
MENDING THE FRACTURED ECONOMY

Smarter state, better jobs

Final report of the Adonis Review

An independent review for the Labour party,
supported by Policy Network

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FOREWORD

Britain's industrial revolution changed the world. Innovation in technology, production and manufacturing transformed the lives of millions, first in Birmingham, Manchester, Leeds, and other towns and cities, and then beyond our borders, led by British exports. As well as output and population, wages saw unprecedented growth, with mass migration to new cities whose amenities and housing were improved by strong, civic governments.

Having once led the world, Britain is struggling to keep up. On education, infrastructure, regional growth, productivity and living standards, the UK lags much of Europe and North America. Having once been the world's dynamo of new products, ideas and processes, British firms struggle to grow, find the skilled workers they require, and export.

Big strengths and big weaknesses characterise the UK economy. We have world class universities and centres of research, and many of the world's largest firms. Inward investment is high. London is a preeminent global city. Yet growth is unbalanced. The link between growth and living standards has been broken, exports are weak, young people widely lack the opportunities they deserve and inequality is vast, both between people and between regions.

The imperative is not just for more jobs, but better jobs; not just more companies, but strong growth companies which innovate and export. A new economy, spreading prosperity, restoring the link between growth and living standards.

For this review, I have visited a dozen cities and regions, and met hundreds of business, civic and social leaders. I was struck by the extremes of optimism and pessimism which hold sway. Optimism at our capacity to succeed, and the brilliant success of places like Cambridge with its high tech and bio science, Warwick and Sheffield with their advanced manufacturing, Manchester with its advanced materials, Oxfordshire with its Formula One, and the surge of innovation and energy from Tech City and Canary Wharf in London. But intense pessimism too about unskilled young people; about isolated businesses without the support they need to invest and export; and about towns and cities with creaking infrastructure and no plans for the future.

Government needs to become smarter and more entrepreneurial, nationally and locally. Working in intense collaboration with leaders across education, business, science and public services, it needs to facilitate innovation by promoting higher rates of business and export growth. It needs to mobilise the huge, underexploited resources of state-funded research and development, government purchasing, and England's schools, further and higher education systems.

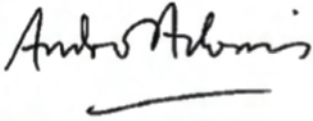
Exports and youth apprenticeships need to be dramatically increased. Between them, they symbolise the challenge ahead.

We need to remain a key player in the European Union, deepening the single market and trade beyond Europe.

We also need a new generation of Joseph Chamberlains – strong, far-sighted city and civic leaders, with bold, credible plans, for the amenities and infrastructure their localities need, working in close partnership with business and social leaders, to make their towns and cities magnets of new and better jobs. And they need the tools for the job. Whitehall needs to hand down budgets and powers for this purpose – not just talk about handing them down, as the Coalition has done since the Heseltine Report. England's business leaders and local governments need empowering to invest in infrastructure, skills and economic development.

While big numbers dominate discussions about economic growth, the real story exists in the company, or the cluster, or the school, or the city. All my proposals on innovation, skills, infrastructure and devolution seek to help them in practical ways.

Governments can no longer spend their way out of difficulty. My overriding aim is to promote a smarter, not a more expensive, state. We need to build on the best of Britain – the spirit of the industrial revolution – and be optimistic that the best is yet to come.



Andrew Adonis

20 June 2014

EXECUTIVE SUMMARY

At long last, the economy is growing. But the UK economy is not creating the productive, high-skilled and well-paid jobs that we need to raise living standards. In the past, a growing economy brought shared prosperity. Yet now, most people are working harder, for longer, for less, even as the economy grows.

Seven facts characterise the UK's fractured economy:

- Productivity – output per worker – is a fifth lower than the G7 average and remains below 2008 levels.
- Research and development investment in Britain is more than a quarter lower than the OECD average, both in the public and private sectors.
- Four fifths of all net jobs created since 2010 are in London. Beyond London, only one of England's large secondary cities is above national per capita GDP.
- Britain is rated 28th globally for infrastructure by the World Economic Forum.
- Youth unemployment, at 850,000, accounts for nearly one fifth of young adults and skills shortages are consistently rated a major obstacle to growth, including in the employers' survey for this review.
- Since 2010 job creation in low-paid sectors has increased at twice the rate of the economy at large.
- Britain's balance of payments deficit recently reached the highest level since records began in 1955, reflecting weak export growth and innovation.

Britain has big strengths to build upon. It has world-leading universities, an outstanding science research base, a flexible labour market, an open economy with one of the highest rates of foreign direct investment in the world, and many successful global companies. The imperative is for a national growth strategy focused on innovation, skills, support for growth companies, and the empowerment of city and county regions to address infrastructure and skills weaknesses in particular.

Innovation and industrial strategy

In the new global economy awash with cheap labour, Britain will only be able to improve its standard of living by competing in a race to the top. It is the ability of firms to innovate and create a competitive advantage that generates better paid jobs. Government needs to create the conditions to enable firms to produce higher value-added goods and services in existing and emerging sectors.

The lack of coherent national innovation and industrial strategies has held back the UK's growth. The Department for Business, Innovation and Skills needs to raise its game in supporting British business. Much state spending that could support growth and innovation is poorly targeted, by the £3.2 billion Regional Growth Fund in particular. Growing businesses find it hard to access vital public sector contracts, hampering their ability to scale up – in marked contrast to the priority given to awarding federal research and procurement contracts to growth businesses in the United States.

Government needs to commit long-term funding, for at least a Parliament, for state supported scientific research and innovation, and there should be a ten year strategy to capitalise on the UK's world leading research led by the Technology Strategy Board. Strong sector strategies, rooted in industry knowledge, should identify weaknesses and develop plans to boost innovation and the

number of apprenticeships in key sectors of the economy. There should be a significant expansion of the number and capacity of Catapult Centres, which help commercialise research in key growth areas such as advanced manufacturing and cell therapy. Government departments should mobilise their R&D budgets to promote innovation in the key industries they sponsor and use public procurement to help small businesses scale up in a far bolder way, led by a new Small Business Administration.

Empowering city and county regions

It is time to give our city and county regions the powers they require to promote growth. Local Enterprise Partnerships (LEPs) – as the regional voice of business – need to be significantly improved. In partnership with local authorities at the city and county regional level, they should then be empowered with larger devolved budgets to promote better skills, infrastructure and economic development, in return for credible growth plans.

Combined Authorities – new statutory authorities at the city and county region level, bringing together local authorities for joint purposes including transport – should be strongly encouraged on the successful model of the Greater Manchester Combined Authority. There should be a substantial new devolution of Business Rates income to these Combined Authorities, in return for an agreement on key infrastructure investments to drive regional growth.

Solving the skills mismatch

The UK has near record levels of youth unemployment and chronic skills shortages. Too many young people are poorly educated and essentially unskilled. Yet even among those with some skills and qualifications, there is a serious mismatch between the skills on offer and the demand for technician-level competency, particularly for roles requiring science, technology, engineering and maths (STEM) skills.

The imperative is for a major expansion of high quality vocational and technical education and STEM apprenticeships for young people, offering more and better work-and-train opportunities in all sectors of the economy. Courses for apprenticeships should only be funded by government where they are accredited by professional bodies. LEPs should help drive the take-up of apprenticeships among employers at local level and have a much stronger say in what college-based courses are funded locally. The public sector should also recruit far more apprentices and mobilise its huge procurement budgets to promote apprenticeships more widely.

Links between schools and employers need to be radically strengthened to promote apprenticeships and work experience, and to ensure students receive better employment and careers advice. More young people need to be encouraged to study the maths and science subjects required for STEM careers, with a recruitment drive for specialist STEM teachers with significant experience in business and industry led by a new 'Teach Next' organisation. More University Technical Colleges should also be established.

Supporting growth companies

Many innovative businesses have been unable to attract sufficient growth capital to expand. There needs to be significantly more support for financing new growth businesses outside of London and the South East, with the state investing alongside private investors, such as 'business angels'. The primary government guarantee scheme for business lending, the Enterprise Finance Guarantee scheme, should also be extended beyond a handful of high street banks – for example, to peer-to-peer lenders – to increase competition.

There is also far less support for companies to export than in other comparable countries. UK Trade & Investment, the export promotion agency, and UK Export Finance, the export credit agency, need to do a far better job of giving advice and support to existing and potential exporters in respect of market opportunities, export finance, digital platforms, and overcoming bureaucracies – particularly in emerging markets.

SUMMARY OF RECOMMENDATIONS

Innovation and industrial strategy

Industrial strategy

- **Recommendation 1: All key industrial sectors and their supply chains should be supported by the government to develop a national growth strategy.**
All key industrial sectors and their supply chains should be supported by the government to develop national growth strategies. These should help guide the work of sub-national bodies, such as Local Enterprise Partnerships and central government departments and agencies, particularly the Technology Strategy Board (TSB) which leads on driving innovation. The government should also support business clusters across the country. There should be a minister within the Department for Business, Innovation and Skills to ensure that all government departments and the TSB provide clusters with the support they need.
- **Recommendation 2: Reform the Department for Business, Innovation and Skills to equip it with expert teams focused on key industry sectors.**
The Department should recruit experts from the private sector on the model of the Aerospace Growth Partnership, and make greater use of secondments into and out of the department.

Innovation policy

- **Recommendation 3: The budgets for science and the Technology Strategy Board should be set for the whole of the next Parliament, and should be priorities.**
The funding of science is critical for the UK's world-leading research base and highly regarded universities. And the Technology Strategy Board (TSB), the government's national agency to support innovation, provides vital support to help commercialise this research into new products and services. There should be long-term budgets for science and the TSB, and both should be priorities.
- **Recommendation 4: There should be a ten year innovation strategy to increase the number of Catapult Centres, Innovation Platforms and projects with the private sector supported by the Technology Strategy Board.**
Catapult Centres and Innovation Platforms bring businesses, scientists, engineers and government together to focus on the commercialisation of specific technologies into new products and services. There are significantly more areas where Catapult Centres, Innovation Platforms and Technology Strategy Board projects with the private sector could help commercialise new technologies, and there should be a ten year strategy to expand and enhance effectiveness.

Government and growth companies

- **Recommendation 5: Set up a Small Business Administration to promote small businesses across government.**
A new Small Business Administration (SBA) should promote state contracting with smaller firms, as does the SBA in the US. The SBA should: monitor and publish details of how well departments and agencies are doing to contract with small businesses; help scale up the Small Business Research Initiative which supports potential government suppliers to innovate (as below); bear down on red tape; and increase levels of awareness and satisfaction with key government support and finance schemes for small businesses.

- **Recommendation 6: Scale up the Small Business Research Initiative so that all departments are committing at least 2.5 per cent of their existing research and development budgets.**

Government departments have significant research and development budgets – including £1 billion per year for health – but more needs to be done mobilise these budgets to drive innovation. The Small Business Research Initiative (SBRI), which is modelled on a similar US scheme, supports small businesses to drive innovation in public services, but its impact has been limited. While the US awards around 4,000 contracts a year on average, worth \$2.5 billion, over the last four years the UK has launched just 124 SBRI competitions, averaging £25 million per year.

- **Recommendation 7: Increase the proportion of government procurement with small and medium sized businesses to 25 per cent of prime contracts directly with government and 25 per cent indirectly through the supply chain.**

The government must practice what it preaches and contract to a far greater degree with small and medium sized businesses. The proposed Small Business Administration should radically improve government contracting. This should be supported by a new, more transparent target for both prime and tier one contracts.

Empowering city and county regions

Stronger partnerships between local government and business

- **Recommendation 8: Reform Local Enterprise Partnerships.**

The existing 39 Local Enterprise Partnerships (LEPs), which were hastily set up to replace the Regional Development Agencies, require significant improvement. LEPs need to be rationalised where they do not reflect the geography of city and county regional economies. They should forge stronger partnerships with local authorities to drive improvements in infrastructure, economic regeneration, skills, exports, and inward investment. All universities within a LEP area should be represented. There should be clear expectations from central government regarding the core remit for LEPs. And LEPs must be independent from local authorities and provide a strong business voice in decision making. On this basis, LEPs should be granted stable capacity funding and a stronger role in terms of setting and scrutinising local growth plans.

- **Recommendation 9: Encourage the setting up of city and county region Combined Authorities, further strengthening regional economic leadership.**

Combined Authorities are statutory bodies which enable local authority leaders, acting collectively over a city or county region, to take direct responsibility for transport and other economic functions, on a similar basis to the Mayor of London. The Greater Manchester Combined Authority was the first such authority, which also has responsibility for economic development and is willing to play a bigger role in addressing skills shortages. The establishment of Combined Authorities, covering city and county regions, should be strongly encouraged. Local Enterprise Partnerships should operate across the same regional geography as Combined Authorities, working closely together, while maintaining an independent business voice.

A bold and simple offer of devolution

- **Recommendation 10: Triple the level of funding devolved to city and county regions to at least £6 billion per year to allow them to shape local provision of skills training, employment schemes, infrastructure and business support.**

Subject to the rationalisation and improvements above, Local Enterprise Partnerships (LEPs) and their coterminous local authorities should agree ambitious growth plans with the government for improvements to employment schemes, skills, infrastructure and business support. Growth plans should involve commitments by local authorities to pool additional resources to invest strategically across their local economy. In return, multi-year budgets to drive local economic growth should be allocated, including the devolution of funding for infrastructure, business support, and adult skills provision, and the co-commissioning of the Work Programme. This funding will include devolution into the independent 'single pot' for LEPs. This process will incentivise LEPs and local authorities to move towards the formal Combined Authority model to strengthen regional leadership further, triggering substantial devolution of property tax income as below.

- **Recommendation 11: Devolve the revenue from Business Rates to Combined Authorities so that any additional income can fund infrastructure priorities and incentivise investment to drive growth.**

Central government should devolve the full revenue from Business Rates to Combined Authorities to help fund infrastructure priorities agreed in their growth plan. This should be revenue neutral to the Exchequer through offsetting reductions in government grants and the existing reset period should be extended. This tax devolution will provide big growth incentives to local decision makers.

Solving the skills mismatch

A major expansion of high quality youth apprenticeships

- **Recommendation 12: Increase the number of high quality apprenticeships for young people, including trebling the number of STEM youth apprenticeships by 2020.**

Existing apprenticeship funding should be more strongly focused on young people, particularly for science, technology, engineering and maths (STEM) apprenticeships – which are too few in number to address skills shortages. Of the 510,000 apprenticeships funded each year, just over half are for young people aged 16-24. This includes just 31,000 apprenticeship starts each year in STEM apprenticeships at Level 3 (the equivalent to A-levels) and above. This is not remotely enough to fill the demand for STEM technicians, with 50,000 technicians leaving the workforce every year through retirement and growing demand for these roles, which tend to require vocational skills at Level 3 and above.

- **Recommendation 13: Local Enterprise Partnerships should commission regional 'Business Hubs' to drive the take-up of apprenticeships, and promote wider business support to firms (as set out in Recommendation 20).**

Local Enterprise Partnerships (LEPs) should pioneer a bold expansion in the take-up of apprenticeships among employers within their areas, in both public and private sectors, by supporting them to recruit, mentor and train apprentices. LEPs should also be responsible for signposting national business support schemes more widely, through 'one stop shop' arrangements.

- **Recommendation 14: National government, local government and the NHS should radically increase the number of public sector apprenticeships in technical roles for young people, within existing spending plans.**
National and local government are very poor recruiters of youth apprentices. The state needs to start leading by example by recruiting apprentices for technician posts and using public procurement to promote apprenticeships more widely.
- **Recommendation 15: Funding for apprenticeships should only be provided to employers for schemes accredited by professional bodies.**
The quality of apprenticeships needs radical improvement. Employer-led sector bodies should be given greater control over determining standards. These standards should be accredited by professional bodies, which exist for most apprenticeship schemes at Level 3. They already accredit courses for graduate and post-graduate training, and they should do so in respect of apprenticeships too. This will raise the status of apprenticeships and encourage those gaining them to train at higher levels, including at degree level.
- **Recommendation 16: Establish at least 100 University Technical Colleges by 2020 focused on growth areas of the economy.**
University Technical Colleges (UTCs) should be a priority when building new schools, to help increase opportunities for technical education. They offer young people aged between 14 and 19 the opportunity to gain a more technical education, which is enhanced by links with local universities, further education colleges and employers. They specialise in subjects where there is a shortage of skills, including engineering, product design, health sciences, and digital technologies.

Stronger links between schools and employers

- **Recommendation 17: Introduce a new national 'Teach Next' recruitment and teacher training scheme for experienced career switchers, focused on STEM subjects.**
There is an acute shortage of STEM specialist teachers, particularly in maths and physics. A new national Teach Next scheme should be targeted on career switchers with significant work experience and focused on STEM subjects. It should be based on the model of Teach First. The scheme should be marketed nationally, provide national training and offer support during and after the programme.
- **Recommendation 18: Every secondary school in England should appoint a full-time Director of Enterprise and Employment.**
Secondary schools should appoint a dedicated, full-time director responsible for a broad range of careers and employer engagement activities. The Director of Enterprise and Employment should be appointed as a member of the senior management team. They should have significant knowledge of careers and training routes, and preferably direct experience of the local labour market.

Addressing the skills mismatch at the local level

- **Recommendation 19: Further education colleges should focus strongly on teaching technician-level skills and adult learning priorities should be set locally.**
Too many vocational courses do not lead to employment in relevant occupations, while many industries suffer from chronic technical skills shortages. Local Enterprise Partnerships, working with their coterminous local authorities (or Combined Authority) should be able to set priorities for the funding of post-19 vocational training courses in their sub-regional

areas. Rather than funding courses simply by national formulae based on the number of qualifications attained the previous year, employers and local authorities should use their knowledge of the local labour market to shape what their local classroom-based vocational providers deliver.

Supporting growth companies

Business support

- **Recommendation 20: Local Enterprise Partnerships should ensure that regional 'Business Hubs' are promoting business support to firms.**

Local Enterprise Partnerships (LEPs) should facilitate the development of 'one stop shop' regional Business Hubs to promote national business support schemes and signpost to firms what is on offer, as well as promoting and supporting the take-up of apprenticeships within the national framework (recommendation 13).

Exports

- **Recommendation 21: UK Export Finance and UK Trade & Investment need to become much more ambitious in the way they support exporters.**

UK Export Finance (UKEF) provides financial guarantees for UK exports but supports significantly fewer companies than similar bodies in comparable countries. UKEF needs to put exporters at the centre of a much more ambitious service-oriented organisation and drive up the volume of export guarantees where there is no private sector support available. UK Trade & Investment (UKTI), which helps companies to make contacts abroad and navigate bureaucracies, needs to become much more focussed on developing international business networks that UK companies can exploit, particularly in emerging markets.

Financing growth businesses

- **Recommendation 22: Local Enterprise Partnerships should promote the Business Angel Co-investment Fund in city and county regions outside of the South East.**

The Business Angel Co-investment scheme is a £100 million fund which makes investments of between £100,000 and £1 million alongside syndicates of business angels in order to support high potential businesses. However, two thirds of the fund has been invested in the South East and East Anglia. More of the fund should be deployed around the country, and Local Enterprise Partnerships should play a leading role in promoting the fund and developing regional networks of business angel investors.

- **Recommendation 23: Develop a regional network of Small Business Investment Companies.**

Labour has committed to supporting a network of regional banks alongside a British Investment Bank. We should also learn from the US, where Small Business Investment Companies (SBICs) have invested around \$20 billion of long term capital in firms via debt and equity investments, from 287 SBICs around the country. This has helped to fund companies such as Apple, Sun, HP and Intel in the early stages of their development. A regional network of SBICs would fill the gap for growth capital demanded by high growth innovative firms. This could be achieved by allowing investors who put up their own capital to access low cost, long-term loans.

- **Recommendation 24: Extend the Enterprise Finance Guarantee scheme to make it available via alternative finance providers, such as peer-to-peer lenders.**

The Enterprise Finance Guarantee (EFG) scheme provides loan guarantees to facilitate lending to viable businesses that have been turned down for a commercial loan due to a lack of security. However, in 2013 86 per cent of all EFG loans in terms of value were distributed by only four high street banks: RBS, Barclays, HSBC and Lloyds. The EFG scheme should be made available through alternative finance providers to improve distribution, including peer-to-peer lenders and the Small Business Investment Companies proposed above.

THE FRACTURED ECONOMY

Chapter 1: Wanted – more growth companies and clusters

CHAPTER 1: WANTED – MORE GROWTH COMPANIES AND CLUSTERS

The UK economy is not creating the productive, high-skilled and well-paid jobs which are needed to raise living standards. High growth companies are critical to creating such jobs. Just six per cent of high growth businesses generated half of the new jobs created by existing businesses between 2002 and 2008. These companies had one important factor in common: they were highly innovative.¹

Government policy needs to be directed especially towards creating and supporting many more high growth companies, whether they are small, medium or large. This includes championing the commercial exploitation of science-based innovations, tackling skills shortages and infrastructure weaknesses, and helping innovative companies scale up to become significant exporters.

But government support for innovation has been undermined with many departments seeing year on year falls in R&D investment.² Although expenditure cuts have been necessary, it is crucial that the government invests in future sources of growth. As the OECD has argued:

“...cutting back public investment in support of innovation may provide short-term fiscal relief, but [it] will damage the foundations of long-term growth.”³

Most innovation takes place in clusters. Firms in specific industries locate close to one another to benefit from a deeper pool of skilled talent, proximity to firms offering support services, and a flow of ideas between firms and other institutions such as universities.

Many of these clusters exist in cities, which have increasingly become engines of growth, creating the vast majority of new jobs. 96 per cent of the net private sector jobs added in the economy since 2010 have been in city regions. Crucially, the jobs created in cities are more likely to be good jobs with higher incomes. Around three quarters of high skilled jobs in the UK are in cities.⁴

London is a powerhouse of innovation and growth, accounting for four fifths of all net new jobs added since 2010 (chart 2.3). England’s larger cities beyond London have not been so successful – only one, Bristol, has above national average GDP per capita (table 2.1).

The cities and regions outside of London and the South East have industrial clusters but these are not strong enough. A recent McKinsey report found that there are 31 economically significant clusters spread around the UK, including chemicals in Hull and metals in South Yorkshire. Taken together, they account for 8 per cent of the UK’s businesses but generate 20 per cent of UK output.⁵ However, the majority of the most successful clusters are located in London and the South East.

It is not only larger cities which drive innovation and growth. Cambridge, a city of only 125,000 people, is preeminent among England’s innovation clusters. Over 1,500 science and technology-based companies, employing 54,000 and with total revenues of more than £12 billion a year, are based in and interact in the city and its hinterland. Cambridge University, and the consultancies and research institutes spawned by the university over decades, have been critical to this success. Cambridge has also benefitted from sharply rising national science budgets after 1998, and from an influx of overseas students, researchers and professors.

1. Nesta (2009), The vital 6 per cent: How high growth innovative businesses create prosperity and jobs

2. Campaign for Science & Engineering (2014), ‘Government R&D hit by disproportionate cuts, again’, CASE website, published 27/01/14

3. OECD (2010), The OECD Innovation Strategy: Getting a Head Start on Tomorrow, p.10

4. Centre for Cities (2014), Cities Outlook 2014

5. McKinsey (2014), Championing our Clusters: Capturing the Growth Potential

The Cambridge cluster

- 1,500+ technology based firms, employing 54,000 people and with £12 billion in total revenues
- 300+ companies in IT & telecoms, 150+ in physical science & engineering and 150+ in life sciences
- Arm and Autonomy, both \$10 billion companies, have come from the cluster
- 12 x \$1 billion companies: Abcam, AVEVA, CAT, Chiroscience, CSR, Domino, Ionica, Marshall, Solexa, and Virata
- 26 per cent of people working in knowledge intensive industries compared to 12 per cent nationally
- 1 in 5 recent Cambridge graduates work or study in the city region
- 1,000 active IP licencing, consultancy and equity contracts managed by Cambridge Enterprise (the University's knowledge transfer office)⁶

However, for all its success, Cambridge also illustrates the growth challenge. Inadequate transport infrastructure, a serious housing crisis and technician level skills shortages, are holding Cambridge back. As the Greater Cambridge City Deal proposal noted: "... we are competing with Silicon Valley, Boston area, Bangalore but are much smaller and constrained than these areas".⁷ It emphasised that the:

*"Shortage of housing within reasonable journey time of key employment centres has driven unsustainable levels of house prices as well as in rental prices, meaning that many key workers cannot afford to live in, or within reasonable distance of, our key job sites. [...] Transport infrastructure constraints mean that commuters have unreasonably lengthy, unreliable and congested journeys that reduce the attractiveness and reliability of doing business in the area."*⁸

These problems demand action at the city region level, since much of the required planning and investment in transport, homes and skills needs to occur across the travel to work area which extends well beyond the city boundaries. The Greater Cambridgeshire and Greater Peterborough Local Enterprise Partnership is working with Cambridge City Council, the county council, and other district councils to resolve these issues, and a City Deal has been agreed with Government providing some extra support for transport.

