

Growth and growth intentions

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Growth and growth intentions: A meta-analysis of existing evidence

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Executive Summary

This white paper summarises what we know about the connection between entrepreneurs' growth intentions and realised enterprise growth. It addresses the following questions: How strong is the association between entrepreneurial growth intentions and subsequent performance? What affects entrepreneurial growth intentions at the individual level and national level, and how big are these effects? What can be done to raise entrepreneurial growth intentions in the UK? What further research needs to be done in this area?

Growth intentions matter. Large scale studies have concluded that the proportion of entrepreneurs with growth intentions in the population is a more significant predictor of economic growth than general start-up rates or self-employment rates. This suggests that "quality" of entrepreneurship is more important than "quantity" of entrepreneurship.

The paper draws on a technique known as meta-analysis which uses statistical analysis to summarise the strength of associations between specific factors as "effects" based on all the data available from a systematic review of the literature.

Entrepreneurial Growth Intentions and Subsequent Growth

In this section, we drew on 13 longitudinal studies that obtained growth ambition, aspiration, intention or willingness perceptions from business owners and at a later point measured actual growth, and which provided correlations that could be used for comparison. We did not use studies that were found to be measuring growth intentions or realised growth in hindsight, or which did not provide the statistical data necessary to calculate effects.

These 13 studies employed different measures of growth intention and realised growth and sampled business owners at different stages in the entrepreneurial process.

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- Small to medium but positive and robust effects were found for established businesses when studies were separated into those that considered sales growth and those that considered employment growth.
- At least some of the effect of growth intentions on realised growth may be through its effect on innovativeness (and possibly pro-activeness and risk-taking propensity).

These results confirm the importance of growth intentions as directly affecting subsequent growth. What's more, the effect is not small. Growth intentions do matter.

Variables associated with Growth Intention

We drew on 39 studies of associations between growth intentions and individual or business level characteristics at the individual level, and five studies at the country level. We examined studies of nascent, new or established business owners separately.

- Individuals' age and gender showed no consistent effect on growth intention.
- Individual education levels generally showed a small but robust positive effect on growth intention.
- Previous entrepreneurial experience had a small but positive and robust effect on growth intention of established business owners, and very small but negative and robust effect on nascent entrepreneurs.
- No clear pattern emerged for prior managerial or industry experience.

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- Risk-taking propensity, need for achievement and innovativeness had small but positive and robust effects.
- Wealth-seeking may act as a motivator of growth intention for nascent entrepreneurs, at least in the US, but independence seeking is not an important motivator.

In terms of firm characteristics:

- Studies vary widely in results on whether age, size or technology level of the business was associated with growth intentions. This does not mean that these factors have no effect, but rather that if these factors are associated with growth intentions, they are influenced by other factors.
- Limited evidence suggested a positive effect between export propensity and growth intention (of course, causation could work both ways here).

In regard to country level effects on country level prevalences of growth-oriented entrepreneurs:

- the prevalence of wealth motives for start-up among entrepreneurs had a large positive effect on prevalence of entrepreneurs with growth intentions, while the prevalence of independence motives for start-up among entrepreneurs had the opposite effect.
- Burdensome regulations affecting entry, growth and exit of businesses had a large negative effect on relative prevalence of growth-oriented entrepreneurs, while rule of law had a medium positive effect. One of these studies found that the impact of burdensome regulations on the prevalence of growth intentions among early stage entrepreneurs is greater in countries where rule of law is strong.

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Raising Entrepreneurial Growth Intentions: Implications for Policy

Because of the link between the relative prevalence of growth intentions and the size of the home market, if UK entrepreneurs were to think of the European Union as their home market, rather than just the UK, the prevalence of growth intentions might increase.

A focus on the burden of regulations is warranted given that rule of law is strong in the UK. While the burden of regulations is relatively light in the UK, employment protection regulations may still act as a barrier to growth orientation in the UK in comparison with the US.

Employment legislation aside, favourable tax legislation means that potential growth-oriented entrepreneurs in the UK can reasonably expect that any financial rewards from growth will not be expropriated. Unfortunately, fewer entrepreneurs in the UK than in the US seem to be motivated by greater financial rewards. More detailed research is needed on this topic, but lower parental aspirations, lack of knowledge on entrepreneurship as a career option, more rigid social structures and lower levels of participation in tertiary education could be explored further as possible reasons.

