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Increasing 'The Vital 6 Percent': Designing Effective Public Policy to Support High Growth Firms

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Abstract

This paper examines the nature of high growth firms (HGFs) and how they are supported by public policy. HGFs have become a key focus for public policy within the UK and across many OECD economies in recent years. In parallel with this, there has been a growing body of research and evidence which has accumulated on the nature of these firms. However, sizeable gaps in our knowledge remain on how these firms operate and grow. To date, very few researchers have attempted to examine the specific nature of the growth processes and their associated growth constraints. As a consequence, a degree of ambiguity and 'mythology' is attached to HGFs. This paper seeks to 'debunk' some of the myths associated with these rapidly growing ventures by taking stock of some of the recent research findings. Arguably, a weak understanding of HGFs has manifested itself in the poor policy frameworks which have been devised to support these firms. This paper offers some suggestions for how entrepreneurship and small business policy could be better formulated to help improve the effectiveness of public policy. The paper concludes with some suggestions for future research on high growth entrepreneurship which would further aid policy development in this area.

JEL Classification: D04, L26, L53, 025, O38

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1.Introduction

Governments have been actively searching for solutions to the adverse economic conditions that have confronted most advanced economies since the onset of the financial crisis in 2008. Ways to remedy the growing plight of unemployment and faltering economic growth have steadily risen up policy agendas. While the focus of enterprise policy during much of the 1970s and 1980s was on promoting new business start-ups, questions are now beginning to be raised about the level of prioritization these firms received within public policy (Shane, 2009). One potential solution for stimulating moribund economies which has taken a firm hold within public policy is to focus on the small proportion of high growth firms (HGFs) which undergo rapid transformative growth (Bleda et al, 2013).

> 'Policy makers believe a dangerous myth. They think that start-up companies are a magic bullet that will transform depressed economic regions, generate innovation, create jobs, and conduct all sorts of other economic wizardry....This is bad public policy.'
>
> Shane (2009) pp. 141-142

The rationale for this focus within public policy focus primarily owes to their considerable ability to create new jobs (Anyadike-Danes et al, 2009). According to the well-known American entrepreneurship academic Scott Shane, getting economic growth is not a 'numbers game' but it is about encouraging high quality, high growth companies to be founded (Shane, 2009). While targeting public assistance towards fast growth firms may be riskier than a focus on promoting new starts, 'the prize is likely to be greater' (Greene, 2012, p. 34). Others have argued that support for start-ups and fostering high growth entrepreneurship should not be seen as mutually exclusive policy objectives (Mason and Brown, 2013). However, they claim that much greater attention needs to be given towards developing more effective ways of creating and supporting HGFs (Brown and Mason, 2012; Mason and Brown, 2013).

The idea behind prioritizing support for this small cohort of high flyers is not new. Indeed, they were first identified by American economist David Birch in the late 1970s and termed 'gazelles' to denote their fast-moving dynamic nature[1] (Birch, 1979). The most notable feature of these firms was their strong propensity to create new jobs in a short period of time (Henrekson and Johansson, 2010). However, their impact was felt to be even more systemic than simply job creation. These firms were thought to have a dynamic 'Schumpeterian' effect on economies, by stimulating competition for incumbents leading to market exits, increasing the innovative capacity within industries and creating new market opportunities for other new entrants as suppliers or competitors. Amazon and eBay are good examples of gazelles with transformative technology which has in turn created new business eco-systems as well as opportunities for other businesses. Consequently, HGFs have become something of a policy 'mantra' espoused by many governments across the OECD (Lerner, 2010; OECD, 2010; OECD, 2013).

[1] While Birch was originally associated with the economic importance of small firms, his later work became more strongly associated with a focus on a small proportion of the business base that experience rapid growth. See Birch, D. and Medoff, J. (1994) "Gazelles", In: Solmon, L. & Levenson, A. (Eds) Labour Markets, Employment Policy and Job Creation, Westview Press, Boulder.

At the time of the financial crisis, the National Endowment for Science Technology and Arts (NESTA) launched a study on HGFs called '*The Vital 6 Per Cent*' (NESTA, 2009). This highly influential research paper outlined some important research which showed that a very small proportion of UK businesses (i.e. the 6 per cent) employing more than 10 employees accounted for over half of all jobs created within the UK by this cohort of firms' (Anyadike-Danes et al, 2009). As the effects of the financial crisis were beginning to take hold within the economy, the findings strongly resonated within the policy making community, who were looking for ways to prevent the economy from going into recession. Meanwhile, the UK Government had also commissioned research on HGFs, which reinforced the view that HGFs were powerful drivers of economic growth (BERR, 2008).

'The global economy is increasingly being shaped by new, young, fast growing firms. And we're creating a policy environment that supports, not holds back, fast growing firms.'

George Osborne, Chancellor of the Exchequer, 25 April 2013

As a result, the focus on HGFs has now taken a firm hold within UK public policy circles. At a national level, various policy initiatives have been specifically enacted to help promote HGFs. These encompass infrastructure development, regulatory reform, taxation incentives and bespoke support programmes. Examples include the infrastructure development to create Tech City in London, which was primarily aimed to foster the growth of new high-tech, high growth firms. The government has also introduced the Seed Enterprise Investment Scheme alongside the existing Enterprise Investment Scheme, which offers 50% tax relief for investment in new start-ups. Recent changes to allow the inclusion of AIM shares in ISAs and the abolition of stamp duty for shares registered on Alternative Investment Market (AIM) have been introduced to encourage firms to seek listings on the stock market and to increase liquidity. The Government has also worked with the London Stock Market to create a new 'High Growth Segment'. This is specifically designed to open up the main stock market to rapidly growing technology businesses within the UK (see box on page 28).

In 2012, the government announced the launch of the Growth Accelerator Programme, which is an ambitious programme specifically designed to aid the development of high growth businesses (see box on page 7). Backed by funding of £200million from the Department of Business, Innovation & Skills (BIS), the programme is designed to help up to 26,000 high potential businesses with support based around securing finance, commercialising innovation or developing leadership and management capability. The focus is on removing barriers to growth for high potential firms, building a sustainable community of ambitious and growing businesses. To date, over 7000 firms have received assistance through the Growth Accelerator programme.

More recently, the UK government has just launched the FutureFifty programme which aims to promote 50 of the UK's most rapidly growing businesses with a 'concerige-style' programme which connects these firms with key resources within various government departments such as BIS, UKTI and HMRC. This 'competitive' programme specifically wishes to attract some of the most ambitious and growth-oriented SMEs in the UK. The participating firms are chosen by an independent panel and then given mentoring support from established entrepreneurs and professional advisers, with a view to expansion through a stock market listing. On paper this looks like an extremely novel policy initiative. For

example, one of the participating companies is from Israel and the rationale for their inclusion is the desire to attract the firm to move to the UK.

In order to improve the funding for HGFs, the government launched the Business Growth Fund (BGF) in 2011. The BGF is a £2.5bn programme that will see banks invest between £2m and £10m in firms, in exchange for a share of the business ranging from 10% to 50%. The problem of obtaining these levels of growth capital was identified by the Rowlands Committee. Participating firms must have an annual turnover between £10m and £100m. Therefore, the programme is specifically geared to medium and large scale firms to help further their growth and expansion. During the BGF's first full year of operation it had made investments in 21 businesses with a total cost of £100m.

Growth Accelerator Programme

The Growth Accelerator Programme is a bespoke service designed to promote growth within firms with high growth potential. It is aimed at SMEs with less than 250 employees who have the ambition to grow rapidly. The programme offers £2000 matched funding for management and leadership development and aims to:

- Build a successful growth strategy in companies
- Discover new routes for funding and investment
- Unlock a firm's capacity for innovation
- Harness the power of employees

Part of the programme involves networking with other like-minded growth-oriented businesses.

Strong signs of policy activism towards the promotion of high growth entrepreneurship have also been strongly evident at a regional level (Brown and Mason, 2012). Prior to their closure, most of the English Regional Development Agencies (RDAs) had bespoke programmes specifically designed to promote HGFs (Bleda et al, 2013). At a regional level, a number of English regions have promoted the use of entrepreneurial finance using JEREMIE funding. Some of these funds have been devised to help promote co-investment between private sector investors and the public sector, providing greater liquidity in the market and enabling larger investments to be made. In Scotland, policy makers have also been proactive in developing the body of evidence on HGFs (Mason and Brown, 2010). Primarily through the work of Scottish Enterprise, Scotland, arguably, offers the most comprehensive range of support services within the UK to aid the promotion of HGFs. These include programmes aimed to develop early stage high potential enterprises, a range of co-investment funds to promote the uptake of entrepreneurial finance and a range of innovation support programmes.

Despite these well-intentioned efforts of policy makers, we argue in this paper that the bulk of policies and interventions which are being implemented to foster and grow HGFs are flawed and therefore are likely to be largely ineffective (Mason and Brown, 2013). We do so by challenging some of the '*vital myths*' surrounding the nature of HGFs. One major consequence of the perpetration of these myths is that the types of support offered to these firms are often misdirected and fail to provide relevant

support to appropriate types of businesses. Meanwhile, public policy largely neglects the real needs of high growth businesses. Consequently, in addition to providing a critique of public policy towards HGFs, we also offer suggestions for how small business policy can potentially be reconfigured to better support the needs of these firms.