However, the key regional players – the university, the LEP and the local authority leaders – recognise that a bolder strategy is required, including the creation of a Combined Authority across the Greater Cambridge region, with a stronger remit and greater resources, to tackle skills and infrastructure in particular. But they are currently unable to create a Combined Authority because legislation does not allow Cambridgeshire County Council to do so. This is jeopardising investment, growth and jobs.

The success of Cambridge is a model for others. Equally, the challenges it faces – on infrastructure, housing and skills in particular – typify a wider national problem, which requires leadership and powers at regional level to overcome. This report highlights the improvements needed in all these respects.

6. University of Cambridge (2014), Cambridge Innovation in Numbers: The Cambridge Cluster

7. Cambridge City Council et al (2013), Unleashing the Phenomenon: Section A: Summary of Information

8. Cambridge City Council et al (2013), Unleashing the Phenomenon: Section A: Summary of Information

THE FRACTURED ECONOMY

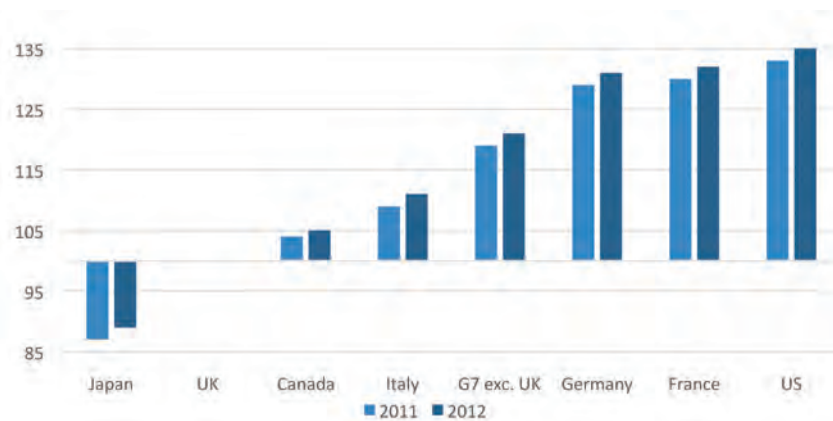
Chapter 2: Big strengths, big weaknesses

CHAPTER 2: BIG STRENGTHS, BIG WEAKNESSES

Living standards in the UK have stagnated, with growth in GDP not producing the increases in living standards which, on past experience, would be expected. A key reason for this is that economic growth has not been accompanied by a pickup in productivity, the determinant of long term prosperity.

In 2012, output per hour worked in the UK was 21 percentage points below the G7 average (chart 2.1) – the widest productivity gap since 1992.⁹ This underlying productivity weakness partly explains why average real incomes have been languishing for so long and why wage growth is still weak. Furthermore, since 2010, the number of jobs in low-paid sectors has increased at twice the rate of the rest of the economy.¹⁰

Chart 2.1: Gross Domestic Product per hour worked, G7 countries¹¹



Exports remain especially weak. The current account deficit recently reached the highest level since records began in 1955.¹² Over the past two years the UK's exports have been flat, and the government is not remotely on track to meet its target of doubling exports to £1 trillion by 2020.

As for employment, the top line employment figures tell only part of the story. 1.4 million people are working part-time, many because they are unable to find full-time employment.¹³ As the Bank of England notes, the very high number reporting they would like to work longer hours points to considerable underemployment.¹⁴ The rise in claimed self-employment, accounting for over half of the increase in total employment reported since last summer, also suggests that millions simply cannot find permanent jobs and are looking for other ways to make ends meet.

Youth unemployment remains especially high. At 19 per cent (853,000 young people), the UK's youth unemployment rate is more than twice the rate of Germany.¹⁵ We are failing the next generation: a lost generation of young people with poor skills and no work, with little hope for the future.

Household consumption and private housing investment, fuelled by the housing price surge in London and the South East, represented around 60 per cent of GDP growth last year;¹⁶ while net trade and business investment, essential for driving innovation and high value jobs, remain worryingly low.

9. Office for National Statistics, International Comparisons of Productivity - Final Estimates

10. Low Pay Commission (2014) National Minimum Wage: Low Pay Commission 2014

11. Office for National Statistics, International Comparisons of Productivity - Final Estimates

12. Office for National Statistics (2014), Balance of Payments quarterly First Release - Current account

13. Office for National Statistics (2014), Labour Market Statistics, June 2014, p.50

14. Bank of England (2014), Inflation Report: May 2014

15. Office for National Statistics (2014), Labour Market Statistics; Eurostat (2014), EU Labour Force Survey

16. Bank of England (2014), Inflation Report: May 2014

Growth is regionally imbalanced, concentrated on London and the South, while the Midlands and the North do less well. Tellingly, 21 of the 25 worst-performing retail centres in the country are in the North, the Midlands and Wales, while 22 of the 25 best performing are south of the Watford Gap.¹⁷ So Britain is growing, but growth is unbalanced, the young are especially disadvantaged, and a good deal of today's growth is being driven by a surge in consumption supported by rising house prices and increasing consumer debt. Huge challenges remain to create an economy which works for all – and all parts of the country.

Big strengths

The UK economy has some big strengths on which to build:

World leading universities for education and research

In the Times Higher Education global rankings, the UK has three universities in the top 10 – Oxford, Cambridge & Imperial, with the other seven all in the United States – and 31 universities in the top 200, compared to 77 in the US.¹⁸ The UK is also home to 4.1 per cent of the world's academic researchers but their research accounts for 11.6 per cent of citations and 15.9 per cent of the world's most highly cited articles.¹⁹ Universities also form a core part of the economic infrastructure of the country. In 2011-12 universities generated 2.8 per cent of GDP, attracted nearly £11 billion in export earnings and accounted for 2.7 per cent of all UK employment. Moreover, the higher education sector has significant spill-over effects into the wider economy, including a 17 per cent jobs multiplier effect and a 35 per cent output multiplier effect.²⁰

Globally successful companies across a whole range of sectors

According to the Fortune Global 500, an index of the largest companies in the world, the UK is the leading European country on the list and has the fourth highest number of companies behind the US, China and Japan. These companies span numerous sectors from aerospace, pharmaceuticals, and oil & gas, right through to retail, telecommunications and financial services.²¹ Britain also has some great innovation success stories. For example:

- Dyson's success has been driven by constant investment in R&D and new products, from vacuum cleaners and hand dryers through to heaters. It now generates over £6 billion in revenue and employs more than 4000 people.
- Burberry, the luxury fashion business, has grown rapidly in recent years by pursuing innovative digital strategies and now has revenue of nearly £2 billion and 9,000 employees.
- ARM Holdings, which has focussed on driving innovation in central processing unit (CPU) design, provides the CPUs for 95 per cent of the world's smartphones. ARM has revenue of over £700 million and 2000 employees.

An open economy which attracts investment

Britain is an open economy with broad and deep international reach. It is the second largest outward investor after the United States and the fourth highest recipient of foreign direct investment after the United States, China/Hong Kong and Brazil.²²

17. Local Data Company (2013), *Shopped Out*

18. Times Higher Education (2014), *Times Higher Education world rankings for 2013/14*, available at: <http://www.timeshighereducation.co.uk/world-university-rankings/2013-14/world-ranking/range/001-00/order/countryper%20cent7Casc>

19. Elsevier (2013), *International Comparative Performance of the UK Research Base – 2013: A report prepared by Elsevier for the UK's Department of Business, Innovation and Skills*

20. Universities UK (2014), *The impact of universities on the UK economy*

21. Fortune (2013), *Global 500 2013*, available at: <http://fortune.com/global500>

22. UNCTAD (2014), *Inward and Outward Foreign Direct Investment Flows*

Big weaknesses

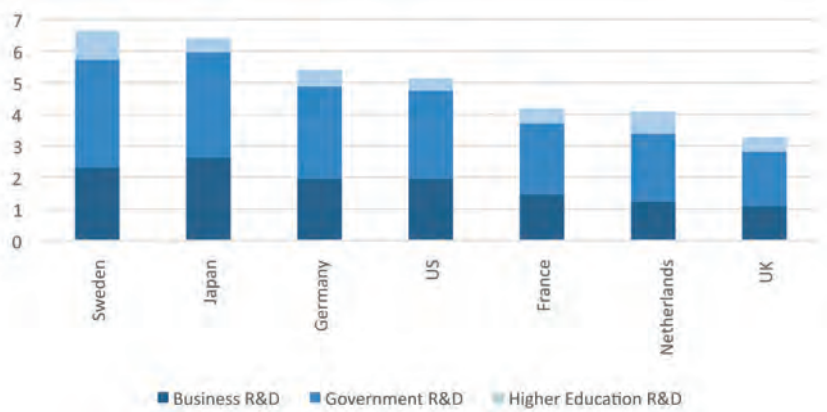
Despite these strengths, there are serious structural weaknesses which characterise the UK's fractured economy: relatively low levels of research and development, regional economic imbalances, inadequate infrastructure and housing shortages, poor vocational training and technical education, high levels of youth unemployment and insufficient exports.

Low rates of investment and R&D

The UK has consistently invested far less than its main competitors. According to the World Bank, the level of investment is substantially lower in the UK than in other major countries.²³

As well as low levels of total investment, the UK invests far less in R&D (chart 2.2), which is crucial for driving innovation. A fall in R&D, according to the OECD, has a strong negative impact on innovation.²⁴

Chart 2.2: Investment in research & development (R&D) by business, government and higher education as a proportion of gross domestic product (GDP), 2012 (% of GDP)²⁵



Regional economic imbalances and underperforming cities

London and the South East were the only regions to have above average growth rates between 2007 and 2012.²⁶ Only one of eight of England's second cities has per capita output above the national average, as table 2.1 shows. In Germany, all eight second tier cities have a per capita output above the national average.

Table 2.1: Economic performance of secondary cities in 2013 compared to the national average – Germany, Italy, Canada, Spain, France & England²⁷

Country	GDP per capita	Number of secondary cities above the national GDP average	Cities (above, below)
Germany	\$42,000	8/8	Cologne-Bonn, Frankfurt, Hamburg, Hannover, Mannheim, Munich, Nuremberg, Stuttgart
Italy	£33,000	6/8	Bologna, Brescia, Florence, Genoa, Milan, Turin, Bari, Salerno
Canada	\$42,000	4/8	Calgary, Edmonton, Hamilton, Ottawa, Montreal, Quebec, Vancouver, Winnipeg
Spain	\$29,000	3/8	Barcelona, Bilbao, Zaragoza, Alicante, Malaga, Oviedo, Seville, Valencia
France	\$40,000	2/8	Lyon, Toulouse, Bordeaux, Marseilles, Nantes, Nice, Rennes, Strasbourg
England	\$37,000	1/8	Bristol, Birmingham, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield

23. World Bank (2014), Gross Capital Formation (% of GDP)

24. OECD Science, Technology and Industry Outlook 2012, figure 1

25. OECD (2014), Main Science and Technology Indicators

26. Calculated from Office for National Statistics (2013), Regional Gross Value Added (Income Approach) NUTS1, Table 1.1

27. Greg Clark & Greg Clark (2014), Nations and the Wealth of Cities, Figure 5, p.37

The effect of this massive structural imbalance can be seen clearly in the job creation figures: 79 per cent of private sector jobs growth occurred in London between 2010 and 2012. Britain's next nine largest cities accounted for just 10 per cent of net private sector jobs created (chart 2.3).²⁸ This dominance of job creation by London is also reflected in higher unemployment figures outside of London with the exception of Bristol (chart 2.4) – the only second tier city with above average per capita output.

Chart 2.3: Proportion of net private sector jobs added in the UK by London, other cities and non-cities between 2010 and 2012²⁹

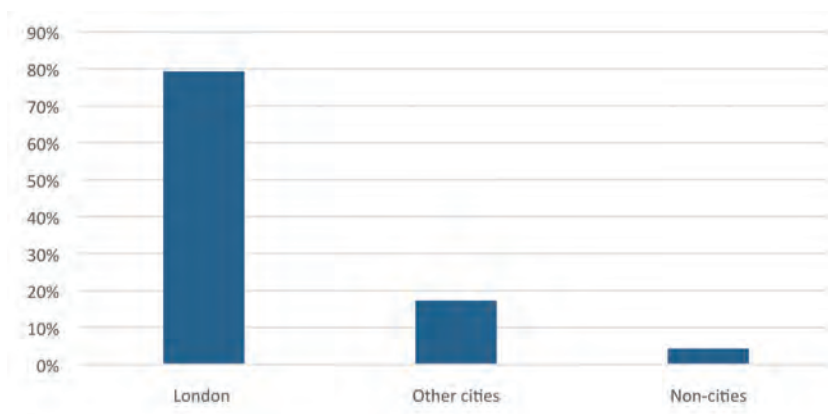
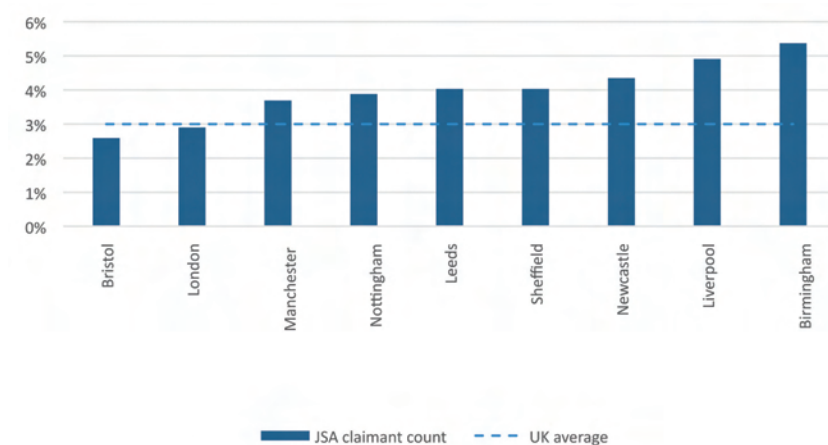


Chart 2.4: Claimant count for Jobseekers' Allowance (JSA) in London and the eight 'core cities', November 2013³⁰



The size of London relative to the national economy does not account for the difference in performance of England's second tier cities. Paris, Stockholm, Seoul and Tokyo, for example, are more dominant in GDP share and population within their national economies than London is in England, but France, Sweden, South Korea and Japan also have stronger second cities.

Far from holding other cities back, London is boosting their growth. Businesses which are headquartered in London account for between 5 per cent and 22 per cent of employment in each of the other 62 cities in the UK. And since 2008, firms headquartered in London have increased the number of people they employ in their branches in 49 of 62 cities outside of the capital.³¹ Few of these firms would be 'relocated' to other cities by government fiat. It is the shortage of high growth companies in city and county regions outside London and the South East, and the relative weakness of their industrial clusters, which are holding them back.

28. Centre for Cities (2014), Cities Outlook 2014, p.7

29. Centre for Cities (2014), Cities Outlook 2014, p.7

30. Centre for Cities (2014), City by City, available at: <http://www.centreforcities.org/cities/>

31. Centre for Cities (2014), Cities Outlook 2014, pp.20-21

Inadequate infrastructure

Infrastructure is a key element of the enabling environment for economic growth, as the World Bank has consistently argued.³² Access to infrastructure such as energy, transport, and telecommunications greatly influences the productivity of private investment and an economy's competitiveness.

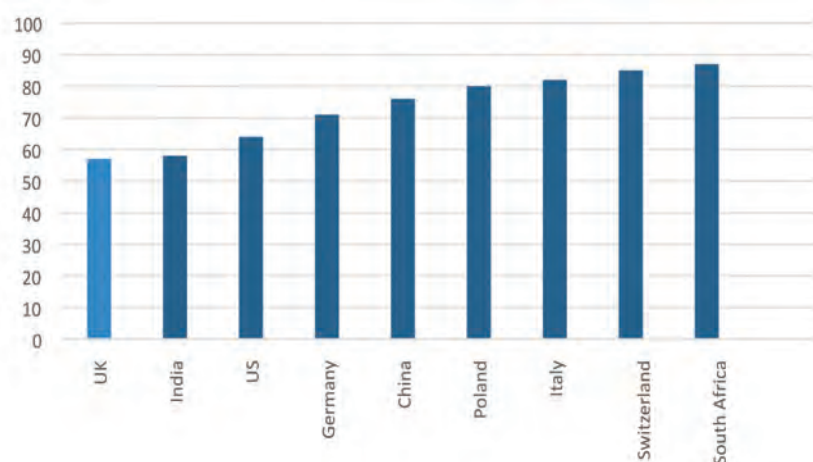
The UK's infrastructure is lagging behind its peers. According to the World Economic Forum's Global Competitiveness Report, the UK's infrastructure is ranked 28th out of 148 countries, as table 2.2 shows. The report particularly highlighted the weakness of the UK's aviation and road capacity. According to the Civil Engineering Contractors Association, this lack of investment in infrastructure is costing the UK around £78 billion per year in lost output.³³ The CBI has also highlighted the looming energy capacity crunch as another major concern which will affect business investment if not resolved quickly.³⁴

Table 2.2: World Economic Forum rankings for the quality of overall infrastructure, 2013-2014³⁵

Country	Ranking for quality of overall infrastructure
Switzerland	1
Hong Kong SAR	2
Finland	3
United Arab Emirates	4
Singapore	5
France	6
Netherlands	9
Germany	10
Spain	12
Japan	14
US	19
Sweden	21
UK	28

The McKinsey Global Institute also highlights the infrastructure deficit in the UK compared to other countries. As chart 2.5 shows, its study estimated the value of the UK's infrastructure stock at only 57 per cent of GDP, compared to 71 per cent in Germany.

Chart 2.5: Total infrastructure stock as a proportion of Gross Domestic Product (GDP), 2013 (% of GDP)³⁶



32. See, for example: World Bank Group (2014), *Strong, Sustainable and Balanced Growth: Enhancing the Impact of Infrastructure Investment on Growth and Employment: Background note for the G20* prepared by Staff of the World Bank Group

33. Civil Engineering Contractors Association (2013), *Securing our economy: The case for infrastructure*

34. CBI (2014), 2014 Budget Submission

35. World Economic Forum (2014), *Global Competitiveness Report 2013-14*

36. Infrastructure stock includes roads, rail, ports, airports, power, water and telecoms. McKinsey (2013), *Infrastructure productivity: How to save \$1 trillion a year*, p.13

The infrastructure deficit can also be seen in the quality and age of the housing stock. The UK has one of the largest pre-1945 housing stocks in Europe combined with one of the lowest rates of dwelling completions per 10,000 inhabitants.³⁷ Given Britain's population growth, especially in London, this is another serious constraint.

The rate of house building is at its lowest peacetime level since the 1920s. Fewer than half the 200,000 new homes a year required are being built nationally and fewer than a third of the 60,000 needed a year in London. Yet there are estimated to be 150,000 unemployed construction workers in the UK, which is costing the economy up to £2.1 billion a year in unemployment benefit and lost tax revenue.³⁸ The situation has been getting worse with 40,000 jobs lost in the construction industry in 2013.³⁹ On current projections, based on the low rates of house building, employment in construction will still be 11 per cent below its 2008 peak in 2018.⁴⁰

Sir John Armitt's report on infrastructure recommended a significant improvement in the quality and independence of national infrastructure planning, including for transport, energy, water and waste.⁴¹ The Armitt Review should be read in conjunction with the improvements to regional infrastructure planning and investment set out in this review. The forthcoming Lyons Housing Review will address the challenge of increasing the rate of house building significantly, which is especially vital to growth.

High youth unemployment and skills shortages in technical roles

The youth unemployment rate in the UK is stubbornly high. Yet skills shortages plague the British economy, and were the single biggest constraint on growth highlighted in the employer survey for this review (see chapter 3).

A key reason why the UK suffers from skills shortages amidst high levels of youth unemployment is that the UK lacks good quality vocational education and training. Our education system does not offer a balance of quality vocational and 'academic' learning, and vocational education is still perceived as a second best option for young people.

The shortages of youth apprenticeships, especially in technical and scientific fields, are particularly acute. According to the International Labour Organization (chart 2.6), there are around half the level of apprenticeships in the UK compared to Switzerland, Australia and Germany. The figures for apprenticeships for young people are even lower, with around a third the level of Germany and a quarter of the level in Switzerland. Official figures published by the UK government also show that just 9 per cent of firms employ apprentices,⁴² compared to 24 per cent in Germany.⁴³

The state itself is an especially poor recruiter of youth apprentices. Most government departments and agencies employ few or no youth apprentices. A study of the Department for Business, Innovation and Skills (BIS) – which is responsible for apprenticeship policy in the public and private sectors – for this review showed there were no apprentices, or only one or two, in 17 of 30 BIS agencies and public bodies, despite them employing more than 9,000 people (see appendix 3 for the findings).⁴⁴ In contrast the public sector in Germany had 81,000 registered apprentices.⁴⁵

Countries with high numbers of technical apprenticeships tend to have lower levels of youth unemployment. By sustaining a high value, alternative to an academic university education, they motivate far more teenagers and young adults to study for well-paid jobs; and they provide a pool of talent for technician posts, vital for companies and the public sector.

37. Delft University of Technology (2010), Housing Statistics in the European Union 2010, Tables 2.4 and 3.12; Legal & General (2014), Let's House Britain: UK Housing Crisis Report 2014, p. 13

38. Construction Skills Network (2013), Blueprint for Construction 2013-2017: Labour Market Intelligence

39. Construction Skills Network (2013), Blueprint for Construction 2013-2017: Labour Market Intelligence

40. Construction Skills Network (2013), Blueprint for Construction 2013-2017: Labour Market Intelligence

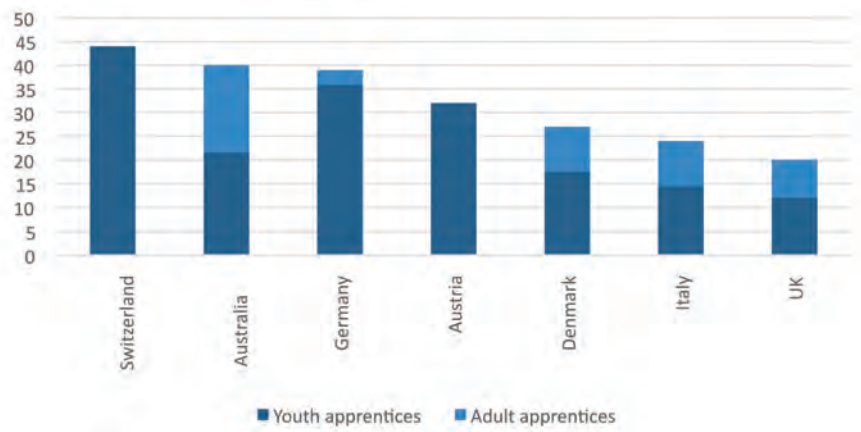
41. Sir John Armitt (2013), The Armitt Review: An Independent Review of Long Term Infrastructure Planning Commissioned for Labour's Policy Review

42. UKCES, UK Commission's Employer Perspectives Survey 2012, December 2012

43. Data for 2008, cited in: National Audit Office (2012), Department for Business, Innovation and Skills: Skills Funding Agency: National Apprenticeship Service: Adult Apprenticeships: Appendices Two to Four, p.3

44. Andrew Adonis (2013), A Smarter BIS: An interim report for the Labour Party on the Department for Business, Innovation and Skills, p.27

45. Data is from June 2011. Datenreport zum Berufsbildungsbericht (2013), p.130

Chart 2.6: Number of people on an apprenticeship per 1000 employees in selected countries, 2011⁴⁶

School standards have risen significantly in recent years, including in maths and science, but the rest of the world has not stood still. The UK is currently ranked 50th out of 148 countries for the quality of maths and science education by the World Economic Forum (table 2.3). OECD data, based on its PISA test scores, suggests that countries with lower scores in maths and science have lower rates of economic growth and that even moderate improvements in PISA scores boost future living standards.⁴⁷

Table 2.3: World Economic Forum rankings for the quality of maths and science education, 2013-2014⁴⁸

Country	Ranking for quality of maths and science education
Singapore	1
Finland	2
Belgium	3
Lebanon	4
Switzerland	5
Netherlands	14
France	15
Germany	21
Japan	34
Sweden	41
US	49
UK	50

England also suffers from very poor information and guidance for teenagers making the passage from school to jobs and apprenticeships. This is a critical weakness in England's labour market. While graduate routes are well sign-posted, supported and understood, the same is not true of non-graduate routes. A recent CBI survey of 2,000 14-25 year olds found that while two thirds of young people reported receiving guidance on A-level choices and going to university, only a quarter had been provided with guidance on starting an apprenticeship, and even fewer on what vocational qualifications might be available.⁴⁹

This not only damages the transition of young people from school to well-paid work, but also, by limiting knowledge of good post-school apprenticeships among young people, it significantly reduces incentives to study hard and achieve qualifications while at school.

