

Herding Unicorns

How Britain can create and support the high-growth tech companies of the future





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About the CPS

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In writing this report, we talked to countless founders, funders and thinkers, all of whom shared their experience, expertise and ideas on the subject of unicorns. Without them this report would be far less interesting and much more theoretical – we are grateful to them all for their contributions.

We would like to single out for thanks those individuals who have kindly agreed to provide us with attributable written comments. We ought to point out that their contributions do not imply commendation of either this report or its recommendations.

We are also grateful to Deliveroo for funding this report but also for being so generous with their time in telling us about their corporate journey – the ups and downs, the thrills and (literal) spills. From the top down, they embody the kind of grit and entrepreneurial spirit this country needs more of.

This report was not, of course, written in isolation. Like all the best entrepreneurs, and especially those whose companies have become unicorns, we have tried to learn from those who considered these topics before us. We would like to pay tribute to them too.



Introduction

Technology has fundamentally changed the way we live our lives, the way our economy works, and the nature of the world around us.

At the tap of a button we can order pizza, summon a taxi, or download the latest hit television series. Comparison websites empower consumers to slash their utility bills, or book a cheap holiday. Within companies, technology has automated menial tasks, allowing workers to do more interesting, purposeful jobs. These technological advances have led to new companies emerging and challenging incumbent businesses, lowering prices, increasing choice for consumers, and creating a much more connected world.

The pace of change has been quite staggering – with companies becoming globally dominant within years of being founded. Household names such as Facebook, Deliveroo, and Airbnb are all less than 15 years old, yet are global players in their own right, serving consumers all around the world. Consequently, their founders grapple with both the demands and the opportunities of becoming truly international companies.

As their customer numbers increase, and their product offering enhances, so too do their valuations. Those whose valuations increase the most can join a select cadre of companies known as ‘unicorns’ – unlisted technology companies with a market valuation of more than \$1 billion.

These unicorns are some of the world’s biggest and best firms. They’re companies that the most able graduates want to work

for, which the most ambitious funders want to invest in, and whose founders are widely regarded as some of the most exciting entrepreneurs in the world. Often, they provide a platform for other firms to flourish alongside them – while bringing significant benefits to consumers.

For any country which wants to play a leading role in the digital economy, fostering the conditions to create and promote unicorn companies is vital. Successfully doing so can confer a host of different benefits, including economic growth, more jobs, and increased tax revenues – and of course the prestige of a unicorn having its global headquarters in a particular country.

But beyond that, the kind of business ecosystem that produces a healthy herd of unicorns is also one that typically creates many smaller firms too, and in which funders and founders recycle the profits of success to breed the next generation of similarly successful companies.

Ed Lascelles, a Partner at Albion Capital, describes the cyclical effect of successful investment in unicorns which leads to further growth capital for aspiring businesses:

“ [Unicorns] attract the brightest and best talent from technology giants, who use the latest knowledge and best practice to join or create companies in related areas. Those investing in unicorns have made extraordinary returns which they will usually seek to reinvest in similar opportunities. ”



So how is Britain doing? Different measures lead to different figures, but most estimates agree that there are at least 250 unicorn companies in the world, with the vast majority of these based in the USA and China.¹

The UK currently has, according to how you measure it, somewhere between seven and 15 unicorns of its own, including such firms names as Deliveroo, Oxford Nanopore and Monzo. For the purposes of this report, we will accept the argument that the UK is home to 15 unicorns.² This is, by European standards, an incredibly impressive performance, and one that should be celebrated: Britain is the continent's undisputed unicorn capital in terms of absolute numbers.

Our relative success, compared to European rivals at any rate, is perhaps not that surprising. The UK attracts people from all around the world and is seen as a great country to make a life and career. We have relatively large pools of capital, enjoy the advantage of the English language and – the obvious notwithstanding – enjoy a relatively stable political climate.

London, in particular, benefits from being a global melting pot with huge competitive advantages for any ambitious entrepreneur looking to set up shop. The British capital's strengths have been highlighted by Will Shu of Deliveroo, who has stated that it is the talent and creativity of his team in London which has made the firm's success possible.³

Outside of London, other cities thrive thanks to certain local advantages. We are home to some of the very best universities in the world, for example, which can provide a pool of well-educated talent as well as research links with the institution: an obvious example is Darktrace, which was set up by mathematicians and tech specialists in Cambridge.⁴

But, for all our success, it is not good enough to be satisfied with the status quo. Although we are successful in terms of absolute numbers, when considered on a per capita basis, the UK fares less well – falling outside of the top quartile of countries which play host to at least one unicorn company (see Chart 1 below). Furthermore, the rate of unicorn creation appears to be slowing. In 2017, seven companies attained unicorn status. In 2018, the figure was less than half that, at just three – although we are of course dealing with a relatively small sample size.⁵

With respect to the biggest unicorns – so-called 'decacorns', with valuations of over \$10 billion – the UK can claim only one, Global Switch, which just breaches the threshold with a valuation of around \$11 billion.⁶ This pales in significance to the likes of Uber (\$68 billion) in the US, or Didi Chuxing (\$56 billion) in China.⁷

These statistics back up the view which we heard throughout our evidence-gathering: Britain's thriving tech ecosystem is not translating into enough home-grown unicorns – and British firms tend to undershoot their growth potential.

1 CB Insights, "\$1B+ Market Map: The World's 260 Unicorn Companies In One Infographic". Available from: <https://www.cbinsights.com/research/unicorn-startup-market-map/>; Pitchbook, "Unicorn Report 2018". Available from: https://files.pitchbook.com/website/files/pdf/PitchBook__2018__Unicorn__Report.pdf.

2 Ibid.

3 Tech Nation, "UK tech extends lead over Europe". Available from: <https://technation.io/news/uk-tech-extends-lead-over-europe/>.

4 Business Insider, "How this 35-year-old built a \$1.65 billion tech unicorn from a \$20 investment". Available from: <https://www.businessinsider.com/darktrace-how-poppy-gustafsson-built-a-165-billion-unicorn-2018-9?IR=T>.

5 CB Insights, "The Global Unicorn Club". Available from: <https://www.cbinsights.com/research-unicorn-companies>.

6 BBVA, "From unicorns to 'decacorns'". Available from: <https://www.bbva.com/en/from-unicorns-to-decacorns/>.

7 Ibid.

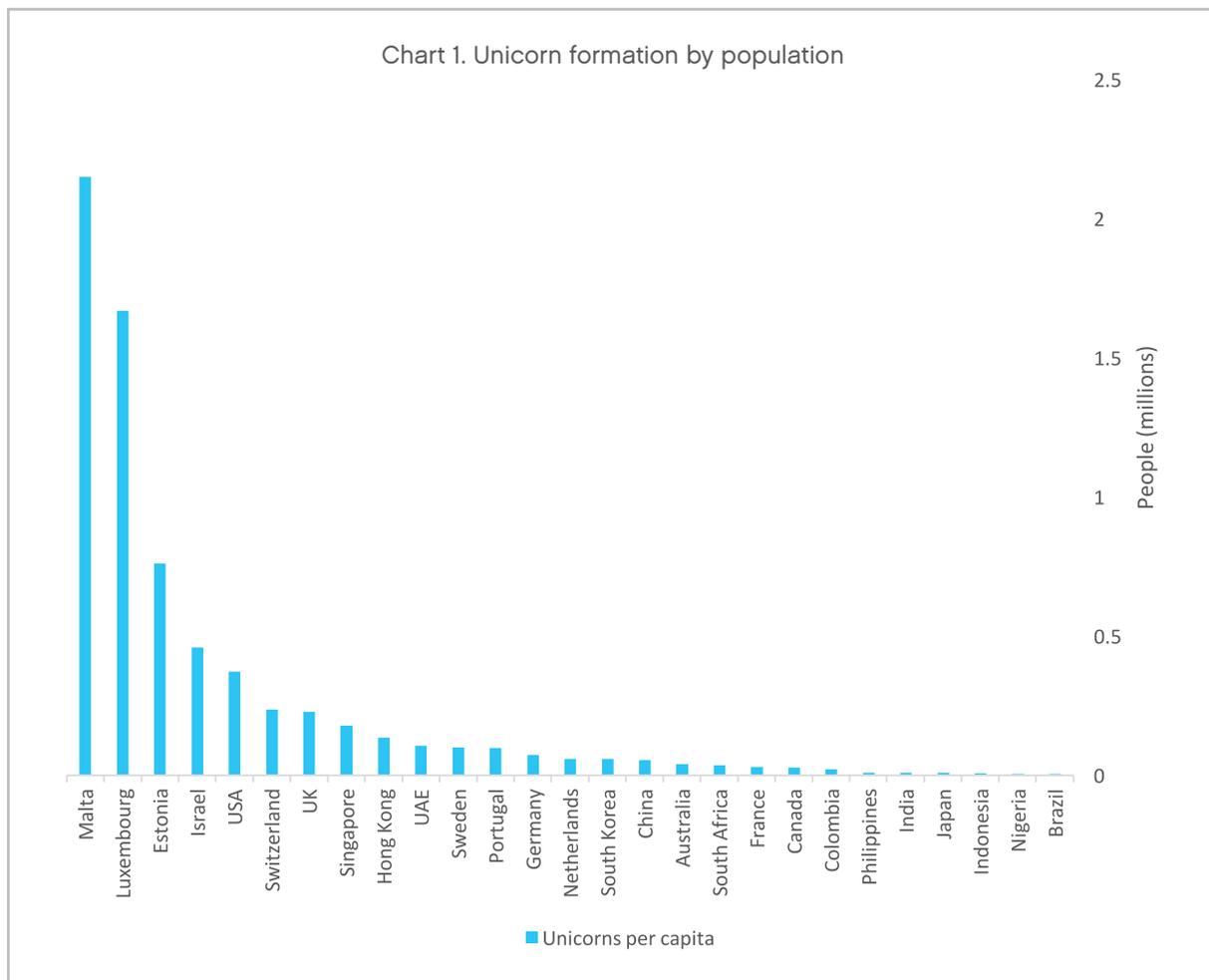


That is before you consider the uncertainties associated with Brexit – the exact shape of which is, at the time of writing, still shrouded in mystery just weeks before the Article 50 deadline.

It is true that the UK tech sector has, to date, shrugged off many concerns about Brexit. Data published in January by Pitchbook showed that in 2018, the UK attracted £2.49 billion in venture capital investment in tech firms, compared to £1.38 billion in Germany and £1.03 billion in France.⁸ The bulk of this went to London, which attracted almost double the investment total of its nearest rival, Berlin.⁹

Yet it is undoubtedly true that other countries are watching Britain’s tech sector with envious eyes – and that for the British economy to thrive after Brexit, a thriving tech sector will be crucial. So just as the ambition of the world’s most successful companies knows no bounds, so should we be as ambitious as possible in terms of helping British companies grow.