The paper is structured as follows. It begins with a short discussion of definitional issues. We then undertake a brief survey of the recent literature on high growth entrepreneurship. Following this, we attempt to debunk some of the mythology which has emerged in relation to HGFs, using empirical evidence to demonstrate the complex nature of what these firms look like and how they grow rapidly. We go on to provide a critique of the current policy approaches which have been designed to support these firms. In the penultimate section, we discuss what recent findings on high growth firms mean for the current shape of small business policy in the UK and suggest how public policy can be amended accordingly. We end with a brief discussion of areas and issues which merit further research.

2. Definitional Issues

It is appropriate at this point to consider exactly what we mean by the term 'high growth'. Over recent years, researchers have used numerous definitions and metrics to identify and categorize firms as HGFs (Henrekson and Johansson, 2010). The choice of growth metrics has been varied, with growth in turnover and growth in employment both being used. In recent years, there have been concerted moves by the OECD to standardize the way in which these firms are formally defined and identified as HGFs (OECD, 2008). This has led to the decision to consider growth in either turnover or employment over a three-year time period. As with any standardized definition, there have been a number of problematic issues raised, not least because it omits firms which may be growing rapidly but fall just outside this exacting growth threshold (Anyadike-Danes et al, 2013). It is important to note that the definition also excludes micro-firms employing less than 10 employees. Again, these firms may also be growing very rapidly, but are not included within the parameters of the OECD definition. Moreover, the simple mathematics of percentages means that the measure is biased towards smaller – and hence newer – businesses.

> Under the OECD definition, HGFs are defined as: 'enterprises with average annualised growth in employees or turnover greater than 20% per annum, over a three year period, and with more than 10 employees in the beginning of the observation period.' OECD (2008)

Irrespective of the criteria for measuring these firms, it is important to note that rapid growth is highly episodic in nature. As a consequence, the population of HGFs is constantly fluctuating. Birch noted that many firms have an almost pathological tendency towards instability, whereby they move between small and large quickly at various times in either direction (Birch and Medoff, 1994). He suggests that job losses are as 'inevitable as the tides' and '*that the aggregate, macro stability of an economy flows from its micro instability, the instability of the individual firm*' (Birch, 1987, p. 52). Rather than a steady process of upwards linear growth, HGFs tend to exhibit highly unpredictable growth trajectories: growth spurts are often interjected with periods of stability or decline, followed by a subsequent upward growth 'jump' (Garnsey et al, 2006). Moreover, high growth in one period of time is not a protection

against failure in the next. Hence, it is crucial to bear in mind, that high growth is not a 'characteristic' of a sub-set of firms, but rather a 'state' that some firms undergo and temporarily experience.

This means that HGFs are something of a 'moving target', making them a difficult cohort of businesses for policy makers to target. According to some, since these firms are 'in a constant state of change', static SME policies that are designed to work for the majority of firms are not likely to be appropriate for the most dynamic and rapidly growing cohort of businesses (Bleda et al, 2013, p. 111).

3. What Does the High Growth Literature Tell Us?

There have been a number of extensive reviews of the firm growth literature (Dobbs and Hamilton, 2007). A notable feature of firm growth research in general has been a strong focus on the question of 'how much', rather than questions of 'how' and 'why' firms achieve growth (McKelvie and Wiklund, 2010). Hence, to a large extent, research has dealt with the issue of how firms grow as something akin to a 'black box'. The consequence of this focus on growth measurement, according to some observers, is that, despite considerable emphasis on small business growth within public policy, 'our current understanding remains limited' (Dobbs and Hamilton, 2007, p. 315). Meanwhile, others maintain that 'growth remains something of an enigma' (Roper and Hart, 2013, p. 11). Indeed, a major conclusion of the empirical research in this area concluded that the 'stochastic part of the variation by far outweighs the systematic part. In other words, explained variance in growth research is notably low' (McKelvie and Wiklund, 2010, p. 277).

A strong feature of the bulk of the literature on HGFs is the use of quantitative research methods. To date, the vast majority of the research on HGFs has been undertaken by economists who have attempted to estimate the job generating impact of these firms, based on analyses of aggregate datasets (Henrekson and Johansson, 2010). These datasets originate from three main sources: official government datasets, such as the Interdepartmental Business Register; listings of fast-growing firms, such as the Sunday Times Fast Track 100; and commercial datasets, such as the FAME and Dun and Bradstreet. Good summaries of empirical HGF studies already exist (Henrekson and Johansson, 2010), so we wish only to briefly highlight some of the key aggregate findings from the HGF literature.

It is worth noting that HGF studies are usually unable to distinguish between firms which grow organically and those that use acquisition as a key growth strategy. There is now evidence to suggest that positive effects from growth are less straightforward than previously assumed, particularly if acquisition is involved. According to some observers, 'at the macro level, growth by acquisition may simply 'transplant' jobs from a smaller firm into a larger acquiring firm, thus leading to net zero employment gain' (McKelvie and Wiklund, 2010, p. 282). In future, research on HGFs should clearly delineate between the gross and net impact of high growth entrepreneurship. A further limitation is that data sets may often only report on the (changing) employment figures of firm, ignoring the location of where those jobs are created. For example, our study of HGFs in Scotland noted that their Scottish 'footprint' was in some cases quite small because they had expanded overseas (Mason and Brown, 2010).

> 'A few rapidly growing firms generate a disproportionately large share of all new net jobs compared with non-high-growth firms. This is a clear-cut result.'
>
> Henrekson and Johansson (2010, p. 240)

So what does the literature on HGFs tell us? In line with the historical research on HGFs in the UK, recent research has strongly corroborated the role played by HGFs in terms of job creation. Recent analysis of the empirical evidence base concluded that rapidly growing firms are significant contributors to job creation (Henrekson and Johansson, 2010; Anyadike-Danes et al, 2013).

These firms have also been found to have higher levels of productivity than non-HGFs. A recent study found that firms which have experienced a period of high growth are more likely to have a higher Total Factor Productivity (TFP), which may be influenced by their high levels of innovation (Du et al, 2013). Although the causal relationship between innovation and productivity is far from clear cut (Coad, 2009), a recent study for NESTA identified that innovative firms grow twice as fast as less innovative firms (Mason et al, 2010). Another study by the same team of authors examined the product strategies and skills development within HGFs. Firm growth (in both employment and sales) was found to be positively related to the use of skill-intensive product strategies. In seeking to meet their skills requirements, HGFs were found to engage in high levels of personnel training. This substantial investment in training both precedes rapid growth and persists during the growth period, despite the high opportunity costs of providing training when sales are growing rapidly. Interestingly, another recent study using Swedish data revealed that HGFs are more likely to employ long-term unemployed people and other workers who are often disadvantaged in the labour market, such as migrant workers (Coad et al, 2011).

More recently, attempts have been made to examine the impact of HGFs across regions. Recent research has shown that while HGFs are found in all regions of the UK economy, and in all types of geographical environments (large cities, small towns, rural areas) there are, nevertheless, geographical clusters which account for a disproportionate number of these firms (NESTA, 2009). Often these spatial locations have particularly strong sectoral clusters, such as business services in London, oil and gas in Aberdeen and life sciences in Cambridgeshire. While evidence exists on the spatial distribution of HGFs, little work has been done to assess whether the impact of these HGFs (e.g. in terms of job creation) varies across regions. A common assumption within policy circles appears to be that HGFs have the same impact on job creation and wider economic development, regardless of their regional location.

However, evidence from Scotland indicates that HGFs are highly internationalized and are more likely than comparative firms in the wider business base to have physical operations abroad. Whilst HGFs are often thought to be characterized as exporters (Zahra et al, 2000), many prefer instead to engage in international activity through joint ventures, strategic alliances, foreign investment and - most notably - domestic and overseas acquisitions. This could be due to their more limited domestic market opportunities, as well as transportation and communications limitations from Scotland to other parts of the United Kingdom.

Cupid PLC is a UK-based internet dating agency based in Edinburgh. Founded in 2009, this HGF has grown rapidly and become extremely internationalised by acquiring a host of established firms in overseas markets. Now trading in 39 countries across Europe and North America, the company has seen the majority of its growth manifest in new offices and employment opportunities outside of Scotland. Only 18 of their worldwide staff of 400 are now located in Scotland and the bulk of their software engineers are employed in the Ukraine.

The consequence of this approach is that, over time, a firm's employment and overall 'footprint' in their home region diminishes. Whilst further research is needed to fully explore the regional impacts of HGFs, the available evidence indicates that there might be regional variations in their economic impact. Indeed, aggregate analysis of the same data source used by the original NESTA study discovered that HGFs in Scotland appear to be less powerful 'local' job generators that their UK counterparts (Brown et al, 2012). For example, this study found that the aggregate employment generating impact of HGFs was almost half the level in Scotland than it was in the UK as a whole. Policy makers need to be cognisant of such variation, in order to ensure that interventions best address regional needs.