In short, the status quo is largely dysfunctional for young people not on track to go to university. It requires urgent reform.

46. International Labour Organization (2012), Overview of Apprenticeship Systems and Issues

47. OECD (2010), The High Cost of Low Educational Performance: The Long-Run Economic Impact of Improving PISA Outcomes

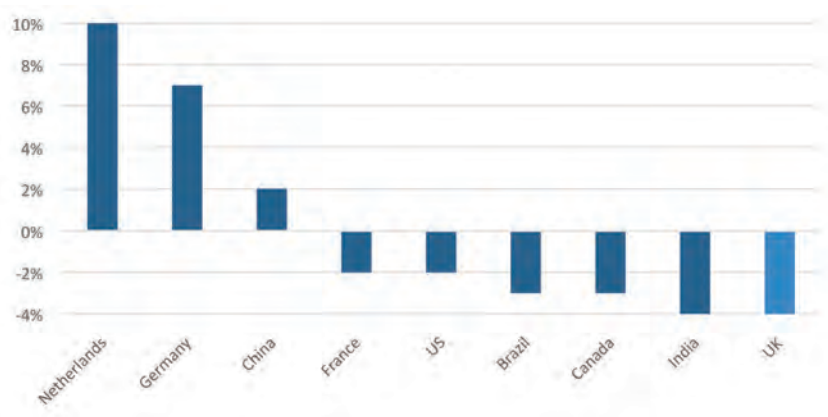
48. World Economic Forum (2014), Global Competitiveness Report 2013-14

49. CBI (2013), '93 per cent of young people are not getting the careers information they need', CBI website

Too few exports

Britain is simply not exporting enough. As a proportion of GDP, Britain has one of the worst trade balances in the developed world (see chart 2.7).

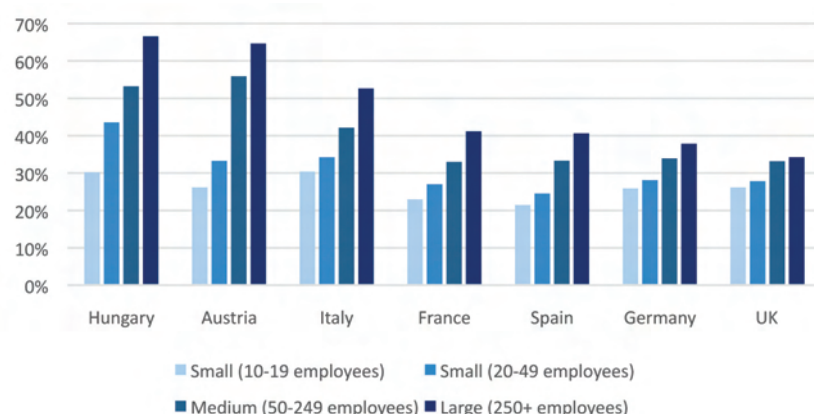
Chart 2.7: Trade balance in selected countries as a proportion of Gross Domestic Product (% of GDP), 2012⁵⁰



This weakness pervades companies of all size – small, medium and large – compared to our European competitors. Whereas one in four SMEs export in Europe, only one in five do so in Britain, and the gap among larger firms with more than 249 employees appears to be larger still. As a proportion of turnover, exports comprise far less among British large companies than those in other European countries (chart 2.8).

Nor is the situation improving. Export growth has been limited in the past few years. According to the OECD, the UK has one of the slowest rates of growth of exports to developed and emerging economies.⁵¹ The growth rate is far slower than required to meet the government's target of doubling exports to £1 trillion by 2020.

Chart 2.8: Proportion of turnover attributed to exporting by size of business in selected countries, 2007-2009 (%)⁵²



Exports matter, not only because of the balance of payments, but also because exporting companies are crucial to innovation and growth. As chart 2.9 shows, firms which export are more likely to be innovative. One of the reasons why Britain's export performance is lagging is that it doesn't have a sufficiently large cohort of innovative firms with the products and services to compete in international markets.

50. Central Intelligence Agency, Current Account Balance; GDP figures from the IMF

51. OECD (2013), *Fostering SMEs' Participation in Global Markets* 2013

52. EU-EFIGE/Bruegel-UniCredit 2010 survey of 15,000 firms; findings in Navaretti et al (2011), *The Global Operations of European Firms*: Efige Policy Brief, Table 2, p.4

Chart 2.9: Small & medium sized enterprises (SMEs) in the European Union (EU) which have introduced a new product or service and are active internationally, 2009 (% of EU SMEs)⁵³



53. 'Active internationally' includes imports, direct exports, investments abroad, technological cooperation with enterprises abroad, subcontractor to foreign main contractor, and foreign subcontractors. European Commission (2010), Internationalisation of European SMEs, Table 14, p.48

THE FRACTURED ECONOMY

Chapter 3: A view from business

CHAPTER 3: A VIEW FROM BUSINESS

As part of this review, we analysed business surveys from employer organisations and conducted our own survey during visits to ten cities nationwide. The survey results and case studies reflect the strengths and weaknesses identified in the last chapter. They also indicate that neither central government, local government nor the existing Local Enterprise Partnerships (LEPs) are sufficiently equipped to tackle the weaknesses identified. In the case of local government and LEPs, this is partly because they lack the levers at regional and sub-regional level to tackle infrastructure and skills weaknesses in particular.

Beyond more general issues of demand, skills shortages are often the most commonly cited barrier to growth. The Federation of Small Businesses' (FSB) members have ranked finding skilled staff as more of a barrier to growth than access to finance, regulation or tax.⁵⁴

Skills shortages are particularly cited in parts of the economy which rely heavily on science, technology, engineering and maths (STEM) skills. A survey by City and Guilds found that around three quarters of employers cited skills shortages in the two industry groupings of engineering & manufacturing and digital, IT & information services.⁵⁵ The government's survey of almost 5,000 employers also found that high growth businesses are more likely to cite issues with skills shortages, recruitment, and managerial skills than businesses which aren't growing.⁵⁶

Access to finance is widely cited as a barrier to growth. This is a particular issue for innovative, high growth firms. According to the Big Innovation Centre, 'innovative firms' – defined as those which have introduced a new product or service in the past year – are 70 per cent more likely than 'non-innovative firms' to be declined for debt finance.⁵⁷

Infrastructure is also a significant issue, especially transport. A CBI/KPMG survey conducted last year found that more than half of respondents viewed the UK's transport infrastructure as below average when compared internationally, whereas most firms rated water, waste and digital infrastructure as above average.⁵⁸

All of these findings are supported by our survey, which was completed by more than 200 employers at events between September 2013 and January 2014 (see appendix 1 for further details). Skills shortages were cited as the main barrier to growth – even in Cambridge – but there were also significant concerns about infrastructure. Inadequate support for access to finance and exporters, and insufficient government support to help innovative companies to scale-up were also recurring themes. In more detail:

Skills shortages, particularly for technical roles

- **Skills shortages were cited as the main barrier to growth in all ten cities**
Among the employers we surveyed, skills shortages were considered to be the most significant barrier to growth in all ten cities when compared to housing, infrastructure and the planning system. In total, 60 per cent of the businesses surveyed cited skills shortages as their main barrier to growth.

"There are particularly acute skills shortages in the digital sector."

Leeds

"We have enough work for 40 people but only managed to recruit 15 people."

Digital business in Bristol

54. FSB (2014), Voice of Small Business Index: Quarter 1, 2014, p.32

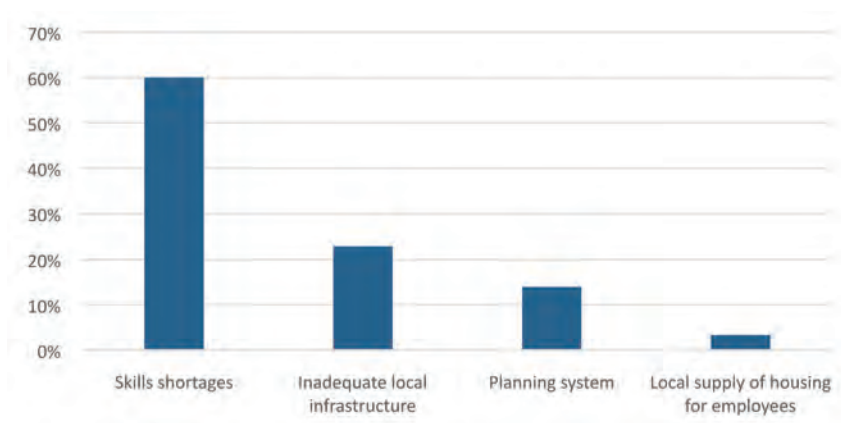
55. City and Guilds, Making Education Work: Preparing Young People for the Workplace, October 2013

56. Department for Business, Innovation & Skills (2013), 2012 Small Business Survey – Growth Special Report, Table 8.1 p.32

57. The Big Innovation, Credit and the crisis: Access to finance for innovative small firms since the recession, June 2013 p.3

58. CBI (2013), Connect more: CBI/KPMG infrastructure survey 2013, p.23

Chart 3.1: Main barrier to growth



- **Skills shortages are most acute for technical roles**

Skills shortages are cited most by firms in sectors with a higher proportion of technical occupations requiring skills in science, technology, engineering and maths (STEM). Three quarters of firms in sectors with higher levels of STEM occupations⁵⁹ cited skills shortages as their main barrier to growth.

“It is extremely challenging to fill IT and engineering jobs.”

Newcastle

“The average age of my workforce is 65 as we can’t recruit engineering specialists.”

Manufacturer in Birmingham

“There is a severe lack of electrical engineers.”

Sheffield

“Engineering firms are actively constraining their growth because they are unable to recruit enough suitable workers.”

London

- **Most employers do not recruit apprentices, but those that do are positive about them**

Almost half of firms stated that they do not recruit apprentices (chart 3.2), including many of those citing skills shortages as their major obstacle to growth. The take-up of apprentices varied considerably by sector. While 91 per cent of firms in the construction industry employed apprentices, only 45 per cent of businesses in STEM-dominant sectors hired apprentices.

Smaller employers were more likely to cite issues with recruiting apprentices. Issues cited included the upfront costs associated with training apprentices, the perceived burden on management to train and mentor apprentices, and that candidates for apprenticeships were not of a sufficient standard. It is notable that of the businesses which did recruit apprentices, most were generally positive about the benefits. Almost half of businesses which recruited apprentices said that they supported their business extremely well.

“There are 30 different apprenticeship providers locally which adds to the complexity.”

Cambridge

59. STEM dependent sectors were defined as 'Information & Communication', 'Manufacturing', and 'Professional, Scientific and Technical Services'.

"We tried to recruit an apprentice for 18 months but to no avail. Four of six potential candidates didn't turn up for their interview."

Oxford

"Many apprentices are not work ready and some companies are having to set up pre-apprenticeship schemes to filter the appropriate applicants."

Newcastle

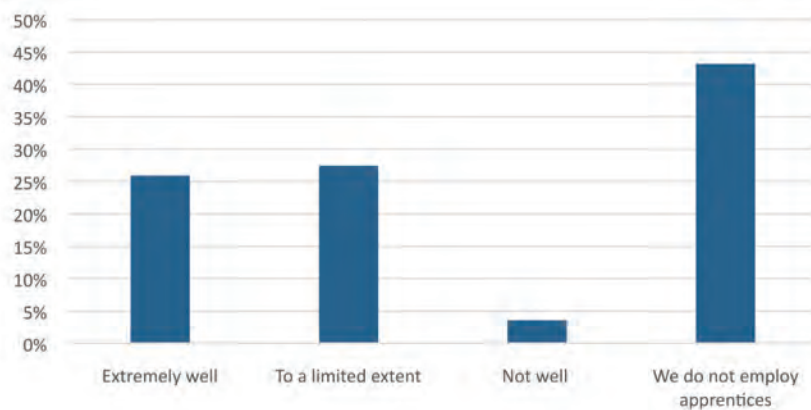
"Apprenticeships are a major investment for SMEs in terms of upfront costs and on-going time commitment for managers."

London

"Apprentices can be a drain on management resources for SMEs."

Bristol

Chart 3.2: Extent to which apprentices support your business



- **Careers advice and guidance for young people is poor, particularly for vocational routes**

Employers emphasised the need for major improvement in careers guidance for young people, including a broader range of opportunities for students to engage with employers from different industries. They were particularly concerned about the careers guidance provided to young people with regard to apprenticeship and vocational routes.

"No-one wants to do engineering apprenticeships. More young people want to do beauty and sports ones."

Newcastle

"School career systems are bereft of imagination to push exciting technical careers where there is demand for skills."

Newcastle

"Career advice in schools is poor. It should be more focussed on vocational career routes."

London

"There is a lack of careers advice in schools to guide people who lack support at home, particularly for non-university routes."

Leeds

- **Links between employers and schools are too weak**

There was a widely held view that there needs to be stronger links between schools and employers. Some employers called on the business community to do more. Many employers were willing to do more with schools and young people, but some had encountered difficulties accessing young people in schools.

“Some schools are not open to working with employers.”

Oxford

“Employers need to do more to engage with schools and we need more coordination of employer initiatives in schools.”

Oxford

“There is not enough engagement between business and the education sector.”

London

“Employers need to take work experience placements seriously and invest time and resources.”

Sheffield

- **Immigrations restrictions for high-skilled workers are holding back growth businesses**

A number of employers cited concerns around the impact of immigration restrictions on recruiting and retaining high skilled workers and international university students. This was acting as a barrier for innovative, high growth businesses which need to access the best talent from around the world in order to compete internationally.

“Many of our most innovative, high growth firms need to recruit people who have scaled up businesses before. Restrictive immigration rules are making this harder to do.”

Cambridge

“Immigration restrictions are making it more difficult for international students to stay and this has put off investors.”

Cambridge

“Government should reduce red tape around immigration as London needs to attract skilled workers who bring new ideas and innovations.”

London

Inadequate city-region investment in transport and housing

- **Poor transport links and a lack of affordable housing make it more difficult to attract investment and talent**

Inadequate local infrastructure was cited as a significant barrier to growth, with almost a quarter of all businesses citing it as their main barrier to growth. Employers specifically cited a lack of investment in integrated transport and housing, which has made it more difficult to compete for inward investment and attract talent to their local areas.

“The cost of flying is a major issue for businesses. Heathrow is very poor for connections compared to international airports in other countries.”

London

"Infrastructure is very poor in the Leeds City Region and Yorkshire as a whole – it doesn't allow the area to perform as a single economic space."

Leeds

"There is a lack of affordable local housing which makes it very difficult to attract workers."

Cambridge

- **Transport and housing are more problematic where city growth is constrained by local governance issues**

Employers called for more cooperation between local councils to invest more strategically in transport and housing. Transport was cited as a particular issue in Oxford and Cambridge. In both cities, 41 per cent of respondents cited inadequate local infrastructure as the main barrier to growth – almost as many as those citing skills shortages.

"There is support from businesses for an integrated transport authority but local authorities are blocking this."

Bristol

"New housing developments have added to road congestion as there was no major investment in infrastructure to accompany the new housing."

Oxford

"There is no clear single development plan for the area – there are currently plans for Cambridge City, South Cambridgeshire and Cambridge County Council."

Cambridge

- **Investment in most cities is not seen to be on par with London**

Employers in most cities outside of London, particularly those in the North of England, felt that they had not benefitted from comparable levels of investment to the Capital.

"Links from Manchester to Liverpool and Birmingham are poor. The Northern Hub investment is positive but Manchester is playing catch up with other cities."

Manchester

"Infrastructure planning is too London centric."

Milton Keynes

- **Priorities vary considerably between regions**

There were significant differences between regions in terms of the impact of changes in input costs. Employers in northern cities were far more likely to cite energy costs as the biggest issue, with 42 per cent citing this in the North compared to 26 per cent in the South. Employers in southern cities were more likely to cite transport costs or Business Rates.

Access to finance is constraining the growth of innovative, high-growth businesses

- **Attracting finance is an issue, particularly for innovative, high-growth businesses**

The results showed that 39 per cent of employers had issues attracting finance (chart 3.3). Many firms felt that they were unable to access finance because they lacked a track record or assets to borrow against.

"It is very difficult for an unproven business to get finance."

Leeds

“There is a gap in risk or seed capital in the UK, particularly for creative businesses.”

London

“We’re a high growth business and were initially told by our bank that we could get a loan for an acquisition, but they rejected the application at the last minute without any explanation.”

Oxford

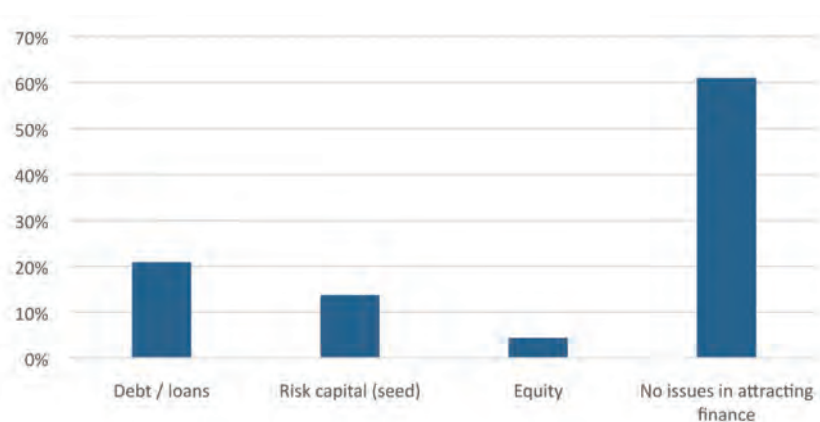
“There are no issues in raising equity but many good companies don’t get bank finance. Banks are interested in large corporate deals – there’s not much in SME lending for them.”

Oxford

“For an overdraft, our bank required excessive personal guarantees and reams of paperwork, so we used other means. We are a large, fast growing SME that’s been around for over a decade.”

Oxford

Chart 3.3: Difficulties in attracting finance



- **Issues attracting finance tended to be for debt finance from banks, but some felt more businesses should try other forms of finance**

Of the firms that had issues attracting finance, 54 per cent had issues gaining debt or loans, 35 per cent had issues acquiring risk or seed capital, and 11 per cent had issues with equity finance. A number of employers argued that more businesses should apply for non-bank finance, such as equity finance. And others saw a growing role for peer-to-peer lending in financing businesses.

“UK businesses are too afraid of equity finance so they end up approaching banks with unsuitable proposals.”

Leeds

“We need to increase awareness among SMEs about the different types of funding available.”

Birmingham

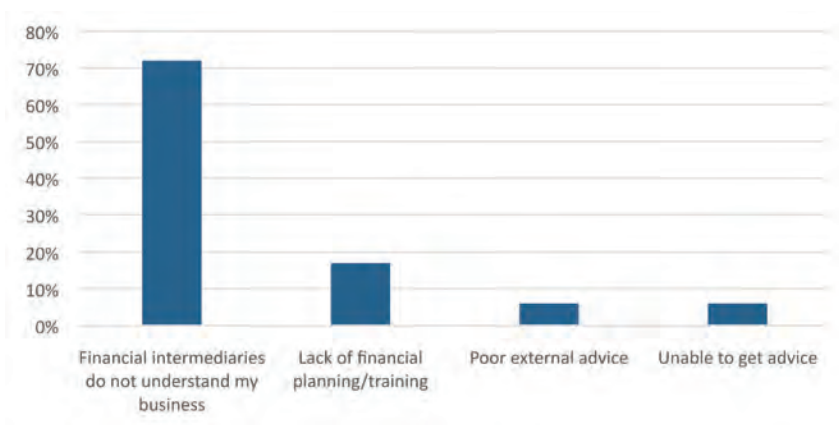
“The risk averse culture of banks has led to a scarcity of working capital to help manufacturers with retooling.”

Birmingham

“There is not enough choice of finance, but crowd funding is beginning to make a real difference.”

Sheffield

Chart 3.4: Reason for not being able to attract finance



- **Businesses felt that a breakdown in relationships with banks and other financiers had prevented them accessing finance**

Almost three quarters of businesses with issues attracting finance felt that they had been unsuccessful because financial intermediaries did not understand their business (chart 3.4). Business which struggled to gain equity finance were more likely to say that they felt that financiers didn't understand their business, with 83 per cent citing this as the main reason.

"Relationship managers in banks have to refer most of their decisions to the central credit committee."

London

"The independent appeals process is highlighting that banks decision making processes are flawed."

Manchester

"Banks should do more to explain why they turn down businesses."

Manchester

- **Some businesses felt that they might have gained finance if they had a stronger business plan**

There were 17 per cent of businesses which said that they felt that they were unsuccessful in their application due to them lacking financial planning or training (chart 3.4). Businesses which had been declined for debt finance or seed capital – particularly smaller businesses – were more likely than those rejected for equity finance to cite this as the main reason.

"In many cases what can appear to be an issue with a business being unable to access finance is actually due to the business not being prepared or at the appropriate stage."

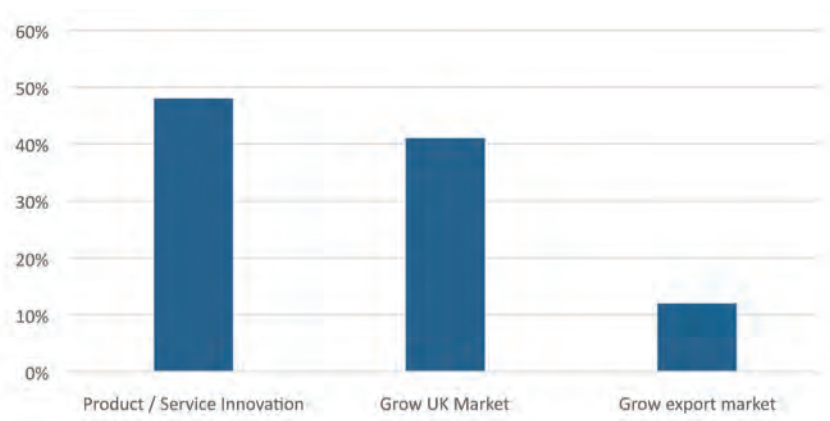
Sheffield

Support for exporters is mixed, particularly for advice and financial products

- **Most businesses are not looking to export**

Exports did not figure as the main strategy for expansion for most businesses that we surveyed. Only 12 per cent of businesses surveyed cited exporting as their main strategy for business growth (chart 3.5). This is in keeping with other surveys on exports by UK businesses, which show that UK firms are less likely to export than their European counterparts. One in five UK SMEs export whereas the EU average is one in four.

Chart 3.5: Key strategy for business growth



- **For those exporting, the support on offer is mixed**

The discussions on exports highlighted that the quality of the services on offer from UK Trade and Investment (UKTI) was inconsistent. In some parts of the world, the services offered were considered to be useful, however in other areas the feedback was negative.

"Many SMEs are unaware of what UKTI has to offer."

Birmingham

"UKTI seems to be more big-business focussed."

Milton Keynes

"We had a good experience for a market study in one European country, but when we tried two other countries the service was poor."

Oxford

"The trade missions were very useful, but UKTI lacks detailed knowledge of local economies."

Bristol

"We used the UKTI service but we were already aware of the contacts that were provided to us. In some markets UKTI is behind the curve compared to other export promotion bodies."

London

- **The financial products on offer for exporting are not sufficient**

Employers often cited issues with accessing appropriate finance for exporting. Many found that the range of products on offer is too limited and existing products are too costly or onerous. The government's export finance agency, UK Export Finance, did not seem to be providing a flexible enough service to support companies in exporting compared to other countries. Many businesses were also unaware of the services on offer.

"UK Export Finance isn't set up to manage the complexity that many exporters face which doesn't seem to be an issue for our European competitors."