Entrepreneurs need to be given the best set of conditions in which to grow their businesses and we need to do more to ensure as many British unicorns materialise as possible. We cannot rest on our laurels.



Source: CB Insights, “\$1B+ Market Map: The World’s 260 Unicorn Companies In One Infographic”. Available from: <https://www.cbinsights.com/research/unicorn-startup-market-map/>; World Bank, “Population, total”. Available from: <https://data.worldbank.org/indicator/SP.POP.TOTL>.

8 UKTN, “London and UK Top European Tech Investment Tables”. Available from: <https://www.uktech.news/featured/london-uk-top-european-tech-investment-tables-20190109>.

9 Ibid.



Through our research and stakeholder engagement, we found that successful unicorns are dependent upon a number of variables. It is often said, for example, that there appears to be a greater willingness to take risks with new ideas and to go for growth in the US than in the UK. The Global Entrepreneurship Monitor (GEM) reports that around one in six early-stage UK entrepreneurs have high expectations for their growth in jobs, compared to one in three in the US.¹⁰ The same GEM data, as reported by the Enterprise Research Centre, makes it clear that the 'growth aspiration' of UK entrepreneurs falls some way short of their equivalents in the US.¹¹

Yet in our research, two factors were mentioned time and time again by the individuals whom we consulted: access to talent and access to finance.

Indeed, these two issues are also the ones which the existing evidence base points towards. The most commonly cited problem by high-growth businesses is the UK's skills gap.¹² Some 40 per cent of high-growth small businesses feel they do not have sufficient funding in place to fulfil their current ambitions.¹³

This report, therefore, sets out the steps which should be taken to help create a healthier and more numerous herd of unicorns – focusing primarily on the two key issues of talent and

funding, but with further suggestions in a shorter final chapter. Throughout the report, we attempt to uncover and address what obstacles are preventing unicorns from flourishing in the UK.

In an increasingly globalised world, typified by emergent rival economies and in which companies and capital are seemingly more mobile than ever before, the imperative is only intensified for governments to ensure they are delivering a truly competitive business environment in which firms want to locate themselves.

From the outset, we recognise the limitations of what we can reasonably propose, and what the Government – the main target of our recommendations – can reasonably do. Unicorns are, mythically and metaphorically speaking, rare beasts, and their corporate forms are similarly uncommon. They do not share many features beyond typically being predicated on first-class ideas and being led by brilliant people. These are rare attributes too, and not ones which government can simply inculcate in a theoretical Petri dish.

Having said that, it seems impossible that any unicorns at all could exist without a supportive economic environment. It is on creating such an environment that we must focus our efforts.

10 'High job expectations' defined as creating more than ten jobs and jobs growth more than 50 per cent in the next five years; Global Entrepreneurship Monitor, "GEM United Kingdom 2017 Report". Available from: <https://www.gemconsortium.org/report/50057>, p. 37.

11 Enterprise Research Centre, "Unlocking Productivity: Internationalisation and Innovation in SMEs". Available from: <https://www.enterpriseresearch.ac.uk/wp-content/uploads/2015/11/Internationalisation-and-Innovation-Report-web-pages-.pdf>.

12 Scale Up Institute, "Annual Scale Up Review 2018". Available from: http://www.scaleupinstitute.org.uk/wp-content/uploads/2018/11/SUI_Review_2018.pdf, p. 72.

13 Ibid., p. 54.



Access to talent

Fast-growing businesses are an engine of job creation.

Recent analysis, commissioned by Octopus Investments, found that ‘high-growth small businesses’ make up one per cent of UK businesses but account for three per cent all jobs; in 2017, 20 per cent of new jobs were created by scale-ups.¹⁴ In the period between 2015 and 2016, these companies created 158,000 new jobs, which amounted to more than 3,000 jobs created every week.¹⁵

When companies are founded, most of their staff are ‘generalists’ who can, and will, turn their hand to whatever needs doing. Will Shu famously started off by delivering the food ordered through Deliveroo by himself. Yet as these fast-growing companies expand, the composition of their staff base changes. They start to need specialised staff in specialised departments and divisions.

This raises the question of whether there are sufficient people of sufficient quality to cater for the demand that exists within this, the most dynamic part of our economy.

In fact, talent is a key issue – often the key issue – that high-growth companies point to when discussing why they are unable to grow at the pace they would like. In our research, it was the issue which most founders told us they spent most of their time thinking about.

Speaking to established technology firms, both British and multinational, this is also the issue they raise as their most pressing concern about the long-term strength of the digital sector.

There are two aspects to this problem, one of them applicable to the tech sector as a whole and the other more relevant to unicorns in particular.

The first is the digital skills gap within the UK. Virtually all employers today, of whatever type, insist on their staff having at least a basic digital skill level.¹⁶ As companies’ services, marketing strategies, and internal operations move increasingly into the online and digital spheres, it becomes all the more imperative that the workforce are digitally capable. Sadly, however, the demands of businesses are not being met.

Ninety per cent of scale-ups have said that they face some form of skills shortage, and 61 per cent believe there is a need for intervention to address the issue. This is in sharp contrast to UK companies as a whole, where a much lower proportion (17 per cent) have vacancies due to skills shortages.¹⁷

For years, various reports from industry and government have pointed towards a sizeable digital skills gap existing in the country, and the pernicious consequences it can have for the economy.¹⁸

14 Defined as firms with more than 20 per cent annual growth over a three-year period, and an annual turnover of between £1 million and £20 million; Octopus, “High Growth Small Business report”. Available from: <https://octopus-wordpress-group-prod.storage.googleapis.com/Octopus-High-Growth-Small-Business-Report-2018-1.pdf>.

15 Ibid., p. 16.

16 Margot James, “How we’re equipping our workforce with digital skills they need”. Available from: <https://www.thetimes.co.uk/edition/news/digital-skills-are-real-skills-and-lead-to-better-paid-jobs-bkm78qv7w>.

17 Octopus, “High Growth Small Business report”. Available from: <https://octopus-wordpress-group-prod.storage.googleapis.com/Octopus-High-Growth-Small-Business-Report-2018-1.pdf>.

18 Department for Business, Innovation and Skills and Department for Digital, Culture, Media and Sport, “Digital skills for the UK economy”. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/492889/DCMSDigitalSkillsReportJan2016.pdf.



Lloyds Bank produces a comprehensive annual Consumer Digital Index, its 2018 iteration of which stated that over a fifth of the population lack basic digital skills, which costs the UK £63 billion per annum.¹⁹ At an individual level, the most digitally proficient workers can expect to earn almost £13,000 more each year than the least proficient.²⁰

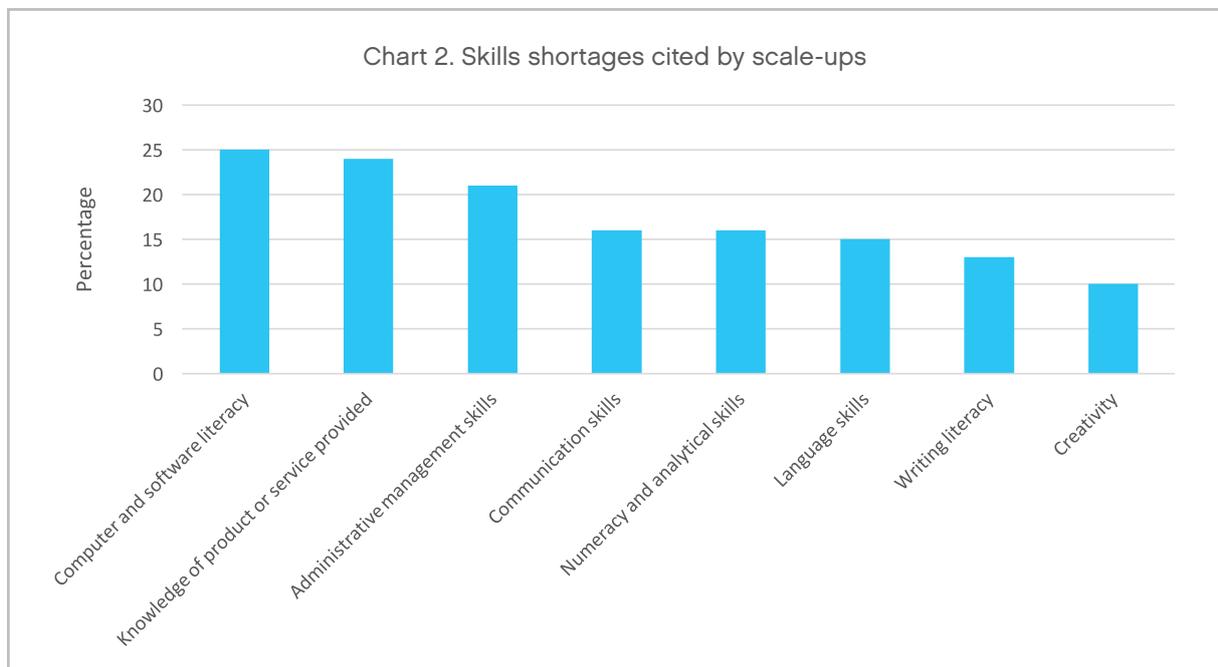
To take just one example, the website ITJobsWatch has seen the number of job adverts requiring certification for AWS – Amazon’s cloud computing service – almost double in the last two years.²¹ Advertised salaries for those with these skills have increased by more than four per cent year on year.

This does not simply reflect the need for such skills, as company after company transitions to the cloud, but their relative scarcity. The inadequacy of digital aptitude in the UK harms the entire economy. But its

effects are perhaps most sharply felt by those cutting-edge tech companies, many of which will be striving to become unicorns, which rely on there being a sufficient pool of workers capable of tapping into the digital world. Indeed, a recent report from the Science and Technology Select Committee reported that 93 per cent of tech companies believed the digital skills gap affects their commercial operations.²²

In terms of the specifics, a primary concern, shared by 61 per cent of scale-ups, is the difficulty in obtaining from staff ‘technical or practical knowledge related to the job’. Chart 2, below, shows other leading skills shortages cited by scale-ups. Tech scale-ups in particular are experiencing shortages in engineering, maths, and technical skills.

This fact undoubtedly puts Britain at a disadvantage in terms of cultivating unicorn companies – whether organically, or as a place for foreign entrepreneurs to set



Source: Octopus, “High Growth Small Business report”. Available from: <https://octopus-wordpress-group-prod.storage.googleapis.com/Octopus-High-Growth-Small-Business-Report-2018-1.pdf>, p. 18.