Potential innovative, growth-oriented entrepreneurs may have choices over the context in which they can express their innovativeness and/or need to achieve challenging tasks. Businesses in the UK provide a relatively good environment for intrapreneurship (i.e. entrepreneurial activity by employees) and the UK's rate of private sector entrepreneurial employee activity is the same as that in the US. More research is needed on this area, but in the UK, it could be easier to encourage growth-oriented intrapreneurship than growth-oriented entrepreneurship.

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1 Introduction

This white paper summarises what we know about the connection between the growth intentions of entrepreneurs and realised enterprise growth, what causes entrepreneurs to have growth intentions for their ventures, and what can be done to encourage growth intention among entrepreneurs.

Several general literature reviews of this area find that researchers use the terms “growth intentions”, “growth willingness”, “growth ambition” or “growth aspiration” interchangeably¹. For example, some researchers apply different descriptive terms to the same measures in different studies. No one term has emerged as dominant in the literature. Similarly, how researchers measure growth varies widely. A recent review suggests that measures of relative and absolute employment and sales growth, the two dominant measures, are reasonably comparable with each other, but other measures such as profit or asset growth are not².

In young and small businesses, the motivations of the owner and of the enterprise are intertwined. Thus the growth intentions of the lead entrepreneur for their enterprise are a reflection, at least in part, of their own motivations for running the business. But they may also reflect the human, social and financial capital of the entrepreneur³, the stage in their life course⁴, and cues in the environment on the opportunity cost of pursuing their goals via growing their own business versus working for someone else⁵. This white paper examines the evidence for these effects on growth intention.

The paper draws on a technique known as meta-analysis which summarises the results from all known empirical studies of this topic using statistical analysis. Single studies rarely provide sufficient, reliable evidence upon which to base policy⁶. Meta-analysis is an analysis of analyses, conducted using a rigorous methodology designed to cope with large amounts of data, as opposed to traditional literature reviews, which tend to be partial and impressionistic⁷. However, it requires associations between variables to be presented in ways that are comparable across

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studies. Not all studies provide this information. Thus this review has the advantage of being able to identify trends across studies, but it is not comprehensive in that it excludes findings that are not comparable in a technical sense.

It has been shown that established entrepreneurs may have biased recall of their motivations for starting a business; for example, they may understate the importance of wealth creation as original motivators⁸, possibly as a way of reconciling disappointing performance against expectations⁹. We excluded measures based on hindsight for this reason.

1.1 Why do entrepreneurs' growth intentions matter?

It is self-evident that if entrepreneurs do not intend to grow their businesses, their businesses are less likely to grow. Achieving growth is difficult and demands effort, and if the effort is not there, growth is less likely to materialise. But are the chances of business growth any greater for entrepreneurs who intend to grow their business?

From an economic perspective, a lot is riding on entrepreneurs' growth intentions. For example, Global Entrepreneurship Monitor data suggests that only 10% of nascent and new entrepreneurs expect to create 70% of all job creation forecast by their cohort over a five year horizon¹⁰. Looking beyond job creation, one recent review of the evidence estimated that "between 3% and 10% of any new cohort of firms will end up delivering from 50% to 80% of the aggregate economic impact of the cohort over its lifetime"¹¹.

Several large scale studies have concluded that the proportion of entrepreneurs with growth intentions in the population is a more significant predictor of economic growth than general start-up rates or self-employment rates¹². In other words, entrepreneurship quality matters just as much if not more than entrepreneurship quantity.

Worryingly, entrepreneurship in the UK appears to suffer from a growth intention gap in relation to the United States. There are twice as many early

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stage entrepreneurs with high job growth expectations in the US than in the UK (or France or Germany) as a proportion of the working age population¹³.

Furthermore, the prevalence of this type of entrepreneur has declined since 1999 in the UK but not in the US¹⁴. This is reflected in the size distribution of enterprises in the UK. Micro-enterprises employing no more than four people make up a greater share of the business population in the UK than in the US and high-growth businesses (particularly young high-growth businesses) are more prevalent in the US¹⁵.

This picture is supported up by multiple case research¹⁶ which suggested that US high-growth businesses were more likely to have planned for growth, or achieved or exceeded planned growth even though the US economy was in an economic downturn at the time of the research. While this study carried the risk of biased recollection of motivations, its conclusion was compelling: “The similarities between the samples may suggest that high growth is much more linked to motivations and the managerial capacity of firms than the immediate environment”¹⁷.

While several general reviews of the literature on high growth businesses exist¹⁸, there are no meta-analyses of studies on the characteristics, motivations, and aspirations of individuals that intend to grow their businesses significantly, and of what personal, business or environmental factors may influence their growth intentions. This white paper aims to fill that gap, and in doing so, suggest ways in which the UK’s growth intention gap may be bridged.