Birmingham

"Banks do little to promote and market export finance schemes."

Manchester

“Why can’t we get an indication of whether we would be granted an export licence before we get an order? That’s the way they do it in Germany.”

Birmingham

“The lack of flexibility on export credit guarantee bonds around terms and conditions is a major constraint on growing exports compared to other jurisdictions.”

Bristol

“There should be more support for tender bonds to enable businesses to tender for multiple contracts at a given time.... Letters of credit are extremely expensive and overly complicated for SMEs to use.”

London

There is not enough targeted support for R&D and innovation

- **Government support for R&D and innovation is not always suitable for small, innovative firms**

Employers with experience of government schemes aimed at supporting R&D and innovation often felt that these should be re-designed to better suit the needs of small, innovative firms. In particular, some employers felt that the UK could do more to support innovative firms via the Small Business Research Initiative (SBRI).

“We need contracts not hand-outs. A better approach to driving innovation is to use public sector procurement more effectively to enable firms to create innovative goods and services that solve real world problems.”

Cambridge

“The Technology Strategy Board (TSB) grants should cover more of the costs of R&D to make it more viable for SMEs to get involved and they shouldn’t require collaboration with other organisations as this can be a barrier.”

Cambridge

“Business models for innovative firms are becoming more diverse which has implications for government policy on business support. There is no single approach that will drive innovation – it needs to be multi-faceted.”

Oxford

- **Government contracts can help businesses to scale-up, but it is too difficult for smaller firms to access them**

There were a small number of firms which had benefitted from supplying innovative products or services to the public sector. This had given them the foothold they needed to scale-up quickly. However, some small businesses which were developing new products or services found that they were not able to access government contracts. The general view was that the way that government buys goods and services from the private sector has meant that smaller businesses are not able to compete with larger firms.

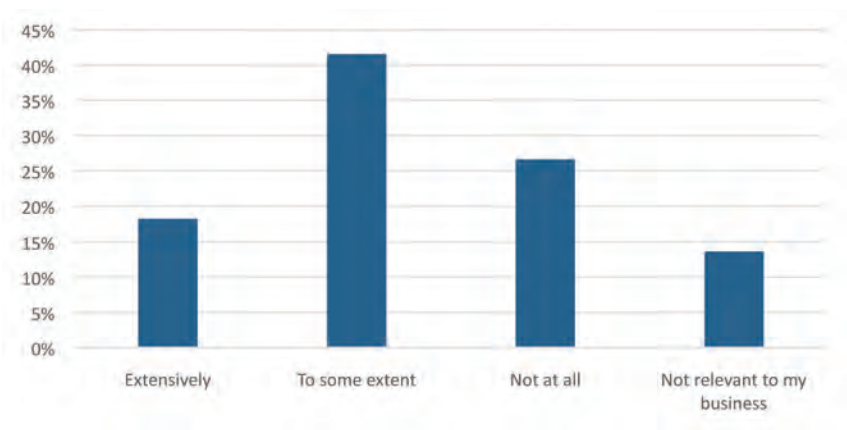
“The administrative burden on small businesses bidding to provide services to the government is driving small businesses away.”

London

Universities play a key role in driving innovation

Most businesses said that they collaborated with universities for product or service innovation, with 60 per cent doing so at least to some extent and almost a fifth doing so extensively. This indicates the view from the business community that universities play a key role in innovation and helping to foster growth.

Chart 3.6: Extent of collaboration with universities for product or service innovation



SMARTER STATE, BETTER JOBS

Chapter 4: Innovation and industrial strategy

CHAPTER 4: INNOVATION AND INDUSTRIAL STRATEGY

A bolder industrial strategy is required based on innovation and the commercial exploitation of research, sector by sector. A far larger number of businesses, particularly small and growing businesses, need to be engaged.

Britain needs a smarter state to drive forward a bold innovation and industrial strategy. As Mariana Mazzucato has argued:

“...government, in the most successful economies, has gone way beyond creating the right infrastructure and setting the rules. It has been a leading agent in achieving the type of innovative breakthroughs that allow companies, and economies, to grow, not just by creating the ‘conditions’ that enable innovation.”⁶⁰

Although Britain has traditionally punched above its weight in terms of scientific research, it has performed less well with regard to exploiting this research commercially. According to the World Economic Forum, the UK is placed third internationally for the quality of its scientific research institutions but only 12th for innovation (table 4.1).⁶¹ This is also reflected in lower levels of research and development (R&D) and export growth relative to other OECD countries.

Table 4.1: World Economic Forum global rankings for scientific research and innovation⁶²

Rank	Quality of Scientific Research Institutions	Innovation
1	Israel	Finland
2	Switzerland	Switzerland
3	United Kingdom	Israel
4	Belgium	Germany
5	United States	Japan
6	Germany	Sweden
7	Netherlands	United States
8	Australia	Taiwan
9	Japan	Singapore
10	Finland	Netherlands
11	Singapore	Denmark
12	Qatar	United Kingdom

Central to the success of an innovation strategy is having a sufficient manufacturing base. An economy that lacks an infrastructure of advanced process engineering and manufacturing will lose its ability to innovate.⁶³ This issue is central to the scaling up of firms, which requires the know-how and technology systems to produce products affordably.

60. Mariana Mazzucato (2011), 'The Entrepreneurial State', *Renewal*, Volume 19 Number 3/4

61. World Economic Forum (2014), *Global Competitiveness Report 2013-14*

62. World Economic Forum (2014), *Global Competitiveness Report 2013-14*

63. Pisano & Shih (2009), *Restoring American Competitiveness*

INDUSTRIAL STRATEGY

Sector strategies

In 2012, the government committed itself to an industrial policy focused on 11 sectors: automotive, aerospace, life sciences, international education, information economy, professional & business services, nuclear, oil & gas, construction, off-shore wind and agricultural technologies. Of the £1.5 billion of new government funding for sector strategies, almost all of this has been committed to two sectors: aerospace and automotive.

The 11 sectors are all strategically important and have benefitted from the improved engagement with government. However, the government's ambitions should not be limited to these 11 sectors. Leaders in other parts of industry, such as Britain's world leading creative and chemicals sectors, are keen to forge similar partnerships with government, and this should happen.

Each key sector should develop a strategy which sets out growth opportunities, core challenges and weaknesses, and maps out comparative advantage in different parts of the country. These strategies should identify investment priorities and a plan for improving performance, innovation and standards in their sectors and supply chains. They should be able to draw down on existing innovation and growth funds to invest, dependent on the strength of their plan and the amount of match-funding they secure. These strategies should also help inform the work of Local Enterprise Partnerships (LEPs) and central government departments and agencies.

The creative sector

The creative sector was identified by the Technology Strategy Board, the government's innovation agency, as one of the key growth sectors for the UK. It has published strategies to promote innovation in the sector in 2009 and 2013.⁶⁴ But the creative sector is not one of the government's 11 key sectors for its industrial strategy.⁶⁵ The sector employs 1.7 million people, contributes 5.2 per cent of the UK's GVA and is growing almost three times as fast as the economy as a whole.⁶⁶ It also has a strong comparative advantage and success in export markets.

Supply chains

Other successful exporting countries tend to have well-developed sector strategies for each part of the supply chain. In Germany, industrial policy has been more successful in linking up sectors and their supply chains with specific regions to support business clusters through investment in infrastructure. A good example is the development of a manufacturing and logistics cluster in Leipzig (see box below).

The CBI, among others, has called for the UK government to have a stronger focus on the supply chains underpinning key industry sectors.⁶⁷ They have estimated that the development of coherent sector strategies could generate an extra £30 billion a year in exports.⁶⁸

The chemicals sector is an industry which was overlooked by the government's industrial strategy, but is a critical part of the supply chain for the success of many other key sectors. The industry is also a major success story in its own right, generating £195 billion of gross value added each year. The sector has come up with a plan to increase output by nearly 50 per cent to £300 billion,⁶⁹ but it could benefit from greater government focus and coordination across government departments to address challenges on skills, infrastructure and energy.

64. Technology Strategy Board (2013), Creative Industries Strategy: 2013-2016

65. See, for example: HM Government (2014), Industrial strategy Government and industry in partnership Progress Report

66. Technology Strategy Board (2013), Creative Industries Strategy: 2013-2016

67. CBI (2013), Raising the bar CBI

68. CBI Playing our Strongest Hand, November 2012

69. Chemistry Growth Strategy Group (2013), Britain's Chemical and Chemistry-using Industries: Strategy for Delivering Chemistry-fuelled Growth of the UK Economy

Manufacturing and logistics in Leipzig, Germany

Leipzig has transformed itself into a major logistics and manufacturing hub. City region leaders set out to capitalise on the regions skilled labour force that had been impacted by the closure of many East German manufacturing firms after reunification. The city invested in a regional education network to provide potential investors, particularly the automotive sector, with skilled workers. Leipzig also invested significantly in infrastructure, particularly motorways and its airport. In recent years, BMW and Porsche have set up manufacturing plants in the city region and DHL has invested €300 million in a major European logistics hub, which covers two million square metres.

Reinventing BIS

In order to deliver an effective industrial policy, it is crucial that civil servants have the necessary commercial and industry expertise. But across government there is not sufficient understanding of business – particularly small business – and cutting edge industry sectors, supply chains and technologies. Officials tend to be generalists who stay in post for too little time to build the necessary knowledge and understanding. The way in which government recruits, trains and organises its staff needs to change.

The need for change is especially evident within the Department for Business, Innovation and Skills (BIS). As I concluded in my interim report looking specifically at the BIS department, BIS is not fulfilling its potential.⁷⁰ Although BIS has many talented civil servants, it is not fit for purpose in the recruitment, training and deployment of its officials. The department is in constant upheaval with too few senior officials staying in post for any length of time. It is an indifferent champion of business, particularly small business, and relates poorly to many key industrial sectors. It is also far too centralised on London, and lacks outreach to and sufficient knowledge of the real economy, particularly outside the capital.

Given the wide range of BIS' responsibilities for skills, innovation, enterprise, business support, exports, and inward investment, there is significant potential to deliver an effective industrial strategy. As Richard Lambert, then director-general of the CBI, said when BIS was created in its current form in 2009, following the merger of two major departments:

*"The big potential gain is having a powerful economics ministry with a big science budget, a responsibility for innovation and the capacity to manage the university system in a way that represents both its public good responsibilities and engagement with the economy."*⁷¹

What is needed is a smarter BIS. A department which equips its people to be at the cutting edge of policy, and modern business and industrial practice. A department working effectively across government and closely alongside the businesses and industries it seeks to promote and support. A department able to interact effectively with partners outside of government without being captured – *"embedded with the private sector but not in bed with it"*,⁷² in Dani Rodrik's phrase. Moreover, a department better able to use its broad range of responsibilities to leverage government support around a long-term vision for a modern economy.

70. Andrew Adonis (2014), A Smarter BIS

71. BIS Select Committee (2009), The creation of the Department for Business, Innovation and Skills and the Departmental Annual Report 2008–09, p. 8

72. Dani Rodrik (2010), The Return of Industrial Policy

Recommendations

- **Recommendation 1: All key industrial sectors and their supply chains should be supported by the government to develop a national growth strategy.**

All key industrial sectors and their supply chains should be supported by the government to develop national growth strategies. These should help guide the work of sub-national bodies, such as Local Enterprise Partnerships and central government departments and agencies, particularly the Technology Strategy Board (TSB) which leads on driving innovation. The government should also support business clusters across the country. There should be a minister within the Department for Business, Innovation and Skills to ensure that all government departments and the TSB provide clusters with the support they need.

- **Recommendation 2: Reform the Department for Business, Innovation and Skills to equip it with expert teams focused on key industry sectors.**

The Department should recruit experts from the private sector on the model of the Aerospace Growth Partnership, and make greater use of secondments into and out of the department.

INNOVATION POLICY

The UK has a world-leading research base and highly regarded universities. The funding of science is a critical issue here: it rose substantially under the last Labour government. The declaration of a Parliament long policy of sustained funding, rather than single year Spending Rounds, is necessary to give universities the capacity to plan effectively. A five-year settlement should be agreed for the next Parliament.

The Technology Strategy Board (TSB) was given a new role to support British firms in exploiting new technologies in 2007. Staffed by industry experts and at arms-length from ministerial involvement, the TSB has already had a substantial impact on improving British firms' capability. According to an independent assessment of the TSB's effectiveness since 2007, the TSB has generated gross value added of around £25 for each £1 awarded.⁷³

A major initiative of the TSB has been to open up Catapult Centres, which are physical centres where UK businesses, scientists and engineers work side by side on late-stage research and development to transform 'high potential' ideas into new products and services. These centres also focus on manufacturing capabilities to permit the scaling up of commercial production. Seven Catapult Centres have been opened: cell therapy in Guys Hospital, London; offshore renewable energy in Glasgow; satellite applications in Oxfordshire; connected digital economy in London; future cities in London; transport systems in Milton Keynes; and high value manufacturing which spans six different locations across the UK.⁷⁴

Cell Therapy Catapult Centre

The Cell Therapy Catapult Centre was established in 2012 at Guy's Hospital in London with the aim to build a world-leading cell therapy industry in the UK. Cell therapy involves treating diseases with human cells, such as converting stem cells into heart cells to replace diseased tissue. The industry has the potential to help address some of the critical healthcare challenges of an ageing population, and create high-quality jobs. The Cell Therapy Catapult Centre builds on the breakthroughs in early stage research to enable businesses and researchers to develop new products and services on a commercial scale. This includes taking products into clinical trial to de-risk them for investors, offering clinical expertise, advising on regulations, and providing critical infrastructure to help develop manufacturing processes.

73. PACEC (2013), Evaluation of the Collaborative Research and Development Programmes, Table 6.15

74. Details available at: <https://www.catapult.org.uk/two-new-catapults> (accessed 14/06/14)

Although the Technology Strategy Board (TSB) has made a great start in improving the system of innovation in the UK, there remain big challenges.

1. Few companies are engaged with the Technology Strategy Board

In 2012-13, the Technology Strategy Board (TSB) supported around 1,000 institutions.⁷⁵ But around 10,000 companies benefit from R&D tax relief, with some estimates suggesting there are between 50,000 and 150,000 SMEs that could potentially benefit from the scheme.⁷⁶ This suggests that the current market penetration for innovation support by the TSB is still very low.

According to the recent Witty Report on universities and growth, many SMEs are still unaware of the TSB, with some finding *"the suite of products confusing and difficult to understand"*.⁷⁷ Witty also noted that the TSB wasn't doing enough to connect with LEPs to build awareness of innovative capability within their areas and to ensure that LEP plans are in keeping with national industrial priorities.⁷⁸

2. There are only seven Catapult Centres

Catapult Centres draw on the successful experience of the Fraunhofer Institutes in Germany, which perform similar roles. There are 66 Fraunhofer Institutes within Germany. Given the imperative to promote commercial exploitation of new technologies, more Catapult Centres need to be established, based on areas of critical innovation potential, such as sustainable food supplies and low carbon vehicles. This requires Whitehall departments to identify such areas systematically.

Fraunhofer Institutes

Fraunhofer Institutes are a network of applied research centres, primarily in Germany, which aim to commercialise scientific research. They are led by the Fraunhofer Society, which was founded in 1949, and is Europe's largest applied research organisation. There are 66 Fraunhofer Institutes within Germany. They have a combined budget of €1.9 billion, of which around 30 per cent is funded by national and regional governments, and 70 per cent from commercial contracts. In 2012, Fraunhofers reported a total of around 700 inventions, with patent applications being filed for around 500 of these. The majority of their 23,000 employees are scientists and engineers, and they play a crucial role in developing specialists.

3. Short-termism

There is no long-term budget for the Technology Strategy Board (TSB), so it is unable to plan ahead or engage with companies as effectively as it needs to. Some TSB funding has been clawed back by the Treasury – between 2010 and 2013, £140 million had to be returned by the TSB – reducing investment in innovation.⁷⁹

Recommendations

• Recommendation 3: The budgets for science and the Technology Strategy Board should be set for the whole of the next Parliament, and should be priorities.

The funding of science is critical for the UK's world-leading research base and highly regarded universities. And the Technology Strategy Board (TSB), the government's national agency to support innovation, provides vital support to help commercialise this research into new products and services. There should be long-term budgets for science and the TSB, and both should be priorities.

75. Technology Strategy Board (2013), Delivery Plan 2013-2014

76. Rick Schofield (2014), 'The SME Scheme: Are You Missing Out?', Space for Growth website

77. Sir Andrew Witty (2013), Encouraging a British Invention Revolution

78. Sir Andrew Witty (2013), Encouraging a British Invention Revolution

79. Technology Strategy Board: Annual Report 2012-2013, p.22; Annual Report 2011-2012, p.20; Annual Report 2010-2011, p.20

- **Recommendation 4: There should be a ten year innovation strategy to increase the number of Catapult Centres, Innovation Platforms and projects with the private sector supported by the Technology Strategy Board.**

Catapult Centres and Innovation Platforms bring businesses, scientists, engineers and government together to focus on the commercialisation of specific technologies into new products and services. There are significantly more areas where Catapult Centres, Innovation Platforms and Technology Strategy Board projects with the private sector could help commercialise new technologies, and there should be a ten year strategy to expand and enhance effectiveness.

GOVERNMENT AND GROWTH COMPANIES

The UK needs more growing small businesses, and it needs the best of them to scale up. Two key drivers of innovation and growth are state funding of R&D and public procurement. The government needs to do more in both respects.

Research & development

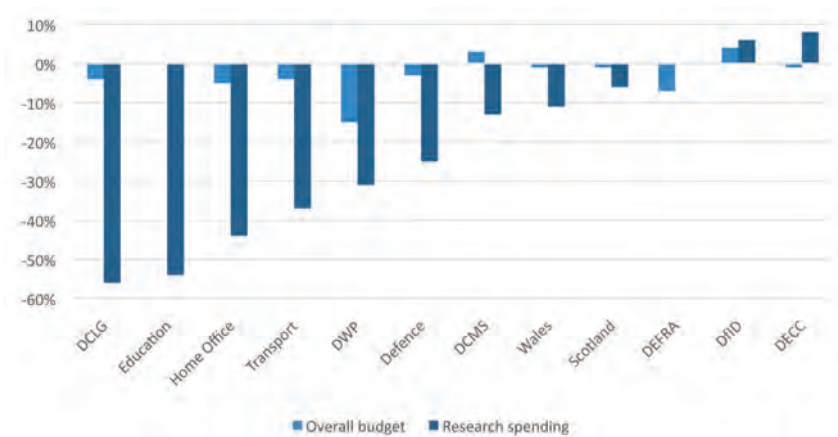
Mariana Mazzucato argues persuasively that state funded research and development (R&D) is not incidental but central to innovation in much of the private sector. She describes how the “entrepreneurial state” in the US has, through publicly funded R&D, provided substantial support for companies such as Apple.⁸⁰ The Small Business Innovation Research (SBIR) programme has been critical to this success (see box below).

The following challenges need to be addressed:

1. Government support for R&D is comparatively low

Government departments have significantly reduced their investment in R&D in recent years. As chart 4.1 shows, cuts to R&D investment by departments have been disproportionately large. The latest OECD data on government R&D shows the UK investing only 1.72 per cent of GDP, well below the EU-28 average of 2.08 per cent of GDP. Germany, the US and Japan each invest around 3 per cent of GDP on R&D.⁸¹ China is aiming for 2.5 per cent of GDP by 2020, South Korea 5 per cent by 2022, and Brazil 2.5 per cent by 2022.

Chart 4.1: Change in research spending by government departments compared to overall budget between 2010/11 and 2011/12 (% , real terms change)⁸²



80. Mariana Mazzucato (2013), *The Entrepreneurial State*

81. OECD (2014), *Main Science and Technology Indicators*

82. Campaign for Science & Engineering (2014), *CASE analysis of departmental R&D spend 2011/12*, Figure 1, p.1

US Small Business Innovation Research programme

The US Small Business Innovation Research (SBIR) programme was established under the Reagan Administration to help innovative, small businesses develop into world leading companies. The programme provides R&D support, on a competitive basis, for small businesses to develop new products and services which will help overcome challenges in delivering public services. Each government department is tasked with identifying problems within its remit and committing at least 2.5 per cent of their R&D budgets to the SBIR programme to help address these. Early beneficiaries of the US SBIR programme include Qualcomm and Amgen. Qualcomm has grown into a telecoms giant with over 21,000 employees and an annual revenue of \$25 billion. Amgen, a biotechnology firm, now has 17,000 employees and an annual revenue of \$17 billion.

2. The Small Business Research Initiative is ineffective

It is not only the quantum of state R&D which matters, but how it is spent. In contrast to the US, UK government departments have placed little emphasis on using R&D to help enable small businesses to supply public sector contracts. This has reduced the ability of small businesses in the UK to grow and drive job creation.

The UK's Small Business Research Initiative (SBRI) is supposedly modelled on the Small Business Innovation Research (SBIR) scheme in the United States. It provides funding to small businesses, on a competitive basis, to develop new technologies to help deliver public services, but its impact has been limited. While the US awards around 4,000 contracts a year on average, worth \$2.5 billion, over the last four years the UK has launched just 124 SBRI competitions averaging £25million per year across all government departments.⁸³ The UK's SBRI resembles SBIR only in the letters of its acronym.

The government set a target to scale up SBRI to £200 million in 2014-15. But similar targets have failed in the past, and there is no credible delivery plan. The key issue in the UK is that government departments – which play a fundamental role in leading SBRI projects – have largely refused to provide the necessary budgets and impetus.

Currently, departments allocate annual budgets to the SBRI. Yet, successful SBRI projects typically require multiple funding rounds as technologies are developed. SBRI funds which aren't spent during the year are returned to the Treasury, putting unnecessary pressure to get SBRI funding out quickly. In many parts of the public sector, SBRI is also not a national policy. For example in health, there are separate schemes run by both the Department of Health and NHS England, with NHS Wales, Scotland and Northern Ireland also looking to establish their own programmes.

Procurement

Public procurement can play a central role in helping small and medium sized businesses to scale up and drive job creation. However, not enough has been done to reform procurement in the UK to support growing companies. This has also meant that there has been less competition for government contracts, with many public services reliant on a small number of large suppliers.

The following challenges need to be addressed:

1. Only a small fraction of public procurement is with small and medium sized businesses

The US is far ahead of the UK in using government procurement of goods and services to help scale up innovative businesses. Whereas the US has a requirement that small businesses receive at least 23 per cent of all federal contracts; in Britain they receive just 10.5 per cent of government contracts.⁸⁴

83. Technology Strategy Board (2013), Delivery Plan Financial Year 2103-2014, p.5

84. Cabinet Office, Making Government business more accessible to SMEs: Two Years On, July 2013, table p.4 and <http://www.sba.gov/content/small-business-goaling> (accessed 06/06/14)

In the US, the government is focused on awarding prime contracts to small businesses, as prime contracting tends to involve larger contracts with higher profit margins.

Comparative data of SME procurement by the European Union (EU) validates the UK's poor record of encouraging SMEs to interact with government. 24 per cent of the total value of EU contracts with UK businesses are with SMEs, compared to 34 per cent across EU member countries, 41 per cent in France and 44 per cent in Germany.⁸⁵

2. The government's target for procurement with small and medium sized businesses is not robust enough

The UK government has set a target for 25 per cent of central government spending to be with small and medium sized businesses. The way this policy has been designed gives significant room for manoeuvre for departments and prime contractors. The target allows departments to add together the value of both prime and tier one contracts when calculating the proportion of their prime contracts which have been spent with small businesses.

Just 9.4 per cent of the total value of contracts went to small and medium sized businesses in the supply chain in 2012/13.⁸⁶ Tellingly, among the worst performers in Whitehall are the Department for Business, Innovation and Skills and HM Treasury with 2.5 per cent and 1.4 per cent respectively. Yet these are the very departments which are supposedly responsible for promoting the interests of small business across government.

Recommendations

- **Recommendation 5: Set up a Small Business Administration to promote small businesses across government.**

A new Small Business Administration (SBA) should promote state contracting with smaller firms, as does the SBA in the US. The SBA should: monitor and publish details of how well departments and agencies are doing to contract with small businesses; help scale up the Small Business Research Initiative which supports potential government suppliers to innovate (as below); bear down on red tape; and increase levels of awareness and satisfaction with key government support and finance schemes for small businesses.