19 Lloyds Bank, “UK Consumer Digital Index 2018”. Available from: https://www.lloydsbank.com/assets/media/pdfs/banking__with_us/whats-happening/LB-Consumer-Digital-Index-2018-Report.pdf, p. 17, p. 24

20 Ibid.

21 ITJobsWatch, “Amazon AWS Jobs”. Available from: <https://www.itjobswatch.co.uk/jobs/uk/amazon%20aws.do>.

22 House of Commons Science and Technology Committee, “Digital skills crisis”. Available from: <https://publications.parliament.uk/pa/cm201617/cmselect/cmsctech/270/270.pdf>, p. 14.



up shop. Clearly, closing the digital skills gap should be regarded as a key priority if the Government is to foster a business environment in which firms can blossom and grow.

But there is another aspect to the digital skills gap. It is not just about the basic level of IT skills in the population, but the specific skills that unicorns require to grow.

Bringing in the best and brightest

Building a world-class tech company does not just require a world-class founder and CEO. It requires exceptional talent in every corner of the business – in particular, senior leaders within the team who have experienced the challenges that often accompany the vertiginous rise to unicorn status. Seeing your turnover or customer base grow at an exponential rate may sound like a nice problem to have – but it brings with it enormous challenges across every sector of your business, from IT infrastructure, to hiring, to managing an increasingly far-flung and disparate team, to preserving the culture and ethos that drove the business's success in the first place.

As the UK tech sector grows, and more companies go through the cycle of growth, the pool of such talent is growing too. But there are still a vanishingly small number of people from within the UK who are equipped to meet these challenges, precisely because the number of high-growth firms, and in particular the number of unicorns, is such a small proportion of the whole.

“One of our biggest issues is recruitment,” says Will Shu of Deliveroo. “We hire a lot of people from the US because they’ve seen scale before.”

According to a number of people we spoke to, there was a clear lack of talent in the British market to fill the more technical positions needed in growth companies, as

well as specialised executive roles. One senior recruiter within a British unicorn and tasked specifically with recruiting talent admitted that they “hire very few technical posts from within the UK and often have to import talent”.

Another senior industry figure said that the most ambitious companies have to “hire tech staff from places like Netflix, Facebook, Amazon because there’s nobody in the UK to hire in e-commerce”. One funder told us: “Whenever we’re thinking about investing we always want to know where their top talent comes from and access to talent is always going to be a big issue for the companies we’re investing in.”

To ensure that Britain has a healthy herd of unicorns – and a healthy tech sector more generally – we need to do two things. The first is to make it as easy as possible for such firms to bring in the specialist talent they need from overseas when it cannot be found in the UK – which it so often cannot. The second is to build up the digital skills base within the UK itself, both in terms of specific technical qualifications (such as AWS certification) and more generally throughout the workforce.

Let us start with the issue of access to overseas talent.

In November 2017, the UK Government announced that it was doubling the number of Tier 1 visas for those with “exceptional talent”. But this increase was from just 1,000 to 2,000 a year – and this included not only technology workers but science, art and the creative industries too.²³

It was reported in April 2018 that the number of people coming into the UK on the specific tech visa introduced under David Cameron in 2014 had actually fallen year on year, from 263 to 231. A further 200 applications were rejected.²⁴

23 Home Office, “Government doubles exceptional talent visa offer”. Available from: <https://www.gov.uk/government/news/government-doubles-exceptional-talent-visa-offer>.

24 James Titcomb, “Drop in UK visas for tech workers as almost half of applications declined”. Available from: <https://www.telegraph.co.uk/technology/2018/04/30/drop-uk-visas-tech-workers-almost-half-applications-declined>.



In June 2018, the Government announced that healthcare workers would be excluded from the numbers for the Tier 2 visa for skilled workers from outside the European Economic Area (EEA). This would effectively increase the 20,700 cap for this category of visa by another 8,000. But again, this allocation is shared with other industries, including the City of London.²⁵ Matt Hancock, as Culture Secretary, also promised to introduce specific visas for those with start-up ideas which attract venture capital funding – another welcome measure, but again limited in its impact.

In December 2018, the Government published a White Paper on the future of the UK's immigration system once we leave the European Union. At its core was a promise to end free movement of EU citizens to live and work in the UK and move towards a skills-based approach in which everyone will be “required to obtain permission if they want to come to the UK to work or study”.²⁶

Business and industry groups were quick to strike a note of caution about the proposals detailed in the White Paper. The British Chambers of Commerce argued that businesses across the country “rely on the skills and labour of EEA workers to fill vacancies when they are unable to recruit at home”²⁷ though it should be acknowledged that the White Paper was at pains to stress its business-friendly nature, and took the bold step of removing the cap on ‘skilled workers’ subject to a minimum salary threshold and a sponsoring employer.

Scale-up companies are, of course, watching these developments with keen interest. They are already significant employers of international talent, with 75 per cent of scale-ups employing staff from overseas, and we heard time and time again from the founders we spoke to about their reliance on European talent.²⁸

These same founders voiced their concerns about possible forthcoming challenges and told us that, historically, the amount of rules and paperwork have made it very difficult to hire non-EEA nationals. One anonymous founder went as far as describing the experience of trying to hire a non-EEA national as a “heart-breaking nightmare”, and many others expressed worries about potential inflexibility in hiring foreign talent after Brexit. Companies regularly told us that they were always at or near the cap for non-EEA workers, and that this represented a real constraint on their growth.

A new immigration system must be cognisant of the importance of ensuring that hiring highly skilled talent is made as smooth as possible for employers. Indeed, this was a recommendation put to the Government by the Migration Advisory Committee, and the White Paper includes language indicating this requirement is recognised.²⁹ We believe it is crucial that this issue in particular receives appropriate attention when the future immigration system is put in place.

We therefore believe that the process of hiring foreign nationals for companies with unicorn potential could be prioritised by way of the creation of a targeted visa scheme.

25 Alex Hern, “Tech leaders say visa cap removal may not solve UK skills shortage”. Available from: <https://www.theguardian.com/technology/2018/jun/15/technology-visa-cap-removal-may-uk-skills-shortage-brexite>.

26 HM Government, “The UK's future skills-based immigration system”. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766465/The-UKs-future-skills-based-immigration-system-print-ready.pdf.

27 British Chambers of Commerce, “BCC sets out concerns to Prime Minister ahead of publication of Immigration White Paper”. Available from: <https://www.britishchambers.org.uk/news/2018/12/bcc-writes-letter-to-prime-minister-on-immigration>.

28 Scale Up Institute, “Annual Scale Up Review 2017”. Available from: http://www.scaleupinstitute.org.uk/wp-content/uploads/2017/11/ScaleUpInstitute_Annual_ScaleUp_Review_2017.pdf, p. 134.

29 HM Government, “The UK's future skills-based immigration system”. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766465/The-UKs-future-skills-based-immigration-system-print-ready.pdf, 30.



As YouGov research shows, there is significantly more support for increasing the number of high-skilled migrants than for reducing their numbers – indeed, just 18 per cent of people think fewer high-skilled immigrants should be allowed into Britain.³⁰ Other polling suggests that more than half of the country think that we should allow either ‘slightly’ or ‘many’ more high skilled immigrants in.³¹

This could simply involve the expansion of the existing allocation for tech visas, within whatever new immigration framework emerges. But if Britain wants to make explicit its commitment to building high-growth firms, it could **create a new class of ‘unicorn visas’ to allow companies with the most growth potential to access the talent they need.**

Schemes along these lines have been mooted in the past for scale-ups, but they typically recommend these visas should be made available from Local Enterprise Partnerships (LEPs) for scale-up businesses more generally. We would argue that companies with ‘unicorn potential’ should be treated specially, in the same way that jobs which fall onto the Shortage Occupation List are treated specially.

How such ‘qualifying companies’ would be determined should be subject to consultation and debate but, as a starting point, we would suggest that companies would need to be growing at more than double the rate of that which means they would qualify as a ‘scale-up’ (in other words, have average, annualised growth of turnover or employees of 40 per cent or more over three years) and have reached a minimum turnover level of at least £25 million. We would suggest that responsibility for setting the starting criteria determining qualification for unicorn visas, and for overseeing this process

once decided, should be shouldered by the Department for Business, Energy and Industrial Strategy working in conjunction with the Home Office.

Once the appropriate criteria had been met, qualifying companies would then be allowed to have Certificates of Sponsorship to issue a certain number of ‘unicorn visas’ – allowing them to attract the brightest and the best from around the world with a minimum of fuss. Crucially, the unicorn visa would be far less bureaucratic for scale-up firms, meaning that such employers could get on with growing their business rather than dealing with paperwork and experiencing fewer of the aforementioned ‘heart-breaking nightmares’ which the current immigration system can precipitate.

This would work with the grain of the Government’s thinking, given that Ministers have been clear that they want to find “ways to supplement our existing flexible offer to leading digital technology experts endorsed under the Tech Nation Visa under the Exceptional Talent route and digital technology occupations in shortage”.³²

Such visas could have additional flexibility as to which jobs they cover. Indeed, there is concern among lots of companies – not just actual or potential unicorns – that the skills shortages which they need to address will not necessarily be treated as high-skilled, and will fall short of the minimum salary threshold proposed by the Government’s White Paper.

In fact, the minimum salary threshold induced other concerns among those who we spoke to. We heard how rapidly growing scale-ups have a tendency to remunerate employees partly with equity compensation rather than just with a full

30 YouGov, “Where the public stands on immigration”. Available from: <https://yougov.co.uk/topics/politics/articles-reports/2018/04/27/where-public-stands-immigration>.

31 Ipsos MORI and King’s College, London, “Half of public support more immigration by highly skilled workers”. Available from: <https://www.ipsos.com/ipsos-mori/en-uk/half-public-support-more-immigration-highly-skilled-workers>.

32 HM Government, “The UK’s future skills-based immigration system”. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766465/The-UKs-future-skills-based-immigration-system-print-ready.pdf, p. 45.



salary. This allows them to invest as much of their available capital as possible into growing the business, giving it the best shot of success.³³ To its credit, the White Paper does acknowledge the issues which could arise around equity compensation and states an intention to “explore options to support such start-ups”.³⁴ The Government should commit itself to ensuring that when the future immigration framework is put into practice, it can accommodate this convention among innovative scale-ups.

Some high-growth firms we spoke to also voiced apprehension about how the minimum salary threshold might affect recent graduates from around the world seeking to make their livelihood in the UK. While many of these ambitious graduates may demonstrate incredible potential, realistically few will be able to command a salary of £30,000.

