credit scoring techniques which help lower the cost of assessing business proposals. This has negative effects on young start-up businesses that require external sources of finance.

To avoid the transaction costs of undertaking due diligence, private equity investors tend to favour fewer, larger investments in later stage businesses at the expense of early stage venture capital for viable SMEs with high growth potential.

Raising growth capital for established businesses looking to expand has also been a long-standing challenge; banks have typically been resistant to providing growth capital due to limited data on financial returns to such investment (BIS, 2009). Moreover, while the UK has performed well in attracting inward investment, it has performed 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. Long-term investment is discouraged by investor impatience and a hyperactive mergers and acquisitions market.

### 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 increase competition further and reduce concentration to promote efficiency and relationship lending in the retail banking sector.<sup>14</sup>

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: liberalising entry conditions, including speeding up the process for obtaining a banking license; reviewing 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; and, introducing further measures to reduce switching costs across banks.

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.

## Beyond GDP

It is common to use GDP as a measure of economic

success. Rarely a release of quarterly GDP estimates goes by without dominating media attention and generating widespread public discussion about the state of the economy. To some extent, there are good reasons for this to happen (e.g. Oulton, 2012). Changes in real GDP offer valuable insights for the conduct of macroeconomic policies, for the accounting of productivity, and for learning about the dynamics of other variables of interest with which it tends to be correlated (e.g. in cross-country data GDP tends to be positively correlated with life expectancy and negatively correlated with infant mortality).

Notwithstanding its many virtues, GDP is ill suited as a measure of material living standards. Indeed it was never conceived with that purpose in mind.<sup>15</sup> Its limitations have been extensively discussed over the years (see Stiglitz *et al*, 2009, for a comprehensive review) – e.g. a range of variables important for living standards are absent from GDP or only imperfectly incorporated in its calculation (e.g. public services, leisure, mortality, morbidity, crime); GDP is a flow variable and so fails to assess the sustainability of current living standards; and in the presence of large changes in the income distribution, GDP (per capita) is unlikely to reflect adequately the situation in which most people in society find themselves.

The Commission does not believe that any single indicator captures well all aspects of individuals' living standards. There will continue to be useful debates about progress on the environment, inequality, tax policy and public services – each of these debates using its own measures. But given our limited collective attention span, we think there is some advantage in choosing to promote one additional indicator of economic prosperity.

Our preferred measure is (equivalised) median household income. It offers a better way of capturing the living standards experienced by households (Atkinson, 2011). And the focus on the median gives it some sensitivity to changes in the distribution of income (Jenkins, 2012), reminding users of the importance of inclusive growth.<sup>16</sup> Furthermore, 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.

## Conclusion

We believe the LSE Growth Commission's report is timely and is distinctive compared to previous efforts. It is timely because in the areas highlighted – skills, infrastructure and innovation – the UK is now at a crossroads, confronted by the need to make structural changes to rise to the challenges that lay ahead. The status quo is no longer a viable option. It is distinctive since, unlike other reports, we have drawn on the best academic evidence and we have endeavoured to meet the political economy challenge head-on, making it integral to our analysis and recommendations.

The proposition that the status quo is no longer a viable option is most vividly illustrated by infrastructure investment, especially electricity generation. It has been clear for years that the UK's power-generating capacity would come under pressure in the second half of this decade as there were plans in place to close down dirty coal and ageing gas plants. Yet, seven Secretaries of State and five white papers in the past ten years alone have been incapable of delivering a building block for the £100bn or more of new private investment needed to rebuild the UK's generating capacity over the next decade. What was originally a long-term problem has now come home to roost – the risk of power shortages in four or five years is becoming ever greater. Further hand wringing and indecision will not keep the lights on.

There is a similar urgency for change when it comes to addressing the UK's failure to invest in skills and innovation. The world is changing rapidly and 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. This puts a premium on societies that encourage entrepreneurship, innovation, opportunity and discovery. Addressing our failure to invest in skills and innovation is a crucial step towards creating this kind of society.