- **Recommendation 6: Scale up the Small Business Research Initiative so that all departments are committing at least 2.5 per cent of their existing research and development budgets.**

Government departments have significant research and development budgets – including £1 billion per year for health – but more needs to be done mobilise these budgets to drive innovation. The Small Business Research Initiative (SBRI), which is modelled on a similar US scheme, supports small businesses to drive innovation in public services, but its impact has been limited. While the US awards around 4,000 contracts a year on average, worth \$2.5 billion, over the last four years the UK has launched just 124 SBRI competitions, averaging £25 million per year.⁸⁷

In order to address these longstanding issues, a new Small Business Administration should work with entrepreneurial industry experts in each department to identify cutting edge, national challenges in the public sector for SBRI competitions. It should seek to secure multi-year funding agreements for each department. And it should publish an annual report to the Prime Minister setting out:

- a) The number of first and second round SBRI competitions led by each department.
- b) The level of funding for phase one, phase two and phase three SBRI projects – in total and per contract.

85. GHK (2010), Evaluation of SMEs' Access to Public Procurement Markets in the EU, Figure 3.1

86. Cabinet Office, Making Government business more accessible to SMEs: Two Years On, July 2013, table p.4

87. Technology Strategy Board (2013), Delivery Plan Financial Year 2013-2014, p.5

- c) The number and value of procurement contracts for technologies developed from SBRI projects.

- **Recommendation 7: Increase the proportion of government procurement with small and medium sized businesses to 25 per cent of prime contracts directly with government and 25 per cent indirectly through the supply chain.**

The government must practice what it preaches and contract to a far greater degree with small and medium sized businesses. The proposed Small Business Administration should radically improve government contracting. This should be supported by a new, more transparent target for both prime and tier one contracts.

The SBA should:

- a) Work with departments on a delivery plan to drive up the number and value of contracts going to small and medium sized businesses.
- b) Require prime contractors with high value contracts over a certain value to report on the number and value of all tier one contracts in their supply chain going to micro, small and medium sized businesses.
- c) Publish in its annual report to the Prime Minister the number and value of prime and tier one government contracts (with major prime contractors) with micro, small and medium sized businesses.

SMARTER STATE, BETTER JOBS

Chapter 5: Empowering city and county regions

CHAPTER 5: EMPOWERING CITY AND COUNTY REGIONS

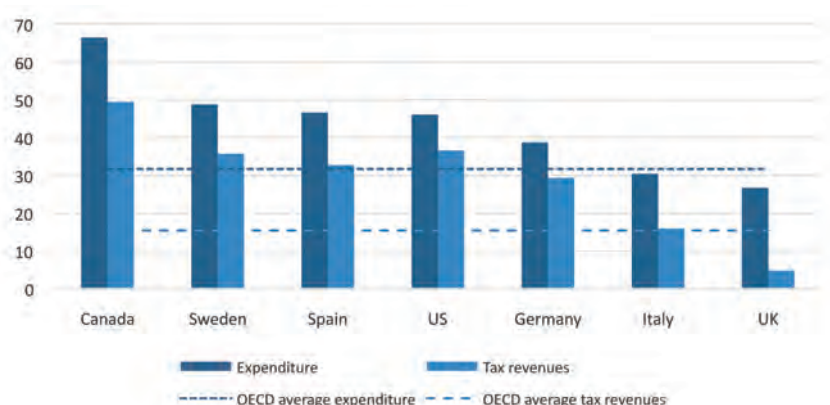
Most of England's largest cities and city regions are performing less well than London and similar-sized cities in other countries. Four fifths of all net private sector jobs created between 2010 and 2012 were in London. The UK's next nine largest cities accounted for just 10 per cent of net private sector jobs created.⁸⁸ Furthermore, the jobs created in the cities outside of London have not been well paid enough. Almost all of the major cities outside of London are below average in their per capita income, in contrast to Germany and France, where regional cities are relatively stronger in job creation and pay.

The size of London relative to the national economy does not account for the difference in performance of second tier cities in other countries. Paris, Stockholm, Tokyo and Seoul, for example, are more dominant within their national economies – in GDP share and population – than London, yet the major provincial cities in France, Sweden, Japan and South Korea perform better.

It is the strongly held view of most business and political leaders at city and county level – including in London – that excessive centralisation is holding them back, particularly in promoting skills, infrastructure and economic development. London and England's largest 'core cities' have led the calls for greater financial freedoms,⁸⁹ following the publication of the London Finance Commission,⁹⁰ which set out the benefits for London of devolving financial and fiscal control. But many other parts of the country are equally keen to be given greater freedoms. It is certainly true that on virtually any measure, England is excessively centralised and that lessons can be learned from the devolution of powers to Scotland, Wales and Northern Ireland.

As chart 5.1 shows, local and regional governments are responsible for just over a quarter of expenditure in the UK, compared to the OECD average of around a third. The proportion in England is even lower, as the UK figure includes devolved expenditure to Scotland, Wales and Northern Ireland. Local government in the UK is also far more dependent on central government to finance its expenditure than other OECD countries. Whereas, on average, local and regional government in OECD countries finance around half of their expenditure from local tax revenues, in the UK this is less than a fifth. In 2011, local government in the UK raised just 4.8 per cent of its income from local taxation (chart 5.1).⁹¹

Chart 5.1: Local and regional government's share of total government expenditure and tax revenues, 2011 (%)⁹²



88. Centre for Cities (2014), *Cities outlook 2014*, p.7

89. See for example: Core Cities (2013), 'London and England's largest cities join to call for greater devolution to drive economic growth', Core Cities website (accessed 14/06/14)

90. London Finance Commission (2013), *Raising the Capital: The report of the London Finance Commission*

91. OECD (2013), *Revenue Statistics by Level of Government*

92. Calculated from: OECD (2013), *Revenue Statistics by Level of Government*; OECD (2013), *Government at a Glance*

City and county regions are better placed to take many the decisions which affect their economies than those in Whitehall. As Lord Heseltine argued in his report on economic growth:

*"Big government does not work. Ministers and their officials are not that clever. Events are not that predictable. Yet no government can stand apart, indifferent to the results they achieve from the resources they spend on taxpayers' behalf. The challenge is to create a more balanced partnership – embracing the strengths of our cities and regions, and the resources of government."*⁹³

And as the economist, Enrico Moretti, has argued:

*"Local governments can certainly lay a foundation for economic development and create all the conditions necessary for a city's rebirth, including a business climate friendly to job creation, but there is no magic formula for redevelopment. Like politics, all innovation is local: each community has its own comparative advantage. Local governments must build on their existing capabilities by leveraging local strengths and expertise."*⁹⁴

There are four persuasive reasons for believing that excessive centralisation is holding back England's city and county regions:

1. Local government lacks incentives to attract and foster business and economic development

Nearly all of the financial returns to economic growth – via increased tax revenues in terms of Income Tax, Business Rates, Stamp Duty Land Tax and VAT – accrue to central government. 95 per cent of all taxes raised in England's cities, for example, go to central government.⁹⁵ A small proportion of these revenues are then distributed to local authorities via complex funding formulae, which do not reward economic growth. Incentives to take pro-growth investment decisions at the local level are accordingly dampened. A study by the London School of Economics, for example, found that since the revenues for Business Rates collected by local authorities were passed to central government in 1990 local authorities increased restrictions on planning which led to less business development.⁹⁶

2. Whitehall spending decisions have too little regard for local and regional economies

National government policies are mostly general rather than tailored to specific places and their needs in respects of job creation and economic development. The translation of national policies into local projects and budgets, for example welfare to work and transport schemes, is done by civil servants with little or no direct experience of local areas. The government's 'City Deals' explicitly accept the premise that local priorities and conditions need to be better understood and supported, but little real devolution has occurred.

3. Spending on economic development is trapped in departmental siloes that do not sufficiently reflect economic realities on the ground

Transport, housing, employment and skills policies have to work together to optimise growth. But Whitehall departments have not been effective at co-ordinating these policies and aligning spending decisions to maximise local growth. For example, transport investments are largely based on journey time savings not their potential to unlock significant housing or employment growth. Indeed, the Department for Transport routinely objects to new housing developments because of their impact on traffic, while doing little to offer timely solutions.

4. Investments do not maximise efficiency or growth as local government is not ultimately responsible for choosing or funding projects

Local government proposes major investment projects but is not generally responsible for choosing which ones ultimately proceed, as they are approved and funded by central government departments. London, with its Mayor and Greater London Authority (GLA), is a partial exception. It is notable that the Mayor and GLA have been bold in prioritising and funding major projects (such as Crossrail which was substantially funded by supplementary Business Rates) and taking bold

93. Lord Heseltine (2012), No Stone Unturned in the Pursuit of Growth

94. Enrico Moretti (2013), Are Cities the New Growth Escalator?, p.22

95. Core Cities (2013), Competitive Cities, Prosperous People: A Core Cities Prospectus for Growth

96. Paul Cheshire & Christian Hilber (2008), Office Space Supply Restrictions in Britain: The Political Economy of Market Revenge

decisions on new initiatives (such as the congestion charge). Other city and county regions, and their leaders, need a similar mentality.

However, devolution alone is not enough. Strong effective national policies on innovation, skills and economic development are essential. And as the London experience also demonstrates, effective local government institutions are required at regional and sub-regional level, involving a strong partnership with business. Cities and sub-national regions in Europe, which already benefitted from more decentralised systems, have strengthened their local partnerships in recent years to reflect the way their local economies function. For example, Montpellier created the Montpellier Agglomération in 2001, which brought together 38 communes; the Zurich Metropolitan Area Association was formed in 2009, bringing together eight cantons and municipalities; and Amsterdam established a Metropolitan Area and supporting Amsterdam Economic Board in 2010.

STRONGER PARTNERSHIPS BETWEEN LOCAL GOVERNMENT AND BUSINESS

The imperative is to build stronger local economic leadership at the city and county region level, with government and business working together. This is where the UK – particularly England – has historically failed.

Local government

Cities have long outgrown the geographies of local authorities. Almost 50 per cent of commuters in cities live and work in different local authorities.⁹⁷ In Manchester, for example, around 170,000 people commute into the city to work every day, more than the 150,000 who live and work in the city.⁹⁸ In Birmingham, Bristol and York, the average commuter travelling into the city comes from at least 35 miles away.⁹⁹

Yet only a handful of city and county regions plan transport, housing and other economic development at the same regional level. Integrated transport authorities, which bring together local authorities to invest, regulate and plan transport networks, are rarely linked to housing investments. Other powerful agents of growth, such as further education colleges and business support schemes, are also funded and regulated with little input from local government and business leaders.

In a welcome development, four city regions have recently followed Greater Manchester and established a Combined Authority, which brings together local authorities to work together on transport and economic development. But even in these areas where joint working is more advanced, devolution has been limited and joint-working with Local Enterprise Partnerships (LEPs) is not always straightforward.

97. Centre for Cities (2014), *Breaking Boundaries: Empowering City Growth through Cross-Border Collaboration*, p.3

98. Centre for Cities (2014), *Breaking Boundaries: Empowering City Growth through Cross-Border Collaboration*, p.3

99. Centre for Cities (2014), *Breaking Boundaries: Empowering City Growth through Cross-Border Collaboration*, p.4

Combined Authorities

Combined authorities are a formal way for local authorities to work together. When a Combined Authority is created, its constituent authorities decide which of their functions they transfer to the regional level. Most bring together strategy and functions for transport, economic development, and regeneration, but they may also include other areas such as skills and inward investment. Combined authorities were established in Greater Manchester in 2011, and in West Yorkshire, Sheffield, Liverpool and the North East region on 1 April 2014.

The Greater Manchester Combined Authority (GMCA) was established in 2011. It brings together ten metropolitan boroughs which also make up the Greater Manchester LEP. These boroughs are: Manchester, Salford, Stockport, Tameside, Trafford, Wigan, Bolton, Bury, Rochdale, and Oldham. The GMCA is responsible for transport and economic development functions. The constituent local authorities meet all of its costs and the GMCA has the power to set a transport levy on the constituent authorities, and to borrow for transport purposes.

Just as local authorities are the key ‘political’ building blocks for the creation of viable city and county regions to drive growth, the 39 Local Enterprise Partnerships (LEPs) are the key ‘business’ building blocks.

Local Enterprise Partnerships

LEPs were created in England in 2010 following the government’s decision to abolish the nine Regional Development Agencies (RDAs) which had been responsible for local economic development since 1999. They were defined in the Coalition Agreement as: “joint local authority-business bodies brought forward by local authorities themselves to promote local economic development.”¹⁰⁰ They are non-statutory bodies which must be chaired by a business person and at least half of their members must be from the private sector.

The National Audit Office (NAO) recently reported that:

“... progress by Local Enterprise Partnerships has been mixed and job creation in Enterprise Zones and through the Growing Places Fund and Regional Growth Fund has been slow.”

However, the principle of reform should be evolution not revolution. England’s local economies cannot withstand another major upheaval of the local growth infrastructure, after what the business secretary, Vince Cable, described as the “Maoist” abolition of RDAs in 2010. As John Healey MP and Les Newby concluded in their recent review of LEPs:

*“After a somewhat chaotic start ... LEPs have become more established and important bodies. Nevertheless they remain inadequately resourced; varied in their size, nature and effectiveness (as far as that can be assessed); and beset by bureaucratic hurdles.”*¹⁰²

Each of these weaknesses needs to be addressed. In particular:

1. Capacity and remit

When LEPs were first set up they were given no clear remit by Ministers and no funding. There have since been numerous changes to the role first envisaged for them. Many LEPs have consequently had to refresh their organisational structure two or three times in their first couple of years just to keep up with these changing demands.¹⁰³

100. Cabinet Office (2010), *The Coalition: Our Programme for Government*, p. 10.

101. National Audit Office (2013), *Department for Communities and Local Government and Department for Business, Innovation & Skills: Funding and Structures for local economic growth*, p. 12.

102. John Healey MP and Les Newby (2014), *Making local economies matter: A review of policy lessons from the Regional Development Agencies and Local Enterprise Partnerships*, p. 7.

103. Andy Pike et al. (2013), *Local Institutions and Local Economic Growth: The State of the Local Enterprise Partnerships (LEPs) in England – A National Survey*.

LEPs have also not been given long-term certainty regarding their running costs. They have had five funding rounds for their running costs in the past three years. This has made their task of playing a long-term, strategic role more challenging and created unnecessary uncertainty regarding their future. It also means that there are significant differences between LEPs in terms of their resources and rate of progress. A third of LEPs have between one and four members of staff; whereas Liverpool City Region has 60 staff.¹⁰⁴

2. Geographical coverage

Many LEPs do not reflect local economies, despite this being the rationale behind abolishing RDAs. According to the government, only 17 of the 39 LEPs have a “strong case” to represent a ‘functional economic area’,¹⁰⁵ which reflects where people tend to live and work. The geographic boundaries of LEPs also overlap in many places, as different areas weren’t able to agree. This means that there are 37 local authorities which are covered by more than one LEP.¹⁰⁶ These places are effectively being devolved funding twice over from central government and they are able to play off different LEPs against each other.

Lord Heseltine concluded in his review that all LEPs “should be asked to reassess and confirm that their boundaries, as far as is practicable, do align with functional economic market areas”, including eradicating any overlapping boundaries.¹⁰⁷ But the government rejected Heseltine’s specific recommendation to introduce a three month window to give impetus to boundary changes.¹⁰⁸ The result is that hardly any boundary changes have occurred since LEPs were first established and overlapping geographies remain.

3. Local partnerships

There are considerable political and historical barriers in many parts of the country which prevent local government and business from working together to reflect where people live, work and do business. The process of devolution – in which funding and responsibilities are passed down from central government to LEPs and local authorities – should be used to help overcome these barriers by incentivising greater cooperation.

The current government’s local growth initiatives (which are each discussed in more detail in the next section), including funding for LEPs, City Deals, and the localisation of 50 per cent of Business Rates, have not been harnessed sufficiently to help strengthen local partnerships. LEPs, for example, are set to be granted a share of £2 billion per year from 2015 without their geographies being resolved.

LEPs – as the regional voice of business – therefore need to be strengthened and stronger partnerships are required with local authority leaders, forming Combined Authorities covering the same city and county regions, to drive their local economies forward. The recommendations below are geared to this end.

Recommendations

• Recommendation 8: Reform Local Enterprise Partnerships.

The existing 39 Local Enterprise Partnerships (LEPs), which were hastily set up to replace the Regional Development Agencies, require significant improvement. LEPs need to be rationalised where they do not reflect the geography of city and county regional economies. They should forge stronger partnerships with local authorities to drive improvements in infrastructure, economic regeneration, skills, exports, and inward investment. All universities within a LEP area should be represented. There should be clear expectations from central government regarding the core remit for LEPs. And LEPs must be independent from local authorities and provide a strong business voice in decision making. On this basis, LEPs should be granted stable capacity funding and a stronger role in terms of setting and scrutinising local growth plans.

104. Andy Pike et al. (2013), *Local Institutions and Local Economic Growth: The State of the Local Enterprise Partnerships (LEPs) in England – A National Survey*, p.24

105. NAO (2013), *Funding and Structures for Local Economic Growth*, p.29

106. Calculated from BIS (2012), *Local Authority (District/ Unitary) Areas Covered by LEPs*

107. Lord Heseltine (2012), *No Stone Unturned in Pursuit of Growth*, p.48

108. Lord Heseltine (2012), *No Stone Unturned in Pursuit of Growth*, p.48

All LEPs should:

- **Cover a clear travel to work area.**
- **Appoint a representative from every university in their area to their board and be representative of the regional business, education and employment community.** This should include prominent small businesses and representatives of local chambers of commerce and other business organisations, further education colleges, universities, and trade unions.
- **Have strong relationships with a coterminous partnership of local authorities, such as a Combined Authority.**
- **Be chaired by someone who is confirmed by the Secretary of State for a three year term, with the minister retaining the right to remove them from this role for misconduct.**

In return, government should:

- **Grant LEPs five year capacity funding for their running costs,** including research to underpin economic strategies.
- **Ensure LEPs have the right of sign-off on local growth strategies and investment plans** for economic development, housing, transport and skills, and the ability to scrutinise the implementation of these plans.
- **Recommendation 9: Encourage the setting up of city and county region Combined Authorities, further strengthening regional economic leadership.**
Combined Authorities are statutory bodies which enable local authority leaders, acting collectively over a city or county region, to take direct responsibility for transport and other economic functions, on a similar basis to the Mayor of London. The Greater Manchester Combined Authority was the first such authority, which also has responsibility for economic development and is willing to play a bigger role in addressing skills shortages. The establishment of Combined Authorities, covering city and county regions, should be strongly encouraged. Local Enterprise Partnerships should operate across the same regional geography as Combined Authorities, working closely together, while maintaining an independent business voice.

A BOLD AND SIMPLE OFFER OF DEVOLUTION

On the basis of these reforms to improve LEPs and establish Combined Authorities for city and county regions, there needs to be a much bolder and simpler offer of devolution to these regions to give them the levers to drive growth.

The government's many local growth initiatives have been too limited in their impact and too disjointed from one another. They have failed to strengthen local partnerships between government and business around local economies. There needs to be far stronger growth partnerships between central government and city and county regions.

There have been three major initiatives focused on local economic growth: funding for Local Enterprise Partnerships, City Deals, and the localisation of 50 per cent of Business Rates to local authorities. Each are taken in turn below:

1. Funding for Local Enterprise Partnerships

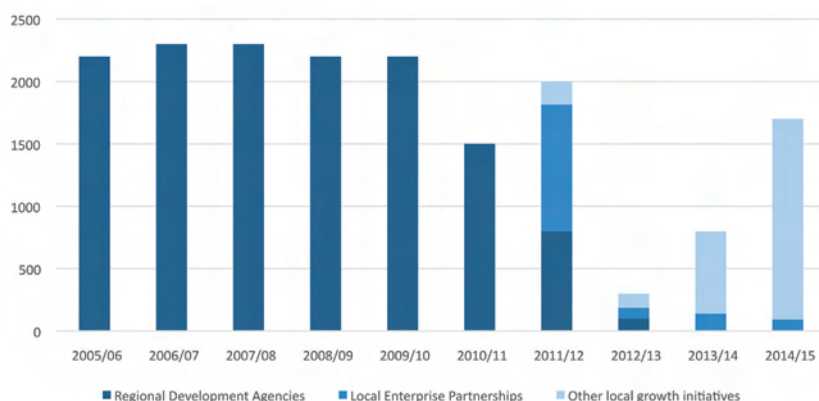
The funding available to LEPs has been too fragmented and too limited to enable them to have an impact on their local economies. Requiring LEPs to bid for small pots of money has stretched these

new bodies and has not been an effective use of the efforts of the private sector representatives who volunteer their time. And by placing various restrictions on the way funding is spent, this approach has undermined the very rationale for devolving funding.

LEPs have had access to only a fraction of the overall budgets provided to their predecessors, RDAs, as chart 5.2 shows. The National Audit Office (NAO) has pointed out that:

*The transition from the Regional Development Agencies to the new local growth landscape [...] shows a marked dip in funding.*¹⁰⁹

Chart 5.2: Funding for Regional Development Agencies, Local Enterprise Partnerships and other local growth initiatives, 2005-2015 (£m)¹¹⁰



Rather than the single, three year funding agreements which were committed to RDAs, LEPs have been required to bid into a myriad of small funding pots. As Table 7.1 shows, these have included the Regional Growth Fund, Growing Places Fund, Enterprise Zones, and Local Infrastructure Fund, as well as a number of different pots for their own capacity funding. These funding streams have been offered by different central government departments, with different deadlines, funding periods and methods of allocation.

Table 7.1: Funding streams for Local Enterprise Partnerships

Funding stream	Deadline	Details
Regional Growth Fund	Round 1: January 2011 Round 2: July 2011 Round 3: June 2012 Round 4: March 2013	Across the 4 rounds, 26 LEP programmes or projects have been successful.
LEP Capacity Fund	Round 1: March 2011 Round 2: February 2012	£1 million in the first competitive round and £3 million in the second round
LEP Start-Up Fund	June 2011	£5 million in a one-off competitive fund
Enterprise Zones (EZs)	June 2011	12 EZs awarded to LEPs based on competitive bids and 13 awarded without any competition
Growing Places Fund	December 2011	£730m for LEPs which have submitted applications, with allocations made by formula
City Deals	Round 1 (8 cities): July 2012 Round 2 (20 cities): Ongoing	Negotiated by local authorities and LEPs with central departments
LEP Core Funding	February 2013 (2013/4) March 2014 (2014/15)	£125,000 for each LEP for 2013/14 and then up to £250,000 for the following two years
Public Works Loan Board Concessionary Rate	April 2013	LEPs required to submit business plans to HM Treasury to access a reduced borrowing rate for one priority infrastructure project
Local Infrastructure Fund	April 2013	£474 million fund, with LEPs expected to lead bids which include an enterprise zone
EU Structural and Investment	Early 2014	Competitive fund administered by DCLG, Funds with LEPs required to submit investment strategies for 2014-20
University Enterprise Zones	March 2014	£15 million available for successful LEPs and universities from the 8 core cities
Single Local Growth Fund	March 2014	£2 billion per year via competitive process based on strategic economic plans
Local Growth Fund (Housing Infrastructure)	May 2014	£50 million in loans for housing schemes endorsed by LEPs

109. NAO (2013), *Funding and Structures for Local Economic Growth*, p.10

110. Overall figures as published in: NAO (2013), *Funding and Structures for Local Economic Growth*, p.20. Breakdown spend on LEPs includes direct spending, Growing Places Fund and City Deals as published in NAO (2013) Appendix 3, and share of Regional Growth Fund allocated to LEPs calculated from spend on intermediaries published in NAO (2013) Appendix 3 and using LEP websites for the specific allocations to successful LEP bids. EU Structural and Investment Funds (from 2014) are excluded as they are not UK government spend. The PWLB Concessionary Rate is excluded because it is a loan rather than spending.

LEPs will not be given access to a more simplified funding pot until 2015, five years after they were created. They submitted bids in early 2014 for a share of £2 billion of funding from the Single Local Growth Fund for 2015-16. But this funding amounts to only a fraction of the level which Lord Heseltine recommended should be devolved to LEPs and remains lower than what was available to RDAs before they were scrapped. It is just 15 per cent of Heseltine's proposed single pot, and excludes 58 of the 62 funding sources which he called on the government to devolve.