Indeed, graduate recruitment consultancy Bridgewater estimate that, in 2018, only two degree courses – dentistry and chemical engineering – led to graduates being offered a higher salary than the proposed threshold.³⁵ As with equity compensation, the White Paper includes language suggesting the Government will have “discussions with businesses and employers on the suitable salary threshold [...] for new graduates”.³⁶

It is crucial that the Government makes good on this promise, and commits to a system which helps young graduates who are exceptionally skilled come to the UK and contribute to creating a healthy herd of unicorn companies here.

The unicorn visas we propose should be made available after the implementation phase is completed (if the Withdrawal Agreement passes through the Houses of Parliament) and should form a core part of our future immigration system.

Closing the digital skills gap

Ensuring that unicorns, or would-be unicorns, have access to the best talent is not simply about importing skills from overseas. More should and must be done to equip British nationals to fill gaps in the workforce – of the kind so dramatically demonstrated above. We cannot simply rely on international talent to address the skills shortages in the UK.

If one of the primary purposes of education is to prepare the country’s prospective workforce with the abilities needed to flourish in the modern economy, it has to ensure it is doing just that. The curriculum therefore needs to be updated to ensure that it is providing the sorts of skills and training which will underpin our most ambitious growth companies, and those which are most likely to become unicorns.

Alongside a more sympathetic regime for international talent, therefore, we need a more suitable system for domestic talent – as those we spoke to consistently told us.

To its credit, the Government has taken steps in this regard. In 2014, the UK Government became the first in the world to mandate the teaching of coding at both primary and secondary school and its recent Digital Strategy argued that the teaching of digital skills needed to be embedded in statutory education.³⁷

33 Philip Salter, “The immigration white paper is a case study in self-sabotage”. Available from: <http://www.cityam.com/270888/immigration-white-paper-case-study-self-sabotage>.

34 HM Government, “The UK’s future skills-based immigration system”. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766465/The-UKs-future-skills-based-immigration-system-print-ready.pdf.

35 Bridgewater, “Revealed: what’s the average graduate salary in the UK for 2018?”. Available from: <https://www.bridgewateruk.com/2018/02/average-graduate-salary-uk-2018/>.

36 HM Government, “The UK’s future skills-based immigration system”. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766465/The-UKs-future-skills-based-immigration-system-print-ready.pdf.

37 Department for Digital, Culture, Media and Sport, “Digital skills and inclusion – giving everyone access to the digital skills they need”. Available from: <https://www.gov.uk/government/publications/uk-digital-strategy/2-digital-skills-and-inclusion-giving-everyone-access-to-the-digital-skills-they-need>.



That same Digital Strategy identified that specialist digital skills will be increasingly required, with an estimated 1.2 million new technically and digitally skilled people needed by 2022 to satisfy future skills needs.

Recently, the Government announced the creation of an £84 million National Centre for Computing Education.³⁸ The Centre, which will operate virtually through a network of computing hubs, is due to begin working with schools across England this year. It promises both teacher training and resources for primary and secondary schools to drive up participation in computer science. But this needs to become much more mainstream in nature – **the National Centre therefore needs to be resourced properly to make the same offer to every school, teacher and child in the land.**³⁹

This might help with the skills challenges of tomorrow – but the founders we spoke to were more concerned about the skills challenges of today. They know that there are more people taking part in apparently relevant courses at university, yet these same founders do not think it is becoming any easier to access UK home-grown talent.

This can only come down to the fact that the degrees which are being taught are not producing the skills required by industry – a conclusion accepted by the Digital Strategy, which argued that there was a need for industry and academia to communicate better to ensure that those graduates are trained for the demands of industry.

Implicitly, the Strategy confirmed the findings of A Global Britain – a 2017 report by Coadec.⁴⁰ That report provided one of the most rigorous analyses of the shortcomings of the English education system in the digital context and found it needed improvement in many regards. But it particularly pointed

to the fact that many of those who studied digital and software engineering did not end up with degrees which were industry-friendly.⁴¹

Industry is not close enough to the formation of courses, either at degree level, and perhaps also through apprenticeships. Coadec noted that many existing university courses with poor employment and wage outcomes receive subsidy, whereas many digital training courses, with superior outcomes, do not. We should therefore look much more closely at the further and higher education systems and how we can better ensure that they fulfil the requirements of those sectors and companies with unicorn potential.

The Government, therefore, should embark upon an immediate and comprehensive review of adult digital training at universities, further education colleges and beyond to ensure it is producing the right skills for the future, and it should be led by the leaders of UK-based unicorns or companies with potential to become unicorns. Working with these individuals in a ‘unicorn skills review’ would ensure that future generations’ skills fulfil the needs of the companies with the highest growth potential.

As an immediate measure, however, and one which is predicated on the same notion of ensuring that academic institutions work more closely with relevant industry partners, **we believe a new Sector Skills Council (SSC) should be established looking after the digital skills most required by high growth companies.**

The Federation for Industry Sector Skills and Standards already supports more than 20 other Sector Skills Councils (SSCs) – industry-led organisations aimed at

38 Department for Education, “Tech experts to provide National Centre for Computing Education”. Available from: <https://www.gov.uk/government/news/tech-experts-to-provide-national-centre-for-computing-education>.

39 Ibid.

40 COADEC, “A global Britain: From local startups to international markets: Tech and digital policy for skills, investment & trade”. Available from: <http://coadec.com/Coadec-Report-A-Global-Britain.pdf>.

41 Ibid., p. 18.



improving the level of talent in the workforce of a specific sector. They cover a range of different industries: for example, ScreenSkills works with screen-based creative industries⁴² and the Institute of the Motor Industry with the automotive retail sector.⁴³

As with other SSCs, this new Digital SSC should be led by a consortium of existing businesses, including actual or potential unicorn firms, which have successfully grown to sufficient scale to support this initiative, and are able to impart time and resources towards training and upskilling the British workforce.

Developing the leaders of tomorrow

Besides the need for a business to have a good idea behind it, management and leadership are hugely important factors in determining its success. This is something which came through in conversation after conversation with the founders and funders we spoke to, and is widely acknowledged within the sector.⁴⁴

Indeed, there is also an extensive body of academic literature linking productivity and efficiency with management and leadership.⁴⁵ But promoting these can also be an extremely difficult task for policymakers.

Many of our most successful and innovative firms are effective because their founders are unique individuals with the ambition and drive to see their ideas through to fruition. Entrepreneurs frequently have to endure years of frustration before success comes. Only people with the belief and audacity to get through that, and to inspire the people around them to do the same, will ultimately reap the rewards.

But that doesn't mean that we should simply sit back and wait for such individuals to appear. We need to do all we can to help them harness their talents.

In its Industrial Strategy, the Government noted that the Bank of England has identified two key factors limiting our companies' expansion and productivity growth. First, management quality lags behind our international competitors – a factor which the Industrial Strategy noted could be responsible for as much as a quarter of the productivity gap between the UK and the US.

Second, there is a need to significantly improve the availability and quality of mentoring and guidance for entrepreneurs looking to grow and to innovate, and in particular to improve links between high-growth firms and others looking to grow.⁴⁶

Reviews by the Scale-Up Institute have emphasised the importance of peer-to-peer networks in particular, with the 2017 Scale-Up Business Survey finding that 89 per cent of scale-up businesses most valued this form of support in fostering their growth.

The Institute identifies some of the features which are associated with an effective peer-to-peer network, which include: clear criteria for participation, and businesses themselves leading the agenda.⁴⁷

Other countries have been much more effective in establishing these sorts of institutions and have seen the benefits. So there could be significant gains from exploring ways to increase their number in the UK. A 2016 paper by the Economic

42 ScreenSkills, "About us". Available from: <https://www.screenskills.com/about-us/>.

43 Institute of the Motor Industry, "About the Institute of the Motor Industry". Available from: <https://www.theimi.org.uk/agenda/about-institute-motor-industry-imi>.

44 Tech Crunch, "Welcome To The Unicorn Club: Learning From Billion-Dollar Startups". Available from: <https://techcrunch.com/2013/11/02/welcome-to-the-unicorn-club/>.

45 Centre for Economic Performance, "Management Practice & Productivity: Why they matter". Available from: http://cep.lse.ac.uk/management/Management_Practice_and_Productivity.pdf.

46 HM Government, "Industrial Strategy: Building a Britain fit for the future". Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf, p. 169.

47 Scale Up Institute, "Annual Scale Up Review 2017". Available from: http://www.scaleupinstitute.org.uk/wp-content/uploads/2017/11/ScaleUpInstitute_Annual_ScaleUp_Review_2017.pdf, p. 139.



and Social Research Council, for example, recommended targeted public funding for peer-to-peer networks.⁴⁸

Peer-to-peer support networks are also incredibly important when it comes to optimising the benefits from the competitive advantage the UK enjoys thanks to its world-class higher education sector. Our best universities act as innovation hubs, with the people and the facilities needed to test theories and develop new ideas and products. They are also where many of the ambitious entrepreneurs of the future are educated and build networks of friends and contacts.

But if we are to properly utilise these advantages for our economy, universities must not be allowed to exist as ivory towers – detached from the practicalities of the real world.

The Scale-Up Review 2018 takes the Massachusetts Institute of Technology (MIT) Venture Mentoring Service as a case study. The Service matches alumni, students and staff who are either prospective or established entrepreneurs with skilled volunteer mentors. Over 12,000 hours of mentoring are delivered by the Service's volunteers each year. The results are plain to see, with an impact report on MIT alumni entrepreneurs finding they have created 4.6 million jobs and generate annual revenues of nearly \$2 trillion.

These are precisely the sorts of organisations which UK universities should be setting up, to spread the entrepreneurial spirit of the many successful businesspeople who have passed through their halls already.⁴⁹

Businesses also need to have access to general advice on modern business practices and tried and tested methods for growth. The Industrial Strategy talks about the need to ensure every business has access to a local Growth Hub.⁵⁰ However, the coordination of the various sources of advice and information could be simplified and improved. Many digital or tech businesses do not know where to start when it comes to getting the right advice on expanding their business.

We should therefore look to improve mentoring and networking through three distinct routes. **First, we should ensure that all universities are encouraged, and given the means, to promote enterprise and commerce in their catchment areas, matching existing business people with students and other entrepreneurs.**

Second, we should enhance the Government's digital offering in terms of business support, and establish a single national one-stop-shop, which brings together all the different available support into one online hub.⁵¹

Finally, we should develop a new national mentoring scheme, aimed at digital and tech entrepreneurs, to share best practice and provide support – the 'National Tech Entrepreneur Mentoring Scheme'.

48 Economic and Social Research Council, "Boosting UK productivity with SME growth". Available from: <https://esrc.ukri.org/files/news-events-and-publications/evidence-briefings/boosting-uk-productivity-with-sme-growth/>.