Section 2 reviews growth intention and realised growth by reporting the results of a meta-analysis of a carefully selected set of longitudinal studies. The review is not comprehensive because meta-analysis requires certain types of data that not all studies of this topic provide. However, the studies selected are comparable and do not have recollection bias. The results are reported by type of growth measured and by stage in the entrepreneurial

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process, i.e. whether the entrepreneurs were running new or established businesses.

Section 3 reports on meta-analyses of individual, business and environmental factors that are associated with growth intention. Section 4 discusses policy implications, particularly in relation to raising levels of growth intention in the UK. Finally, Section 5 suggests areas for further research that could be conducted by the Enterprise Research Centre, mostly using existing databases.

2 Growth Intentions and Realised Growth

In 1990, two small business growth researchers wrote: “there is no firm evidence that firm personal growth objectives are themselves predictive of subsequent growth”¹⁹. Since then there have been many empirical studies of the link between growth intentions and realised growth. However, a lot of these are impressionistic, relying on surviving entrepreneurs’ recollection of their past motives and intentions as in the example cited above. As mentioned in the introduction, it has been shown that such recollection can be biased in subtle ways.

A further complication is the general finding, replicated in several countries that business owners’ forecast growth rates reflect actual growth rates reasonably well, but are influenced by previous growth rates, which do not correlate with actual growth²⁰. Forecasts are not the same as growth intentions, but in considering the growth intentions of established business owners, we need to bear in mind that they may be conditioned by estimates of what is possible based on past experience

2.1 Meta-analysis of current research

Following an extensive review of the literature²¹, 13 longitudinal studies were located that obtained growth ambition, aspiration, intention or willingness perceptions from business owners and at a later point measured actual growth, and which provided data suitable for a meta-analysis²². A further 29 studies were located that measured growth

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ambition and growth, but at the same points in time or in hindsight. Because of the risk of recollection bias, they were not included in the meta-analysis.

The 13 studies were in 8 different nations: Austria, Belgium, Netherlands, Norway, and Sweden from Europe and Canada and the United States from North America. Some studies provided multiple measures of growth ambition and or realised growth, resulting in a total of 19 measures of association. These were converted into comparable “effect sizes” using a custom computer programme²³.

Effect sizes indicate the strength of an association between two variables in a way that can be compared across different studies.

Average effect size is a useful guide for policy because it indicates the size of an effect across a range of different circumstances; in a sense, how visibly meaningful the association is. Average effect size is also a better summary than, say, the ratio of statistically significant positive to negative effects. Given a large enough sample, tiny differences can be statistically significant but substantially meaningless, while a small sample may lead one to reject a weak but real association because the sample was not large enough to return a statistically significant result. By calculating the weighted average effect size of a set of samples of different sizes, these problems can be alleviated, at least to some extent.

As a rough guide, effect sizes in this paper of around 0.1 can be considered “small”, effect sizes around 0.3 are considered “medium” and effect sizes around 0.5 are considered “large”²⁴. It may help in lay terms to imagine a “medium” effect size as a clear effect, such as would be visible to the naked eye of a careful observer²⁵.

Combining all 19 correlations and weighting for sample size, the average effect size, or measure of the strength of the link between owner/manager’s growth ambitions and subsequent business growth on was 0.29, a medium effect size. However, tests indicated that this average effect size was not

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robust²⁶, and that any effect might be indirect²⁷, in other words there could be other factors that influence the effect of growth intention on subsequent growth. See Appendix 2 for technical test results.

These factors could include the way that growth is measured, such as type of growth (for example sales or employment) or the state of certainty about the viability of the business model, which could be related to stage in the entrepreneurial process (for example if the business is young or if it is relatively established, say for at least three years). Separating the sample into these groups revealed the following:

- For established business owners and sales growth, the average effect size was small to medium (0.22), positive and robust for established businesses.
- For established business owners and employment growth, the average effect size was medium (0.33), positive and robust.
- Tests on these more homogenous groups of studies also suggested that growth intentions had a direct effect on subsequent realised growth; i.e. that the effect was not solely through other variables.

These results confirm the importance of growth intentions as directly affecting subsequent growth. What's more, the effect is not small. Growth intentions do matter.

Several recent studies in Finland and Sweden have also found evidence of both direct and indirect effects of growth intention on realised growth. Although the measures vary, they suggest a link between growth intention, innovativeness, and realised growth²⁸. We return to this link in Section 3 below, which considers factors that associate with growth intention. These factors could either affect growth intention or identify paths through which growth intention causes actual business growth.