There is no doubt that the strong preference for assessing HGFs using aggregate research techniques has impacted the level of insight we have been able to glean about the nature of HGFs. While the (growing) body of empirical work on HGFs has improved our knowledge base about HGFs, arguably it has done little to yield useful insight into how public policy can foster and support these firms. High growth researchers have recently argued that we are still missing 'an understanding of the processes which drive them [HGFs], which is required if we are to develop a robust set of policy interventions' (Anyadike-Danes et al, 2013, p. 34). This will require researchers to undertake detailed micro-level qualitative analysis, to best explore the nature of firm growth (Coad, 2007).

4. Debunking Six 'Vital' Myths Surrounding High Growth Firms

In recent years there have been a small (but growing) number of studies which have examined the specific nature of HGFs and their associated growth processes (Mason and Brown, 2010; Hansen and Hamilton, 2011; Brown and Mawson, 2013; Hinton and Hamilton, 2013). This work has started to examine where HGFs originate, how they undertake growth and how this growth affects their business and host environment. While the literature remains fragmented and requires significant further development, we are now able to speak with greater confidence about what HGFs are and, more importantly, what they are not.

So what do we know about the characteristics of these firms and how they operate? A key point to make is the 'pervasive heterogeneity' among HGFs (Coad, 2009). If the literature shows us anything, it is that there is no such thing as a 'typical' high growth firm. These businesses are of varying age and size, operate across a range of sectors, exhibit a variety of business models, management styles and ownership structures, and achieve growth through a number of mechanisms and channels. The antecedents of how these firms encounter rapid growth are equally diverse and complex. In other words, there is no single ingredient or 'magic bullet' behind those firms which achieve a period of rapid growth. Unfortunately, this diversity makes it particularly difficult for policy makers to easily identify HGFs and to design and target appropriate interventions. As a result, policy makers have tended to adopt a number of 'intrinsic assumptions' or 'myths' about what HGFs are and how they operate, and maintained this approach despite growing evidence that such assumptions are not necessarily

representative of the larger stock of HGFs in the UK. Given the new emerging evidence on these firms, we will now challenge six of the main 'myths' about HGFs.

Myth #1 HGFs are all new/young

Given that interest in high growth firms first stemmed from American economist David Birch's observation that small, young, fast-growing firms – the so-called *'gazelles'* – are major sources of job creation, it is no surprise that HGFs have continued to be thought of as young and dynamic ventures (Birch, 1979). However, as we have come to understand more about these firms, it has become increasingly apparent that this assumption about age may no longer hold true. A recent review of HGFs states that, in contrast to Birch's original work, these firms are not '*necessarily small and young*' (Henrekson and Johansson, 2010). On closer inspection, our work on HGFs reveals that a significant minority emerge from existing firms which are undertaking a period of organisational change such as a management buy-out (MBO), management buy-in (MBI), and inter-generational change in management in a family business.

Recent evidence also indicates that, rather than being young and small, the majority of high growth firms are in fact older and larger than previously believed. Research in the US found that HGFs are on average 25 years old[2], with even small firms (1-19 employees) exhibiting a more advanced average age of 17 years (Acs et al, 2008). These findings have been corroborated in the UK as a whole, where it has been found that 70% of high-growth firms are at least five years old (NESTA, 2009), as well as for regions such as Scotland, where HGFs are also on average about 20-25 years old (Mason and Brown, 2010). These older firms are by no means less prolific job creators: they have been identified to grow faster in terms of employees than their younger counterparts and are thus considered to have a more significant effect on regional employment generation (Acs et al, 2008). This calls into question the assumption that a firm needs to be young or small to achieve significant growth and in turn raises important policy questions about how to best identify, target and support older and more established HGFs.

Up until now, much of the support which falls under the heading of support for high growth entrepreneurship typically focuses on very young early stage enterprises (Brown and Mason, 2012). With so much policy support targeting new ventures or pre-revenue companies, it is important to acknowledge that much of the HGF base falls outside the remit of support programs such as business incubators, business planning and start-up services and small-scale (or seed) start up financing. Older and more established HGFs will have particular support requirements and policy makers will need to bear this in mind when designing appropriate interventions for these firms.

Myth #2 HGFs are predominantly high tech

[2] These findings held true over three discrete time periods. Acs, Z. J., Parsons, W.and Tracy, S. (2008) *High-Impact Firms: Gazelles Revisited*, Office of Advocacy of the US Small Business Administration (SBA), Washington D. C. [http://archive.sba.gov/advo/research/rs328tot.pdf]

Despite significant academic and policy interest in technology-based or 'high tech' firms, it is important to clarify that HGFs are not necessarily synonymous with high tech firms (Brannback et al, 2011). Whilst many HGFs have been found to be highly innovative and engaging regularly in innovation activities, they are not necessarily operating in the 'high tech' sphere. In fact, within the UK, HGFs are equally likely to be operating in high tech and non-high tech sectors. They do not necessarily have extensive R&D activity, nor do they typically seek to protect any intellectual property that they generate through patents, on the grounds that it is expensive to defend and, in practice, not very effective (Mason and Brown, 2012).

With this in mind, it is important to emphasize the sectoral heterogeneity of HGFs in general. Many of these firms can be found in traditional industries, such as construction and manufacturing, as well as services (business, personal, consumer etc.). A number of studies have identified that HGFs are more likely to be operating in services than in other sectors (Henrekson and Johansson, 2010). Indeed, the wide distribution of HGFs across different sectors and a lack of a link between HGFs and high-tech sectors also holds for other countries (Bleda et al, 2013).

Recent research focused specifically on technology-based HGFs has identified that, in the UK, only around 15% of HGFs are operating in high tech sectors (Mason and Brown, 2012). This figure is slightly higher for the South East of England at just over 20%, but for most other regions the prevalence of high tech HGFs is between 12 and 16%.

> 'High-growth firms are almost equally present in the 'high-tech' and 'low-tech' sectors. And all major UK sectors contained between 4 and 10 per cent of high-growth firms.'
>
> *Nesta (2009) The vital 6 per cent*

Despite a widespread belief at European policy level that support should be earmarked for tech industries with 'anticipated' growth resulting from IP or new technology[3], UK policy makers need to evaluate the benefits of such a strategy within the context of the UK economy (OECD, 2013). Given that true 'high tech' firms comprise a small part of the UK's HGF base, policy interventions aimed at this sector such as R&D assistance should be scaled back accordingly, allowing for greater resources to be allocated to different types of firms across a variety of industry sectors to best support the UK HGF population as a whole. In terms of future policies designed for HGFs, other more wide-ranging sectors such as business services might pose 'better opportunities' for targeted support (Buss, 2002, p. 18).

Myth #3 Universities are a major source of HGFs

Related to the above point, there is a strongly held belief within public policy that universities play a strong role in generating HGFs. Similarly, universities are seen as knowledge generators of IP, which is then licensed by new start-ups. University-based spin outs (USOs) tend to be viewed by policy makers as an economically powerful subset of high technology start-ups, providing a key conduit for the creation

[3] In their review of best practice support for high growth firms, the OECD still advocates targeting high tech sectors such as ICT and biotechnology, despite the evidence noting that these sectors comprise only a small proportion of the 'stock' of HGFs in any region (OECD, 2013).

of new high-tech firms (Rothaermel et al, 2007). Despite this enduring belief, the evidence strongly indicates that very few USOs grow and the vast majority remain very small (Harrison and Leitch, 2010). Indeed, recent comparative research on USOs and company spin-offs (CSOs) found that the performance of CSOs in terms of sales growth and survival rates is considerably higher (Wennberg et al, 2011).

Our own research in Scotland found that universities made a very small contribution to the overall stock of HGFs (Mason and Brown, 2010). First, USOs were fairly insignificant in the population of HGFs. Existing corporate entities were a much greater source of these dynamic businesses. Second, HGFs rarely use universities as a key 'source' of innovation. More important drivers of innovation for these firms are suppliers, customers and end-users. This is in line with NESTA's important body of research around the important of 'hidden' sources of innovation, which firms derive via these 'innovation conduits' (NESTA, 2010). These findings have led some to claim that the significance of universities, particularly USOs, in technology transfer and commercialization policies has been greatly exaggerated (Mason and Brown, 2013). Despite this, a large proportion of USOs are heavily supported in business incubation programmes and through other R&D support schemes. In reality, many of these firms resemble 'science projects', rather than potential growth-oriented businesses.

Myth #4 HGFs are mostly VC-backed

In line with the commonly held assumptions that most HGFs are young and operating in a high tech industry, they are also thought to be heavily backed by sources of entrepreneurial finance (OECD, 2011). Whilst venture capital is undeniably an important part of the funding ecosystem for many firms with growth intentions, the evidence indicates that only a small minority of HGFs are backed by venture capital. In reality, these firms are much more reliant on traditional sources of debt financing for growth (Brown and Lee, 2014).

Efforts to develop the provision of entrepreneurial finance have also overlooked the fact that the vast majority of SMEs do not seek this kind of funding. Indeed, as little as 1-2% of all SMEs in the UK seek venture capital or other forms of equity finance (BIS, 2012a). For the overwhelming majority of these firms (particularly those with strong growth ambitions), debt funding is the dominant form of finance sought. However, recent evidence shows that HGFs incur much greater difficulties raising debt funding than non-HGFs. The research revealed that nearly 20% of HGFs consider access to funding to be the most important barrier to growth they face, compared to only 13% of other firms.

