

The UK equity gap: Why is there no Facebook or Google in the UK?

Policy summary paper

About the paper: this is the summary of a discussion document on how to support growth across the tech sector in the UK, with a focus on the funding gaps faced by tech firms. It is a contribution to the debate and not a statement of Mayoral or UK government policy. The paper was authored by Sarah Rigos, an analyst from Barclays, whilst on secondment to the Greater London Authority.

The funding gap

In the UK, a view often expressed is that while we are successful at basic research and generating innovative ideas, we are less successful at developing these ideas into genuinely global firms. Similar views have been espoused across technology sectors, and in particular with regard to the digital sector. In his Tech City announcement on 4 November 2011, Prime Minister David Cameron said, 'the founders of Google have said they could never have started their company in Britain'. This begs the question, 'why is there no Facebook or Google in the UK? Several 'usual suspects' are lined up to explain this failure, such as lack of a sufficiently entrepreneurial culture, skills gaps, or lack of a truly integrated European marketplace. One theory is that development and growth are held back by an 'equity gap' at various stages in the product and firm life-cycle.

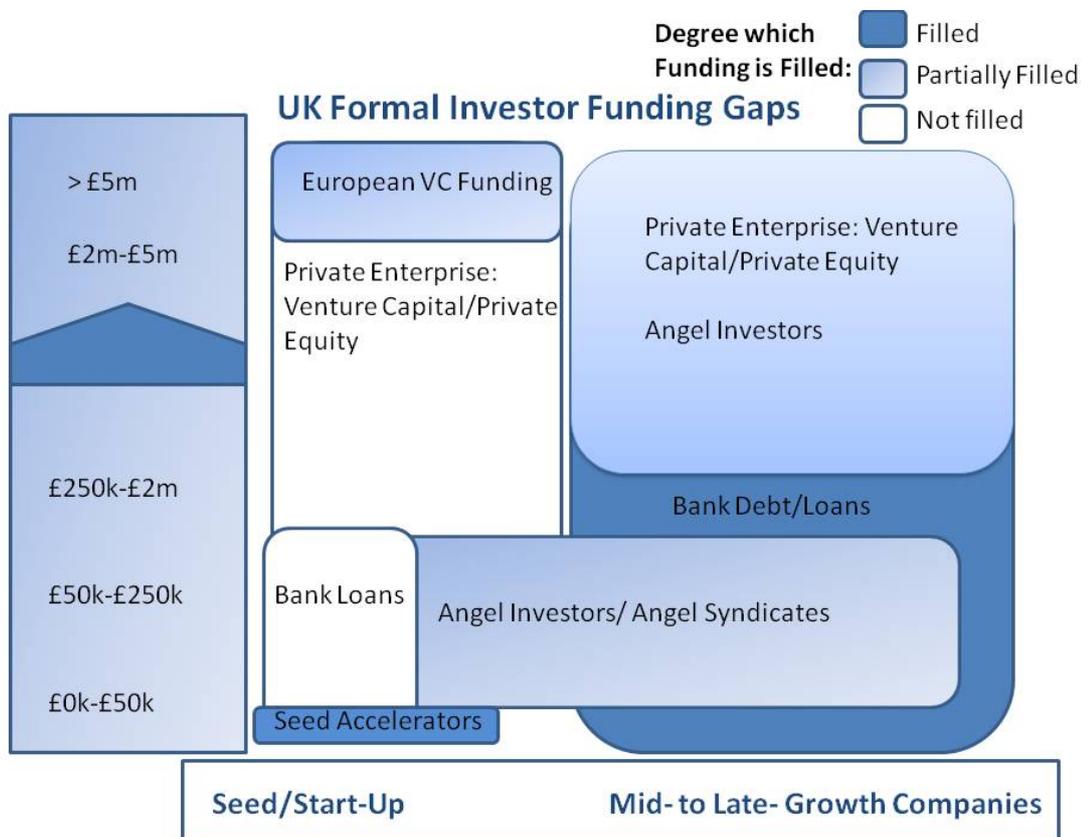
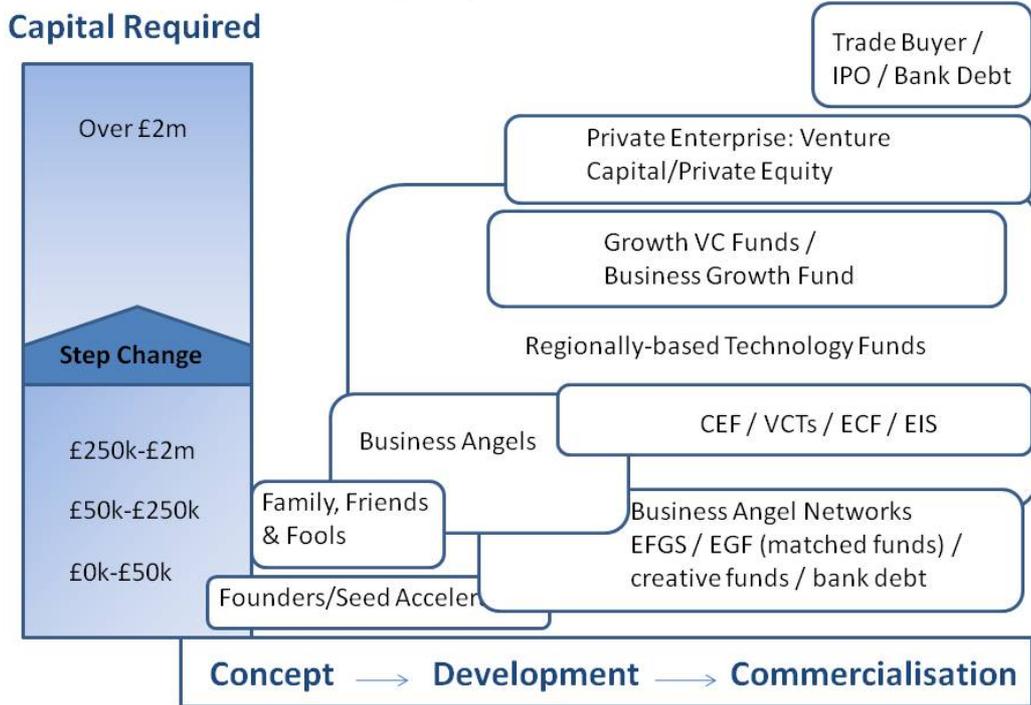
The equity gap is defined as the occasions where companies require equity, but equity is hard to attract (equity refers to investment, rather than loans). Understanding how to fill the equity gap at a micro and policy level requires having a fundamental understanding of the wider economic ecosystem. To date, policy suggestions to improve the funding gap have been more demand-led, focusing on the availability of finance investment. However, supply-based policies that improve UK companies' investment readiness are fundamental to realising any demand-based policy because supply and demand variables are inextricably interrelated.

