Nesta...

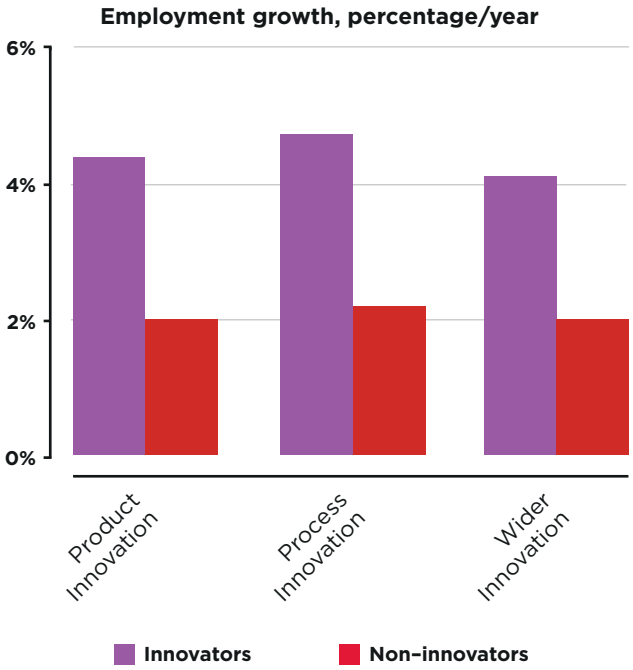
PLAN I
THE CASE FOR INNOVATION-LED GROWTH

EXECUTIVE SUMMARY

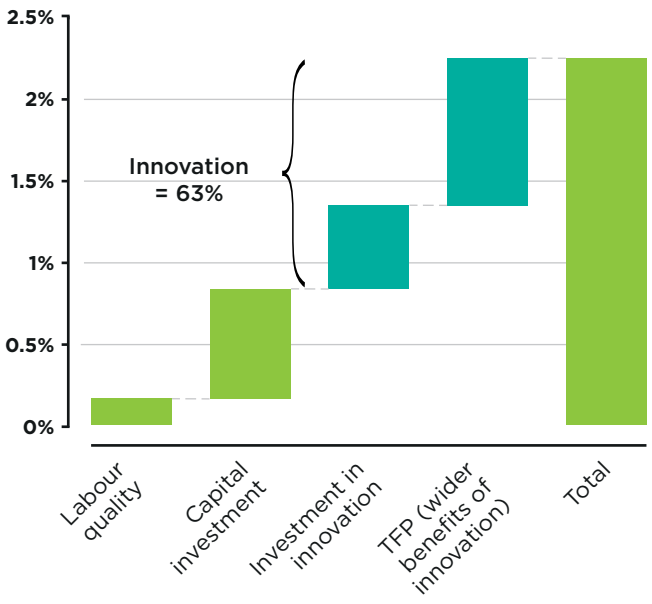
Since 2008, the UK's economic debate has largely been about short-term recovery. The argument has focused on which of two options will end the recession: Plan A or Plan B, austerity or stimulus. But neither addresses the UK's longer-term growth prospects. Growth depends on innovation — our ability to generate and adopt new knowledge and ideas. Decades of research have shown that innovation is the most important driver of long-term productivity and prosperity, and that innovative businesses create more jobs and grow faster. Yet despite the UK's many strengths as an innovative economy, there are crucial ways we are losing ground.

Benefits of innovation

Annual growth rates of UK businesses, 2004–07



Make-up of UK economic growth, 2000–08, percentage points



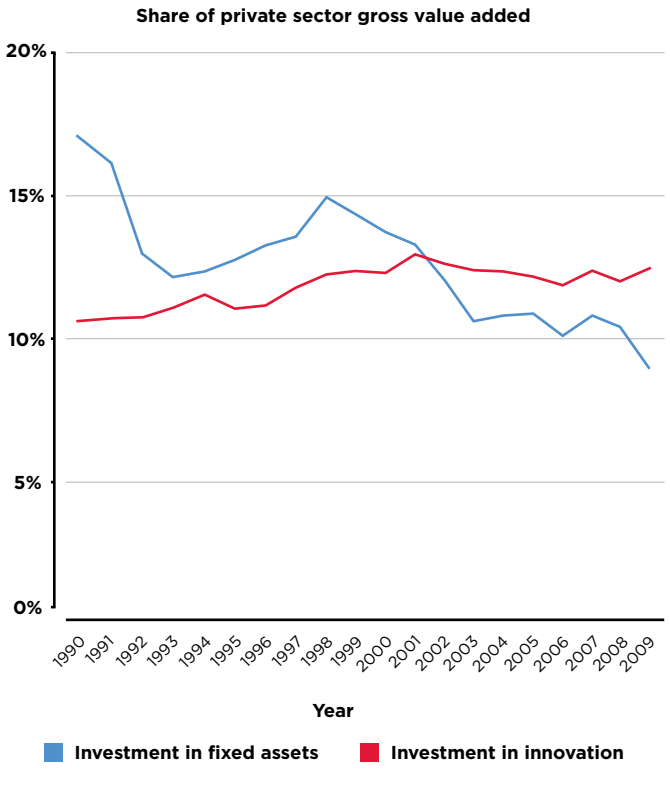
Source: Nesta Innovation Index (2010), The Vital Six Per Cent (2010)