A lack of access to growth or expansion capital is particularly problematic given the unwillingness of banks to lend, coupled with the high levels of 'discouraged' (Hutton and Nightingale, 2011) and 'reluctant' borrowers within the economy (Brown and Lee, 2014). Even prior to the recession in 2008, research found that twice as many businesses are discouraged from borrowing as had a request for their loan denied (Freel et al, 2012). It is safe to speculate that a fair proportion of 'discouraged borrowers' could potentially achieve rapid growth. Therefore, there seems to be an important gap in the provision

of funding for potential HGFs which cannot obtain the necessary levels of funding either to achieve or sustain a period of rapid growth. This point was made by the Rowlands Review (BERR, 2009).

Bearing these trends in mind, UK policy makers should consider whether interventions should be targeted to increase more long-term, traditional sources of debt funding for HGFs. Examples of these types of initiatives are beginning to emerge in parts of the UK, such as the Growth Loan Fund in Northern Ireland and the Scottish Loan Fund. These are programmes that offer SMEs forms of debt funding which may appeal to firms that cannot obtain conventional forms of bank finance, or those that wish to avoid diluting their equity stake by using sources of venture capital.

The **Scottish Loan Fund** (SLF) is operated by the Scottish Investment Bank and provides loans ranging from £250,000 to £5 million to qualifying Scottish businesses on a wholly commercial basis. The SLF is focused on established businesses that have growth potential or are engaged in exporting outside of Scotland. The SLF will consider businesses that meet the following criteria:

- An established business with an operating base in Scotland
- Sustainable operating profits and positive cash generation
- Annual turnover of at least £1 million in the preceding 12 months of trading
- Are ideally operating in a growth or export market
- Do not operate in a restricted sector
- Meet the EU definition of a SME (e.g. Less than 250 employees with a turnover below €43 million)

Another interesting development which may help alleviate this funding gap has been the recent upsurge in alternative forms of entrepreneurial finance in recent years. Recent work for NESTA has shown that crowdfunding, peer-to-peer lending and invoice financing have all grown considerably in recent years (NESTA, 2013). This work found that these alternative sources of funding have doubled in size in the last year and now contribute £939m of funding for businesses and social causes within the UK.

While some of these forms of funding, such as crowdfunding are still in their infancy, there appears to be a strong demand for this type of finance within growth-oriented SMEs and a strong desire on behalf of investors to engage in these fundraising activities. For example Brewdog, the Aberdeenshire-based craft microbrewery, has undertaken two rounds of crowdfunding under their 'Equity for Punk's' programme which raised an estimated £7million. In the process, the firm has become one of the most rapidly growing SMEs in Scotland. More research is needed to examine how growth-oriented SMEs utilise these newer forms of business funding.

<u>Myth #5 HGFs undertake steady linear growth</u>

Another widely held myth is the belief that HGFs experience steady linear growth in their development (Churchill and Lewis, 1983; Scott and Bruce, 1987)[4]. Growing evidence emphatically contradicts this belief (Levie and Lichtenstein, 2010). Research has demonstrated that, instead of transitioning through relatively orderly growth stages, rapid growth is erratic, unpredictable, sporadic and often of limited duration. HGFs firms will often undergo longer periods of low or no growth, punctuated by short 'bursts' of rapid growth (Garnsey et al, 2006). Such bursts of growth have been found to result from external growth opportunities or 'growth triggers' rather than being related to a firm's current lifecycle stage (Brown and Mawson, 2013). Under this neo-Schumpeterian perspective, triggers can be endogenous, exogenous and co-determined and examples of each are provided below (see Table 1).

Table 1: Examples of Trigger Points in High Growth Firms

Endogenous	Exogenous	Co-Determined
New product/service offering	Technological development	Entry into a joint venture
Change in company ownership (e.g. MBO, MBI, employee-share ownership etc.)	Government regulatory issues	Acquisition by another firm
Acquisition of another firm	Macroeconomic changes	Major new capital investment
Change in management or Board personnel	Changes to public policy	Adoption (or adaptation) of new business models
Development of a new production process	Access to public sector assistance (e.g. R&D or capital expenditure grants)	Injection of risk capital or new bank funding
Implementation of new management systems	Product failure in the marketplace	Receipt of a major contract or obtaining a new customer

Source: Brown and Mawson (2013)

It is therefore essential to note that rapid firm growth is rarely sustained in the longer term. The HGFs of today will not be the HGFs of tomorrow. This is reflected in the various 'high growth' lists, such as the INC 500 in the USA and the Fast Track 100 in the UK, where it is unusual for a firm to appear in two consecutive years and almost unheard of for a firm to appear three years running. With the 'stock' of HGFs continually changing, policy needs to acknowledge the importance of other businesses to fill these ranks, and to provide interventions that allow such firms to capitalize on these critical growth opportunities.

Another implication of the volatile and unpredictable nature of the growth process is that firms will often need intensive levels of support during (and after encountering) triggers. Indeed, firms that experience growth triggers are often challenged by issues such as 'managerial overstretch' and cash flow difficulties, which can destabilise and even threaten the continuation of a business during a rapid period of growth.

[4] These theories articulate that firms will encounter a distinct phase of growth during their lifecycle after start-up, when a sort of organizational stability has been achieved. See (Churchill and Lewis, 1983; Scott and Bruce 1987).

Myth #6 HGFs grow organically

Much of the current work to date exploring HGFs has tended to focus on organic growth. Indeed, academic commentators have noted their 'surprise' at the lack of distinction between organic and other modes of growth (Gilbert et al, 2006). This has been due in large part to (i) the fact that organic growth is perceived to have a larger positive net effect on employment creation then acquisition growth (Delmar et al, 2003) and (ii) the inherent methodological complexities involved in differentiating organic growth from acquisition growth when examining growth businesses, particularly using databases. As a result, it is often assumed that growth is an organic process, rather than a result of acquisition.

The evidence on HGFs suggests this view is inaccurate. Recent research undertaken by one of the current authors has explored this issue in more detail and shows that a significant proportion of HGFs are involved in acquisition activity. Looking over the period 2003-2012, approximately 20% of the HGFs identified had undertaken one or more acquisitions. The majority of these acquisitions were of other UK firms, while 25% comprised acquisitions of overseas-based firms (Mawson, 2012a). Other recent research has also found that UK high growth SMEs were almost four times more likely to embark on acquisitions than non-high growth firms (Brown and Lee, 2014).

It is also noticeable that rapidly growing firms often transition between different modes of growth. During their initial start-up period most growth seems to come organically but, as firms grow in size, acquisition becomes a more important source of growth. This owes to the fact that firms which grow via acquisitions need access to resources to fund this growth process.

> "We look at each potential acquisition on a number of measures. The first thing is it has to compliment the business strategy - that is obviously growth and profitability and internationalisation growth too. Second, we look at how that acquisition could benefit our current offering - we're looking for synergy. For example, for our most recent acquisition we had this technology, they had that technology, and if you brought the two together 1 + 1 = 3. This actually gave us a heck of a lot more than we had if we just had those bits independently. It depends, but we are usually looking for alchemy off the back of our acquisitions and usually looking for something to be a lot more than what it was."
> HGF, ICT sector

It is important to note that acquisition is often considered to be a strategic means of achieving growth, augmenting organizational skills and competencies, diversifying the product range and penetrating new or untapped markets. Far from being merely a process of achieving greater scale economies, acquisitions are often viewed by HGFs as key strategic growth opportunities. This often relates to the process of internationalisation, as many HGFs choose to internationalise by undertaking acquisitions to obtain new technological resources in overseas markets (Hussinger, 2010). Given these activities, growth through acquisition should not be considered to be an activity undertaken only by 'big' firms.

5. A Critique of Current Policy Approaches

Having examined some of the myths or 'stylized facts' associated with HGFs, in this section we offer a critique of current policy approaches designed to support HGFs. In the main, much of the policy support which has been designed to support HGFs has been predicated on the myths and stereotypes outlined above. We argue that this has led to an inadequate and often misconceived policy framework for supporting these firms. Our arguments are based around the thematic nature of support; the targeting of these firms undertaken by policy makers; and the manner in which support is offered.

5.1 Thematic support

A major criticism of the support for HGFs is that it is based heavily on innovation and financial support. A large proportion of public policy intervention aimed at creating and supporting rapidly growing ventures takes the form of innovation support, especially support for R&D. While this kind of assistance can be a useful growth stimulant for some larger growing firms (Mazzucato, 2013), the majority of smaller growing firms do not conduct formal R&D, instead relying on more informal and 'open' sources of innovation, thereby compromising their eligibility for support[5]. The consequence of the way in which innovation support itself is provided is that particular R&D intensive sectors receive the 'lions share' of innovation support (Brown and Mason, 2012). Indeed, three main sectors (life sciences, energy and digital media) strongly dominate the proportion of innovation funding (Mason and Brown, 2012). However, as noted, HGFs emerge from a much wider variety of sectors.