This paper is divided into two sections: microanalysis that looks at demand-based policies (investors – from seed, angel to venture capitalist) and macro-analysis focused on supply-based policies (the entrepreneurial environment). At a very basic level, demand-based policies (micro level analysis) are those that drive seed accelerator, venture capital, and angel investments into viable UK companies. Supply-based policies (macro level analysis) are policies that will make UK entrepreneurs an attractive investment.

Summary of findings

Below are graphic summaries of the UK equity funding ladder and the equity gaps throughout the funding ladder, analysed by investment amount and correlated to typical financiers. The second figure presented should have a third dimension, which specifies sector since capital requirements for start-ups vary significantly based on industry type. For example, start-ups in the biomedical and biotech industries require sizeable funding to get started, unlike social media companies that can launch with a few thousand pounds. This has significant implications for industries such as biotech, medical, and pharmaceuticals where angels are unable to supply start-up funds that can exceed £10m, while venture capitalists are unwilling to take the risk.

The Equity Funding Ladder



The funding gap is a problem that all small firms experience when they try to expand - they do not have to be start-ups or tech-based businesses. Research shows that it is not especially difficult to start up – for example 14 per cent of London businesses in any given year are new. The real challenge businesses have is when they attempt to scale up. This is reflected in the number of high-tech start-ups purchased by firms outside the UK once they reach the equity gap.

A venture capital equity gap more realistically exists for start-ups and early stage companies, rather than established companies. Start-ups in non-capital intensive sectors such as social media software looking for relatively small sums (£250,000-£1m) still face an equity gap, and capital-intensive high tech start-ups (which may need funding rounds of up to £10m) face the largest gap. Angel investors have partially filled a gap for companies looking to raise £0-£50,000. However, more involvement of this sector is needed to compete with the burgeoning angel market in the United States.

