Research summary: October 2009

NESTA Making Innovation Flourish

The vital 6 per cent

How high-growth innovative businesses generate prosperity and jobs

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Foreword

Thriving businesses are vital to the UK's economic recovery. Businesspeople, investors and policymakers agree that they create jobs, wealth and wider prosperity.

If a government is to create the right conditions for businesses to grow in these challenging economic times, it must understand how this growth happens and what can stand in its way. The research summarised in this brief is the culmination of a programme of research into the nature of business growth in the UK, the detailed results of which NESTA is publishing today.

The research makes a powerful case that a small number of high-growth businesses are responsible for the lion's share of job creation and prosperity, and that innovation is instrumental in the success of these businesses.

This has significant implications for the direction of economic policy. It shows that enabling innovation is good for growth. Just as importantly, it shows that focusing attention on growing businesses and promoting excellence, far from being an elitist policy, gives rise to widespread job creation and prosperity.

We hope that this research will be a powerful contribution to the debate on how to foster economic growth. As ever, we welcome your views.

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NESTA is the National Endowment for Science, Technology and the Arts.

Our aim is to transform the UK's capacity for innovation. We invest in early-stage companies, inform innovation policy and encourage a culture that helps innovation to flourish.

Executive summary

A small minority of high-growth businesses hold the key to job creation and wider prosperity. New research published by NESTA shows that the 6 per cent of UK businesses with the highest growth rates generated half of the new jobs created by existing businesses between 2002 and 2008.

Although these companies came from across the country and from all sectors of the economy, they had one important factor in common: they were far more likely to be innovative, and the research shows that their innovation was a source of growth.

This has important implications for the Government: it suggests that economic policy should focus on promoting innovation and on the small number of companies with high growth potential, rather than broadly based business support programmes for new start-ups and SMEs. More importantly, it shows that an approach of backing excellence and innovation is not an elitist policy: rather, it is the best way of generating employment and opportunity. This goal forms the basis of NESTA's research agenda, investment activities and practical programmes.

Introduction: What type of businesses make an economy thrive?

What type of businesses make an economy thrive? This question is central to the economic policy of any government. And it is particularly important now that the UK finds itself in the depths of recession, considering the uncertain prospect of recovery and what the Government can do to make it more likely.

Different answers to this question will point us to very different government policies. Both new entrants and SMEs play an important role in the UK's economy. But many start-ups do not survive and many small firms remain small for long periods of time. It is fast-growing innovative businesses that can challenge and eventually replace weak incumbents. They are the engine of creative destruction, driving long-term productivity growth.

NESTA and its research partners have recently completed the most ambitious mapping exercise of business growth in the UK, covering all firms for the better part of a decade. This work clearly shows that high-growth companies – those who experience average annual growth in employment of 20 per cent or more over three years – are the driver of UK economic prosperity. The work shows that these companies are disproportionately innovative, and that their innovation appears to cause their growth. The sections that follow describe the research and its findings in more detail.

An overview of the research

This brief covers the findings of two new pieces of research commissioned by NESTA: *Measuring Business Growth: High-growth firms and their contribution to employment in the UK*,[1] by a team from Aston University, the Economic Research Institute of Northern Ireland and the University of Strathclyde; and *Business Growth and Innovation: The wider impact of rapidly-growing firms in UK city-regions*,[2] by a team from the National Institute of Economic and Social Research.

- *Measuring Business Growth* analysed detailed business registry information for all UK businesses between the years 1998 and 2008, extracted from the Office for National Statistics' Business Structure Database. It looked at the distribution of growth rates in employment and sales for these businesses over two three-year periods, 2002-2005 and 2005-2008, breaking it down by sector, location and company age. And it examined the evolution over a decade of all the start-ups founded in the UK in 1998.

- *Business Growth and Innovation* combined several ONS datasets and conducted an econometric analysis to address two questions. First, it examined the wider impact of growing companies on local economic and social outcomes in 45 UK city-regions. Second, it studied the links between businesses' growth and their innovation activities, asking whether innovation drives growth, and whether faster growth does subsequently lead to higher spending on innovation.

The research focused in particular on high-growth companies, using the OECD definition of those firms with ten or more employees that experience employment growth averaging 20 per cent or more per year over a three-year period. The most important findings of these detailed studies are set out below.