49 Scale Up Institute, "Leadership". Available from: <http://www.scaleupinstitute.org.uk/wp-content/uploads/2018/11/leadership.pdf>, p. 84.

50 HM Government, "Industrial Strategy: Building a Britain fit for the future". Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf, p. 182.

51 ICAEW, "Written evidence from ICAEW (SBP005)". Available from: <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/business-energy-and-industrial-strategy-committee/small-businesses-and-productivity/written/79927.html>.



The National Tech Entrepreneur Mentoring Scheme

Mentoring within businesses is nothing new – good managers have long recognised the benefits of investing in their employees to grow their company from within. A more recent development, however, is the formalisation of mentoring between businesses. The exchange of skills and advice can offer positive outcomes on both sides of the equation: mentees receive crucial guidance which supports their development, while mentors can discover ambitious talent, and perhaps learn a few things of their own in the process. Mentoring can be especially helpful for individuals from marginalised backgrounds as they are made aware of opportunities which would previously have felt out of their reach.

We recommend the development of a new national mentoring scheme, backed by the Government, to facilitate the sharing of best practice and support for tech entrepreneurs. Keeping in the spirit of existing mentoring networks, the scheme would be a voluntary endeavour in which mentors from successful businesses sign up to be matched with entrepreneurial individuals who are seeking advice, for instance on developing or growing a tech business idea of their own.

The Department for Business, Energy and Industrial Strategy would be the obvious lead Department for this scheme, possibly working in close collaboration with Local Enterprise Partnerships or with the new Sector Skills Council recommended elsewhere within this report. Some funding would be required from central government for the scheme's initial establishment and ongoing administration, though we envisage the overall costs to be small.

The finer details of the scheme would be a matter of consultation in terms of cost, frequency of access and proposed outcomes. However, the scheme should aim to serve as a focal point for the brightest and the best in UK tech, both in terms of mentors and mentees. A straightforward matching service with appropriate filters, for instance by sector type, background and experience level, could help in pairing mentors and mentees most accurately.

But we should look to go much further than this, equipping the entrepreneurs of today and tomorrow with the knowledge, skills and mindset to run high-growth companies.

Andrew Haldane of the Bank of England has highlighted the high potential returns from policies which improve management quality in the company population, noting that “one standard deviation improvement in the quality of management raises productivity by, on average, around ten per cent”.⁵²

The Economic and Social Research Council has stated that the UK needs a long-term education strategy “to build the next generation of entrepreneurs”.⁵³ This should include wider use of business placements and practical experience. **The Government should therefore be encouraging the use of Apprenticeship Levy funding for management apprenticeships, to improve leadership and strategic thinking in companies with high-growth potential.**

52 Bank of England, “Productivity puzzles”. Available from: <https://www.bankofengland.co.uk/-/media/boe/files/speech/2017/productivity-puzzles.pdf?la=en&hash=708C7CFD5E8417000655BA4AA0E0E873D98A18DE>.

53 Economic and Social Research Council, “Boosting UK productivity with SME growth”. Available from: <https://esrc.ukri.org/files/news-events-and-publications/evidence-briefings/boosting-uk-productivity-with-sme-growth/>.



Access to finance

As well as needing the right talent at the right time, no company can fulfil its true potential without accessing the right finance at the right time.

Indeed, we heard on a repeated basis during our stakeholder engagement that this is the other major impediment for British businesses looking to match their growth ambitions.

“There’s a lot of capital here,” says Will Shu of Deliveroo, “but it doesn’t normally go to growth companies.” He said that raising the money to fuel Deliveroo’s rise was “challenging all the way through”.

Many of those seeking financing end up having to look to the United States. “There just aren’t the pots of cash here that they have in the US,” said one venture capitalist. “Not that would be spent on fast-growing businesses, anyway.”

“It’s just assumed that if anyone needs serious cash they will go to the States,” said another. “British money can only take you so far.”

The funding landscape

Despite such observations, the picture is not entirely gloomy. In relative terms, Britain’s financial landscape is sophisticated and mature, comprising of a well-developed investor landscape, with many experienced investors who know their markets and can provide advice and mentoring to the entrepreneurs they are investing in.

This fact could explain, at least in part, why the UK outperforms its European counterparts in terms of attracting venture capital into technology companies.⁵⁴ In 2018, Britain drew in almost £2.5 billion, compared to £1.38 billion in Germany, £1.03 billion in France, and £532 million in Switzerland. At a city level, tech firms in London outpaced other European cities by a considerable margin – enjoying roughly as much venture capital investment as Berlin, Paris and Copenhagen combined.⁵⁵

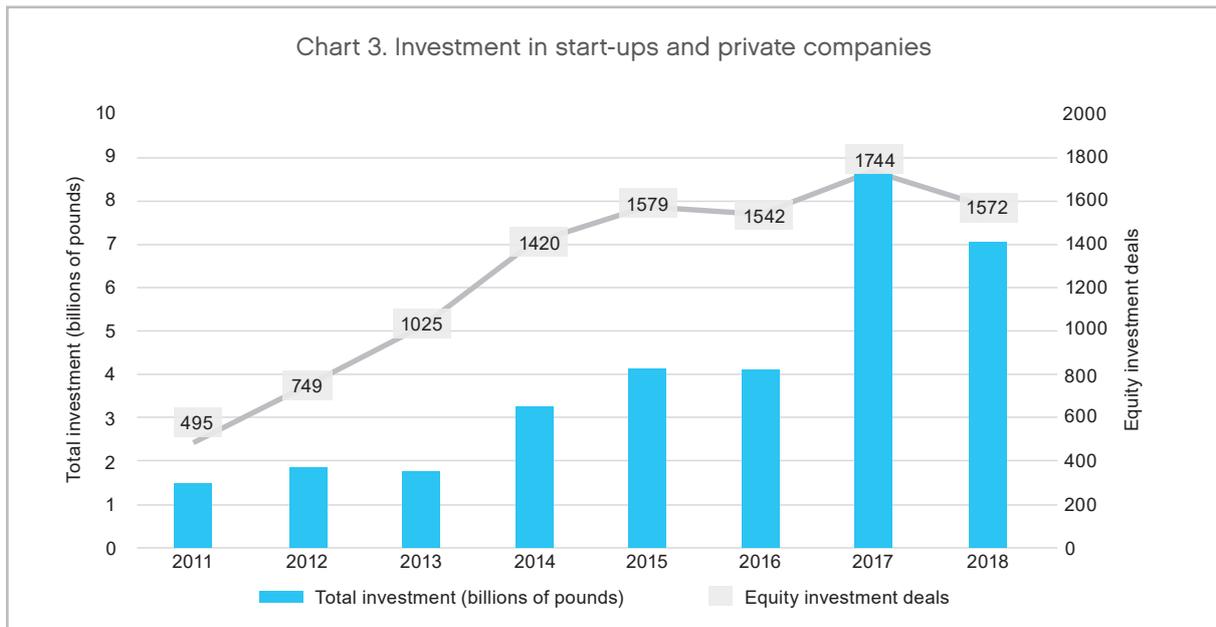
What’s more, 2018 saw an impressive 26 ‘mega deals’ – investments in excess of £50 million – come to fruition.⁵⁶ Though this is down slightly on 2017’s even more impressive total of 30, it is still a figure well above the longer-term average (the next highest annual total of mega deals was 15, in 2015).⁵⁷ The prevalence of mega deals is significant because it suggests that money is going into later fundraising rounds – precisely the ones that tend to push an enterprise towards unicorn status.

54 UKTN, “London and UK Top European Tech Investment Tables”. Available from: <https://www.uktech.news/featured/london-uk-top-european-tech-investment-tables-20190109>.

55 Ibid.

56 Beauhurst, “The Deal: Equity investment in the UK 2018”. Available from: <https://about.beauhurst.com/wp-content/uploads/documents/The-Deal-2018-Web.pdf>

57 Ibid.



Source: Beauhurst, "The Deal: Equity investment in the UK 2018". Available from: <https://about.beauhurst.com/wp-content/uploads/documents/The-Deal-2018-Web.pdf>

Nevertheless, as encouraging as those numbers are, the picture isn't wholly satisfying: as the quotes above suggest, there are still deficiencies in the funding environment for fast-growing private companies in the UK. It is striking that, despite our mature sector and our deep pools of capital, around 40 per cent of scale-ups still feel they currently do not have the right amount of funding in place for their current ambitions.⁵⁸

In other words, while the UK does perform well compared with its European neighbours, it still cannot match the scale, dynamism, or endurance of the US. As Barclays reported in their Scale-up UK report, the United States has more and larger scale-up investments, both during early and later rounds of fundraising.⁵⁹ This is true even when you adjust the figures to reflect the relative size of the US and UK economies.

Significantly, the 'financing gap' between British and American companies grows wider with successive rounds of fundraising. During the early investment stages, 7.2 British firms receive venture capital backing for every ten American firms that do.⁶⁰ In the later stages, however, fewer than half as many British as American companies receive venture capital investment. Scale-up UK also suggests that only 15 per cent of all investors in British companies invest for more than two rounds; in America, that figure is 25 per cent.⁶¹

The lack of later stage finance was an issue which was remarked upon by virtually all the funders (and indeed entrepreneurs) to whom we spoke – it is an area many think the UK would benefit from working to overcome, not least in terms of helping to foster high-growth, and even unicorn, companies. "Pension funds are not used to investing in high-growth companies," said one investor we spoke to. Another observed that patient capital "typically invests in companies who are much further along in their life cycle".

58 Scale Up Institute, "Annual Scale Up Review 2018". Available from: http://www.scaleupinstitute.org.uk/wp-content/uploads/2018/11/SUI_Review_2018.pdf, p. 72.

59 Barclays, "Scale-up UK: Growing Businesses, Growing our Economy". Available from: <https://www.barclays.co.uk/content/dam/documents/business/high-growth-and-entrepreneurs/scale-up.pdf>, p. 45.

60 Ibid., p. 41

61 Ibid., p.46.



Tim Hames, Director General of the British Private Equity and Venture Capital Association, said:

“For a fledgling firm looking to grow and expand, being able to access capital in sufficient quantities is vital. Britain is already well placed in this regard – but that is not to say it cannot do better.

“One particular challenge faced by British firms relative to other countries – notably America – is successfully attracting later rounds of finance, which can prove crucial for a business hoping to break through. Even slight tweaks in the existing regulation could unlock a considerable amount of capital, which could be the difference between a promising firm succeeding or failing.”