These funding gaps are particularly relevant to London as the capital has strong clusters in many high tech sectors - including social media, life science and software for many of the established industries in London. Start-ups in these sectors need funding if they are to stay and contribute to economic growth in London rather than fail or move overseas.

Microanalysis of funding gap proposals

Business angels

Myth: US angels invest in more seed/start-up companies than UK Angels. In the US, angels are not mainly investing in seed and start-up companies. In fact, only 35.5 per cent of investments made by angels in the US are in companies with no revenue at the time of investment (Shane, 2009). Recent research shows that since 2000, UK business angels have become increasingly significant in early-stage investment (Wiltbank, 2009). They have grown from 16 per cent of all early-stage deals with private involvement in 2000 to 41 per cent in 2007 (Pierrakis and Mason, 2007).

Myth: The Enterprise Investment Scheme (EIS) targets support at start-ups. According to HM Revenue & Customs research (2008) only 15 per cent of companies receiving EIS are high-tech start-ups, or early stage. Thus, the EIS does not support primarily early-stage companies, and most of their deals are not in seed and start-up technology companies.

Myth: Angels investing in the UK has declined due to the poor economic climate. Despite poor economic conditions, the amount invested from all sources has remained remarkably stable because the British Business Angels Association (BBAA) has significantly increased the amount of non-angel investment they have attracted. Co-investment between angels and other types of investors (venture or government funds) has increased in the last few years. In BBAA networks, each £1 of angel investment leveraged £2.04 of other funding in 2009/10, compared with only £1.44 in 2008/09 (Mason and Harrison, 2011).

Myth: The economy has made it more difficult for start-ups to receive funding. While the number of businesses presented to investors has fallen, for those that do present, the chance of getting investment has risen (Mason and Harrison, 2011, pp.6). This suggests either great ideas have not found it harder to raise finance from business angels in 2009/2010 than in the past, or angel networks have become pickier about presenting applicants to their investors.

Policy Implications

Improving the Enterprise Investment Scheme (EIS) tax relief

The National Endowment for Science Technology and the Arts (NESTA) conducted a survey which found that 82 per cent of investors surveyed had used the EIS and 57 per cent of the 1,080 investments made through these investors used the EIS (Wiltbank, 2009). Investors reported that 24 per cent of their investments would not have been made without tax incentives, and 53 per cent of investors said they would have made fewer investments without tax incentives. Regardless of its critics, the EIS is a major incentive to individuals to make angel investments. Thus, improving EIS tax relief could further spur angel investment in the UK. Currently the EIS tax relief is at 30 per cent, but it could be increased to 40 per cent to offer greater incentive for angels to invest in early-stage, pre-revenue investments that hold higher investment risks. However, the cost of this in lost tax revenue clearly needs to be balanced against the potential benefits and the need to target the scheme at the equity gap.

Restructuring EIS ordinary vs. preference shares

One area of the EIS needing urgent review is the rule that restricts business angels to invest in return for ordinary shares when using the EIS. This leads to conflicts when it comes to investing in the next round, or on exits, as venture capitalists mainly invest using preference shares. This is a class of ordinary shares with preferential rights, which allow holders to be paid dividends before ordinary shareholders. Government should change the rule requiring business angels to only invest in return for ordinary shares when using the EIS, and allow them to invest using preference shares.

Marketing the EIS

Government could improve the marketing of EIS to wealthy individuals as a viable way to invest their wealth by introducing people from the City who do not traditionally invest in tech-start ups with selected entrepreneurs. This could bridge the gap between London's tech start up ecosystem and the City. Government could do more to promote networking events between high-net worth individuals and entrepreneurs and/or sponsor an EIS marketing campaign with a media company.

Creating a business angel focused EIS

The EIS does not predominantly support early-stage companies. A study found that only 34 per cent of companies receiving funding under the EIS scheme classified themselves in the 'start-up' phase and 19 per cent categorised themselves as 'early stage'. Among companies raising funds for the first time under EIS, 78 per cent were

more than one year old and 41 per cent were more than two years old (HMRC, 2008). Under the current EIS and Venture Capital Trusts (VCT) schemes there is no explicit restriction to invest at a certain company stage beyond basic criteria of number of employees and gross assets (intended to provide a proxy for small company size). A similar EIS scheme should be implemented to narrow the type of investor and company size which can apply. Since angels are more predisposed to fund start-up and seed companies, an EIS programme tailored to their investment needs would help to increase the number of seed and start-up companies seeking EIS funding. The government alluded to parts of this recommendation in July 2011, with the proposed Business Angel Seed Investment Scheme (BASIS) (HM Treasury, 2011).