Another major strand of enterprise policy which is specifically targeted towards HGFs is access to finance, particularly the provision of venture capital. This is reflected in the creation of publicly supported venture capital funds, co-investment funds and tax incentives for business angels. Here again, one of the consequences of assisting firms with the provision of risk finance is that it prioritizes firms in certain sectors - notably life sciences - which typically require larger investments than firms in the ITC sector, at least in the initial stages.

The emphasis on venture capital also has other consequences. Firstly, it encourages entrepreneurs to dilute their ownership at an early stage. This creates the risk that the entrepreneur will become a minority shareholder if the company goes through several funding rounds. This might lead to an early sale of the business. Second, the eligibility rules of public sector venture capital funds create unnecessary obstacles. In particular, the upper size of investment limits (typically £1m or less) prevents investors from making follow-on investments which, in turn, forces growing companies to seek further rounds of finance from other providers. However, by broadening the base of the funding pyramid, policy-makers have created a bottleneck for

Co-Fund Northern Ireland

This is a £16 million co-investment fund that enables the government in Northern Ireland to jointly invest with individual private sector 'angel investors' (or syndicates) in high potential SMEs. The fund is managed by Clarendon Fund Managers and typically invests between £250,000 and £450,000 in firms in return for an equity stake. While all companies are eligible for this type of co-investment funding, it is anticipated that the majority of recipients be early stage ventures. To date, the portfolio comprises predominantly non-technology based firms operating in software, life science and digital media sectors.

[5] Indeed, some consultancy firms now offer a service to enable firms to present their R&D spend in such a way that they meet the criteria for support (e.g. tax credits)

those companies seeking larger follow-on rounds. Third, public sector venture capital funds have been set up to mimic private sector funds, notably by being established as fixed term funds (usually 10 years). This requires investors to seek exits from their investments irrespective of whether this is appropriate for the investee companies. Finally, there is growing evidence that public sector venture capital funds do not provide the kind of specialist support and business development advice which typically comes from private sector investors (Schäfer and Schilder, 2009).

Inherent in the venture capital investment model is the need for an exit. Hence, reliance on venture capital as a key support mechanism creates a 'build to sell' mentality in which promising HGFs are sold to other companies by their investors. While this can result in a virtuous process of 'entrepreneurial recycling' (Mason and Harrison, 2006), this is not guaranteed, especially if businesses are sold prematurely. Moreover, there is no guarantee that the acquired companies will flourish under their new owners. Thus, there is a need to promote the use of a public listing as both an exit route for investors and also a source of expansion capital for growing businesses. This is likely to be an essential step for high growth firms to become a serious company of scale (Mason and Brown, 2010). However, the trend in IPOs has been declining over many years (Mason, 2011). There is also a paucity of AIM-listed companies in regions beyond the south east of England (Amini et al, 2012). Understanding and addressing the barriers to a stock market listing, especially for firms outside of the Home Counties, is essential.

Another key component of business support for HGFs concerns business internationalisation. As we noted earlier, while growing firms are often thought to use exports to internationalise, an increasing number of small growing firms are choosing more committed forms of international expansion such as overseas joint ventures, partnership agreements, overseas acquisitions, foreign investments, licensing and so on. In the main, support for businesses fails to take adequate recognition of the multi-dimensional nature of the internationalisation process within HGFs. In addition, targets set by government agencies for business internationalisation often focus wholly on export targets and fail to take account of the heterogeneous nature of the internationalisation process[6]. Therefore, a policy focus solely on exporting may lead to tensions between achieving the objective of internationalisation and the promotion of HGFs.

5.2 Targeting

Another major criticism of policy support is the way in which it is targeted towards certain types of companies and certain types of 'growth'. For example, a key aspect of the current policy approaches towards supporting HGFs is the formulation of policies designed to support new technology-based firms (henceforth NTBFs). This is evident in the nature of publicly funded business incubator programmes, which strongly favour new science-based start-ups. As noted earlier, there is now a sizeable body of evidence to show that the population of HGFs is highly diversified both in terms of its sectoral composition, as well as the age of firms which experience high growth. This has caused some observers

[6] For example, the UK government has set a target for UKTI of achieving a 50% increase in exports by 2017.

to argue that by focusing on support for new high tech firms, policy makers are 'looking *in the wrong places*' for HGFs (Mason and Brown, 2013). A major consequence of this assumption is that science and technology policies become a central source of support for HGFs, when in reality only a small number of HGFs (less than 15%) emanate from the high-tech sectors.

Closely related is the fact that public policy in the UK continues to strongly focus on start-ups (Smallbone et al, 2002). Enterprise policy remains strongly focused on new *de novo* start-ups, largely ignoring the important role played by the existing stock of SMEs which are most likely to move into a period of rapid growth (Brown and Mason, 2012). As a result, the eligibility criteria for most HGF initiatives often targets new start-ups. For example, the Propel Programme in Northern Ireland is only open to firms which are less than two years of age. Similarly, the recently launched High Potential Starts Programme in Wales is only eligible for firms who are less than three years of age. However, as we discussed earlier, a sizeable proportion of HGFs emanate from the existing stock of SMEs, who undergo organizational changes or triggers which in turn propel them towards a period of high growth. With this in mind, policy needs to become less focused on new start-ups and more focused on supporting firms with growth potential, regardless of their age.

A further consequence of this focus on start-ups is that business support agencies target their support services on new businesses, focusing their advice on how to get started. However, the business support needs of more established firms are much more varied and substantive (e.g. advice on such strategies as the establishment of a joint venture, making an acquisition, and exporting) but are not available. Equally, there is no public sector support available for managers seeking to undertake a management buyout of their company. Yet there are many potential high growth companies 'imprisoned' within larger corporate organisations that would flourish if they were able to operate independently. Such firms are also typically not eligible for funding from public sector venture capital schemes. This exclusive focus on support for start-ups might be interpreted as a 'one club' approach towards tackling growth and economic development when as we can see there are many routes to achieving rapid growth.

5.3 Nature of support

The third major problematic issue concerns the manner in which support is offered to businesses. The main format for public sector intervention is through the provision of grants, subsidies or fiscal incentives such as tax relief. The provision of financial resources (such as R&D or training support grants) or fiscal incentives (R&D tax credits) based on the principle of 'market failures' in the innovation process is the preferred approach by public sector agencies (Dodgson et al, 2011). These 'transactional' forms of industrial assistance have historically been viewed favourably, owing to the lack of administrative burden they place on the public sector (Warwick, 2013). However, a major programme of research examining high growth support programmes by the OECD found that a large bulk of this kind of support is often less important to potential HGFs than more 'hands-on' forms of support such as business mentoring, leadership development and strategic guidance (OECD, 2013; Roper and Hart, 2013). In fact, it is exactly this kind of 'relational' support which HGFs and high potential firms seek, in

contrast to less ambitious firms which are more inclined to favour more direct forms of financial assistance from the public sector.

Another omission within current policy frameworks is a lack of peer-based support programmes. In the main, public sector support programmes (such as the Propel Programme in Northern Ireland and the High Potential Starts Programme in Wales) offer high potential firms various forms of support such business mentoring, assistance with access to finance and identifying sources of innovation. This was traditionally provided directly by employees within the public sector, but is now increasingly undertaken through private sector intermediaries such as consultants and professional advisory companies. The problem with this approach is that high potential firms often value and trust assistance from their peers above these other sources of support and guidance (Fischer and Reuber, 2003). Our research on HGFs strongly points towards the desire for entrepreneurs to be challenged and guided by those who have 'been there and done it'. Despite this, very few public sector programmes offer this kind of peer-based business assistance.

5.4 Summary

This discussion leads us to conclude that there is a misalignment between the current structure of policies towards HGFs and the specificities of how these firms grow and operate. Table 2 summarises the nature of this policy incongruence, which we have argued has arisen as a direct consequence of insufficient understanding of the specific nature of HGFs.

Table 2: Misalignment between public policy and the nature of HGFs

Public policy to support HGFs	The nature of HGFs
A major thrust of policy is aimed at increasing R&D within firms.	HGFs often source and use a variety of 'open' sources of innovation, such as links to customers and end-users.
There is a strong emphasis on developing sources of entrepreneurial finance.	Most HGFs prefer to retain full ownership and the majority use (and prefer) traditional sources of debt funding.
There is a strong focus on exporting and export development.	HGFs often internationalise through a wide variety of international market entry modes, such as joint ventures, overseas FDI, overseas acquisitions, and partnering.
Public policy concentrates support towards high-tech firms and sectors.	The overwhelming majority of HGFs emanate from traditional sectors of the economy, with high-tech firms comprising a very small minority of the overall population of HGFs.
High growth policy strongly focuses on assistance for new 'de novo' start-ups.	The majority of HGFs emerge from the existing population of SMEs (of all ages) within the economy. They are often firms who have undergone important growth 'triggers' such as MBOs, MBIs or acquisitions.
Business support is strongly oriented towards support for businesses to grow organically.	Forms of non-organic growth are very important for firms undertaking rapid growth, even within smaller firms who often see acquisition as a key element to achieve rapid growth.
The main policy 'tools' used to support HGFs take the form of 'transactional' instruments such as	HGFs tend to value 'relational' forms of support above direct financial assistance. Assistance with strategic guidance and organisational development are perceived to be particularly

grants, subsidies, tax incentives etc.	beneficial.
The vast majority of business support is provided directly by the public sector or through private sector intermediaries.	The preference of many HGFs is to obtain advice and guidance from their peers within industry, rather than directly from the public sector or intermediaries.