Building up British venture capital

Yet it might not just be in terms of providing later stage finance that the UK is missing a trick. The OECD's Entrepreneurship at a Glance report points out that venture capital constitutes 0.075 per cent of UK gross domestic product (GDP), less than several other OECD countries, such as South Korea, Canada, Israel and the United States. The last two, for instance, have venture capital sectors that make up more than 0.35 per cent of GDP.⁶²

Aggregate figures of that sort are not, of course, a wholly reliable guide to the UK funding environment. But they do suggest that there might be scope for Britain to raise its game. The inability of UK companies to realise their full potential hurts the British economy, limits tax receipts, and prevents job creation.

Indeed, according to the Scale-Up Institute, if just one per cent of UK companies with more than ten employees moved from a stable to a high-growth state, it would create 238,000 jobs and nearly £40 billion of gross value added within three years.⁶³

No country can afford to turn its nose up at that sort of economic potential. So if a lack of access to finance is holding back Britain's high-growth businesses, and thus depriving the UK of the valuable attendant benefits that they confer, something must be done to improve the situation. But where should policymakers look for answers?

There are, first of all, direct interventions that the Government can make to improve the funding environment for businesses looking to scale up. For example, the Patient Capital Review suggested creating a 'Patient Capital Investment Vehicle', an independent development fund seeded with government money that would allocate capital towards "UK scale-ups and science-based start-ups", or to private sector actors (like venture capital funds) investing in such businesses.⁶⁴

The goal of such a funding vehicle would be to leverage in private investment, particularly from institutional and retail investors who might otherwise steer clear of scale-up businesses. To this end, the Patient Capital Review suggested that their proposed investment vehicle would only ever provide 30 per cent of equity capital.⁶⁵

It also noted that investments in the Passive Capital Investment Vehicle could attract a favourable regulatory capital treatment compared with other illiquid investments, so as to attract institutional capital. In June 2018, the Government gave life to elements of this proposal by establishing 'British Patient Capital' as a separate subsidiary of the

62 OECD, "Entrepreneurship at a Glance: 2018 Highlights". Available from: <https://www.oecd.org/sdd/business-stats/EAG-2018-Highlights.pdf>, p. 15.

63 Scale Up Institute, "Annual Scale Up Review 2018". Available from: http://www.scaleupinstitute.org.uk/wp-content/uploads/2018/11/SUI_Review_2018.pdf, p. 7.

64 Patient Capital Review, "Patient Capital Review: Industry Panel Response". Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/661397/PCR_Industry_panel_response.pdf, p. 10.

65 Ibid., p. 13.



British Business Bank. It is too early to draw any conclusions about the impact of British Patient Capital, but it certainly represents a significant statement of intent.

Beyond direct interventions of this sort, the Government could undertake various tax reforms that would encourage better access to finance for start-ups, scale-ups, and would-be unicorns.

For example, the existing rules on investment via tax-advantaged venture capital schemes – such as the Enterprise Investment Scheme (EIS), the Seed Enterprise Investment Scheme (SEIS), and Venture Capital Trusts (VCTs) – could be loosened.

As things stand, the EIS gives qualifying investors income tax relief worth 30 per cent of the value of their investment, up to an annual maximum of £600,000. Assuming they hold their shares for at least three years, investors pay no capital gains tax when they sell them. This acts as a significant investment incentive, and evidence suggests that it has been responsible for bringing forth investment which otherwise would not have taken place.⁶⁶

However, one problem with the EIS/VCT schemes is that businesses are limited to raising £5 million a year, and £12 million over their lifetime, via the EIS or VCT schemes. For knowledge-intensive companies, the lifetime limit rises to £20 million.

While these sums are clearly significant, the restrictions do cause problems. As the Patient Capital Review notes, “the hard limits on investment size create inefficiencies as businesses transition away from tax-incentivised investment, particularly due to the inability of angels and VCTs to provide follow-on funding”.⁶⁷

The obvious solution would be to raise or simply abolish those investment limits. The trouble is that the limits were defined by the European Commission when it gave state aid clearance for the tax incentive schemes, so any changes would typically need its sign-off. Continued adherence to state aid rules is also part of the Withdrawal Agreement, so it may well be impractical or impossible for Britain to secure significant changes on this front.

We suggest that if Britain remains subject to the EU’s state aid rules, it should seek via negotiation with the EU to loosen these limits, ideally doubling them from their current levels or even abolishing them. We would still support the retention of restrictions on state aid even if Britain is not formally subject to the EU rules – but this is an area where there would be a strong argument for greater flexibility.

Of course, state aid questions could be easily avoided if the Government decided to pursue broad-based tax reform designed to boost investment, rather than relying on specific funding schemes. One straightforward step would be to consider amending the rules governing ISAs to allow individuals to invest in privately held growth businesses. A proposal along these lines was advanced by Octopus’ High Growth Small Business Report 2018, and subsequently endorsed by the APPG for Entrepreneurship:

“There is £315 billion held in Stocks and Shares ISAs, and if just one per cent of this capital were invested in small, unlisted companies, it would unlock £3.15 billion of extra investment for HGSBs. We therefore recommend permitting existing Stocks and Shares ISAs to invest into the shares of unlisted companies. As investors tend to retain assets in their ISA indefinitely, only removing money from their ISA as a last resort, such a reform would make it one of the most patient forms of capital.”⁶⁸

66 APPG for Entrepreneurship, “Tax reform”. Available from: https://static1.squarespace.com/static/5752ac86b654f96f0d47e852/t/5b4d26290e2e72efc58b16fb/1531782712506/006__APPG__TaxPRF__Online.pdf, p. 16.

67 *Ibid.*, p. 7.

68 Octopus, “High Growth Small Business report”. Available from: <https://octopus-wordpress-group-prod.storage.googleapis.com/Octopus-High-Growth-Small-Business-Report-2018-1.pdf>.



Chris Hulatt, one of the Founders of Octopus, told us:

“There is a lot of money held in ISA accounts but these funds tend not to get invested in the most productive, innovative or interesting parts of the economy. Small tweaks to the current system would unlock that funding, provide vital investment to ambitious entrepreneurs, and work to the benefit of investors, companies and our country all at the same time.”

Opening up investment

As well as looking to encourage more individuals' capital to be deployed in this way, the Government should look to encourage more foreign investors and more UK institutional investors to invest in growth companies, particularly providing the all-important later stage funding.

It is an encouraging vote of confidence that some US investors have proven willing to fund the UK tech scene. Yet as noted by the founders above, it is less than ideal that most of the later stage funding which has been received by UK unicorns has had to come from US investors – despite the fact that the UK pensions and retirement income sector manages over £2.4 trillion. The UK should of course be as open as possible to foreign investors of all stripes. But institutional investors in the UK should be encouraged to support and invest in our own high-growth sector too – and reap the rewards of doing so.

After positive indications in 2017, last year's Budget announced that new measures are on the way to ensure that the UK's regulatory environment enables defined contribution pension schemes to invest in patient capital as part of a prudentially diverse portfolio.⁶⁹ These are welcome steps, but until the guidance is published, it is impossible to estimate how valuable this reform will be for the aspiring unicorns which exist around the country.

On the face of it, there is much to suggest that the sort of capital that might be required for a later stage funding round would be well suited to the needs of the trustees of individual pension funds. They must consider the risks of taking on patient capital, the suitability of the scale, expected time horizon and illiquidity of their investments – their long-term horizon planning should often suit the plans of actual, or potential, unicorns.

We do not yet know for sure what will be published but it is clear there is more than can be done. This is emphatically not about telling investors that government knows better than they do how to allocate their capital. It is about enabling them to choose more freely where they invest, rather than being pushed towards particular asset classes by the regulators. **The Government should therefore take steps to encourage UK institutional investors in general, and pension funds in particular, to allocate more of their capital towards growth companies.**

Henry Whorwood, the Head of Research & Consultancy at Beauhurst, suggested that:

“If the capital of the UK's insurance and pension funds can be deployed to support private businesses, the benefit to the UK economy could be huge, particularly since the longer-term view of these funds should be well aligned to the longer-term capital requirements and growth ambitions of early-stage businesses.”

Opening up pension funds for later stage funding could represent a sea change in terms of financing the UK's most ambitious companies. But if capital, for the time being, is more likely to come from abroad, then we ought to ensure UK companies are able to harness as much of that as possible.

⁶⁹ HM Treasury, “Budget 2018”. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752202/Budget_2018_red_web.pdf, pp. 59-60.



A new programme should therefore be launched by the Department for International Trade to encourage more foreign investors to consider finance opportunities in the UK, in particular within later stage funding rounds.

The Patient Capital Review recognised Britain's patient capital gap as a challenge to cultivating high growth businesses, especially when compared to other countries such as the USA.⁷⁰

It also pointed to a negative feedback loop, in which low levels of patient capital stifle the potential of recipient companies to deliver lucrative rates of return, thereby suppressing further investment in such companies. It is therefore critical that the UK Government does all it can to encourage overseas investors to increase the amount of patient capital going into British scale-ups.

Since the turn of the millennium, a number of countries across the world have established sovereign wealth funds (SWFs). These are state-owned investment funds typically created from fiscal surpluses or government receipts derived from rents from natural resources, and are used to, among other things, bolster the future economic security of a nation. There are also pension funds with similar clout: examples include Norway's Government Pension Fund and Canada's Pension Plan, which have a history of investing in tech firms, including Apple and Skype respectively.⁷¹

As well as overseas SWFs, more conventional pensions funds – both government and privately held – represent potentially sizeable sources of capital which scale-ups could stand to benefit from.

As mentioned, in terms of portfolio size, some of these pensions funds (such as the Ontario Teachers' Pension Plan) rival or even exceed SWFs.

Due to their naturally long-term investment horizons, pensions funds and SWFs are particularly good vehicles from which to see investments made into scale-up companies, some of which will be able to demonstrate themselves as potential unicorns given access to the right quantities of capital. Accordingly, these are exactly the sort of investors which the Department for International Trade should be minded to target and engage with, so as to leverage in as much patient capital as possible, which scale-ups in particular find so useful on their journey to becoming lucrative and profitable entities.⁷²

Investing in innovation

Market disruption is predicated on innovation. Those products and services which better meet the needs of customers underpin company growth, potentially to the extent that the firm goes on to become a unicorn. Indeed, many of the UK's unicorns have been based on disruptive new technologies or software ideas, such as Darktrace and Deliveroo.

When we are considering access to funding, therefore, we need to consider not only how companies are able to raise funds, but how to incentivise those firms which are likely to make a transformative impact on a particular sector, or the economy more generally – in other words, those research-heavy companies which are most likely to grow into unicorns.

70 Patient Capital Review, "Patient Capital Review: Industry Panel Response". Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/661397/PCR_Industry_panel_response.pdf, p. 8.