Furthermore, much of the funding which is set to be devolved to LEPs from 2015 will not allow them to achieve significant change. £300 million of the funding for local transport projects has already been committed to projects so LEPs will have no say on how this is spent.¹¹¹ £330 million of funding from the New Homes Bonus has been withdrawn,¹¹² after nine out of ten respondents opposed the idea of transferring this from local authorities to LEPs.¹¹³ £200 million is in the form of loans rather than devolved funding.¹¹⁴ Furthermore most of the funding is capital rather than programme spending. In further education, for example, LEPs will have influence over capital investment in further education colleges without any say over the types of courses which will be funded, which could fundamentally alter the types of courses provided locally in order to help address skills shortages.

2. City Deals

The City Deals which the government has signed amount to very little in terms of devolution, despite significant efforts from local authorities and LEPs. These deals are also too disjointed from other local growth initiatives, such as the devolution of funding streams to LEPs.

The City Deals are bespoke packages of budgets and decision-making power, devolved on a discretionary basis by central government to local authorities. Negotiations have typically taken around a year, but some took more than 18 months. As research by Centre for Cities has shown, local authorities and LEPs have found these negotiations challenging, partly because they had to deal with up to five central government departments individually.¹¹⁵

Many of the government's commitments in these deals are notably vague. In the Nottingham City Deal, government commitments included: "to facilitate a discussion between Nottingham and Traffic Commissioners";¹¹⁶ "Dialogue to develop a new programme for enterprise education in local schools";¹¹⁷ and "...the possibility of additional venture capital funding from 2014."¹¹⁸ According to Centre for Cities, this has allowed central departments to backtrack on many of the proposals agreed in City Deals after they were announced.¹¹⁹

The negotiations for City Deals have also been disjointed from other initiatives, such as the strategic economic plans which LEPs recently submitted to central government. As the LEP Network – the national representative body for LEPs – has pointed out: "... [there is] little clarity about the relationship between LEPs and other policy initiatives such as City Deals."¹²⁰ Indeed, some LEPs have had multiple city deals in their area to negotiate. In the North East, for example, the North East LEP was involved with both the Newcastle city deal, agreed with central government in July 2012, and the Sunderland city deal, agreed in March 2014. The LEP also submitted its own strategic economic plan in March 2014 for access to devolved funding from central government.

3. Localisation of 50 per cent of Business Rates

Council tax is already devolved and local authorities are also now able to keep 50 per cent of their Business Rate yield, subject to a series of 'top-ups' and 'tariffs' payments between local authorities. There is a strong case for the devolution of more revenue from property taxes to a local level. The fact that the tax base is relatively immobile makes them more suitable than other taxes for devolution.

111. "Of the local authority majors funding being transferred into the SLGF in 2015-16, £314 million is already committed to specific transport projects." HM Treasury (2013), *Investing in Britain's Future*, p.61

112. HM Treasury (2013), *Autumn Statement 2013*, p.61

113. DCLG (2014), *New Homes Bonus and the Local Growth Fund: Summary of Responses to Consultations*, p.5

114. The £50 million which is included in the single pot for housing infrastructure is a loan rather than funding. The £150 million cited for the Housing Revenue Account is an increase in the cap which central government's sets for local authorities to borrow to fund social housing. DCLG (2014), *Local Growth Fund (Housing Infrastructure): Prospectus*; DCLG (2014), *Local Growth Fund: Housing Revenue Account Borrowing Programme (2015-16 and 2016-17)*

115. Centre for Cities (2013), *City Deals: Insights from the Core Cities*

116. Nottingham City Council (2012), *Connected, Creative, Competitive Nottingham: The Nottingham City Deal*, p.12

117. Nottingham City Council (2012), *Connected, Creative, Competitive Nottingham: The Nottingham City Deal*, p.10

118. Nottingham City Council (2012), *Connected, Creative, Competitive Nottingham: The Nottingham City Deal, Annex 1*

119. Centre for Cities (2013), *City Deals: Insights from the Core Cities*

120. LEP Network (2012), *Submission to House of Commons BIS Committee Review of Local Enterprise Partnerships*

The devolution of just 50 per cent of Business Rates does not provide a strong enough incentive for city and county regions to invest in economic growth because the additional revenue generated is too small. And the way that 50 per cent of Business Rates has been devolved uses a formula with a baseline level of funding which will reset after seven years in 2020. This reset period is too short to allow local authorities to make the long term investments needed to unlock growth.

Recommendations

The imperative is for a bold and simple offer of devolution to city and county regions which have the scale and capacity to act effectively in tackling infrastructure, skills and other drivers of growth:

- **Recommendation 10: Triple the level of funding devolved to city and county regions to at least £6 billion per year to allow them to shape local provision of skills training, employment schemes, infrastructure and business support.**

Subject to the rationalisation and improvements above, Local Enterprise Partnerships (LEPs) and their coterminous local authorities should agree ambitious growth plans with the government for improvements to employment schemes, skills, infrastructure and business support. Growth plans should involve commitments by local authorities to pool additional resources to invest strategically across their local economy. In return, multi-year budgets to drive local economic growth should be allocated, including the devolution of funding for infrastructure, business support, and adult skills provision, and the co-commissioning of the Work Programme. This funding will include devolution into the independent 'single pot' for LEPs. This process will incentivise LEPs and local authorities to move towards the formal Combined Authority model to strengthen regional leadership further, triggering substantial devolution of property tax income as below.

- **Recommendation 11: Devolve the revenue from Business Rates to Combined Authorities so that any additional income can fund infrastructure priorities and incentivise investment to drive growth.**

Central government should devolve the full revenue from Business Rates to Combined Authorities to help fund infrastructure priorities agreed in their growth plan. This should be revenue neutral to the Exchequer through offsetting reductions in government grants and the existing reset period should be extended.

This will give city and county regions a much stronger incentive to invest in growth, with a larger proportion of the additional revenue then being returned to the Combined Authority. Projects such as Manchester's plan for an enhanced business and transport hub at Piccadilly Station, improved connectivity between Leeds and Bradford, and Crossrail 2 in London, are examples of projects which might be unlocked.

SMARTER STATE, BETTER JOBS

Chapter 6: Solving the skills mismatch

CHAPTER 6: SOLVING THE SKILLS MISMATCH

There needs to be a major expansion of high quality vocational education and youth apprenticeships to establish a stronger non-university route into employment, and the training on offer needs to address the needs of regional labour markets. The lack of high quality training routes exacerbates skill shortages which holds back business growth and prevents young people from accessing well-paid jobs.

Labour's Skills Taskforce, led by the Director of the Institute for Education Chris Husbands, set out a strategy to improve the quality and quantity of apprenticeships by giving reformed employer-led sector bodies more control over skills funding and standards.¹²¹ Under these proposals, employers, working collectively through sector bodies, would be able to set the standards and assessment criteria for vocational qualifications, and choose which awarding bodies are able to conduct the assessment. They would be given control over a proportion of the annual £1.5 billion apprenticeship budget to invest, in return for a plan to boost the number of high quality apprenticeships in their sectors and supply chains.

This review builds on these recommendations to promote bold ambition and capacity at regional level to recruit far more companies as employers of youth apprentices and better prepare school leavers and young people to become apprentices. It also proposes reforms to make further education colleges and other training providers better serve the needs of their regional economies.

The decline in strong vocational routes into work has led to a largely dysfunctional school-to-work transition for young people that do not go to university. This is a good part of the reason why Britain has such high youth unemployment relative to other countries. The number of university graduates has increased significantly over the past two decades, including for STEM subjects. But there has not been a corresponding increase in technical vocational training. The proportion of UK employees with an intermediate qualification has not changed significantly since the 1990s.¹²²

This has also meant that many businesses are held back by skill shortages, particularly in technical roles requiring skills in science, technology, engineering and maths (STEM), which have affected all sectors of the economy. These shortages are borne out by numerous surveys and reports:

- The CBI's survey of employers found that more than a third of firms in high tech/IT & science and construction expect to have difficulties recruiting STEM technicians in the next three years.¹²³
- UKCES' 2010 National Strategic Skills Audit highlighted an urgent need for STEM technicians within sectors of high economic importance, including manufacturing, oil, gas, electricity, chemicals, pharmaceuticals, automotive, engineering and broadcasting.
- The Royal Academy of Engineering forecasts that the UK needs an extra 50,000 STEM technicians and 90,000 STEM professionals every year just to replace people retiring from the workforce.¹²⁴

What are STEM technicians?

STEM technicians use techniques derived from science, technology, engineering, and mathematics (STEM) in order to solve practical problems in the workplace. There are more than 1.5 million STEM technicians in the UK, including almost 200,000 IT technicians, 120,000 electrical engineers and electricians, and 70,000 engineering technicians. They are employed across all type of sectors, not just in manufacturing or science, but increasingly in a range of high paid careers in fields such as retail, digital, marketing, and design.¹²⁵

121. Labour's Skills Taskforce (2013), A revolution in apprenticeships: a something-for-something deal with employers: The Husbands Review of Vocational Education and Training

122. Mason et al (2011),

123. CBI (2013), Changing the Pace: CBI/Pearson Education and Skills Survey 2013, p.20

124. Note, this study uses the term science, engineering and technology (SET) technicians: Royal Academy of Engineering (2012), Jobs and Growth: the importance of engineering skills to the UK economy

125. Mason, G (2012), Science, Engineering and Technology Technicians in the UK Economy

A MAJOR EXPANSION OF HIGH QUALITY YOUTH APPRENTICESHIPS

Apprenticeships offer the best route to matching young people to the occupations where there are vocational skills shortages and increasing employer investment in training. By combining a job with training to national standards, apprenticeships align what is being learned to the needs of employers. The OECD's review of vocational education and training across seventeen countries also found that few countries achieve strong employer engagement in vocational education and training without a strong apprenticeship system.¹²⁶

The following issues need to be addressed:

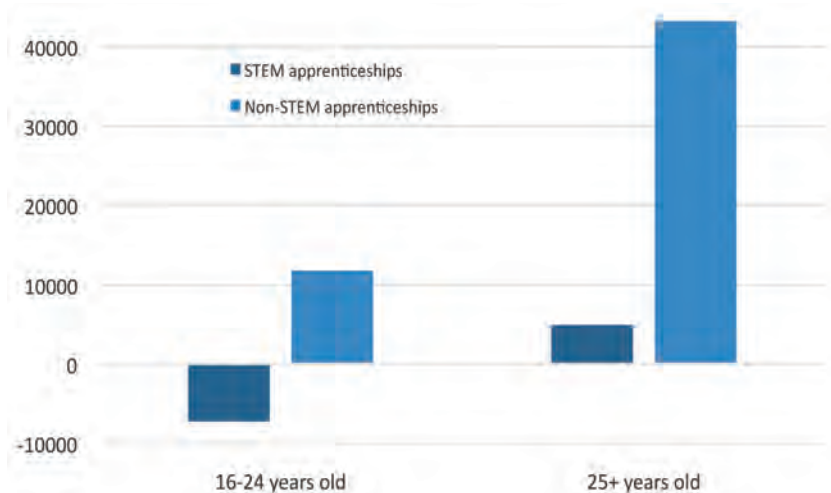
1. Too few youth apprenticeships, especially for careers requiring science, technology, engineering and maths

The recent growth in apprenticeship numbers has failed to address the skills shortages in technical roles. As chart 6.1 shows, the number of STEM apprenticeships for young people aged 16-24 has fallen by more than 7,000 since 2010.

Apprenticeships are predominantly for adults and mainly in non-STEM subjects. Almost half of the 510,200 apprenticeships starts in 2012/13 were for adults. And more than half of all apprenticeship starts were in just five of the 212 apprenticeship frameworks on offer. These were: health & social care; business & administration; management; customer service; and hospitality & catering.¹²⁷

Most of these apprenticeships were at a lower level than those in other countries. Of the 510,200 apprenticeship starts in 2012/13, 57 per cent were at level 2, which is the equivalent of GCSEs. There were fewer than 31,000 STEM apprenticeships for young people at Level 3 or above – the standard that most apprenticeships are in Germany and other European countries. The National Apprenticeship Service, which is the government agency responsible for promoting apprenticeships, also recently admitted that there is “an almost complete absence of science apprenticeships”.¹²⁸

Chart 6.1: Change in STEM and non-STEM apprenticeship starts between 2010/11 and 2012/13 by age¹²⁹



2. Too few employers offering apprenticeships

Fewer than one in ten employers currently offer apprenticeships.¹³⁰ This is despite the fact that 87 per cent of employers which offer apprentices believe that they are a cost effective way to train staff.¹³¹ As the employer-led UK Commission for Employment and Skills has argued:

126. OECD (2011), *Learning for Jobs: Pointers for Policy Development*

127. Skills Funding Agency (2014), *Apprenticeship Programme Starts by Sector Framework (2002/03 to 2013/14 in-year estimates)*

128. National Apprenticeship Service (2012), *Written Evidence Submitted to the House of Lords Science and Technology Committee*

129. Skills Funding Agency (2014), *Apprenticeship Programme Starts by Sector Subject Area, Level and Age (2002/03 to 2013/14 in-year estimates)*

130. UKCES (2012), *UK Commission's Employer Perspectives Survey 2012*

131. UKCES (2012), *The Youth Unemployment Challenge*, (p.17)

"...the future employment and skills system will need to invest as much effort on raising employer ambition, on stimulating demand, as it does on enhancing skills supply."

One factor is that there is not enough support to help employers through the process of recruiting and training apprentices, particularly the small and medium sized firms which hire most apprentices. The apprenticeship system is more challenging for these smaller firms, who can struggle to find suitable candidates and lack the resources to mentor and train apprentices.

These smaller firms are much more likely to operate from one location. Indeed, two thirds of all employers operate from one location.¹³² There is significant variation across the country in the types of providers. In some places, there is a single further education college which provides the majority of apprenticeships. In others, such as the Liverpool city region, there are more than 200 skills providers. Employers need help to navigate this network of providers and to link up with local schools and colleges to recruit suitable young people.

3. Lack of public sector engagement

The public sector is a major employer in its own right. By taking the lead on apprenticeship training, and mobilising its huge procurement budgets, it would have a major impact on the skills of the UK workforce – boosting both public and private sector productivity in the long term.

The state should be leading by example, but it is totally failing to do so. Very few apprenticeships are currently in the public sector, either in technical or administrative roles. The latest figures available for public sector apprenticeships (published in 2010), show that the public sector is significantly under-represented in apprenticeships: a fifth of the country's workforce was based in the public sector, yet it employed fewer than one in 10 apprentices.¹³³

The public sector has a diverse range of roles suited to apprenticeships. In central government, for example, around 350,000 civil servants are in one of the 24 recognized professions within the civil service.¹³⁴ There are apprenticeships available for 17 of these professions, including engineering, finance, IT, law, and science. While a Civil Service Apprentice Scheme was launched recently, this recruited just 100 apprentices in 2013.¹³⁵ This is a fraction of the 16,545 annual recruits to the civil service.

As well as offering very few apprenticeships, employers in the public sector do little to help shape apprenticeship standards. Of the 23 sector skills councils which are responsible for overseeing apprenticeship standards the public sector is represented on the boards of only 4 of them, despite most of them offering apprenticeships which are relevant to the public sector.¹³⁶

4. Quality

As well as too few apprenticeships on offer to young people in the sectors of the economy which are growing, quality is a major issue. A survey by the government found that fewer than half of apprentices said they received any off-the job training and only 70 per cent received training on-the-job.¹³⁷ Remarkably, almost one in five apprentices said they received no training whatsoever during their apprenticeship.¹³⁸ This is despite the fact that the minimum standards for publicly funded apprenticeships – as set out in the specification for Apprenticeship Standards in England – require employers to provide training both on- and off-the-job.

This lack of training is a particular issue in the apprenticeship frameworks which have seen significant increases in take-up in the past few years. Around a third of apprentices on Customer Service frameworks, and a quarter of those doing Business Administration, received neither on- or off-the-job training.¹³⁹

132. UKCES (2014), *UK Commission's Employer Skills Survey 2013: UK Results*, p.20

133. National Apprenticeship Service website (2014): <http://www.apprenticeships.org.uk/latoolkit/identify-solutions-to-get-there/employers/public-sector-1.aspx> (accessed 22/05/2014)

134. National Audit Office (2011), *Identifying and meeting central government's skills requirements*, p.14

135. HM Civil Service, *Civil Service Apprenticeship Scheme*, available at: <http://www.civilservice.gov.uk/news/civil-service-apprenticeship-scheme> (accessed 12/06/14)

136. Based on their websites as of 01/03/14. Skills Active (the sector skills council for sports and fitness industry) has four local authority representatives on its board. Skills for Care and Development has a representative from a Welsh local authority and regulatory bodies for social care. Skills for Health has NHS representatives. Skills for Justice has the Senior Learning Consultant from the Ministry of Justice and Home Office and Policy Federation representatives.

137. BIS (2013), *Apprenticeship Pay Survey 2012: Research Findings*, p.8

138. BIS (2013), *Apprenticeship Pay Survey 2012: Research Findings*, p.8

139. BIS (2013), *Apprenticeship Pay Survey 2012: Research Findings*, p.14

The introduction of end assessments focused on whether an apprentice is fully competent, as recommended by Doug Richards in his review of apprenticeships, will help tackle some of these low quality apprenticeship frameworks. But the process by which the government is asking small groups of employers to rewrite standards for its 'Trailblazer' initiative means that it is unlikely that standards will meet the needs of a broad range of employers and employees.

The companies which are able to spare the time to rewrite each standard are invariably large businesses. But four fifths of apprenticeships are with small and medium sized employers, which lack a voice in this process. Firms from a broad range of sectors also have staff employed in non-sector specific occupations such as IT and engineering – but they cannot spare the time to input into each apprenticeship standard. There needs to be a more independent intermediary body tasked with leading on apprenticeships and engaging employers and employees more broadly as recommended by Labour's Skills Taskforce.

Jaguar Land Rover Advanced and Higher apprenticeships

The award-winning Jaguar Land Rover apprenticeship programme offers two routes: a 4 year Advanced Apprenticeship aimed at students with the required GCSEs and a six year Higher Apprenticeship aimed at A-level entrants. In both cases, the apprenticeship begins with a year's study at college, followed by more hands-on training alongside world-class engineers. Apprentices work towards vocational qualifications, technical certificates and foundation degrees, and in the case of the Higher Apprenticeship, a fully sponsored degree in Applied Engineering from the University of Warwick. There are currently 350 apprentices on the Advanced programme and more than 100 on the Higher programme.

5. Inadequate technical education

Teenagers, particularly girls, have too little awareness of apprenticeships and vocational training, but they also have limited opportunities to gain high quality technical education which could prepare them for these routes. Labour's proposals for a Level 3 Technical Baccalaureate for 16-19 year olds should act as an effective springboard from school and college into an apprenticeship, for young people leaving compulsory education and training at 18. University Technical Colleges can also provide these opportunities and add greater diversity to the education system, alongside mainstream schools and further education colleges – but there simply aren't enough of them.

University technical colleges (UTCs) offer young people aged between 14 and 19 the chance to experience a more technical education. UTCs specialise in subjects where there is a shortage of skills, including engineering, product design, health sciences, and digital technologies. There are currently just 17 UTCs around the country catering for just 3,000 pupils. They are therefore a long way from having a major impact on the economy's skills shortages. While another 33 have been approved and will open "in 2014 and beyond",¹⁴⁰ this will still mean that there are not enough, including none in the North East.

140. Department for Education (2014), UTCs and studio schools: open and pre-opening stage

University Technical Colleges

University technical colleges (UTCs) are government-funded schools that specialise in technical subjects requiring cutting edge equipment, such as engineering and construction. They teach 14–18 year olds technical, practical and academic subjects, and operate a longer school day and academic terms. Universities, employers and further education colleges are members of the UTC board, setting the strategic direction of the school, and also often designing and leading technical educational projects. They are not academically selective and charge no fees, and have a regional catchment area.

The JCB Academy

Established in 2010, the JCB Academy was the first UTC. It specialises in engineering, offering students the opportunity to work in teams tackling engineering problems set by JCB and other employers, including Rolls-Royce, Toyota, Bombardier, Bentley and National Grid. 99 per cent of students have achieved five or more passes at grades A* to C and a 100 per cent achieved A* to C in their Engineering Diploma. Every single leaver has also gone on to either further education, an apprenticeship, higher education or employment.

Black Country UTC

The Black Country UTC is creating the next generation of engineers and scientists. Supported by Siemens and the University of Wolverhampton, they have had 100 per cent success rates for the Level 3 engineering course. Every school leaver has also gone onto either further education, an apprenticeship, higher education or employment.

Recommendations

- **Recommendation 12: Increase the number of high quality apprenticeships for young people, including trebling the number of STEM youth apprenticeships by 2020.**

Existing apprenticeship funding should be more strongly focused on young people, particularly for science, technology, engineering and maths (STEM) apprenticeships – which are too few in number to address skills shortages. Of the 510,000 apprenticeships funded each year, just over half are for young people aged 16–24. This includes just 31,000 apprenticeship starts each year in STEM apprenticeships at Level 3 (the equivalent to A-levels) and above. This is not remotely enough to fill the demand for STEM technicians, with 50,000 technicians leaving the workforce every year through retirement and growing demand for these roles, which tend to require vocational skills at Level 3 and above.

- **Recommendation 13: Local Enterprise Partnerships should commission regional ‘Business Hubs’ to drive the take-up of apprenticeships, and promote wider business support to firms (as set out in Recommendation 20).**

Local Enterprise Partnerships (LEPs) should pioneer a bold expansion in the take-up of apprenticeships among employers within their areas, in both public and private sectors, by supporting them to recruit, mentor and train apprentices. LEPs should also be responsible for signposting national business support schemes more widely, through ‘one stop shop’ arrangements.

- **Recommendation 14: National government, local government and the NHS should radically increase the number of public sector apprenticeships in technical roles for young people, within existing spending plans.**

National and local government are very poor recruiters of youth apprentices. The state needs to start leading by example by recruiting apprentices for technician posts and using public procurement to promote apprenticeships more widely.

In order to make this happen:

- The UK Commission on Employment and Skills and the Department for Business, Innovation and Skills should drive the take-up of apprenticeships across the public sector.
- There should be a skills and capability strategy for all government profession and other key occupations, setting a clear target for recruiting youth apprentices.
- Every sector body which oversees apprenticeship standards for occupations which are present in the public sector should include at least one public sector representative on their board, for local and national government.

- **Recommendation 15: Funding for apprenticeships should only be provided to employers for schemes accredited by professional bodies.**

The quality of apprenticeships needs radical improvement. Employer-led sector bodies should be given greater control over determining standards. These standards should be accredited by professional bodies, which exist for most apprenticeship schemes at Level 3. They already accredit courses for graduate and post-graduate training, and they should do so in respect of apprenticeships too. This will raise the status of apprenticeships and encourage those gaining them to train at higher levels, including at degree level.

- **Recommendation 16: Establish at least 100 University Technical Colleges by 2020 focused on growth areas of the economy.**

University Technical Colleges (UTCs) should be a priority when building new schools, to help increase opportunities for technical education. They offer young people aged between 14 and 19 the opportunity to gain a more technical education, which is enhanced by links with local universities, further education colleges and employers. They specialise in subjects where there is a shortage of skills, including engineering, product design, health sciences, and digital technologies.

STRONGER LINKS BETWEEN SCHOOLS AND EMPLOYERS

There needs to be far stronger links between schools and employers. Young people are not aware of the career opportunities available to them and often rule themselves out of careers as a result of their choice of subjects at school. Careers advice and guidance is poor, there are too few opportunities to engage with a broad range of employers, and perceptions of careers among teachers, parents and students are often outdated.

There needs to be more specialist STEM teachers in school with experience of industry, to help inspire young people about these subjects and careers. And there needs to be a senior member of staff in each secondary school leading a diverse range of activities for careers guidance, work experience, and engagement with employers.

The following challenges need to be addressed:

1. Too few young people studying STEM courses at school

Far more young people need to be encouraged to study STEM subjects beyond GCSE level, particularly girls. Girls make up only 20 per cent of A-level physics candidates and 6.5 per cent of those studying computer science at A-level. Remarkably, almost half of all state funded, co-educational schools in England send no girls on to study physics at A-level.¹⁴¹

141. Institute of Physics (2012), *It's Different for Girls: The Influence of Schools*

These core subjects are necessary requirements for many STEM courses and careers. This means many girls are ruling themselves out of these careers at a very young age. In engineering, only 8 per cent of British engineers are women¹⁴² compared to 18 per cent in Spain, 20 per cent in Italy and 26 per cent in Sweden.