1. Anyadike-Danes, M., Bonner, K., Hart, M. and Mason, C. (2009) 'Measuring Business Growth: High-growth firms and their contribution to employment in the UK.' London: NESTA.
2. Mason, G., Bishop, K. and Robinson, C. (2009) 'Business Growth and Innovation: The wider impact of rapidly-growing firms in UK city-regions.' London: NESTA.

Key finding 1: High-growth companies are rare, but generate a majority of jobs

High-growth companies represent only 6 per cent of all UK firms employing ten or more people (11,530 firms in 2008), and an even smaller proportion of the total number of firms, but generated a majority of jobs (1.3 million out of 2.4 million new jobs created by established businesses employing ten or more people in the past three years, or 54 per cent).[3]

Most companies only experience modest growth, and the number of businesses that decrease in size is similar to the number that increase their size. In contrast, the average high-growth company in the UK tripled its employment over a three-year period, starting with around 60 employees in 2005 to reach over 170 in 2008.

Consequently, at any point in time it is the minority of firms experiencing high-growth who are responsible for around half of the increase in employment by existing businesses. Therefore, interventions that target firms with higher growth potential are likely to be more efficient than general business support policy for all SMEs, many of whom lack the ambition to grow.

Key finding 2: It's not just about start-ups

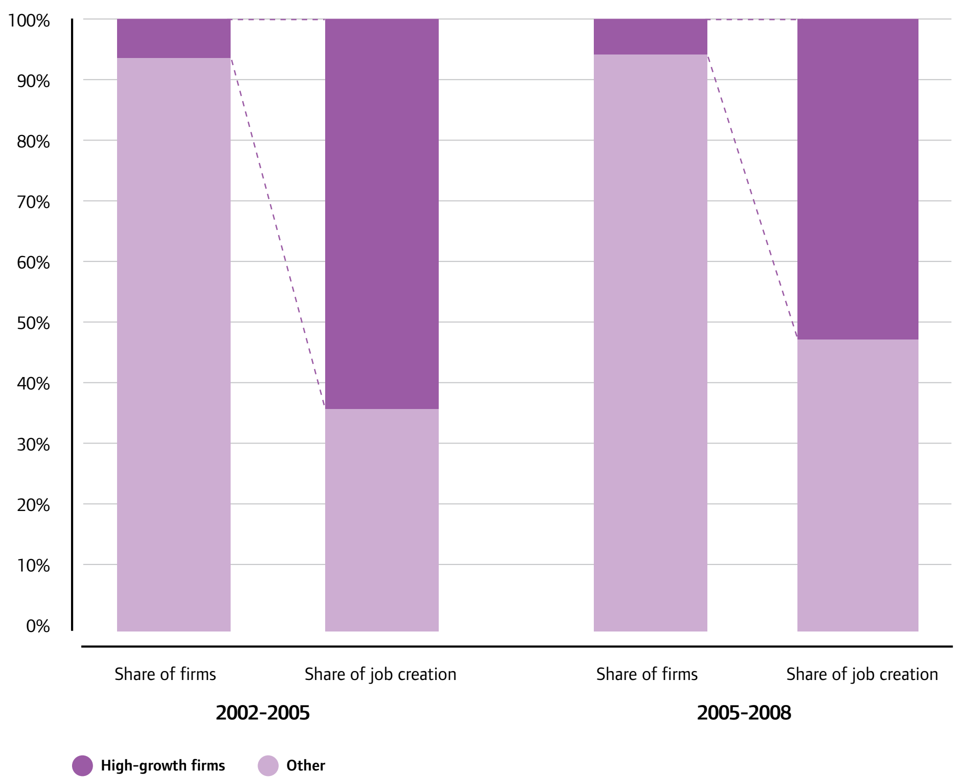
Although young firms are more likely to be high-growth, the majority of high-growth firms (70 per cent) are at least five years old. Still, young high-growth firms are responsible for a fifth of the jobs created by high-growth firms.

A detailed examination of the almost quarter of a million UK start-ups founded in 1998 shows that the majority don't survive ten years (62 per cent), and of those that do, most stay small. Only 10 per cent of those that survived had more than ten employees ten years later. And fewer than 5 per cent had more than 20.

The implication of this is that merely encouraging start-ups is unlikely to lead

3. Moreover, this 6 per cent of high-growth firms accounts for 49.5 per cent of all the new jobs created by existing businesses in the UK (including those jobs created by microenterprises – businesses with fewer than ten employees) over the six years considered in this study, or 43 per cent in the past three years.