Plan I argues for a change of direction. It shows why fostering innovation must be a priority for the UK and for the government: why we need an environment where businesses have the confidence to invest, entrepreneurs are free to take risks, and barriers to new ideas and new entrants are low. It advocates an active role for government addressing issues like access to finance and education, investing where the private sector will not, and using its power as a purchaser, regulator and funder to support innovators. And it argues that we have much to learn from how the most innovative countries around the world — including the US and Finland, Israel and Korea — have combined active government support with highly entrepreneurial cultures.

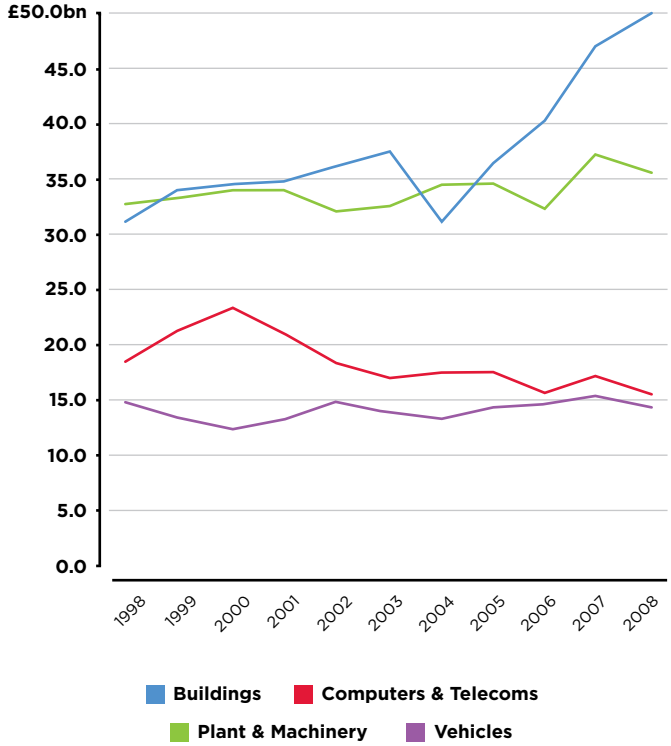
The current state of innovation in the UK

The UK has many innovative firms and people, from world-beating creative businesses like Double Negative to its thriving business services sector; from advanced manufacturers like Rolls–Royce to world-class research universities; and from technology giants like ARM to the start-ups of Shoreditch. But behind their success lie worrying trends. Nesta's Innovation Index showed that investment in innovation by UK businesses has fallen sharply since the financial crisis of 2008: the most recent data suggests it declined by as much £24 billion last year. This issue predates the credit crunch: in the period from 2000 to 2007, businesses' investment in innovation levelled off, investment in fixed assets fell and became increasingly dominated by bricks and mortar at the expense of technology, and companies accumulated cash. For many businesses, the 2000s were less an age of innovation than an age of cash and concrete.

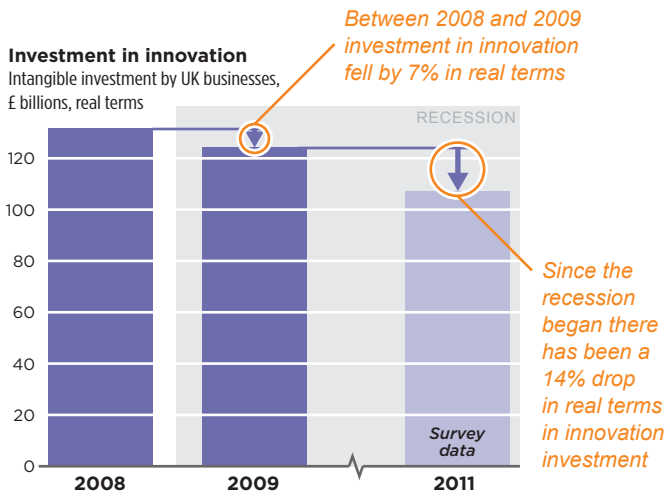
Total investment in fixed assets and innovation in the UK private sector