71 World Economic Forum, "How Norway's sovereign wealth fund made \$130 billion in one year". Available from: <https://www.weforum.org/agenda/2018/03/apple-tencent-and-microsoft-how-norway-s-massive-oil-fund-made-130-billion-in-one-year/>; The Globe and Mail, "CPPIB scoops windfall as Microsoft buys Skype for \$8.5-billion". Available from: <https://www.theglobeandmail.com/report-on-business/streetwise/cppib-scoops-windfall-as-microsoft-buys-skype-for-85-billion/article614280/>.

72 The Economist, "British tech firms suffer from impatient investors". Available from: <https://www.economist.com/ritain/2017/04/06/british-tech-firms-suffer-from-impatient-investors>.

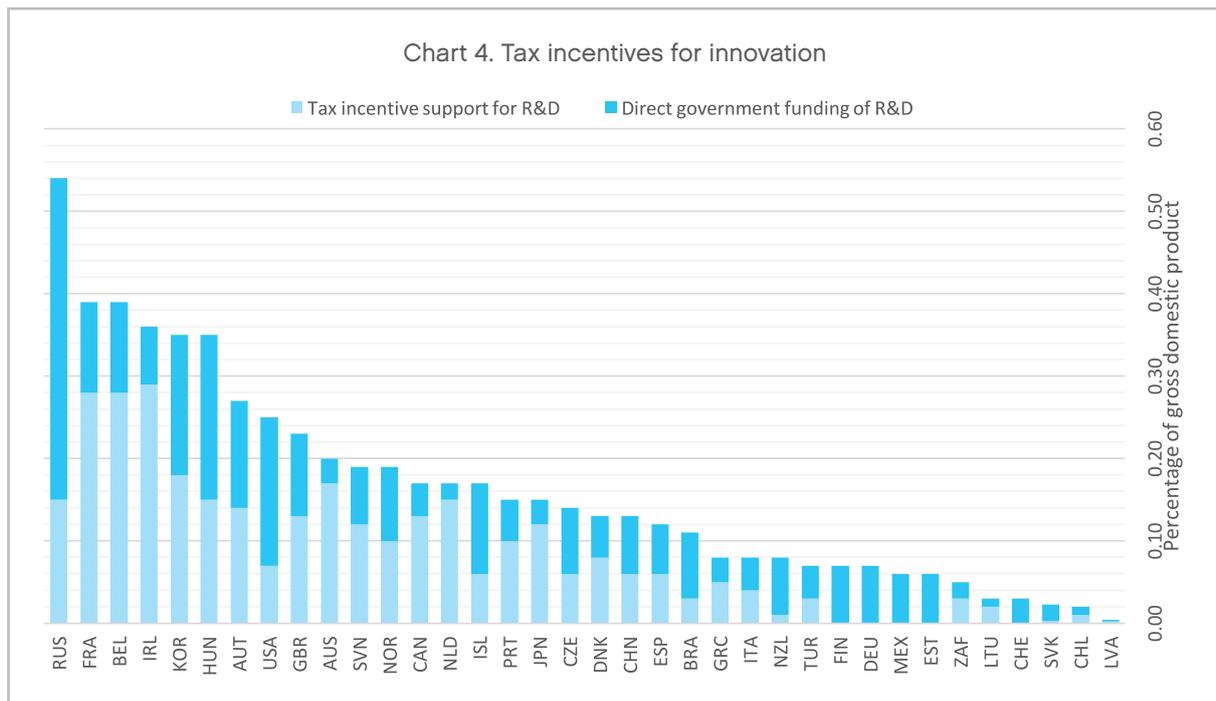


Companies that invest in new products and innovation, after all, tend to grow much faster than their rivals.⁷³ A range of tax credits and innovation investment incentives exists in Britain. Yet our record on this could be improved (see chart below).

The UK ranks 10th among OECD and partner economies for tax incentives for research and development (R&D) as a percentage of GDP.⁷⁴ Of the support that government provides, tax incentives account for 61 per cent – a proportion which has risen significantly over the last decade.⁷⁵ For 2015-16, there was an increase in claims of 25 per cent on the previous year alone.⁷⁶

Behind these figures on rising spending, however, is a confused picture on how the Government can improve investment. A Public Accounts Committee inquiry found that the Government lacks a complete picture of who is funding what, meaning it risks “missing gaps and overlaps in research programmes or a shared understanding of outcomes”.⁷⁷

International comparison has shown that the cost of R&D to firms can significantly affect the level of R&D they undertake.⁷⁸ A ten per cent reduction in price would lead to a one per cent increase in the amount of R&D carried out in the short run, and a ten per cent increase in the long run. If deployed effectively, using tax incentives to reduce the cost of R&D can therefore have a deep and long-lasting impact on industry.



Source: OECD, “Measuring Tax Support for R&D and Innovation”. Available from: <http://www.oecd.org/sti/rd-tax-stats.htm>.

73 Graham Morbey and Robert Reithner, “How R&D affects sales growth, productivity and profitability”. Available from: https://www.jstor.org/stable/24127120?seq=1#page_scan_tab_contents.

74 OECD, “R&D Tax Incentives: United Kingdom, 2017”. Available from: <http://www.oecd.org/sti/rd-tax-stats-united-kingdom.pdf>.

75 Ibid.

76 HMRC, “Research and Development Tax Credits Statistics: September 2018”. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/742661/Research_and_Development_Tax_Credits_Statistics_September_2018.pdf, p. 5.

77 House of Commons Committee of Public Accounts, “Research and Development funding across government”. Available from: <https://publications.parliament.uk/pa/cm201719/cmselect/cmpubacc/668/668.pdf>, p. 7.

78 IFS, “Do R&D tax credits work? Evidence from an international panel of countries 1979-1994”. Available from: <https://www.ifs.org.uk/publications/2718>.

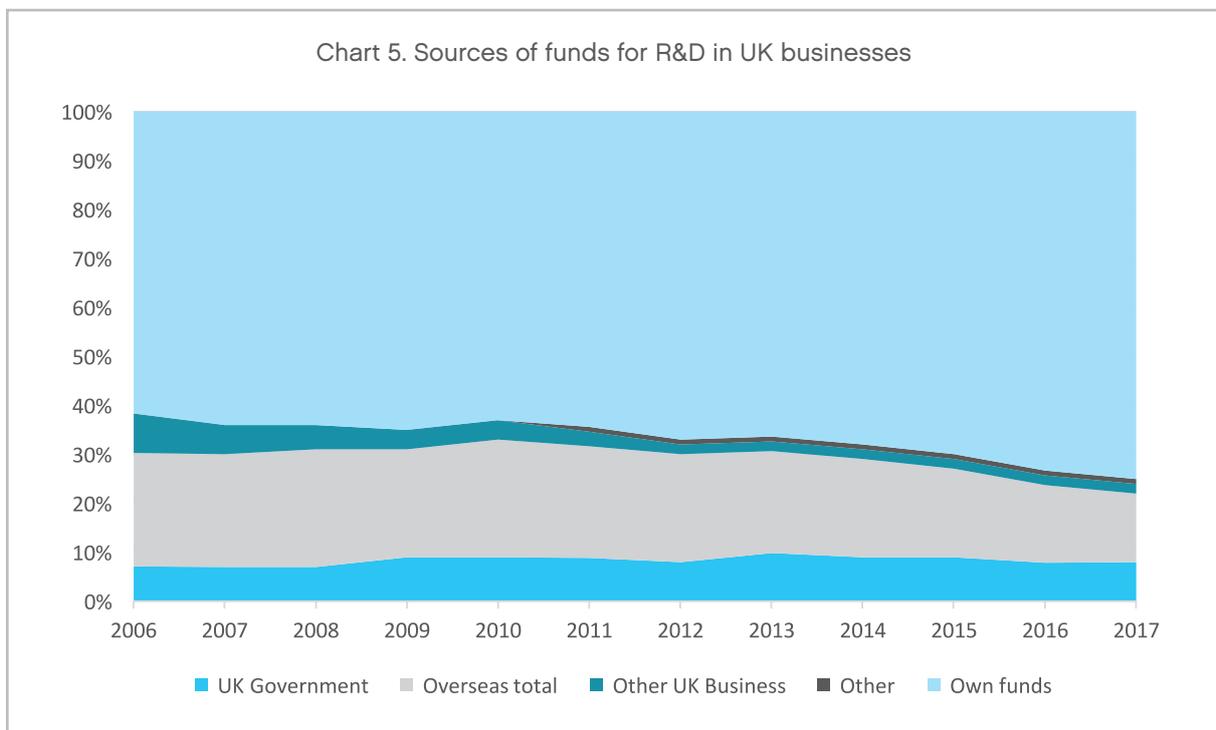


As shown in the chart above, despite increasing spending on tax credits, the overall proportion of R&D that firms are needing to fund themselves is rising. Addressing this balance to make R&D less onerous for start-ups, in particular, could help unlock their full potential.

There is also a strong case for a far more dramatic intervention – for example, permitting firms of all sizes to write off investment in R&D as a business expense.

In America, the application of this provision to capital expenses – a practice known as ‘full expensing’ – has had a galvanising impact on growth, with one recent study estimating that full expensing can increase investment activity by 17.5 per cent, and increase wage growth by 2.5 per cent.⁷⁹ For the average UK employee, this would amount to an additional £682 per annum.

A study should therefore be undertaken by the UK Government to look at the case for developing a model akin to ‘full expensing’.



Source: ONS, “Business enterprise research and development”. Available from, <https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/datasets/ukbusinessenterpriseresearchanddevelopment>.

79 Eric Ohrn, “The Effect of Tax Incentives on U.S. Manufacturing: Evidence from State Accelerated Depreciation Policies”. Available from: http://www.cs.grinnell.edu/~ohrneric/files/State_Bonus/State_Bonus_9_2017.pdf.



Other factors

The two variables cited in our stakeholder engagement as particularly important for high-growth businesses were access to finance and access to capital.

But that is not to say others were not also raised. They might not rank as highly, but they are nonetheless important if we are to ensure that the UK has as supportive a business environment as possible for high-growth businesses.

As mentioned above, there is a widespread perception (and substantial evidence) that the ‘growth aspiration’ of UK entrepreneurs fails to match that of the US – that there is a greater willingness there to take risks with new ideas and go for growth. Around one in six early-stage UK entrepreneurs have high expectations for their growth in jobs, compared to one in three in the US.⁸⁰

We do not believe – nor do those we spoke to – that this is down to some psychological flaw in the British make-up. Britain has an enviable track record in terms of entrepreneurship. The secret to building more unicorns is to create the ecosystem and environment to let that instinct flourish.

That means not only addressing issues around talent and funding, but a number of other roadblocks that we identified.