Figure 1: The contribution of high-growth firms to job creation (10+ employees)



Source: ONS Business Structure Database.

to dramatic growth if they fail to expand. Policymakers should focus on quality and not just quantity.

Key finding 3: High-growth firms are found across the UK and across sectors

High-growth firms can be found in every part of the UK. Like the general business population, they are particularly abundant in the South East and London. However, the regional pattern varies markedly over time. Wales had the highest share of high-growth firms in 2002-05 but Scotland was at the top in 2005-08.

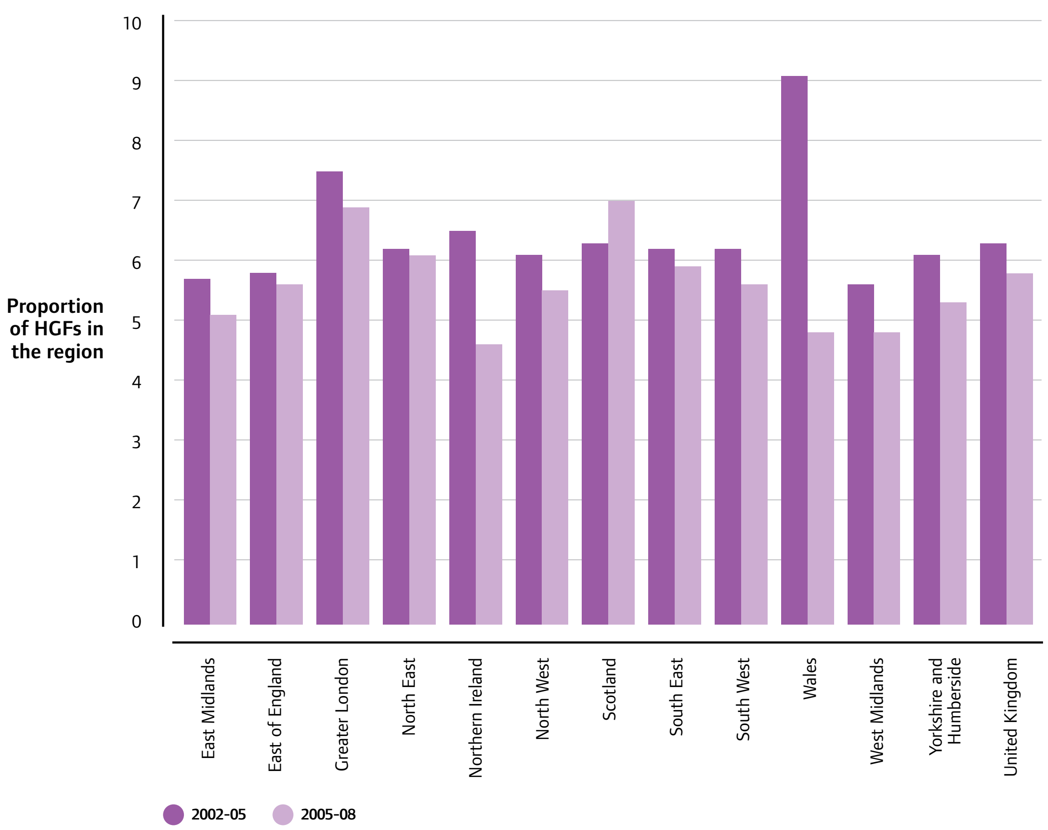
Neither are high-growth firms exclusive to so-called 'high-tech' or 'growth sectors'. High-growth firms are almost equally present in the 'high-tech' and 'low-tech' sectors. And all major UK sectors contained between 4 and 10 per cent of high-growth firms. However, the balance between different sectors does appear to reflect trends in the economy in the period: the sectors with the highest proportion of high-growth firms were financial services (over 9 per cent) and real estate and business services (around 8 per cent), while the lowest share was found in manufacturing (3 to 4 per cent).

Key finding 4: The UK had a large number of high-growth firms compared to other countries between 2002 and 2005

The UK had one of the largest shares of high-growth firms among OECD countries in 2002-2005, the latest period for which data were available for other countries.[4] A more detailed examination by sector shows the UK leading the US in terms of proportion of growth firms in a variety of sectors, in particular financial services, but not in manufacturing. The strength of the high-tech manufacturing sector in the US may be a factor in this.