Private equity/venture capital

Myth: The US significantly outpaces the UK in terms of the returns performance of funds. While there is still a gap in the performance returns of UK and US funds, this gap has significantly narrowed in recent years. The differences in returns were more apparent during the 1990s dotcom bubble, where fund return differences (net IRR) between the average US and UK fund was 20 per cent for funds raised in 1990-1997, compared to one per cent for funds raised in 1998-2005. The convergence was driven by declining returns in the US, opposed to improved returns in the UK. Moreover, 45 per cent of UK funds outperform the median US fund, and 22 per cent of UK funds established since the post-bubble period would have been in the top quartile of US funds based on returns (Lerner, Pierrakis, Collins, and Biosca, 2011).

Policy Implications

Matching funds for 'consortia' of firms

Great innovation often requires using the knowledge that resides in multiple business firms. However, firms can see collaboration as risky because of technology secrets and the loss of programme ownership. Implementing a similar government programme to the Advanced Technologies Programme (ATP) in the US could stimulate multi-firm collaboration in the UK and help fill the late-stage funding gap. The ATP provides matching funds for firms and 'consortia' for the development of 'precommercial' technologies. The ATP has accelerated and improved outcomes of collaborative projects and encouraged companies to take on higher risks and longer-term research than partnership endeavours without government involvement. It has also provided funding during critical stages in company growth and helped joint ventures overcome barriers to collaboration, helping such projects running more smoothly (Dyer and Staheli, 2001).

Creating globally competitive venture capital funds

There remains a shortage of start-up and early stage funding, which is particularly acute in larger scale technology start-ups. The only exception to the shortage of start-up funding is for relatively small sums in the popular sector of social media, but even here investors like to see 'traction' (sales) before investing. To achieve critical

mass and enable a spread of investments funds need to be at least £50m, requiring an average of £5m a year of the ten-year fixed life of the fund. For funds aiming to bridge the funding gap for deep technology, a fund size of around £150m, or £15m a year over the ten years, would be more appropriate. This would enable a spread of investments and provide opportunity to make follow-on investments in 'winners', thus enhancing the potential for good returns.

However, this fund should be privatised by the end of the ten year period. Israel's Yozma government fund, established in 1993, aptly shows the benefits of targeting government intervention to remedy market weaknesses and withdrawing once its objectives have been achieved. Yozma provided matched funding of around 40 per cent of capital for a range of venture capital companies. Government invested US\$100m into ten hybrid funds that provided finance to over 200 start-ups. Yozma was privatised in 2000, when the sector was considered to be established. Yozma led to more than 30 foreign-based VC funds operating in Israel, and increased the initial investment under management from \$100m to \$250m by 1996, and to \$2.9bn by 2001. The Israeli case shows that targeted government intervention can remedy market weaknesses, and that there is a financial benefit to government withdrawing once its objectives have been accomplished (Clarysse, Knockaert, and Wright, 2009).

Government fund allocation to maximise returns

The perceived market failure in small capital financing is not easily solved by public sector intervention. In fact, failure rates are similar across public and private sectors, and it is advisable to leave choice of fund managers to the private sector. However in practice, government sponsored boards are often needed to approve private sector selections of fund managers, especially when providing matching funds. Below are ways to help government analyse the relative strength of a funds manager.

Government also has to recognise that if it is targeting the equity gap, it will see lower returns than later stage deals. This is why the private sector avoids such investments, creating an equity gap. Government therefore must ensure it achieves its economic aims, obviously at minimum cost, rather than simply competing with the private sector by investing in funds with the best financial returns. The strongest predictors of VC returns according to Lerner, Pierrakis, Collins, and Biosca (2011) are:

- **Experience-** Success is positively correlated to the number of previous funds general partners raise that outperform the market benchmark.
- **Who-** Repeat founders have better success, even if their first companies failed. Ninety per cent of the big exits, and 66 per cent of the smaller exits, are not first time entrepreneurs. Also, co-founders tend to do better than single-founders, and younger founders tend to do better than older founders (Lacy, 2011).
- **Fund Size-** Funds can be too big or too small. For the most part, in the UK, fund sizes have been too small to guarantee returns. On average, the UK has

smaller funds than does the US, and returns on smaller funds are not as robust as returns on larger funds because of the diseconomies of scale.