6. What should future public policy look like?

A number of significant policy implications arise from both the evidence (and myths) reviewed in this paper and also our critique of current policy approaches. While we are in broad agreement with those who have argued that public policy should be directed towards support for HGFs, academic commentators have largely failed to provide policy makers with concrete advice and solutions in order to achieve this goal (Mason and Brown, 2013). In this section we highlight some of the key issues which should be reflected in future small business policy. If policy is to focus *effectively* on HGFs, then it is vital that the issues below are given greater consideration. A major theme for future policy is the need for a greater focus on the existing stock of growth-oriented SMEs (SBA, 2006), rather than focusing entirely on new starts, an approach that has been termed 'economic gardening' (see box opposite).

Economic gardening (EG) is an entrepreneurial approach to economic development that seeks to grow the local economy from within. First pioneered in Littleton, Colorado in 1989, its premise is that local growth-oriented entrepreneurs create the companies that bring new wealth and economic growth to a region in the form of living-wage jobs, increased tax revenues and per capita income, and a vibrant local business sector. EG focuses on growing and nurturing local enterprises rather than hunting for 'big game' from outside the area or a focus on new starts.

6.1. Differentiate support for 'potential' and 'existing' HGFs

In terms of targeting support for HGFs, it is important to make the distinction between support aimed at 'potential' HGFs and support aimed at 'existing' HGFs (Mason and Brown, 2013). To date, much of the debate on HGFs tends to conflate these two categories, creating confusion as the types of support these firms require are in many ways substantially different.

Given that most 'potential' HGFs emerge from the existing population of SMEs, we would stress that these firms should be given a much stronger priority within policy rather than new business start-ups. In the past policy-makers have tended to ignore existing firms and concentrate on new firms or attracting firms from outside. Very little attention is given within economic development policy to growing firms or retaining existing firms (Acs et al, 2008). Yet, given that this cohort of SMEs constitutes the main source of 'new' HGFs, this form of 'economic gardening' should be given a greater priority in public policy (SBA, 2006).

This raises the difficult question of how policy makers can and should identify 'potential' HGFs. Potential HGFs are firms which have demonstrated growth and exhibit further growth potential, but to

date have not yet undergone a period of sustained high growth (20% per annum as per the OECD). Clearly, identifying potential HGFs is an onerous task and we do not underestimate the difficulty of this objective. At present, very little is known about companies 'on their way to rapid growth' (Acs et al, 2008). However, owing to the fact that new starts have no 'growth' track record, we would argue that the predictive issues are not the same as identifying high potential new starts (Freel, 1998). In other words, while we doubt that a strong predictive capacity exists to precisely spot firms firm's that are about to undertake a period of high growth, we believe that some firms seem to display some 'early signs' which give them a higher proclivity to experience a subsequent period of high growth.

One such sign would be a short-term period - say over the course of a year - of above average growth (e.g. between 10-30%), or firms which have seen steady, if not very rapid, growth in the past few years (e.g. growth rates of 10-19% over a period of 3-5 years). However, we must stress that past growth rates are noted to be a poor indicator of future growth, so other more qualitative metrics will be needed to help policy makers identify these kinds of firms. These could include assessing companies for any of the following: recent major organisational change such as an MBO/MBI; adoption of a new business model; firms seeking access to growth capital rather than working capital; firms seeking support for international expansion (not just exporting); recent increase in staff numbers; and an articulated desire for 'double digit' growth. Further work is undoubtedly needed to explore 'potential HGFs' and to determine how to best identify them. However, the authors believe that public policy could become better equipped at focusing support to firms with the strongest level of growth potential.

New institutional arrangements will probably be needed to help foster high growth potential SMEs. In order to identify firms with high growth potential, policy makers will need to have good understanding and close engagement with the existing stock of SMEs. In order to identify high potential firms operating below the radar, some form of 'high growth identification unit' may be required. A key role of such a unit would be to examine the existing stock of SMEs to identify those with some of the pre-high growth features mentioned above. While in some parts of the UK, such as in Scotland and Northern Ireland, there is a pre-existing 'institutional capacity' to undertake these form of activities, since the RDAs were abandoned this is no longer the case in England. This type of activity may be feasible through the LEPs in England.

Support for 'existing' HGFs will also need to be further developed and tailored. As these companies tend to be older and larger entities rather than new ventures, policy makers also need to be cognizant of the specific support needs of more mature firms. Currently there is a lot of provision of support in the UK for high potential start-ups including business incubation facilities, start-up assistance (financial and advice based) and mentoring programmes. However, these services might have less relevance for established SMEs. The support interventions they require are likely to be more complex, bespoke and time sensitive.

A recent review of support mechanisms for high growth SMEs by the OECD identified that best practice support and interventions for HGF tend to focus on knowledge transfer with institutions, firms or individuals and skills development, rather than direct funding or other financial incentives (OECD, 2013). This reflects observations from our own work with HGFs in Scotland, where many firms felt that strategic advice and support was far more critical that public funding. However, even skills development

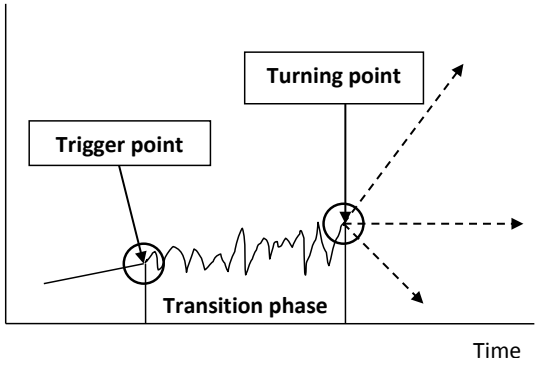
activities will need to be linked closely to the requirements of more mature firms, moving away from common start-up support (e.g. business planning, bookkeeping, VAT and NI registration etc.) in favour of more detailed advice on leadership development and capability building, strategy development and implementation and business (re)structuring for growth. A key component of support for existing HGFs is work to help with organisational growth and leadership development.

As with high potential SMEs, better signposting to support services is needed particularly in the absence of RDAs, which had systems of account management with existing companies. While services like the former BusinessLink (and BusinessGateway in Scotland) provide quite effective signposting support for new start-ups, SMEs have poor understanding and knowledge of existing high growth support services. Indeed, survey evidence strongly suggests that knowledge of growth-related programmes such as Growth Accelerator and the former Growth Improvement Service remain low, especially compared to the former BusinessLink (BIS, 2012b). Efforts to improve the visibility of support services for the small minority of growth-oriented SMEs should be undertaken.

6.2. Think about the timing of interventions

As well as appropriate targeting of public policy, the timing of interventions is another critical consideration. Given that many firms encounter growth 'triggers' that instigate a period of organizational change and growth, interventions focused on HGFs need to be responsive to time-sensitive company needs, rather than prescribed according to the provider's schedule (Figure 1). Following an important growth trigger, there is a crucial transition period, when the timing of support is crucial for firms to maximise these growth catalysts (Brown and Mawson, 2013). Such interventions could include, *inter alia*, support pre- and post-acquisition, leadership development during and after a change in company management or leadership, or even advice on regulatory changes and legislation and their potential impact.

Figure 1. Growth trigger process



Source: Brown and Mawson (2013)

This would necessarily require a policy shift from reactive, time-bound assistance towards more temporal, flexible and proactive support mechanisms. It would undoubtedly be more people-intensive to deliver than larger-scale and more transactional initiatives like grant assistance. However, to compensate for higher delivery costs, this kind of bespoke support will probably be highly targeted. For example, rather than supporting a large number of high potential SMEs over a period of time, perhaps short periods of depth engagement with a small number firms on the cusp of significant growth could be an alternative. The costs of this kind of support could also be partly be offset by financial contributions from the

supported firms. An added benefit of this kind of matched funding is a greater degree of organisational 'buy-in' form firms this approach often engenders.

This is the approach which has been adopted by the Companies of Scale programme which was recently identified as 'good practice' by the OECD (OECD, 2013). An important aspect of the programme is that there are only a small number of companies which participate on the programme, owing to the fact that they are experiencing significant growth and organisational changes. A key feature of the programme is that it is highly bespoke and does not have a 'fixed' offering – each company receives a tailored support package to fit their requirements. However, given that most participants are well established SMEs rather than new ventures, a major element of the support is geared towards management and organisational development, rather than transaction forms of support for innovation. Often the form of assistance needed by the SMEs is closely determined by the firm in close conjunction with specialist account managers who work on the programme. It is somewhat similar to the new Future Fifty programme and we see a lot of merit in these kind of bespoke and highly targeted high growth programmes.