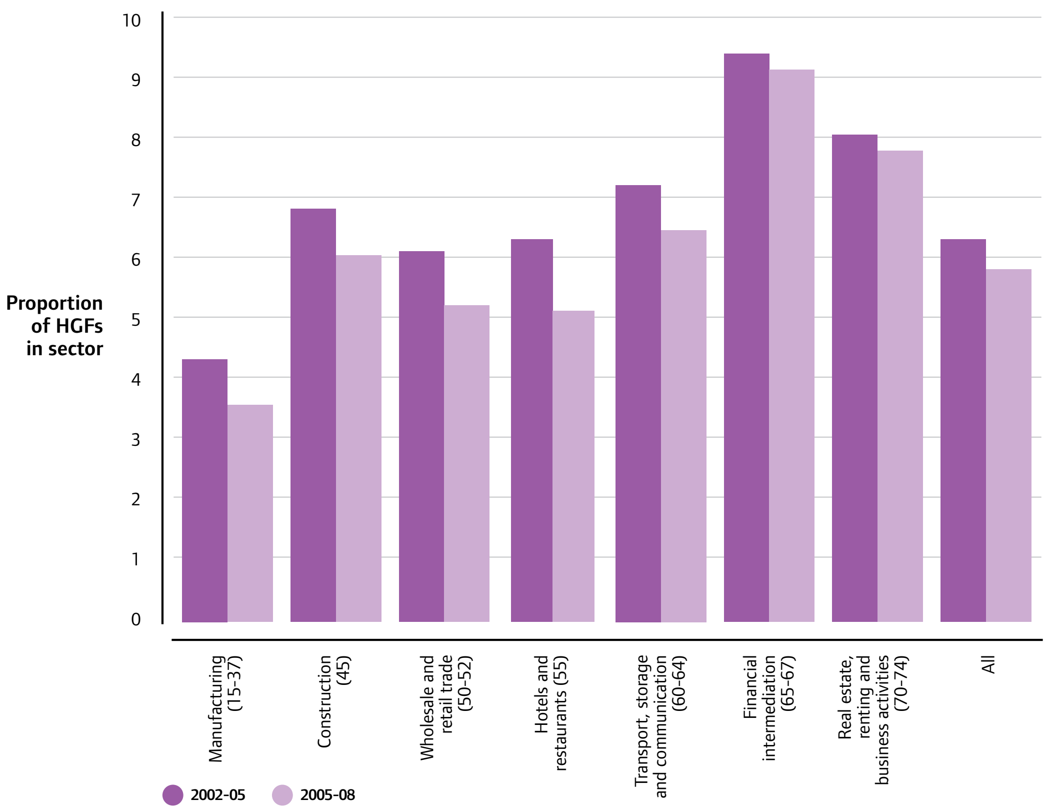
4. NESTA is currently working with international partners to develop improved cross-country business growth data to allow more thorough international comparisons.

Figure 2: Share of high-growth firms in the UK regions



Source: ONS Business Structure Database.

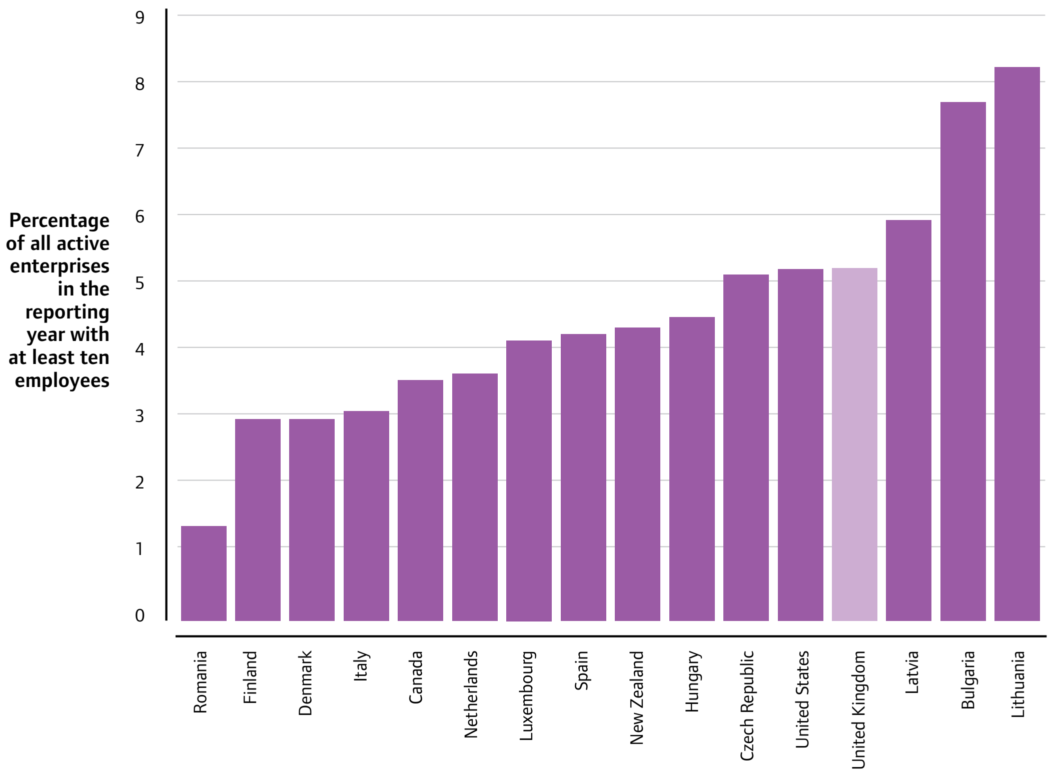
Figure 3: Share of high-growth firms in the UK by sector