- **Location-** Performance seems to have been higher for funds located in the four largest hubs - Silicon Valley, New York, Massachusetts, and London. Funds from these hubs always perform better regardless of whether they invest the fund in that hub area or another region.
- **Market-** Investments in information and communication technology (ICT) historically have the highest returns.
- **Public vs private funds-** The gap between publicly backed and private funds has narrowed in recent years. This suggests either that government has become more strategic when designing new venture capital schemes or that it is less focused on targeting the equity gap and more focused on financial returns. Where the size of the fund or the rules prevent follow-on investment, it is particularly difficult to generate returns.

Macro-analysis of funding gap

Policy implications

Until now this summary paper has focused on demand-based policies to improve the availability of finance investment for UK companies. However, policies to improve investment capacity in the UK will only be realised if investors are offered attractive companies they want to invest in. Thus, the ability to plug the funding gap through policy implementation will in part depend on the success of supply-based policies to improve, or facilitate, the supply of quality UK investment-ready companies. This section proposes policy to facilitate this.

Enabling innovation

In Europe there is a shortage of start-ups that grow to dominate an industry, such as Microsoft or Google. Reflecting this, there is significantly more business movement in the US than in Europe (Biosca, 2010). The US has on average a larger share of both fast growing firms and of rapidly shrinking firms. Europe on the other hand has a larger share of static firms that are neither expanding nor contracting (Biosca, 2010).

The advantage of the US business climate is that both a higher share of growing and shrinking firms are correlated with faster productivity growth. A less dynamic business growth distribution is associated with lower productivity increases and is symptomatic of less experimentation and a slower reallocation of resources from less to more productive businesses.

Spatial economic models suggest firm competition sorts companies into optimal spaces (Glaeser, 2008). Businesses also benefit from co-location; clusters of companies facilitate the flow of ideas, especially among knowledge-intensive businesses, such as technology companies (Jacobs, 1970). A recent study found that

doubling an urban area's employment density raises average labour productivity by around six per cent (Melo, Graham, and Noland, 2009). Therefore, productivity payoffs for firms have wider social returns for cities, like London, by helping them grow. This is a good reason to locate high-tech firms together within cities.

It is important to foster a more dynamic UK business climate by removing barriers to growth and contraction. One of the key ways for policymakers to encourage innovation is by creating an environment which encourages innovative start-ups through ensuring the regulatory environment supports rather than stifles innovation.

The OECD aggregate product market regulation (PMR) indicators rank the US better than any European country. Indicators of PMR include economy-wide regulation, regulation impact, and sectoral regulation (OECD, 2011). The UK's PMR hampers competition and keeps the cost of inaction low, which results in stagnant firms. Liberalising product market regulation would increase competition, thereby encouraging greater drive and innovation, resulting in a more dynamic growth distribution (Biosca, 2010).

Tapping into universities

Companies are created by innovative minds. Research suggests a strong correlation between world-class universities and successful start-ups (McKinsey & Company, 2011). In the UK, Cambridge enjoys the highest concentration of high-tech companies in Europe. The strength of Cambridge University coupled with intelligent students and willing financiers, has fostered a thriving tech start-up community. From 2001-2006, Cambridge saw 108 companies receive venture capital funding, and commercial spinouts from the university attracted £140m. Raising UK innovation will require leveraging university resources and funding the ideas that follow.

However, the present environment does not support this relationship. For example, top entrepreneurial talent may feel pressure to enter the corporate environment to pay off university debt, and laws discourage university professors from becoming actively involved in entrepreneurial companies. Policy must work to facilitate the inclusion of university members into the entrepreneurial market. Below are policy suggestions to tap into the talent and resources of UK universities:

- **Funding for spin-outs** – Improve the coordination of angel funding with the innovations emerging from the higher education sector to increase deal flow and raise commercialisation rates.
- **Incentivise collaboration and knowledge exchange** - Provide incentives to maximise knowledge exchange between universities and SMEs, across sectors and disciplines. Previous initiatives in this area include innovation vouchers offering credits to encourage firms to access university expertise.
- **Review research and development tax-credits** - Currently all SMEs that spend £10,000 or more a year on R&D are entitled to 200 per cent tax deduction, which is set to increase to 225 per cent as of April 1, 2012, subject

to government approval (McKinsey & Company, 2011). The further propositions in the 2011 budget to remove the current £10,000 de minimus spend and the requirement to have paid PAYE/NI in the year before suggests the HM Revenue & Customs (HMRC) are trying to ensure more high-tech, start-ups and small and medium enterprises (SMEs) can benefit from this relief. While this is a step forward, it would be advantageous if R&D tax credits were paid up-front rather than retrospectively, as they are an important part of SMEs' cash flow.