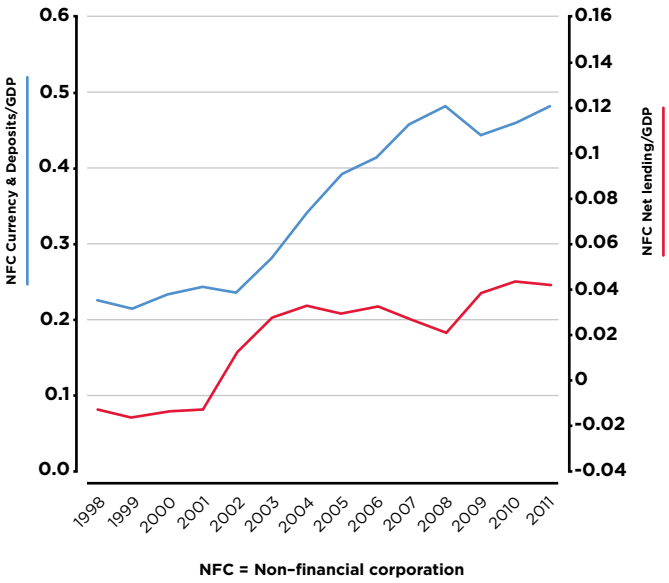
Investment in fixed assets by UK businesses, 1998–2008, £ billion



Are we in the middle of an innovation strike?



Estimates of UK corporate cash: 1998-2011



Source: Office for National Statistics (2012)

Financing innovation

The last decade showed the disconnect between the UK's financial sector and investment in innovation and technology. Although capital markets exist to channel savings into new ventures, the capital raised by businesses on UK markets increased by 355 per cent between 1998 and 2007, while investment in innovation increased by only 54 per cent. Venture capital for early-stage businesses continues to be in short supply, while our highly concentrated and rapidly deleveraging banking sector makes growth finance hard to come by.

Public investment has fallen too. Despite some worthwhile initiatives, from the protection of public research budgets to the establishment of the Technology Strategy Board and Catapult centres, innovation is currently a very small part of what government does. In the current spending review, discretionary spending on innovation accounts for £2.6 billion, a figure dwarfed by discretionary spending on other priorities such as aid (£8.5 billion) and health (£46 billion). Since the crisis, other governments, including the US, France, Germany and Korea have committed far more to research and other innovation spending than the UK.

Addressing this will require changes both to government spending priorities and to the UK's financial system. The financial crisis offers a chance to put in place, at scale, long-mooted plans to channel some of the £220 billion government procurement budget to innovative businesses. The upcoming 4G spectrum auction is expected to raise £3 to £4 billion, which should be committed to innovation. And some of the £40 billion infrastructure fund should be earmarked for the infrastructures of the twenty-first century, in particular smart electricity grids and super-fast broadband. These measures should be the first steps in a longer-term rebalancing of government spending from consumption to investment.

The UK must also put in place the financial architecture that businesses need to innovate and grow. Part of the 4G auction could fund a generous venture capital co-investment fund to help start-ups to grow. To provide larger-scale finance, the government should consider the establishment of one or more dedicated business banks, focused on innovative businesses, combined with an extension of credit easing.

The innovation system

We also need to improve the wider 'innovation system': the complex set of interactions between businesses, research institutions, consumers and government that helps turn ideas into reality. The UK has world-leading researchers, a good track record of generating university spin-outs, and internationally competitive clusters in a range of industries from financial services in London to video games in Dundee and from semiconductor design in Bath to biotech in Cambridge. But some universities are still overly concerned with spin–outs and IP licensing, not the wider benefits they can bring to businesses. In some parts of the country and especially in much of the UK's public services, innovation is scarce, either because would–be innovators have little support or because incentives to put new ideas into practice are weak. Our education system is ill–prepared to train people (whether children or adults) for the requirements of a changing economy, in particular because of its stark separation between practical and intellectual skills.

In some cases, the government can play a direct role in addressing these problems: by using voucher schemes to encourage collaboration between businesses and universities or between small and large firms, by working with industry to offer prizes for major technological challenges, or by encouraging the teaching of computer science in schools.

Bringing down barriers for innovators must also be a priority. In some cases, these are barriers to people, such as the migration rules that prevent skilled foreign students staying in the UK after graduating or make it hard for start-ups to attract the talent they need to thrive. In other cases, these are market barriers, such as overly restrictive planning rules that make it hard for businesses in clusters to expand or for their workers to find affordable homes.

Making the voices of innovators heard

Some of the proposals in Plan I are controversial. Making the proposals in Plan I a reality will require a more effective political coalition, from entrepreneurs to inventors and from social innovators to geeks. At present their voice is largely missing from economic debates. The issues they are concerned with were scarcely mentioned in the ruling Coalition agreement, or the previous government's economic programme. They are absent from the dialogue between government and financial institutions; and when business collectively takes a stand on issues, these have sometimes fallen off the agenda. This is in marked contrast to other countries where the innovation field is more visible, more supported and better understood. In the longer run, building a stronger coalition for innovation will be as important as the detailed policy recommendations, and vital if the UK is to shift resources from present wants and needs to future opportunities.