Infrastructure

Digital infrastructure is a natural place to start given its obvious relevance to tech companies. Surveys suggest that many businesses rank digital communications infrastructure as the most important infrastructure programme for their business, yet Britain’s digital infrastructure ranks poorly by international standards.⁸¹ The latest metrics show that the UK is ranked 55th in the world for mobile data speed, and 32nd for fixed broadband speed.⁸² Accordingly, hundreds of millions of pounds of public money has been allocated to improved digital connectivity, which is expected to be matched by private investors.

But this will only take us so far: the Government’s ambition with regards to digital infrastructure needs to be enhanced and accelerated. In particular, those business people who we spoke to who ran companies outside major cities complained about the stifling effect of poor digital connectivity, which lowers productivity, and inhibits company growth.

A helpful first step would be for the Government to **adopt next generation digital technology as standard, including in terms of ultrafast broadband and driving forward 5G standards**. The spectrum bandwidths which are used for 3G and slower connectivity should be gradually withdrawn, forcing mobile network operators towards 5G connectivity and provision.

⁸⁰ Global Entrepreneurship Monitor, “GEM United Kingdom 2017 Report”. Available from: <https://www.gemconsortium.org/report/50057>, p. 37.

⁸¹ Ibid.

⁸² Speedtest, “Speedtest Global Index”. Available from: <http://www.speedtest.net/global-index#mobile>.



Matthew Evans, CEO, Broadband Stakeholder Group:

“World-class digital infrastructure is a key differentiator in our increasingly digitally powered economy. The UK has made good progress in driving superfast connectivity out to nearly everyone – but we must now kick on and ensure that we deploy ultrafast technologies at scale. This will require significant amounts of sustained investment and Government needs to play an active role in creating the right conditions for this.”

Data

Alongside digital infrastructure, data is also of huge importance to high-growth firms and many unicorns have built their business off the back of exploitation of data.

The value of data in the modern world is vast and growing – it is now estimated to contribute £40 billion per year to UK GDP.⁸³ The digital sector of the economy relies heavily on having access to rich consumer data, in order to allow firms to tailor products, offers and advertising to individual customers. This brings obvious benefits for companies and consumers alike.

To give but one example, data has allowed product personalisation to a degree which was even only recently unimaginable. For consumers, this delivers better goods and services, and for emergent firms, has helped them to compete against well-resourced incumbents.

One area in which the UK has done particularly well is opening up government data. In fact, it is arguably the world leader in this area, topping the Open Data Barometer's ranking in this regard.⁸⁴

This has created opportunities for many firms – for example the transport and mapping application Citymapper. It was able to make use of transport data from the UK Government and the Greater London Authority to provide a much more sophisticated product for its customers in identifying the optimal transport route – conferring obvious private benefits, but also public ones too, in terms of reduced congestion, air pollution, and carbon emissions.⁸⁵ It has now grown to offer a similar service for many cities around the world and has a valuation in the hundreds of millions.⁸⁶

Yet the Government could still open up more data.⁸⁷ Alarming, recent reports suggest that it may be moving away in the opposite direction – a cautionary note which was also struck by some of the entrepreneurs we spoke to.⁸⁸

83 SAS, “The Value of Big Data and the Internet of Things to the UK Economy”. Available from: https://www.sas.com/content/dam/SAS/en_gb/doc/analystreport/cebr-value-of-big-data.pdf, p. 6.

84 OpenData Barometer, “The Open Data Barometer”. Available from: https://opendatabarometer.org/?_year=2016&indicator=ODB.

85 Department for Digital, Culture, Media and Sport, “Data – unlocking the power of data in the UK economy and improving public confidence in its use”. Available from: <https://www.gov.uk/government/publications/uk-digital-strategy/7-data-unlocking-the-power-of-data-in-the-uk-economy-and-improving-public-confidence-in-its-use#fn:5>.

86 Business Insider, “Citymapper has raised £32 million for its urban navigation app”. Available from: <http://uk.businessinsider.com/citymapper-has-raised-32-million-for-its-urban-navigation-app-2016-1>.

87 Department for Digital, Culture, Media and Sport, “Data – unlocking the power of data in the UK economy and improving public confidence in its use”. Available from: <https://www.gov.uk/government/publications/uk-digital-strategy/7-data-unlocking-the-power-of-data-in-the-uk-economy-and-improving-public-confidence-in-its-use#fn:5>.

88 UK Authority, “Treasury hints at retreat from open data”. Available from: <https://www.ukauthority.com/articles/treasury-hints-at-retreat-from-open-data/>.



Ensuring that the UK continues to lead the world in providing open access to official data may be one of the best ways that we can enable more start-ups to turn into unicorns.

The National Health Service, for example, offers a deep pool of medical data that could be used to develop the breakthrough drugs and personalised treatments of tomorrow, as well as a flourishing app ecosystem, if we can strike the right balance between patient privacy and anonymised aggregation. (A topic covered in more detail in the recent CPS report *Powerful Patients, Paperless Systems*).⁸⁹

The Government could also look at encouraging the opening up of data in the private sector – as it is already doing in the financial sector with the development of open banking.⁹⁰ By opening up private information in this way, approved third-party financial firms will have rich customer information in order to offer a more personalised product and customers should find it easier to judge which is the best product for them. It is hoped that this will inject extra competition into the financial and banking system and lower the barriers to success for smaller, challenger firms.

The Government should therefore review what data it can make open and individual departments should be challenged to adopt ‘open by default’ approaches to data wherever possible.

Regulation

In every sector of the economy, you will find entrepreneurs and business leaders who are sharply critical of the regulatory strictures which affect them. A full review of the regulatory environment is beyond the scope of this report, but if we want to create more technology unicorns then we obviously need a regulatory regime that embraces flexibility, openness, and innovation, rather than engaging in a process of regulatory creep towards an ever more codified and strait-jacketed business environment.

To breed more unicorns, the Government needs to take a nimbler approach to regulating our most innovative companies, and a more determined approach to supporting insurgent companies.

‘Sandboxes’ are a method of regulation which seemingly fulfil this objective, while bridging the tension of not reverting to a ‘Wild West’ regulatory regime. Offered to regulated and unregulated firms alike, sandboxes can allow them to test and innovate in a live market environment (during the programme, the regulator also ensures that safeguards are in place to protect consumers).

The Financial Conduct Authority (FCA) initiated its sandbox programme in 2015. It is open to any firm that will be carrying out, or is directly supporting another firm in carrying out, regulated financial services activities.

The FCA found that the direct feedback which it offered as part of the programme to firms during and after testing was valuable in helping the firms to understand how the regulatory framework applied to their business. This, in turn, accelerated their route to market and saving them the cost of hiring external regulatory consultants.⁹¹

89 Alan Mak, “Powerful Patients, Paperless Systems”. Available from: <https://www.cps.org.uk/files/reports/original/180501092310-PowerfulPatientsPaperlessSystemsAlanMakMP.pdf>.

90 Open Banking, “Background to Open Banking”. Available from: <https://www.openbanking.org.uk/wp-content/uploads/What-Is-Open-Banking-Guide.pdf>.

91 Ibid., p. 5.



Of the first cohort of the programme, 75 per cent of products successfully completed testing, with 90 per cent of the firms responsible for testing those products continuing to a wider market launch following their test. The majority of firms with restricted authorisation for their test went on to secure full authorisation following completion of their tests.⁹²

The regulatory sandbox typically addresses the issues associated with developing a product, market testing, and navigation regulation – all of which were cited as obstacles by scale-up founders we spoke to during the stakeholder consultation.

One founder told us how the combination of their business being pre-revenue and having to obtain an FCA licence was a barrier to investment. In addition, applying for the licence was “eating up resources”, and as a result there was less time to look for funding. When regulatory regimes give rise to circumstances such as this, entrepreneurs are only deterred from establishing what could be successful and profitable – even unicorn – firms.

Yet the sandbox approach could help to resolve such issues, and promote investment too. Feedback to the FCA after its first cohort of testing, for example, indicated that investors can be reluctant to work with fintech companies that are not yet authorised.⁹³ Taking part in the programme also provided firms with a quicker route to authorisation, which in turn sped up access to funding.⁹⁴

Extending such schemes across different sectors could ease the tension between compliance and growth that many innovative scale-ups have to deal with. We therefore recommend that **regulatory sandbox programmes, in addition to those provided by the FCA and OFGEM, are initiated in other sectors like healthcare and telecoms.**

These programmes should help companies emerge who will disrupt existing business models and offer new products and services. It is these companies which are most likely to change the way the world operates, to become consumer champions and, in time, to achieve unicorn status.

92 Ibid.

93 Ibid.

94 Ibid.



Conclusion

The creation and success of unicorn companies does not happen in isolation.

In many ways, unicorns should be seen as proxies for the relative success of the wider economy. Often, the rules and frameworks which enable their flourishing will stand to benefit other firms – and consumers, through a combination of lower prices, increased choice, and improved product availability.

While no single form of enterprise ought to be the sole focus of government, ensuring that firms have the best chance to become unicorns – and remain unicorns when such status is achieved – should be regarded as a prudent policy objective, and one worthy of significant attention. A country which plays host to one or several unicorns can expect to reap economic growth, skilled jobs, and increased tax revenues among other benefits.

In an increasingly globalised world, the imperative is only intensified for governments to ensure they are delivering a truly competitive business environment in which high-growth firms, and current or future unicorns, want to locate themselves.

This report has sought to better understand unicorn and high-growth companies in the UK – and to uncover what conditions they require to ensure they can prosper in their respective industries. Our recommendations are credible and actionable, and should be adopted by the Government in order to

foster a more numerous, and healthier, herd of unicorn companies in the UK. We are confident that many of the recommendations will have beneficial consequences for smaller businesses too.

From our extensive stakeholder consultation with founders and funders of unicorn and scale-up companies, we found that access to talent and access to finance are overwhelmingly the two most important variables which determine whether a firm can fulfil its growth potential. Indeed, for this reason, these two factors serve as the guiding structure for this report, and command much of our attention with respect to the policy recommendations.

Yet we also appreciate there to be other factors in other areas which can influence the success of potentially high-growth firms. Ensuring that a business environment is created in which all such obstacles are minimised, and help is maximised, is vitally important.

In mythology, as in business, unicorns are rare beasts. Yet with the policy recommendations included in this report, we believe it is within the Government's gift to make unicorns a little more commonplace within the UK – to the benefit of us all.



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To thrive in a digital age, any modern economy needs a growing and dynamic technology sector. In particular, it needs unicorns – those billion-dollar start-ups which dominate and drive the digital economy.

Britain's technology sector is the envy of Europe's – but there is still much more that we could and should be doing to expand our herd of unicorn companies, by creating the conditions for digital entrepreneurs to thrive. This report sets out what we need to do to promote and produce the world-leading digital firms of tomorrow.