- **Allow non-executive directors and academics to participate in the enterprise management incentive scheme (EMI)** - This would enable high growth companies to attract very skilled employees and retain academic founders in the firm. It would also reduce the risk of the company failing by securing employees with expertise in managing high-growth firms (Clarysse, Knockaert, and Wright, 2009).
- **Increase businesses engagement in skills supply** – Encouraging businesses to engage in the supply of skills is critical to ensuring students have the technical ability and softer skills new businesses need to grow. Initiatives range from involving tech firms in course design to work experience placements.
- **University entrepreneurship** - Improve the entrepreneurial infrastructure around universities. For example by providing more flexible office space in high demand areas such as London, increasing the quality and provision of business mentoring and investment readiness programmes. This should be linked to entrepreneurship training and student internships with start-ups to inspire graduates to consider entrepreneurship as a career option.
- **Loan relief to graduates** – To ease the pressure on graduates to enter the workforce after university, the government could introduce student loan relief to those who start a business right after leaving university. One measure could be to allow those earning more than £21,000 to allocate part of their earnings to re-invest into their business (such as renting office space or taking on new employees). This part could be deducted so their income is reduced below the repayment threshold (McKinsey & Company, 2011).

Retaining top entrepreneurial talent through a supportive start-up environment

As previously mentioned, legal regulations can stop companies from emerging, expose them to liabilities, and limit growth potential. Entrepreneurs care about legal regulations because laws directly influence a company's success rate. For example, UK libel law results in a loss of UK-based companies. A website built on user-generated content has less legal risk in the US than in the UK, so UK companies for which this applies tend to move there. Also, in the UK it can take up to 3.5 years longer to receive a patent than in the US, which may result in a UK company missing out on valuable IP ownership. Thus, current UK patent law can limit a company's growth potential. To attract and retain top entrepreneurial talent in the UK requires supportive regulation:

- **Review visa requirements** - Many entrepreneurs believe the current visa criteria prevent talent flow into the UK. This is a major barrier for business growth. The UK government announced changes to the UK's visa system to take effect 6 April 2011, but these will not largely affect the Tier 1 (Entrepreneur) visa. The main issue for entrepreneurs in the UK still remains the capital requirement for a visa application that requires holding a minimum of £200,000 to start the proposed business. Interviews of entrepreneurs have suggested two regulatory policy changes that would aid start-ups: base the criteria for entrepreneur visas on job creation (rather than minimum capital) and lower capital requirements.
- **Rebalance tax incentives to support intangible investment** - The tax system in the UK at present disadvantages intangible investments (eg process improvements, creative ideas, skills, IT). Intangible capital accounted for 25 per cent of contributions to labour productivity growth in the UK from 1995-2006, compared to 30 per cent in the US (McKinsey & Company, 2011). An OECD working paper (2006) found that, in contrast to countries such as the US and Japan, no real tax incentives exist for businesses investing in intellectual assets in the UK aside from research and development (R&D).
- **Review capital gains relief** - UK business founders have complained that they are unable to leave their companies because if their firm were sold, they would be disadvantaged by current capital gains tax rules. By amending this requirement, companies could let their founders leave, thus reducing the financial salary burden on their companies and freeing the founders up to pursue other ventures. In essence, entrepreneurs' relief discourages serial investors and compels a founder to remain in a company. Entrepreneurs are only exempt if they own greater than five per cent of the company at time of sale (McKinsey & Company, 2011). A capital gains preference system that encouraged successful entrepreneurs to reinvest their profits would support the entrepreneurial environment.
- **Current IP law** - The Hargreaves Report (May, 2011) outlined proposals to update the UK's outdated IP laws, including a call for laws protecting designs and copyright to be overhauled in the UK. It also suggested that the UK champion the creation of a unified European Union patent court and a single European patent system. Many of the report's recommendations were put forward in the 2006 Gower review of IP, but were not adopted (Ring, 2011). The Hargreaves Report is not strong enough if the UK's IP law is to be competitive with US law. For example, it does not suggest the UK implement the US concept of 'fair use' that allows significant portions of work to be used without permission. Until this is changed, the UK will retain its exhaustive list of possible user rights, including format shifting, backups, and parodies which limit innovation and flexibility (McKinsey & Company, 2011).
- **Libel law** - In the US, section 230 of the Communications Decency Act gives websites broad immunity from liability for comments written by users;