Source: ONS Business Structure Database.

5. Figures 4 and 5 have been amended since this research summary was originally published. See Anyadike-Danes, M., Bonner, K., Hart, M. and Mason, C. (2009) 'Measuring Business Growth: High-growth firms and their contribution to employment in the UK.' London: NESTA.

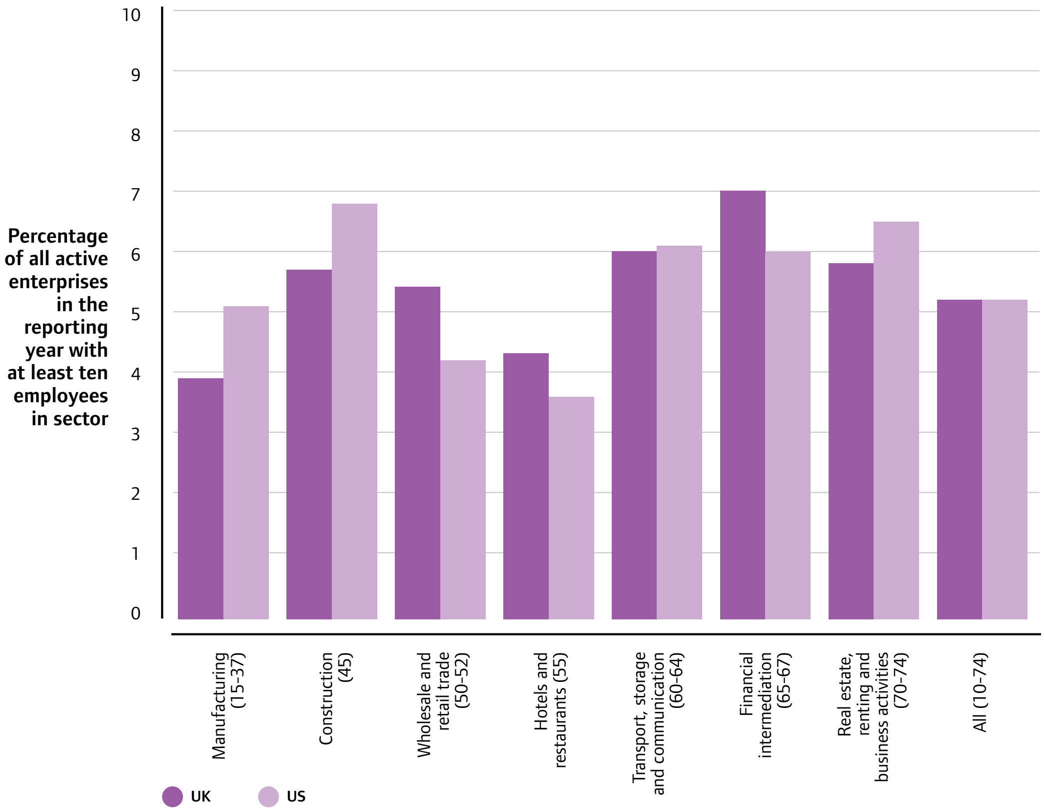
Figure 4: Share of high-growth firms in selected OECD countries (2005)[5]



Source: ONS Business Structure Database; OECD Business Demography Statistics.