The full version of Plan I sets out 12 sets of policy proposals that we see as essential parts of the way forward. These — summarised below — could be implemented without any additional costs to taxpayers, or any increase in the deficit. The proposals would be funded by redirecting currently committed spending, and by using the windfall from the forthcoming 4G spectrum auction. In the longer-run, we hope that more ambitious options would be taken up.

Plan I's 12-policy recommendations to deliver innovation-led growth

Area of focus	The objective	Immediate action	Longer-term actions
Financial architecture	A financial system that supports innovation from its earliest stages through to international growth	Establish a £200m co-investment fund for early-stage ventures; give the Green Investment Bank freedom to borrow and develop new banks for Advanced Manufacturing and Life Sciences	A rebalancing of the financial system to reward innovation and long-term investment; more competition and diversity of sources of finance
The balance of government spending	Rebalance public spending from consumption to investment — education, science, technology	Invest the £2-4bn proceeds from the imminent 4G spectrum auction in science, technology and innovation	Making investment a priority in future government spending: a 0.5% shift would be equivalent to more than doubling the research budget
The government as a customer for innovation	A government that acts as an effective lead customer for innovation, buying new products from innovative businesses	Establish the Innovation Engine, drawing on the lessons of the US SBIR and DARPA, to channel £1bn of government procurement from innovative businesses	Channelling 1% of government procurement into innovative businesses, using the Innovation Engine and TSB
Infrastructure investment	The UK as a world leader leader in C21st infrastructure: broadband and smart grids	Relax planning restrictions around innovation clusters	Channel half the £40bn infrastructure fund into superfast broadband and smart grids
Collective Intelligence	Making the UK the world expert on next-generation tools for orchestrating knowledge and collab-orative creativity centres	Earmark a proportion of HE funds for radical innovations in knowledge creation; put design thinking at the heart of new Catapult	Make collective intelligence (collaboration, big data, open science) a defining research priority of the next decade
Incentives for invention	A system that inspires radical innovation, and rewards innovators, but does not privilege incumbents or patent trolls	Set up a £25m challenge prize fund to inspire the nation to tackle big technological challenges	Streamline the IP system, to reflect the realities of new digital technologies
Measurement, data and standards	Metrics that reflect how innovation really happens, and rigorous evaluation of whether innovation policies are working	Measure 'hidden innovation' in the economy, building on Nesta's Innovation Index	Reshape our innovation tax credit system to recognise hidden innovation as well as just R&D, introduce new standards for financial services data
Broad-based innovation	An innovative economy and society across the UK, not just in the south-east or in high-tech sectors	Back projects like East London's Open Institute or Manchester's Fab Lab to boost innovation where it is already thriving	Use big data to under-stand what innovation clusters really exist; give local public institutions a duty to encourage innovation

Innovation in the labour market	Using technology and social innovation to make the UK's labour market work better	Support innovative projects that link procurement to local jobs, training and apprenticeships, and encourage innovations around microjobs and microfranchises	Fund experiments in new schemes that use technology to match people and jobs; establish norm of one apprenticeship per £1m turnover; extend Studio Schools and other models to prepare young people for work
Public and social innovation	Making the UK the global hot–spot of social innovation and accelerate public service productivity gains	Fund incubators in key public service fields facing severest challenges (including social care); commit in spending review to a substantial fund, set aside from department budgets, to back evidence–based solutions to 'wicked issues'	Develop innovation skills across public services, and deep pools of practical experience on everything from incubation to scaling; grow a culture of evidence in public services (Red Book on evidence, 'What Works' centres)
Education	Creating the next generation of 'digital makers'	A C21st version of the BBC's Computer Literacy Project	Giving all teenagers the chance to make, to design and to program
Removing barriers to entrepreneur–ship	Making it easier for new business to enter markets, and for innovative people to enter the country	Change the immigration cap to welcome skilled foreign graduates and entrepreneurs	Make the encouragement of new entrants a central goal of regulation; protect net neutrality

Nesta and partner organisations will be following up Plan I with more detailed proposals, as well as through our own actions as an investor in innovative firms, as a funder of programmes in fields such as digital education, and through initiatives such as the Centre for Challenge Prizes. A manifesto for the Creative Economy focusing on the creative industries will be published early in 2013. We welcome comments, ideas and improvements on both the diagnosis and the prescription of Plan I. The best innovations evolve and adapt. The same is true of the best innovation policies and we present this as a work in progress.

About Nesta

Nesta is the UK's innovation foundation. We help people and organisations bring great ideas to life. We do this by providing investments and grants and mobilising research, networks and skills.

We are an independent charity and our work is enabled by an endowment from the National Lottery.

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