section 230's coverage does have exception for federal criminal liability and intellectual property law. Courts have interpreted Section 230 as providing complete immunity for internet service providers (*Zeran v. AOL*, 129 F.3d 327 (4th Cir. 1997); *Green v. AOL*, 318 F.3d 465 (3rd Cir. 2003)). There is no equivalent in the UK. A website built on user-generated content has less legal risk in America than in the UK. In the UK, hosts are liable if they do not take down a libelous comment once aware of it. Since it is hard to determine if a statement is libelous or not, many hosts don't take the risk, or launch their company in the US.

- **Patent law** - It currently takes 2.5-4.5 years to get a patent approved in the UK. The United States Patent and Trademark Office (USPTO) in May 2011 launched a new programme, called Track One, in conjunction with President Obama's Startup America initiative, which allows inventors and businesses to have their patents processed within 12 months. This is a big improvement on the previous average three year period it takes to process a patent in the US. For biotech and ITC companies, patent protection is vital to both securing funding during the growth stage and later to be appealing purchases in a trade-sale. The UK should speed up this process to reach the 12 month level that will shortly be enjoyed by many companies in the US.
- **Liberalise labour market regulation** - Inflexible employment regulation can act as a barrier to growth. If badly designed, labour market regulation can limit firms' incentives to experiment with uncertain growth and prevent them from relocating labour to more productive areas. NESTA proposes the UK implement a 'flexi-security' model that protects individuals instead of jobs (Biosca, 2010).

Leveraging London

In June 2011, New York City Mayor Bloomberg pledged to be 'The Number 1 City in Digital Tech'. Mayor Bloomberg called on the US national government to relax immigration laws to allow for a new visa for entrepreneurs who have secured investment. This push came from a US study which found that immigrants or the children of immigrants started more than 40 per cent of Fortune 500 companies. These companies employ more than ten million people worldwide with combined revenues of \$4.2 trillion (Arrington, 2011).

The race to win the top global digital entrepreneurial talent has moved beyond national governments and now falls squarely within the ambitions of the leaders of the world's major cities. The supply of entrepreneurial talent is ample, as individuals with great ideas have long recognised the need to relocate to the world's leading tech hubs. With entrepreneurs knocking at the doors of major cities, the first European government that lowers entrepreneur visa criteria could become the continent's premier digital tech city.

London should be the main vehicle in the UK's fight to secure this title. It hosts the strongest knowledge and research base, technical and creative skills and global-local

connectivity. The capital is a cultural hub and the world's leading financial centre (Global Financial Centres Index). London is also Europe's largest investment banking centre and the second largest hedge fund management centre globally. Two-thirds of all European hedge funds are based in London, and in 2010 around 19 per cent of global hedge fund assets were managed from London (London and Partners, 2011).

Focusing on attracting Silicon Valley start-ups, or American corporations, may not be the most strategic option to secure the UK's position as the leader of digital technology. *The Economist* (2011) noted that because of the shared language, British firms face intense competition from American companies, but American companies benefit from an enormous market that allows them to gain economies of scale and large audiences very quickly, while accessing the UK market via the internet. It is not as easy to go the other way.

On many levels London is perceived to be the European hub for tech start-ups. The capital should refocus its radar away from the US and onto the growing digital European and non-European markets that sit at its back door. The US is eagerly looking to attract both European, and non-European entrepreneurial talent, but London has the advantage of proximity.

The focus should be on supporting technology companies that improve ROI for those sectors where the UK is already a world leader. This means supporting technology innovation in all sectors where the UK has key strengths and not focusing exclusively on the currently 'hot' sector of social media.

London has the highest rate of start-ups nationally. The capital's tech firms have forged niches in product spaces, not only social media (drawing on other parts of the creative economy), but software serving London-based industries such as financial services; life science companies based on the well-established cluster of research/teaching hospitals and industry; and environmental technology.

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