2. Lack of awareness of STEM careers

One of the key barriers is a lack of awareness of STEM careers and training routes. This is not helped by outdated perceptions of these careers. Young people, parents, teachers and employers are all clear that careers advice and information is not good enough, particularly for non-university routes into employment. A recent survey by Ofsted found that only 40 per cent of parents thought that their child's school had helped them to make informed decisions about their post-16 options.¹⁴³ Even teachers have little confidence in the status quo. As the CBI concluded from its survey of young people, the present system of careers guidance in schools is on "life support".¹⁴⁴

While there are around 500,000 work experience placements per year in England undertaken by around two thirds of young people,¹⁴⁵ they are often of limited value and in a narrow range of industries. Half of all work experience placements were in one of four areas: sport & leisure; society health & development; business administration & finance; or retail; whereas only 1 per cent were in information and communication technology (ICT) or manufacturing, and 3 per cent in creative & media.¹⁴⁶

Young people are clear that they want a much broader range of activities to engage with employers and different industries beyond just a traditional two week work experience placement. More than half of young people would like more opportunities to be mentored by local employers, for example, but only 7 per cent have had this opportunity.¹⁴⁷ The employers interviewed for this review were also clear that they want more opportunities to engage with students at a younger age.

3. Shortages of STEM qualified teachers

There are widespread shortages of specialist teachers in STEM subjects. As well as damaging standards, this is likely to be having an effect on the numbers of young people taking STEM courses and on the decisions young people are making about careers.

Nearly a quarter of teachers in secondary schools in England teaching maths and chemistry, and more than a third teaching physics, have no qualification in the subject beyond A-level.¹⁴⁸ As well as too few teachers with degrees in their subject, not enough specialist teachers are being recruited at all in most STEM subjects. As chart 6.2 shows, the number of teachers recruited in maths and physics has been significantly below the government's targets in each of the past three years. In the past year alone, there were a total of 540 fewer maths and physics teachers recruited than the Department for Education expected. There was also a total shortfall of 730 computer science and design & technology teachers.¹⁴⁹ These large shortfalls have persisted despite this government offering teacher training bursaries of up to £25,000 for each person choosing to teach STEM subjects.¹⁵⁰

142. CASE (2014), Improving Diversity in STEM, p.4

143. Ofsted (2013), Going in the Right Direction? Careers Guidance in Schools from September 2012, p.24

144. CBI (2012), Careers advice on 'life support' in schools – CBI chief, available at: <http://www.cbi.org.uk/media-centre/press-releases/2013/06/careers-advice-on-life-support-in-schools-cbi-chief/>

145. UKCES (2012), The Youth Unemployment Challenge, p.13

146. Education and Employers Taskforce (2012), Work experience: Impact and delivery - Insights from the evidence, Annex 4

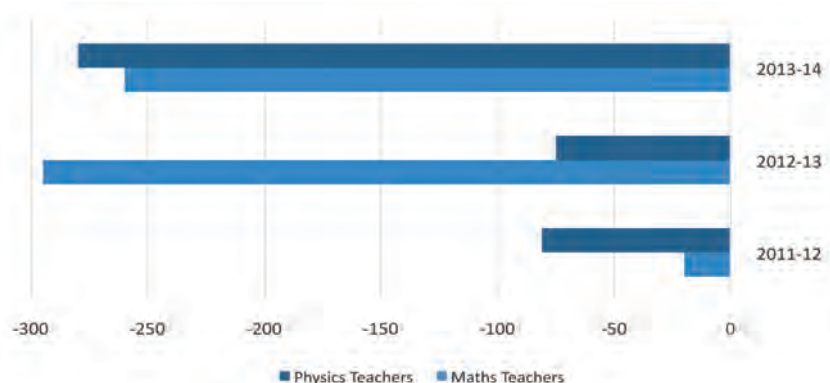
147. YouGov (2011), EDGE Annual Programme of Stakeholder Surveys: Report, pp.69-70

148. DfE (2013), School Workforce in England: November 2012

149. Department for Education (2014), Initial Teacher Training: Trainee Number Census – 2013 to 2014

150. Department for Education (2014), Funding for postgraduate teacher training, available at: <http://www.education.gov.uk/get-into-teaching/funding/postgraduate-funding> (accessed 08/06/14)

Chart 6.2: Shortfall of new entrants to initial teacher training¹⁵¹ in physics and maths compared to government targets, 2011/12 – 2013/14¹⁵²



4. Lack of capacity in schools to organise careers guidance and engage with employers

The provision of careers information and guidance for young people has been substandard for generations. Recent changes have made this worse by shifting the responsibility entirely on schools without ensuring they have the resources and leadership in place to make this work.

Since September 2012, secondary schools have been responsible for “securing access to impartial and independent careers guidance” for pupils aged 13-16. This duty was extended to include pupils aged 12 and 16-17 from 2013.

Since the recent changes, the quality and level of careers guidance has fallen dramatically:

- The Education Select Committee’s 2013 report stated:
*“We have concerns about the consistency, quality, independence and impartiality of careers guidance now being offered to young people... Urgent steps need to be taken by the government to ensure that young people’s needs are met.”*¹⁵³
- Ofsted’s 2013 review found that:
*“Only about one in six of the schools visited offered individual career guidance interviews by a qualified external adviser to all their students in Years 9, 10 and 11. A quarter of the schools did not use qualified external advisers at all.”*¹⁵⁴
- Only around 1 per cent of teenagers have used the new National Careers Service (NCS) phone line or website.¹⁵⁵
- A survey by Careers England of their members showed that only one in six schools had the same level of investment in careers activities as they did a year before and not a single school had increased investment.¹⁵⁶

Many schools lack the capacity to organise the broad range of careers activities which young people need. As Ofsted has concluded, the new model of schools commissioning their own career guidance is:

*“...a sophisticated one... [requiring] frequent coordination of all the different activities and services, as well as continuing evaluation to signpost different students to different activities, at different stages of their development and decision-making.”*¹⁵⁷

151. Department for Education published statistics exclude entrants to Teach First.

152. Department for Education, Initial Teacher Training: Trainee Number Census [2010/11, 2012/11 and 2013/14 publications]

153. Careers guidance for young people: The impact of the new duty on schools, House of Commons Education Committee, 23 January 2013

154. Ofsted (2013), *Going in the Right Direction? Careers Guidance in Schools from September 2012*, p.13

155. National Careers Council, *An Aspirational Nation: Creating a culture change in careers provision*, June 2013, p.14, p.16

156. Careers England (2012), *School and Careers Guidance: A Survey of the Impact of the Education Act 2011*, p.8

157. Ofsted (2013), *Going in the Right Direction? Careers Guidance in Schools from September 2012*, p.10

Schools were given no extra funding for this new responsibility and many were already stretched in terms of management time. In the previous system, schools were able to access careers guidance for free via the Connexions service. The new National Careers Service, which has effectively replaced Connexions, no longer provides face-to-face careers guidance to schools.

Many schools do not have a dedicated senior member of staff to manage all of these activities effectively. Careers guidance is very often one of many responsibilities for a senior member of staff, such as a deputy head or head of year. Ofsted found that in three quarters of schools careers-related activities were poorly coordinated and this was the case *“especially where no member of staff had an adequate management responsibility for the activities”*. Whereas in the “small number” of schools with very effective careers guidance, Ofsted found that some of these schools had invested in new internal appointments that gave members of staff full-time or part-time responsibility for coordinating the overall provision of careers guidance¹⁵⁹.

Director of Careers and Guidance, Thomas Telford School

Thomas Telford School is a City Technology College in Telford, sponsored by The Mercers' Company and Tarmac Holdings Limited, which employs a full time Director of Careers and Guidance, as well as two full-time Careers Advisors. The Director is responsible for publishing and delivering a Careers Policy which entitles each student to a range of activities, including individual guidance sessions for every year 11 and sixth form pupil, a 'drop-in' Careers Resource Centre and access to online programmes. The Director also oversees links with employers and industry, and has developed an industry database of more than 500 employers in the region.

Recommendations

- **Recommendation 17: Introduce a new national 'Teach Next' recruitment and teacher training scheme for experienced career switchers, focused on STEM subjects.**

There is an acute shortage of STEM specialist teachers, particularly in maths and physics. A new national Teach Next scheme should be targeted on career switchers with significant work experience and focused on STEM subjects. It should be based on the model of Teach First. The scheme should be marketed nationally, provide national training and offer support during and after the programme.

- **Recommendation 18: Every secondary school in England should appoint a full-time Director of Enterprise and Employment.**

Secondary schools should appoint a dedicated, full-time director responsible for a broad range of careers and employer engagement activities. The Director of Enterprise and Employment should be appointed as a member of the senior management team. They should have significant knowledge of careers and training routes, and preferably direct experience of the local labour market.

The Director of Enterprise and Employment would be responsible for:

- Commissioning the school's careers advice and guidance, including external face-to-face guidance.
- Promoting enterprise education across the school.
- Engaging with employers and LEPs on employment and apprenticeship destinations, and work experience opportunities for current students.
- Publishing statistics on the number of work placements secured by the school and employment, education and apprenticeship destinations of pupils, which would be reviewed by Ofsted.¹⁶⁰

160. Ofsted would review these statistics as part of their existing remit to evaluate how well "pupils are prepared for the next stage of their education, training and / or employment": Ofsted, The framework for school inspection, January 2014, p.17

ADDRESSING THE SKILLS MISMATCH AT THE LOCAL LEVEL

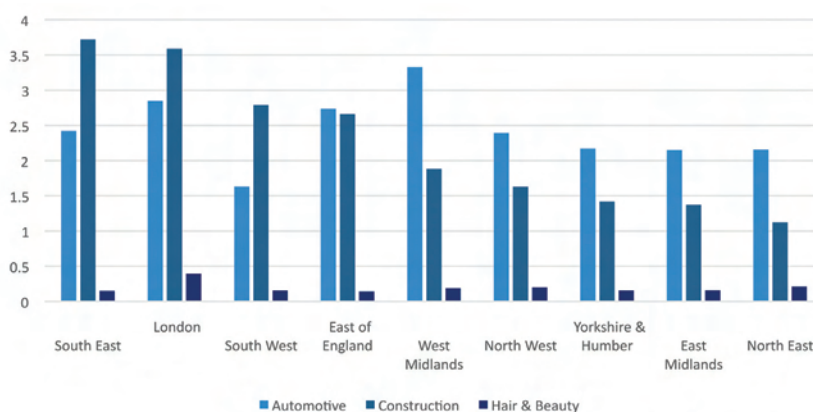
A more effective system of careers advice and guidance will help young people to choose vocational qualifications which will lead to employment. But on its own this is not enough. Young peoples' decisions are influenced by what vocational courses are on offer locally and promoted by further education colleges. The funding system has a major impact on the types of courses which colleges provide and in many areas there is a lack of high quality specialist vocational provision. In order for local provision to better reflect local economic priorities and provide a route into skilled jobs local employers should have more influence over the priorities for the funding of college-based courses.

There is a significant mismatch between the types of college-based vocational courses young people are choosing to study and the jobs that are available to them locally. Whereas the types of jobs which university graduates go into often bear little relation to their chosen subject, vocational courses should give young people the skills for a career in a specific sector or occupation.

Research by the Centre for Economic and Social Inclusion has found that there are major mismatches between the number of job vacancies in a particular industry sector and the number of people qualifying in relevant further education or skills courses. Across England, there are 24 jobs for every ten people qualifying in automotive, but just two jobs for every ten people qualifying in hair and beauty.

There are also significant differences between regions. As chart 6.3 shows, the West Midlands has more than twice as many job vacancies per skills qualification in automotive than the South West. The South East has more than three times the number of job vacancies per skills qualification in construction than the North East. And in hair and beauty, the east of England has just one job vacancy for every ten people qualifying; whereas London has four vacancies for every ten people qualifying.

Chart 6.3: Job vacancies per skills achievement by English region and industry sector, 2010/11¹⁶¹



Most colleges engage with employers to understand their needs, but because their funding is so dependent on student demand measured by the qualifications attained in the previous year, they are hesitant to shift the bulk of their provision to new types of courses. It is particularly challenging for colleges to switch to STEM courses and other specialist vocational provision which requires upfront investment in equipment and machinery, and the hiring of new specialist teachers. A survey of further education colleges found that 58 per cent cite the relative cost of STEM courses as the main challenge for the successful design of STEM courses.¹⁶²

161. CESI (2012), Hidden Talents: Skills Mismatch Analysis, p.12

162. 157 Group (2012), The challenges of Stem provision for further education colleges, (p.13)

Broadly, colleges deliver the courses that they have a track record of attracting students and passing them through the course – as funding is dependent on successful achievements. But as the findings above show, this doesn't necessarily mean they are the courses which are most likely to lead to good jobs or further study.

The current funding system is based on a series of complex national formulae. But they take no account of employment outcomes or the needs of local employers. The incentives are for colleges to chase numbers of students, regardless of the type of industry they are being prepared for.

The government has said that LEPs will be devolved part of the national budget for capital investment in further education colleges from 2015, as part of the Single Local Growth Fund. This will give local employers and local authorities some influence over the investments made in colleges. But it will not necessarily lead to a change in the types of courses on offer, as capital investments can often be for generic buildings in which any course can be taught.

Meeting the demand for vocational skills – building Hinkley Point power station

Planning consent for the construction of a new nuclear power station at Hinkley Point in Somerset was announced in March 2013. Hinkley Point will be the first power station to be built in the UK in two decades, involving £16 billion of investment. This will require a significant number of construction specialists, far and above what the region is currently able to provide. Although a local college received a £1.5 million private sector investment to supply construction workers for the project, the Bristol Local Enterprise Partnership is playing a key role in coordinating training across skills providers and construction contractors in the region. This includes ensuring that the necessary numbers of skilled staff are being trained in precisely the right specialisms in order to meet the needs of the project. This highlights the need for stronger links between employers and training providers so that the specific need for specialist vocational skills can be outlined and addressed in time, and the importance of a strategic plan across the region which binds employers and skills providers.

Recommendations

Local employers, using local labour market information, are well placed to work with local authorities to address specific vocational skills shortages in their areas and promote more high quality vocational training courses. LEPs and Combined Authorities should be able to influence local FE college provision by setting the priorities for the post-school skills budget, as well as for capital investment.

- **Recommendation 19: Further education colleges should focus strongly on teaching technician-level skills and adult learning priorities should be set locally**
Too many vocational courses do not lead to employment in relevant occupations, while many industries suffer from chronic technical skills shortages. Local Enterprise Partnerships, working with their coterminous local authorities (or Combined Authority), should set priorities for the funding of post-19 vocational training courses in their sub-regional areas. Rather than funding courses simply by national formulae based on the number of qualifications attained the previous year, employers and local authorities should use their knowledge of the local labour market to shape what their local classroom-based vocational providers deliver.

SMARTER STATE, BETTER JOBS

Chapter 7: Supporting growth companies

CHAPTER 7: SUPPORTING GROWTH COMPANIES

High growth companies represent only six per cent of all firms employing ten or more people, but account for more than half the growth in jobs. There needs to be a step change in the way government helps firms expand and export. Access to finance schemes need a strong regional dimension and a strong focus on high growth companies, under the auspices of a British Investment Bank. And national business support schemes need to be streamlined and promoted locally.

BUSINESS SUPPORT

The British government spends around £12 billion on business support schemes each year.¹⁶³ However, businesses who might be able to benefit from these schemes are too often unaware of what support is actually on offer. The SME Finance Monitor shows that only 29 per cent of firms were aware of the Funding for Lending scheme and only 23 per cent of firms aware of other government support schemes including the loan guarantee schemes.¹⁶⁴

As for export finance schemes, only one per cent of SMEs had applied for export or import finance products from a cohort of seven per cent of SMEs who export. This low level of awareness of export support is backed up by a London Chamber of Commerce and Industry survey citing only 4 per cent of London firms having used UK Export Finance (UKEF), which provides government guarantees for UK exports. Another survey shows that 81 per cent of large companies that export and 69 per cent of SME exporters surveyed are not familiar with UK Trade & Investment (UKTI), which helps companies to make contacts abroad and navigate bureaucracies.¹⁶⁵

The proliferation of schemes has not helped. According to the Federation of Small Businesses, there are 891 different sources of support for small businesses and 18 access to finance schemes. This has increased the cost of delivering business support, with estimates that the UK approach is costing the taxpayer an extra \$100 per capita compared to the US.¹⁶⁶

Constant flux in the institutional responsibility for business promotion has made this worse. Business support had been one of the key responsibilities of Business Link and the Regional Development Agencies (RDAs), prior to their abolition in 2010. The Regional Growth Fund (RGF), which partly replaced the RDAs, was expected to distribute a total of £3.2 billion between 2011 and 2017 to support private sector employment. Yet small businesses in particular have been put off from applying because of the stringent bureaucracy, including a requirement to pay for the cost of due diligence from a third party upfront; and many successful applicants have not proceeded for the same reasons.

In part as a result of these issues, the National Audit Office reports serious delays in RGF spending, and estimates that the first tranche of £1.4 billion is set to add just 41,000 jobs over seven years, at a cost of up to £200,000 per job. This is despite the government's claim that overall the Regional Growth Fund would create 550,000 jobs.¹⁶⁷

- **Recommendation 20: Local Enterprise Partnerships should ensure that regional 'Business Hubs' are promoting business support to firms.**

Local Enterprise Partnerships (LEPs) should facilitate the development of 'one stop shop' regional Business Hubs to promote national business support schemes and signpost to firms

163. Federation of Small Businesses (2013), Enterprise 2050, Getting UK Enterprise Policy Right

164. BDRC (2013), SME Finance Monitor: Q3 2013, p.18

165. ICAEW (2013), Growth: An ICAEW Perspective

166. Federation of Small Businesses (2013), Enterprise 2050, Getting UK Enterprise Policy Right

167. National Audit Office (2012), The Regional Growth Fund, pp. 4-8

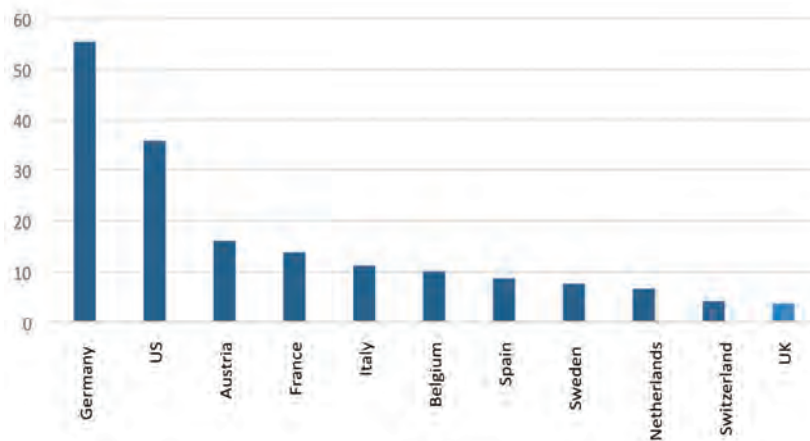
what is on offer, as well as promoting and supporting the take-up of apprenticeships within the national framework (recommendation 13). LEPs should determine the form that these Business Hubs take, based on local needs. This could include a combination of online and face-to-face support. These hubs should be funded by LEPs and delivered in partnership with local business bodies that have the capacity to do so.

EXPORTS

Exports are growing far too slowly. As a proportion of GDP, Britain has one of the worst trade balances in the developed world, and the growth rate of exports is far slower than required to meet the government's target of trebling exports to £1 trillion by 2020.

Government support for exporters is comparatively low (see chart 7.1). According to the British Exporters Association, in 2012 Germany provided guarantees for around €42 billion of exports compared to around £2.3 billion in the UK, plus a one-off £2 billion contract for Typhoon fighter aircraft to Oman. Furthermore, 80 per cent of the £2.3 billion supported the export of Airbus aircraft components. So in 2012, UKEF supported just £458 million of exports on behalf of fewer than 90 companies once Airbus and the Typhoon fighter sale to Oman are excluded. In contrast Belgium supported €7.6 billion of guarantees.

Chart 7.1: Value of exports guaranteed by government export credit agencies, 2012 (\$ million)¹⁶⁸



It is noteworthy that UKEF consistently generates levels of operating income almost three times that of its German counterpart, whilst supporting only a fraction of the exports. In 2012-2013, UKEF had a 3.1 per cent margin on export guarantees of £4.3 billion.¹⁶⁹ This is in contrast to Euler Hermes, which is responsible for export guarantees in Germany, which had margins of 1.3 per cent on €29 billion of guarantees.¹⁷⁰ This relatively large margin compared to other agencies suggests that opportunities to support additional exports are considerable, without being exposed to excessive risk.

To generate stronger links to key markets, UKTI needs to be staffed with people who have relevant experience and local knowledge to drive success, and they need to be based overseas. However, Daniel Kawczynski MP's report found the quality of UKTI staff to be an issue in many key markets, with services in the Middle East cited as being particularly poor.¹⁷¹ It is also noteworthy that nearly a third of UKTI staff are based in the UK.¹⁷² This suggests that UKTI could do far more to focus on building new export contacts abroad.

168. Note, the UK data excludes a one-off deal for a fighter jet which skews the underlying trend. British Exporters Association (2013), UK Export Finance: Supporting the National Export Challenge p.13 (authors' calculations for exchange rates)

169. UK Export Finance (2013), Exports Credit Guarantee Department Annual Report and Account 2012-13

170. Export Credit Guarantees of the Federal Republic of Germany – Hermes Cover, Annual Report 2012. Direct lending for exporters is undertaken by KfW-IPEX Bank which had a margin of 0.3 per cent. 2013 KfW IPEX Bank Annual Report 2013

171. Daniel Kawczynski MP (2013), UKTI: Scrutinising Efficiency and Effectiveness

172. UK Trade & Investment (2013), UK Trade & Investment Annual Report and Accounts 2012-13, p.76

UKEF and UKTI need to do a far better job of giving advice and support to existing and potential exporters in respect of market opportunities, digital platforms, export finance, and overcoming bureaucracies – particularly in emerging markets.

Recommendations

- **Recommendation 21: UK Export Finance and UK Trade & Investment need to become much more ambitious in the way they support exporters.**

UK Export Finance (UKEF) provides financial guarantees for UK exports but supports significantly fewer companies than similar bodies in comparable countries. UKEF needs to put exporters at the centre of a much more ambitious service-oriented organisation and drive up the volume of export guarantees where there is no private sector support available. UK Trade & Investment (UKTI), which helps companies to make contacts abroad and navigate bureaucracies, needs to become much more focussed on developing international business networks that UK companies can exploit, particularly in emerging markets.

FINANCING GROWTH BUSINESSES

The UK's financial services sector has not served the needs of businesses well. As Nick Tott found in his report on *The Case for a British Investment Bank*, a structural finance gap has long existed for firms requiring between £250,000 and £10 million in funding.¹⁷³ This gap is larger outside of the South East. According to the British Venture Capital Association, 60 per cent of all venture capital funds – which invest in equity stakes in high potential, small and medium sized businesses – are invested in the South East and East Anglia.

Since the financial crisis access to finance has worsened. Although the UK banking sector was offering more loans as a percentage of applications than the German banking system before the crisis,¹⁷⁴ this sharply reversed in 2009 leading to a significant shortage of credit for SMEs.

This dataset has masked a critical underlying structural issue which has been the failure of the UK financial services sector to provide finance for innovative, high growth firms. Innovative firms – defined as those which have introduced a new product or service in the past 12 months – are 70 per cent more likely to be rejected for finance than non-innovative firms.¹⁷⁵ This is largely due to the financial profile of these firms which tend not to have much in the way of tangible assets nor a sufficiently long enough history of cash flows to pass bank credit scoring models. This is despite the fact that the credit rating firm Experian has shown that these higher growth companies have consistently lower insolvency rates than non-innovative firms from the same credit grade.¹⁷⁶ So new ways of providing finance to these firms are needed.

Firms that do pass credit controls but have insufficient collateral can apply for the government's Enterprise Finance Guarantee (EFG) scheme. The EFG scheme provides loan guarantees to facilitate lending to viable businesses that have passed a bank's initial credit scoring models but have insufficient guarantees. Given that high growth, innovative businesses are more likely to fail the initial bank credit scoring models, the EFG scheme is often unsuitable for them.

In 2012, in response to Labour's call for an independent British Investment Bank, the Coalition announced the setting up of the Business Bank. The aim was to address long-standing, structural gaps in the supply of finance and bring together government finance support for SMEs.