Note: The OECD reports the share of high-growth firms relative to the total population of active enterprises in the reporting year with at least ten employees. This research preferred to use instead the share of high-growth firms relative to all firms with ten or more employees at the beginning of the period that survived over the three-year period. Figures 4 and 5, which contain international comparisons, are adjusted accordingly. This explains why the share of high-growth firms in the UK becomes lower when the OECD denominator is used.

Figure 5: High-growth firms in the UK and US by sector



Source: ONS Business Structure Database; OECD.

An examination by age also provides valuable insights. In particular, more established businesses in the UK are significantly less likely to achieve rapid employment growth than their counterparts in the US.

Key finding 5: Innovation drives firm growth

Innovative firms grow twice as fast, both in employment and sales, as firms that fail to innovate. For instance, firms that had introduced a product innovation in 2002-04 experienced a 4.4 per cent average employment growth rate between 2004-07, in contrast to the 2 per cent average growth rate displayed by non-innovators. And the figures are 10 per cent and 5.8 per cent respectively if we consider sales growth.

The research used econometric analysis to show that innovation is actually driving business growth. And this effect is more marked the faster a company is growing. A high-growth company that sees a 10 percentage point increase in the share of sales from new products adds almost 1.5 percentage points to its employment growth rate.

The analysis also suggests that the relationship also works the other way around: faster-growing firms are more likely to continue to innovate. And this is precisely one of the reasons why high-growth firms contribute disproportionately to innovative activity in the economy.

Key finding 6: High-growth firms generate spillovers in their regions

Not only do high-growth firms create jobs, but they do so over and above their direct effect on employment. If two city-regions have the same average level of firm growth, the one with a greater proportion of high-growth companies (and by implication a greater proportion of lower growth or declining companies too) will generate more jobs. Specifically, a 5 percentage point rise in the share of employment accounted for by high-growth firms typically leads to a 1 percentage point increase in employment rates in a city-region, even assuming the same average firm growth. Consequently, places with 'skewness' of growth – a mixture of faster and slower-growing companies – have higher employment rates than local economies with a more even spread of growth among companies. Or to put it another way, high-growth firms bring disproportionate benefits to local economies.

What about the recession?

It is only fair to ask whether any of these findings still hold true in a recessionary environment. After all, a sceptical reader might observe that the analysis covers the period between the dot-com crash and the credit crunch. Does it have anything to tell us about today's uncertain world?

The answer is a fairly confident 'yes'. Even though the research under discussion here focuses on a period of relative economic stability, studies of growth businesses in other countries at other times have indicated that growth businesses are similarly important. For example, a study of US businesses from 1981 to 1985 (a period that included a sharp recession from July 1981 to November 1982) showed that 18 per cent of firms generated 86 per cent of new jobs.[6]

And, in fact, the limited evidence available[7] suggests that high-growth businesses are resilient to downturns, continuing to grow despite worsening economic conditions. There is no doubt that the economy will change radically as a result of the global financial crisis of 2008-09; the sectoral dynamics of the economy will alter, new opportunities will emerge, and formerly lucrative businesses will vanish. But the contribution that high-growth firms make to the economy applies both to times of growth and times of contraction, and offers a robust basis for policy.

6. Birch, D.L. (1987) 'Job Generation in America.' New York: The Free Press.
7. Coad, A. (2009) 'The Growth of Firms: A Survey of Theories and Empirical Evidence.' Cheltenham: Edward Elgar.

Implications for policy

The most important message of this research is that supporting excellence and innovation in the economy is not an elitist policy, benefiting only a small group of winners. On the contrary, the job creation record of growth firms suggests that it is the best way of creating widespread prosperity and opportunity.

The challenge for government is how to do this.

The links between innovation and growth suggest that a government that encourages and supports innovation – whether by ensuring an appropriate financial architecture for growth businesses, effective use of government procurement to encourage innovative businesses, functional technology transfer policies, or support for innovative clusters and networks – can help create the environment for business growth.

It also points out the importance of policies that facilitate the emergence of high-growth firms without requiring the government to try to pick winners. Ensuring that the UK has effective markets for venture capital and growth finance is one way to do this. And making sure that companies that want to expand do not face unnecessary barriers to expansion from the tax or regulatory system is also crucial.

Over the coming months, NESTA's work will be focusing on these levers of innovation and growth, concentrating on what tools are at a government's disposal to encourage this kind of innovative growth, especially in a recession that restricts public spending just as much as private economic activity. The research presented in this brief shows just what an important challenge this is.

Acknowledgements

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