Our core proposals aim to break the damaging cycle of institutional churn, political procrastination and policy instability that have become engrained in a number of key policy areas. Indecision and instability are not inevitable outcomes of democratic accountability, but instead are the by-product of flaws in some of the institutions that define our democracy and which can be fixed.

Whether the LSE Growth Commission is successful in influencing the direction of policy remains to be seen. So far, we have been able to generate substantial discussion in the media and among policymakers. The findings of the Commission offer a template for the engagement of academics in these important policy debates. The engagement with policy will not end with the report – the aim now is to try to build the consensus around a Manifesto for Growth. The challenge has never been greater given the pressures that mature economies are facing from international competition and a myriad of changes in the world.

## NOTES

- 1 The Commissioners were Philippe Aghion, Tim Besley, John Browne, Francesco Caselli, Richard Lambert, Rachel Lomax, Chris Pissarides, Nick Stern and John Van Reenen. All material can be accessed from the website <http://www2.lse.ac.uk/researchAndExpertise/units/growthCommission/documents/home.aspx>.
- 2 The timing of parliamentary elections in the UK has been recently revised by the Fixed-term Parliaments Act 2011, which sets the date of the next general election as 7 May 2015 and on the first Thursday in May in every fifth year thereafter.
- 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 per cent 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 per cent of pupils achieve five good GCSE – or equivalent qualifications – graded A\* to C, including English and maths (this threshold will rise to 50 per cent by 2015); and fewer pupils make good progress in English and maths between Key Stage 2 and Key Stage 4 than the national average.
- 4 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.
- 5 See Romp and Haan (2007) for a review of the empirical literature.
- 6 For example, it has taken twelve 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).
- 7 E.g. targets for fiscal policy often draw on measures of public debt while failing to account for the value (and depreciation) of public assets.
- 8 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 policymaking and the inadequacies of the one-off review approach.

- 9 Further details are available at <http://tinyurl.com/b79r79l>.
- 10 E.g. macroeconomic stability, policies that affect competition, market access, finance, taxation and regulation.
- 11 Although the percentage of SME employers seeking finance in the past twelve months rose from 23 per cent (2007–8) to 26 per cent (2010), there was evidence to show that demand for bank finance was declining. 56 per cent of SME employers that sought finance were seeking finance for working capital, while 21 per cent were seeking it for investment purposes (OECD, 2012b). 2011 survey evidence suggests that 74 per cent of SMEs seeking finance obtain it, but SMEs may not have obtained all the finance required and there are still market failures restricting viable SMEs from accessing finance (BIS, 2009, 2010, 2012).
- 12 The other failures of investment that we highlight also 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.
- 13 There have been several studies on this topic since 2000: the Cruickshank report into competition in UK banking (2000), the Competition Commission's inquiry into SME Banking (2002), the OFT's Survey of SME Banking (2006), the OFT's Review of Barriers to Entry, Expansion and Exit in Retail Banking (2010) and the Final Report of the Independent Commission on Banking (2011).
- 14 There is a flourishing empirical literature on this topic – e.g. Petersen and Rajan, 1995; Fischer, 2000; Ogura, 2007, 2010; Memmel *et al.*, 2007; Strahan, 2008; Neuberger *et al.*, 2008; Carbo-Valverde *et al.*, 2009; Presbitero and Zazzaro, 2011; Canales and Nanda, 2012. For more details on this literature please consult <http://tinyurl.com/dx8zj7q>.
- 15 In 1934, Simon Kuznets (one of the originators of the GDP concept) warned the US Congress that "the welfare of a nation can scarcely be inferred from a measure of national income". Thirty years later, in 1962 Kuznets reminded the Congress that "distinctions must be kept in mind between quantity and quality of growth, between its costs and return, and between the short and the long term. Goals for more growth should specify more growth of what and for what".
- 16 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 relatively easy to communicate to the public.

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