173. Nick Tott (2012), *The Case for a British Investment Bank*

174. Nick Tott (2012), *The Case for a British Investment Bank*, p.5

175. Big Innovation Centre (2013), *Credit and the Crisis: Access to finance for innovative small firms since the recession*, p.3

176. Big Innovation Centre (2013), *Disrupted Innovation: Financing small innovative firms in the UK*

Whilst this development is a step in the right direction, it has not addressed the underlying structural issues of capital constraints outside the South East, nor for innovative high growth firms. The Business Bank is too reliant on the existing network of high street banks to reach businesses. It has also done little to address major flaws in existing schemes. A National Audit Office (NAO) report in 2013 criticised the Department for Business, Innovation and Skills (BIS) for the lack of a “rigorous process for making changes to schemes in response to evaluations undertaken.”¹⁷⁷

The following challenges need to be addressed:

1. Support for equity finance is disproportionately invested in the South East

Government support for equity financing has been channelled through Capital for Enterprise funds with up to £1 billion committed to loan and venture schemes. This support is distributed by private sector fund managers, which tend to be in the South East. More than half of the support has consequently been channelled to the South East. The Business Angel Co-investment Fund aims to support business angel investments into high growth potential, early stage SMEs. The fund to date has also been skewed to the South East with 66 per cent invested in the South East and East Anglia.

2. Not enough support for mixed mode finance to help growing businesses

Government policies fail to combine debt and equity provision, which would be more appropriate for growing companies requiring growth capital. In the UK, the return on venture capital is roughly zero per cent which will not do much to encourage pure equity investment into growth firms.¹⁷⁸ Moreover, the National Audit Office concluded that government equity schemes had “in financial terms not recouped the taxpayers’ investment”.¹⁷⁹ Furthermore, the banking sector is less willing to provide long term loans to innovative and high growth small and medium sized businesses, in part due to changes to global capital rules.

3. The government’s main loan guarantee scheme is provided by only a handful of high street banks

The Business Bank provides up to £2 billion in loan guarantees. However, the Enterprise Finance Guarantee (EFG) scheme, which is the government’s main loan guarantee scheme, is provided by very few banks. In 2013, the vast bulk of the value of all EFG loans were distributed by the four high street banks: RBS, Barclays, HSBC and Lloyds.¹⁸⁰ This shows little progress has been made in terms of increasing competition in banking for business loans.

Policy focus on banks as providers of capital has constrained the growth of alternative providers of debt finance including asset managers and peer-to-peer (P2P) lenders. These alternative providers sometimes have a different perspective on the credit risk of a firm. For example, over 30 per cent of companies who raised debt through Funding Circle, a P2P lending platform, were unable to obtain finance from a bank.¹⁸¹ However these alternative providers of finance are not currently part of the EFG scheme.

Recommendations

A British Investment Bank – building on the existing Business Bank – should focus on three key policy areas: including improving regional deployment of the Business Angel Co-investment Fund, developing a regional network of financial providers and ensuring that support schemes for loans are available through a more diverse group of providers.

• Recommendation 22: Local Enterprise Partnerships should promote the Business Angel Co-investment Fund in city and county regions outside of the South East.

The Business Angel Co-investment scheme is a £100 million fund which makes investments of between £100,000 and £1 million alongside syndicates of business angels in order to support

177. National Audit Office (2013), Improving access to finance for small and medium-sized enterprises, p.8

178. BVCA/PWC (2012), BVCA Private Equity and Venture Capital: Performance Measurement Survey 2012

179. National Audit Office (2013), Improving Access to Finance for Small and Medium-sized Enterprises, p. 10

180. Department for Business, Innovation & Skills (2014), Enterprise Finance Guarantee: Quarterly Statistics for Q1, 2014

181. Nesta (2013), Banking on Each Other

high potential businesses. However, two thirds of the fund has been invested in the South East and East Anglia. More of the fund should be deployed around the country, and Local Enterprise Partnerships should play a leading role in promoting the fund and developing regional networks of business angel investors.

- **Recommendation 23: Develop a regional network of Small Business Investment Companies.**

Labour has committed to supporting a network of regional banks alongside a British Investment Bank. We should also learn from the US, where Small Business Investment Companies (SBICs) have invested around \$20 billion of long term capital in firms via debt and equity investments from 287 SBICs around the country. This has helped to fund companies such as Apple, Sun, HP and Intel in the early stages of their development. A regional network of SBICs would fill the gap for growth capital demanded by high growth innovative firms. This could be achieved by allowing investors who put up their own capital to access low cost, long-term loans.

- **Recommendation 24: Extend the Enterprise Finance Guarantee scheme to make it available via alternative finance providers, such as peer-to-peer lenders.**

The Enterprise Finance Guarantee (EFG) scheme provides loan guarantees to facilitate lending to viable businesses that have been turned down for a commercial loan due to a lack of security. However, in 2013 86 per cent of all EFG loans in terms of value were distributed by only four high street banks: RBS, Barclays, HSBC and Lloyds.¹⁸² The EFG scheme should be made available through alternative finance providers to improve distribution, including peer-to-peer lenders and the Small Business Investment Companies proposed above.

The UK's Industrial and Commercial Finance Corporation and the US Small Business Investment Company scheme

The Industrial and Commercial Finance Corporation (ICFC) was set up in the UK in 1945 by the Bank of England and a number of high street banks to provide financing for growing companies. This followed a review in 1931 by Hugh Macmillan, who identified structural fault-lines in the provision of finance for SMEs – the so-called “Macmillan gap”. By the end of the 1970s, ICFC was providing around £100 million of debt and equity financing for 1,000 firms each year, while also generating a 20 per cent return on capital.¹⁸³ In the late 1980s ICFC morphed into 3i, and subsequently became a publicly listed mid-market private equity firm operating internationally.

The US Small Business Investment Company (SBIC) scheme, which was set up in 1958 and modelled on the UK's ICFC, performs much the same role. It helps support some of the US' most promising companies, by supporting financing which primarily combines debt and equity. Apple, Sun, HP and Intel all received SBIC funding in their formative years. There are currently 287 active SBICs in the US, with just under \$20 billion of assets under management. Between 2009 and 2013 56 per cent of investments were debt, 32 per cent debt with equity like features and 12 per cent pure equity.¹⁸⁴

182. Department for Business, Innovation & Skills (2012), Number and Value of Enterprise Finance Guarantee Scheme Loans Drawn

183. R. Coopey & D. Clarke (1995) 3i: Fifty Years Investing in Industry

184. Small Business Administration (2014), Office of Investment and Innovation: Office Overview

APPENDICES

APPENDIX 1: EMPLOYER SURVEY

About the survey

In order to better understand the key barriers faced by UK firms across the country and where government policy needs to focus, we ran a series of consultation events. This included ten roundtable events with local employers in Newcastle, Sheffield, Manchester, Leeds, Birmingham, Bristol, Oxford, Cambridge, London and Milton Keynes.

The survey was completed by 208 employers at events between September 2013 and January 2014. These employers were mostly businesses, but there were also representatives from universities, colleges and skills providers.

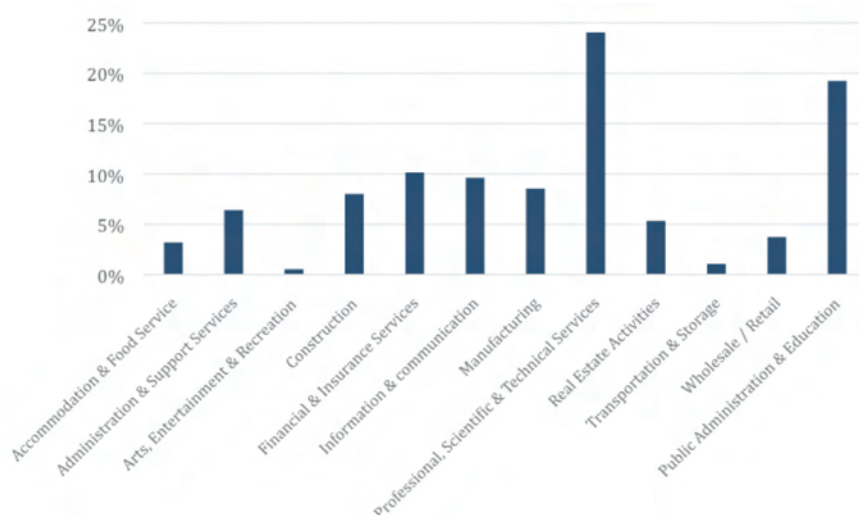
The aim was not to replicate the large surveys conducted by business organisations, government and academics – many of which we cite in this paper. Indeed, the respondents to the survey were not representative of the broader economy. While around two thirds of respondents were small or medium sized businesses, these businesses account for a higher proportion nationally. There was also a skew towards employers in the professional, scientific and technical sector, with around a quarter of employers in this sector.

The purpose of the survey was to understand the key priorities for employers and then to draw out detailed case studies in the discussion to help bring these to life. The survey therefore asked a series of targeted questions, which helped structure the discussion and forced respondents to prioritise issues.

Respondents

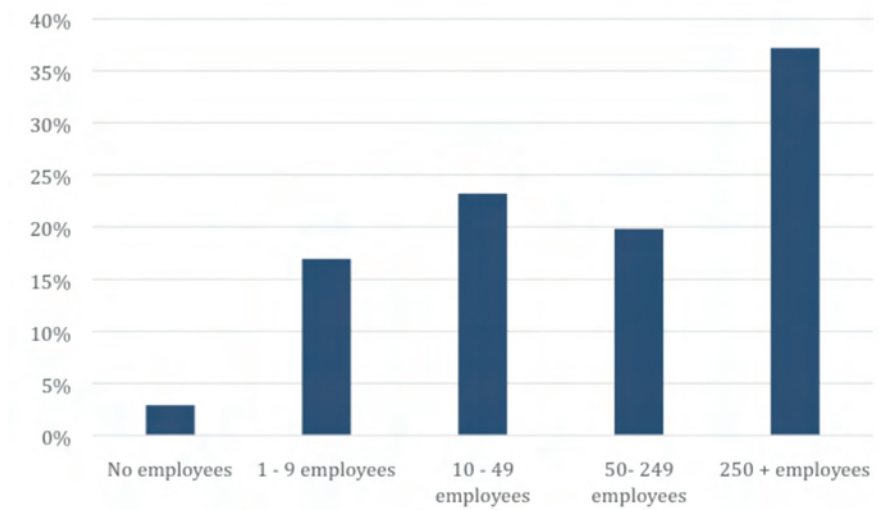
- **Industry sector**

The survey was completed by a total of 208 employers across ten cities. They represented all ten of the broad sectors shown below. The professional, scientific and technical sector was particularly over-represented compared to its share of the economy, with 23 per cent of respondents from this sector. There were also a significant number of employers in the Public Administration & Education sector. These tended to be private sector skills providers, further education colleges, universities or local councils.

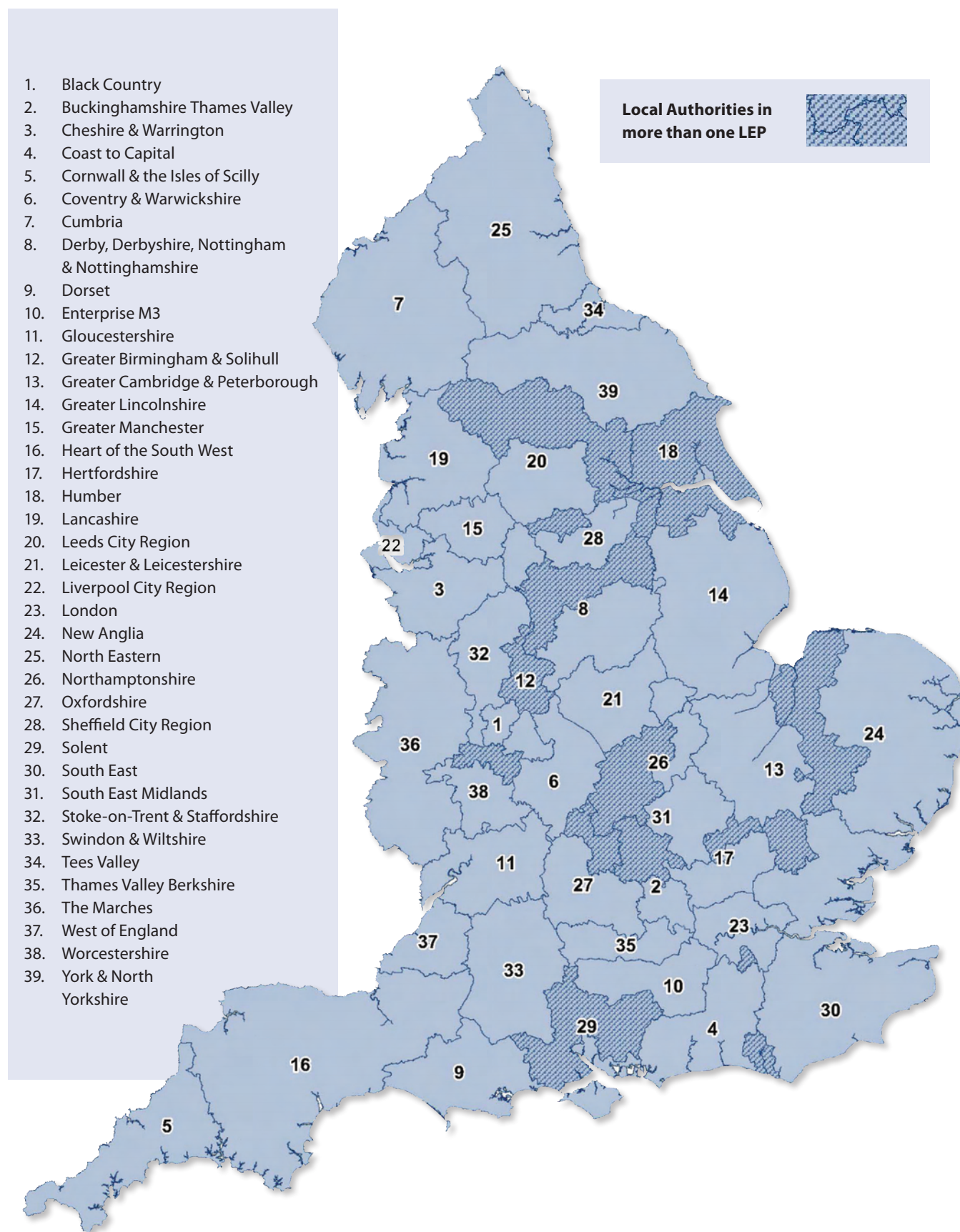


- **Business size**

Two thirds of respondents were small or medium sized businesses. These businesses account for 99.9 per cent of all private sector businesses at the UK level.¹⁸⁵



APPENDIX 2: MAP OF LOCAL ENTERPRISE PARTNERSHIPS



APPENDIX 3: PUBLIC SECTOR APPRENTICESHIPS IN THE BIS DEPARTMENT

The following table details the Department for Business, Innovation and Skills (BIS) agencies and public bodies which have published figures to show they have virtually no (i.e. fewer than 3) apprentices or staff under the age of 21.

BIS agencies & public bodies (data as of 1 May 2013 ¹⁸⁶)	Total number of staff	Staff under 21 years old	Apprentices (any age)
ACAS	844	0	0
Arts and Humanities Research Council	75	0	0
Capital for Enterprise Ltd	32	0	0
Companies House	971	0	0
Competition Commission	157	0	0
Competition Service	16	0	0
Consumer Focus	102	0	0
Economic & Social Research Council	140	0	0
Engineering Construction Industry Training Board	92	1	2
Engineering and Physical Sciences Research Council	220	0	0
Land Registry	4550	0	0
National Measurement Office	71	0	0
Office for Fair Access	13	0	0
Office for Fair Trading (OFT)	538	0	0
Ordnance Survey	1132	1	0
Technology Strategy Board (TSB)	178	0	0
UK Space Agency	46	0	0

186. Date was published by each of the agencies and public bodies in response to written parliamentary questions. The House of Lords Hansard citations are: 18 June 2013, c29W; HL Deb, 17 June 2013, c1W; 13 June 2013, c253W; 12 June 2013, c242W.

APPENDIX 4: ACKNOWLEDGEMENTS

I am hugely grateful to Alastair Reed, Thomas Aubrey and Benjamin Clayton for all their work on this review, and Policy Network for supporting this project.

I would also like to thank all of the businesses, universities, colleges, councils and Local Enterprise Partnerships who gave their time to attend one of the survey roundtables for the review. More than 200 people attended these events across ten cities. The level of interest and engagement from employers was overwhelming.

I would particularly like to thank the British Chambers of Commerce (BCC) and the following local business groups which organised these events:

- Business West
- Sheffield Chamber of Commerce
- Leeds, York and North Yorkshire Chamber of Commerce
- Greater Manchester Chamber of Commerce
- Milton Keynes Chamber
- Cambridgeshire Chambers of Commerce
- Greater Birmingham Chambers of Commerce
- London Chamber of Commerce and Industry
- North East Entrepreneurs' Forum
- Oxfordshire Local Enterprise Partnership

I have discussed the review at many events over the past year. I would particularly like to thank the following organisations for inviting me to speak at these:

- LEP Network
- Smith Institute
- North East LEP
- Core Cities
- Tech UK
- Local Government Association
- Cambridge Network
- Cambridge Enterprise
- Science Council
- Institute of Chartered Accountants in England and Wales (ICAEW)
- All Party Parliamentary Group on Local Growth, LEPs and Enterprise Zones

I would also like to thank the following people who have met with me personally or with my review team:

Councillor James Alexander, City of York Council
Birgitte Andersen, Big Innovation Centre
Mayor Joe Anderson, Liverpool City Council
Andy Argyle, KPMG
Councillor Brenda Arthur, Norwich Council
Genevieve Bach, Chartered Institute of Personnel Development
Niall Baker, Irwin Mitchell
Christian Bason, MindLab
Mike Blackburn, Greater Manchester LEP
Jerry Blackett, Birmingham Chamber of Commerce

Andrew Bolan, British Pharmaceutical Industry
 Sir Albert Bore, Birmingham City Council
 David Bott, (former) Technology Strategy Board
 Councillor Peter Box, Wakefield
 Tim Bradshaw, Russell Group
 John Bridge, Cambridgeshire Chamber of Commerce
 Richard Brook, Association of Independent Research and Technology Organisations
 Nida Broughton, Social Market Foundation
 John Brown, Cell Therapy Catapult
 Steve Burgess, Science Oxford
 Dinah Caine, Creative Skillset
 Ross Cameron, RBS
 Neil Carberry, Confederation of British Industry
 Andrew Carter, Centre for Cities
 Norman Cave, Bourneville College
 Mike Cherry, Federation of Small Businesses
 Andy Clarke, Asda
 Dr David Cleevely, Centre for Science and Policy, University of Cambridge
 Councillor John Collins, Nottingham City Council
 Mike Conroy, HSBC
 Sherry Coutu, Angel Investor
 John Cridland, Confederation of British Industry
 James Darley, Teach First
 Julian David, Intellect
 Steve Davison, University of Cambridge
 Councillor Julian Dore, Sheffield City Council
 Stephen Drury, Santander
 Mike Emmerich, New Economy
 Kyle Galler, European Commission
 Steve Geary, Construction Industry Training Board
 Mayor George Ferguson, Bristol City Council
 Georgina Ferry, Science Oxford
 Chris Fletcher, Greater Manchester Chamber of Commerce
 Councillor Nick Forbes, Newcastle City Council
 Nigel Foster, Leeds, York & North Yorkshire Chamber of Commerce
 Alice Frost, Higher Education Funding Council for England
 Jane Gate, Association of Independent Research and Technology Organisations
 Roasamund Gentry, PwC
 Steve Gibson, North East Entrepreneurs' Forum
 Daniel Godfrey, Investment Management Association
 Mark Goldstone, Leeds, York & North Yorkshire Chamber of Commerce
 Carlos Lopez Gomez, Institute for Manufacturing, University of Cambridge
 Julian Gravatt, Association of Colleges
 Irene Graham, British Bankers' Association
 Mike Gregory, Institute for Manufacturing, University of Cambridge
 Paul Griffiths, Milton Keynes Chamber
 Fred Grindrod, Unionlearn
 Chris Hale, Universities UK
 Nick Hassey, Teach First
 Councillor Mick Henry, North East Leaders' Board
 Luke Herbert, Jaguar Land Rover

Edward Highfield, Creative Sheffield
 David Hill, Milton Keynes Council
 Steve Hollis, Greater Birmingham & Solihull LEP
 Stephen Hughes, Birmingham City Council
 David Irwin, Irwin Grayson Associates
 Nick Isles, Milton Keynes College
 Alex Jackman, Forum of Private Business
 Antoinette Jackson, Cambridge City Council
 Paul Jackson, Engineering UK
 Alexandra Jones, Centre for Cities
 Nick Jones, PWC
 Philip Jones, Sheffield Hallam University
 Dame Julia King, Aston University
 Karen Kerrigan, Seedrs
 Sir Richard Leese, Manchester City Council
 Clive Lewis, Institute of Chartered Accountants in England & Wales
 Dr Ann Limb OBE DL, South East Midlands LEP
 Mark Lloyd, Cambridgeshire County Council
 John Longworth, British Chambers of Commerce
 Sarah Main, Campaign for Science & Engineering
 Roger Marsh, Leeds City Region LEP
 Adam Marshall, British Chambers of Commerce
 Keith Marshall, Institution of Engineering & Technology
 Charlie Mayfield, John Lewis Partnership
 Richard Mellor, Russell Group
 Clive Memmott, Greater Manchester Chamber of Commerce
 Andrew Mitchell, North East Finance
 Michael Mercieca, Young Enterprise
 Lynn Merilion, City of Bristol College
 Ross Moloney, Skills for Logistics
 Anita Monteith, Institute of Chartered Accountants in England & Wales
 Rajay Naik, Open University
 Majeed Neky, Westminster Council
 Graham Nix, Greater Cambridgeshire & Greater Peterborough LEP
 Phil Orford, Forum of Private Business
 Dr Eoin O'Sullivan, Centre of Science, Technology and Innovation Policy, University of Cambridge
 Professor Henry Overman, London School of Economics
 Priyen Patel, Federation of Small Businesses
 Toby Pellow, UK Crowd Funding Association
 David Petrie, Institute of Chartered Accountants in England & Wales
 Andy Pike, Director Centre for Urban and Regional Development Studies, Newcastle University
 Tim Pile, Birmingham Chamber of Commerce
 Councillor Bob Price, Oxford City Council
 John de Pury, Universities UK
 Tony Raven, Cambridge Enterprise
 Tom Riordan, Leeds City Council
 Peter Roberts, Leeds City College
 Nancy Rothwell, University of Manchester
 Paul Sant, University Campus Milton Keynes
 Stewart Segal, Association of Employment & Learning Providers
 Cliff Shaw, City of Bristol College

Colin Skellett, West of England LEP
Peter Sloman, Chief Executive, Oxford City Council
Mark Smith, Code College
Lord Peter Smith, Association of Greater Manchester Authorities
Phil Smith, Business West
Colin Stanbridge, London Chamber of Commerce & Industry
Joe Steer, British Venture Capital Association
Mike Steventon, KPMG
Jon Stewart, Sheffield Chamber of Commerce
Ben Still, Sheffield City Region LEP
Stephanie Strickland, Association of Business Schools
Caroline Sudworth, Engineering Council
David Sweeney, Higher Education Funding Council for England
Kishor Tailor, Humber LEP
Neil Taylor, Bristol City Council
Paul Taylor, Bristol City Council
Roger Taylor, North West Cambridge Development, University of Cambridge
Councillor Sharon Taylor OBE, Stevenage Borough Council
Nigel Thomas, Gatsby Foundation
Keith Thompson, Cell Therapy Catapult
John Thornhill, The Manchester College
Nigel Tipple, Chief Executive, Oxfordshire LEP
Jenny Tooth, UK Business Angels Association
Professor Tony Travers, London School of Economics
Thomas Ulrichsen, Centre of Science, Technology and Innovation Policy, University of Cambridge
John Unsworth, Scientists for Labour
Councillor Keith Wakefield, Leeds City Council
Greg Wade, Universities UK
Professor Ian Walmsley, University of Oxford
Councillor Ian Ward, Birmingham City Council
Councillor Paul Watson, Sunderland City Council
Ian Wenman, Oxfordshire LEP
Steve West, University of the West of England
Ben Wilmott, Chartered Institute of Personnel Development
Councillor Anne Western, Derbyshire County Council
Darren Westlake, Crowd Cube
Stian Westlake, Nesta
Paul Woolston, North East LEP
Steve Young, University of Cambridge