Temporal forms of business support: Scotland's 'Companies of Scale' programme

First piloted in 2005, the 'Companies of Scale' programme delivered by Scottish Enterprise works closely with a small number of potential high growth firms that have the ambition to grow into £100 million plus businesses. The main principle underlying the programme is to provide a deeper relational form of support to participating companies, rather than the transactional forms of assistance common in support programmes delivered by economic development agencies (e.g. grants or loans). It is offered to companies following the onset of important growth triggers which often necessitate an increase in employees, new management structures or new operational procedures to accommodate a period of growth (e.g. new IT systems). The CofS programme is unlike normal business development programmes, as it is not a 'fixed' offering which has a universal package of support tools for all participants. Rather, participating firms work intensively with Scottish Enterprise to help identify the specific and bespoke types of support and to implement them according to the firms' unique needs and timescales. Participants receive anything from executive coaching and education to business benchmarking with competitors to strategic sales development to graduate placements.

6.3. Assistance with MBOs/MBIs

One aspect of public policy which is almost completely absent is in the area of support for organisational change. MBOs, MBIs and employee-buy outs often result in an existing business being reconfigured, with the (re)uniting of management with ownership being claimed to provide a fresh impetus to the 'reborn' business entity (Wright et al, 2001). Public policy should reconsider its role in assisting with these types of organisational reconfigurations. While business advisory services for start-ups such as Business Link in England and Business Gateway in Scotland are a commonly accepted part of the

enterprise policy landscape, perhaps similar services could be provided for entrepreneurs seeking to undertake MBOs, MBIs or an acquisition? This could potentially foster the creation of more growth-oriented firms with high growth potential.

The other main aspect of business support which is almost completely absent concerns the issue of acquisitions. Within the UK at present there seems little or no public policy support for SMEs implementing an acquisition-led growth strategy. By undertaking acquisition, firms can quickly upscale themselves and indeed ward of the threat of being acquired. Furthermore, recent research has shown that non-organic growth can often be a precursor to a future period of organic growth (Lockett et al, 2011). Although traditionally associated with large firms, acquisitions appear to be of growing importance to SMEs, which is arguably the stock of future HGFs.

If acquisitions are indeed a common growth strategy within smaller entrepreneurial firms, more CEOs of SMEs will need to become better acquainted with the complex processes involved in successfully executing such transactions. These include aspects such as 'opportunity identification', pre-merger integration, employee involvement and post-integration planning. HGFs themselves tend to recognize the importance of balancing organic growth with that occurring from acquisitions. Given this, arguably more cognizance of the importance of inorganic growth is needed within enterprise policies. Rather than giving growth-oriented SMEs direct forms of support which would be inappropriate, advice and signposting may be effective to help firms successfully execute such acquisitions.

A related point concerns the issue of HGFs who become acquired. Given the strong 'sell-out' mentality within UK companies, a high proportion of these firms get acquired each year (House of Commons, 2013). While this is an inevitable process within modern day economies, some regional economies might wish to consider examining policies to try and embed the operations of acquired HGFs. Just as inward investment agencies undertake 'aftercare' support services for inward investors, there may be an argument that public sector agencies offer support to firms after being acquired to help them with appropriate 'anchoring strategies' (e.g. maximise local procurement, minimise dilution of subsidiary autonomy etc) to obviate the problems associated with external ownership.

6.4. Look beyond high-tech

Many of the current support systems for SMEs (as well as HGFs) tend to focus on more generic interventions such as R&D assistance and financial support (OECD, 2010). However, firms operating in high-tech sectors of the economy often find themselves recipients of extra support (financial and otherwise) from government and higher education institutions, particularly in terms of product design, technology development and innovation. High tech SMEs around the country have been found to have numerous support options available, despite this sector contributing only a small proportion of HGFs and those with high growth potential (Yoo et al, 2012).

Our previous work has indicated that there is often a mismatch between the policy perceptions of technology-based firms and the nature of these firms in reality. Indeed, our in-depth empirical analysis

reveals that TBFs are not (typically) 'high-tech' in the conventional sense (Mason and Brown, 2012). Very few are 'new'[7], very few emerge from universities, very few are venture capital-backed, very few undertake high levels of R&D, very few have protected IP such as patents and very few employ significant numbers of graduates.

This is not to say that these firms are not innovative. HGFs are strongly innovative, but many engage in what some authors have labelled 'mid-level innovation', which is often much more applied or market focused (Bhide, 2008). Indeed, many HGFs have support requirements very similar to most 'conventional' SMEs and the strong focus on R&D support is potentially funding 'science projects' rather than firms with real growth potential.

Going forward, support for SMEs and HGFs would best be reflective of the diverse nature of their business activities, prioritising support for firms with growth ambitions and potential, rather than those with a particular sectoral or R&D focus. The current focus on innovation, while laudable, could be extended to include a wider definition of the term as championed by NESTA, which focuses on some of the more 'hidden' types of innovation that many HGFs procure from 'open sources' of innovation such as suppliers customers and end-users (NESTA, 2007; NESTA, 2010). Interventions to foster stronger links with customers and end-users would be particularly beneficial, as research has identified that strong engagement with customers can be a powerful source of both innovation and firm growth (Mawson, 2012b). There seems to be a case that design should be given a stronger focus within innovation policy (NESTA, 2011; Green et al, 2013).

6.5. Focus on relational and peer-based support

Policy towards high growth entrepreneurship would benefit from a stronger focus on 'relational' rather than 'transactional' support. Often high potential firms are not interested in obtaining new forms of money, *per se*, such as grants and subsidies etc. Of greater importance is the desire for more in-depth relational support. As noted previously, research on HGFs has shown that many of these firms prefer to obtain advice from their peers, rather than policymakers, consultants, venture capitalists or business angels (Fischer and Reuber, 2003). In light of this evidence, more peer-based interventions are likely to be of significant benefit to growth businesses.

These could include, *inter alia*, using highly experienced entrepreneurs to help 'peer review' certain skills and competencies of other growing firms, 'implanting' successful entrepreneurs in high potential businesses to provide strategic guidance, peer-to-peer mentoring programmes and other networking activities. Growing firms could also be encouraged to develop 'peer' support through the use of non-executive directors, who are often a useful 'sounding board' and mentor for growing businesses. Mentoring by other entrepreneurs has been strongly found to increase the entrepreneurial self-efficacy

[7] The chip designer, Wolfson Microelectronics based in Edinburgh, who supply components for the latest generation of Apple and Samsung mobile phones illustrate the long-term nature of becoming a successful high-tech company. Although established in the mid-1980s it wasn't until some twenty years later that the firm entered a period of high growth and is now one of the UK's most successful technology firms.

of less established entrepreneurs (Crompton et al, 2012). These forms of experiential learning would not only benefit the individuals and businesses involved, but also potentially a wider network of growth oriented businesses.

Peer-based support approaches have obvious advantages for the public sector because they are less expensive to operate than business mentoring through private sector intermediaries. An added advantage is the potential for networking and knowledge transfer, which may arise through this kind of peer-based interaction. The incorporation of peer-networking activities within the Growth Accelerator programme is an encouraging sign that public policy is beginning to recognise the important role that peer-to-peer support can bring to growth-oriented firms.

6.6. Types of finance needed to fund high growth

Finance in general is a critical issue for growing businesses and forms the 'primary resource base from which other factor inputs are acquired' (Dobbs and Hamilton, 2007, p. 306). Financial support should therefore be an important consideration - and arguably a cornerstone - of future small business policy for high growth ventures. At present, the focus of public policy in this area is through the provision of venture capital. However, HGFs may not wish to dilute the ownership of their business. As a result, many HGFs are reliant on traditional bank financing through private or business loans. We would emphasise that while policy has tended to overly focus on sources of entrepreneurial finance, multiple sources of finance are needed by potential and existing HGFs.

There are three key issues. First, most of the direct and indirect funding support is limited to investments of under £1m, and many schemes have lower limits than this. Business angels also typically make investments that are well below £1m, even if they are investing in groups. However, growing a global company is likely to require substantially larger investments. There is a new equity gap for investments in the £1m-£10m plus range and beyond which is estimated to be between £26-53bn (BERR, 2009). This encourages investors to exit prematurely through a trade sale, limiting the financial gains of the entrepreneurs and investors that can be reinvested in new businesses and thus limiting the learning experiences of the management team. If follow-on funding is raised, then existing shareholders may be disadvantaged. Hence, while the creation of the Business Growth Fund to make larger investments is a useful development, there remains a need for better designed public sector schemes that can take businesses all the way through the funding 'escalator'.

Second, the Stock Market needs to be promoted as a superior alternative to a trade sale for both investors and top

Rightster Launches IPO on AIM to Fund Growth

Rightster is an online video company who have just announced their intention to seek a listing on AIM to raise money to fund their expansion. Only founded in 2011, Rightster already employs 200 people and has a current turnover of £13million in the current financial year. The listing on AIM would value the company at £50million. The group operates 450 multi-channel networks and the funding is designed to enable the firm to further invest in technology and to fund acquisitions of rival online video companies.

management in larger and more mature HGFs (Budden, 2013). Of course, there needs to be a balance between the regulatory and reporting obligations placed on companies and the needs of investors. Nevertheless, some further easing of burdens may be possible. However, the key requirement is to increase investor interest, particularly in AIM listed companies. Recent changes to allow AIM shares to be included in an ISA and the abolition of stamp duty will help at the margins. However, the perception of investors is that a trade sale is the preferred exit.

Moreover, there is a clear 'north-south' divide in access to the Stock Market. For example, more than 40% of AIM-listed companies are located in London and South East England, many of which are in the financial services industry (Amini et al, 2012). Scotland, by contrast, with 9% of the UK GDP, has only 3% of AIM-listed companies. Re-creating regional stock markets is unlikely to address this issue. A more fruitful approach is to work with business support and networking organisations in regional economies to increase the 'demand' for firms to contemplate undertaking this funding route (Amini et al, 2012). However, the UK government could also potentially put pressure on the LSE as it has an obligation to promote greater access to the London stock exchange as a source of growth capital, especially for SMEs in more peripheral regions.

Third, given that growing firms seem to confront the greatest problems obtaining new sources of funding, policy makers should ensure that traditional debt finance remains available to growing firms. While evidence of moves in this direction were noted earlier, there is probably greater scope to promote newer forms of traditional debt finance. The government's soon to be launched SME Business bank may help alleviate some of these funding gaps. However, given the reluctance for SMEs to undertake bank lending, combined with the lack of competition within the UK banking sector, it will prove a tall order for one policy initiative to change attitudes of SMEs towards the banking sector.

Another more fruitful approach may be to promote more peer-to-peer and crowdfunding lending schemes which are experiencing very rapid growth (NESTA, 2013). Given the fact that many larger companies have high levels of retained earnings, 'peer-to-peer' lending opportunities may offer a method of investing these surpluses in other growing businesses, which will yield a greater return on investment than they could obtain from investing within their own business. Just as sources of crowdfunding have been used successfully by some smaller companies, peer-to-peer lending may offer opportunities for more sizeable amounts of 'expansion capital' to be made available to potential HGFs[8]. The added benefit of this type of lending is the opportunity it opens up for growth-oriented businesses to become better networked and supported by their funders through such schemes. This links back to our point above about the need for more peer-based approaches towards support mechanisms above.

6.7. Match interventions with regional eco-systems

[8] At present, crowdfunding is unlikely to provide a major contribution to funding for HGFs owing to the small scale nature of this funding source which is often used to help fund niche-based investment opportunities in the arts through funding platforms such as www.Kickstarter.com.

Finally, entrepreneurship is, fundamentally, a local process. Accordingly, policy needs to think carefully about matching generic support interventions with the specificities and requirements of firms within various regional entrepreneurial ecosystems (Mason and Brown, 2014). Recent research on HGFs in the UK has shown that there is a distinctive 'geography' to high growth entrepreneurship[9]. Sectoral and urban agglomerations are a strong feature underpinning this spatial pattern. Whilst HGFs have largely the same needs for strategic advice and support regardless of their location, they are ultimately influenced by their local entrepreneurial and business ecosystems, which have the potential to impact on HGFs. For example, in more rural parts of the UK, access to new ideas, sources of innovation and skilled human capital may be more limited than in larger urban areas. Therefore, policy is probably most effective when implemented at a local or regional level (Roper and Hart, 2013).

In line with this, there is also a need to consider some of the geographic issues which shape how HGFs emerge and grow. When HGFs internationalise it can reduce their home footprint, so it is critical to ensure that employment generation and economic spillovers continue to benefit the local economy. In more peripheral regions generally, there is a need to think about how to embed HGFs and other high potential SMEs within their local economies (Hinton and Hamilton, 2011). Critical is the retention of the head office. However, as noted in a recent House of Commons enquiry, there is a strong tendency for many of the most promising technology companies to be acquired by overseas firms (House of Commons, 2011). This tendency for HGFs to be acquired is not restricted to high-tech sectors and is evident across a range of traditional sectors such as food and drink, construction and business services (Mason and Brown, 2013). While this process sometimes has significant economic benefits for acquired firms, such as access to the resources and distribution channels of the acquiring firm, this is by no means always the case and can have potentially damaging consequences for the opportunities for UK firms to grow into larger corporate entities. More research is undoubtedly needed to better understand the 'sell-out' mentality for UK high growth firms in order to develop an appropriate policy response.

7. A Future Research Agenda

Despite the recent upsurge in scholarly activity on high growth entrepreneurship, much remains unknown about the nature of HGFs. One of the key issues is the need for qualitative research which helps explains the nature and drivers of growth. Further aggregate analysis of HGFs may have reached the point of diminishing returns. In other words, 'less counting and more nuanced understanding' is needed. David Birch (1989) himself noted that the preference for aggregate research techniques means that policy analysts may guess about what kinds of corporate behaviours are causing shifts but they never really 'know for sure'. More in-depth research is therefore needed to explore the question of 'how' firms grow rather than 'how much' (McKelvie and Wiklund, 2010).

While the list of potential research areas remains long, we highlight a number of key areas which could provide valuable insight into the nature of high growth. These areas could potentially yield valuable

[9] See www.nesta.org.uk/areas_of_work/economic_growth/high_growth_firms/assets/features/geography_of_growth

insights for how public policy could help to facilitate and promote growth within firms. While this list is not exhaustive, we highlight seven main areas:

1. Attempts to identify HGFs at an early stage in their development have generally been unsuccessful, with little evidence of common characteristics (Freel, 1998). According to some economists, the attainment of rapid growth is stochastic and very much 'a random walk', as so few firms go on to obtain consecutive years of strong growth (Coad, 2009; Bleda et al, 2013). Nevertheless, if public policy is to better target the pipeline of firms which eventually achieve a period of rapid growth, it is vital that more is known about the nature of this very small proportion of firms. To improve the chances of being able to identify future HGFs, one potential method would be to 'look back' at the early history of successful firms, to see if it is possible to identify common characteristics of such firms during their early stages of development. Another idea would be to identify a cohort of firms encountering a short burst of rapid growth (say 10-30%, p.a.) and track them over a period of time to investigate the features of firms who go on to achieve sustained high growth in subsequent years compared to the ones who subsequently grow less successfully or those who falter.

2. We have noted that a key 'myth' associated with these firms is that HGFs grow almost completely through organic methods. However, our work strongly suggests that as SMEs mature, many switch to growth through acquisition and that inorganic growth is no longer the preserve of larger businesses. Given that SMEs also grow through acquisition, more work is needed to better understand how firms reconfigure their 'growth modes' from organic to inorganic growth; how this affects these dynamic businesses and how this alters the support requirements of these firms (McKelvie and Wiklund, 2010; Wright and Stigliani, 2013). Aggregate data sets also need to be interrogated to assess whether acquisition exaggerates the employment growth impact by HGFs.

3. Few - if any - studies have attempted to examine how firms make the transition from rapid growth towards becoming a larger scale corporate entity. Sometimes known as mid-sized businesses, firms with a turnover between £10-100 million are few in number (i.e. less than 1% of all firms) but contribute 22% of economic revenue and 16% of employment within the UK economy (CBI, 2011). Making the transition from being a HGF to a company of scale is as challenging as moving from a high growth potential to a HGF. It has also been noted by various observers that there is a shortage of mid-sized and larger corporate 'Gorillas' with turnovers of around £100 million in the UK compared to other countries (Owen, 2004). Given the important role that these larger firms play in the economy (e.g. major employers, customers to suppliers, corporate incubators, sources of innovation etc.), ensuring that HGFs continue on an upward growth trajectory towards these larger scale businesses should be given a strong emphasis within research and public policy.

4. More research is needed to empirically investigate the spatial dimension to high growth entrepreneurship. At present, the literature assumes that these firms benefit regions on an equal basis. However, for a variety of reasons, not least the internationalization patterns noted in this paper, this is unlikely. Further work is therefore needed to examine the spatial characteristics of how HGFs emerge, develop and operate in different regional environments. This research would represent an important input into policy thinking around the emerging theme of entrepreneurial eco-systems, which is starting to become a priority in many OECD countries (Mason and Brown, 2014).

5. We noted within this paper, that research is now uncovering quite important findings in terms of the employment patterns within HGFs (Coad et al, 2011). While this work is still relatively new, these initial findings offer quite powerful insights into the nature and potential 'quality' of employment within these firms. More research is needed to further explore these important issues in greater depth and focus less on just counting the aggregate numbers of jobs created by these firms. It is time to elevate the debate on the job creating impact of these firms, so that we can form a better appreciation of the nature, quality and durability of these employment patterns.

6. There remains a lack of understanding of what resources are needed by firms encountering rapid periods of growth. We have highlighted that much greater support is needed to help firms with their internal structures and management development to help overcome these turbulent processes, especially through peer-based coaching techniques (Crompton et al, 2012). Another emerging area which seems to be increasingly important is the use of appropriate business models which are a key part of the competitive advantage of growing businesses (Teece, 2010). These softer forms of business support are likely to be increasingly important in years to come. The precise nature of how business support can help firms in these areas is not yet known. Further research on these topics could also explore the nature of peer-based support schemes for HGFs, which would be most appropriate to assist firms achieve rapid growth.

7. There is a strongly held view that the UK's HGFs are more likely to be sold and often sold while still quite small (House of Commons, 2013). Research is required both to verify the accuracy of this view but also to understand why HGFs are sold. To what extent can it be attributed to the short termism of investors, the lack of ambition of entrepreneurs or barriers to growth (or a combination therein). And what are the economic implications of the acquisition of HGFs for regional economies and for the UK economy as a whole.

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