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3 Factors associated with growth intention

In this section, we draw from 39 studies²⁹ that have tested different factors for associations with growth intention. We classify these factors into three groups of characteristics: individual characteristics, business characteristics and country (environmental) characteristics; three phases in business evolution: nascent (active, but pre-start), new and established for at least three years; and two levels of analyses: individual level and country level. Some recent studies have begun to examine cross-level (of analysis) effects, and peer group effects, and these hold promise for future research, a subject to which we return in section 5.

Because this is a meta-analysis, we only cover factors that have been measured by at least two studies. A wide range of additional factors, such as necessity and opportunity motives, and household income were only measured in one study and this is why they are not covered here.

3.1 Individual-level characteristics

3.1.1 Age of entrepreneur

Eighteen studies measured the strength of association between the age of the entrepreneur and their ambition for growth. Five of these found a positive association while 13 found a negative association, six of which were statistically significant.

The weighted average effect size for the 11 studies of established owner-managers was $-.10$, which is considered small. This average effect size was not robust. Statistical tests indicated the presence of intervening variables – perhaps reflecting the wide variety of measures of growth intention.

For the two studies of new business owner-managers (both correlations were statistically significant), the weighted average effect size was -0.14 and statistical tests suggested this effect was reasonably robust.

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For the four studies on nascent entrepreneurs, only one was positive (and not statistically significant). In this study, the measure of growth intention was “intended sales in 5 years”. A different measure of growth intention with the same sample “I want the business to be as large as possible” produced a negative and almost significant association. Given the range of effect sizes from -0.21 to 0.21, the average effect size is somewhat meaningless.

In sum, younger entrepreneurs of new businesses may be more likely to have growth intentions than older entrepreneurs of new businesses, but this finding does not extend to established business owners or nascent entrepreneurs, and it may depend on how growth ambition is measured. Several researchers have speculated that younger new business entrepreneurs may be somewhat naïve or overoptimistic, and this would fit this result.

3.1.2 Gender

Many qualitative studies have suggested that on average women are less likely to have growth intentions for their business than men. A range of reasons have been put forward for this, including lack of self-confidence, lack of self-efficacy, choice of highly competitive industry sectors, and family duties, but information is lacking on the relative importance of these reasons, and whether this differs significantly between nations³⁰.

The overall pattern is that male early-stage entrepreneurs are more likely to have growth intentions than female early-stage entrepreneurs:

- a small positive average effect size of 0.14 for males across four studies of nascent entrepreneurs, and
- a small positive average effect size of .10 for two studies of new business owners.

However, the results of five studies of established business owners are mixed. Effect sizes varied widely, ranging from 0.18 for a study in the

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Netherlands to -0.14 (note the negative association) for a study in the US. The average effect size was close to zero, but this does not reflect the wide variation across the studies.

This wide variation in results may be because other (unmeasured) factors influence the link between gender and growth intention of established business owners. In addition, as with age, the way growth intentions were measured may have affected the way male and female business owners responded. For example, in one study that compared entrepreneurs in the US and Russia³¹, the measure was “is your primary objective for the business to generate growth and profitability or produce family income?” In the US, more males than females chose “family income” as the primary objective. It is possible that for more females than males, the business was not a primary source of family income, but a second source. In Russia, more females than males chose family income as their primary objective, possibly reflecting the extreme labour market disruption in Russia in the early 1990s.

3.1.3 Education

Of the 11 studies of established business owners, ten had positive associations between education level (measured in various ways) and growth ambition, and one (on business owners in Kosova³²) had a significant negative association with an effect size of -0.31. Because of the latter, the mean weighted effect size was small at .06 and it was not robust. For three studies of new business owners, the average weighted effect size was small at 0.04, but robust. For nascent entrepreneurs, the average weighted effect size was extremely small (0.00067) but robust.

In summary, the effects of education on growth intention are generally positive but small. Kosova may be an example of an extreme environment for entrepreneurship.

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3.1.4 Entrepreneurial experience

For established business owners, there was a small but robust average weighted effect size (0.16) on growth intention of having started or run their own business before their current one. This fits with work in the UK comparing novice, serial and portfolio entrepreneurs³³.

Interestingly, this does not hold true for the two studies on nascent entrepreneurs; both had small negative relationships, for a very small but robust average weighted effect size of 0.03. This could reflect a large number of over-optimistic – naïve, perhaps, nascent entrepreneurs who either drop out of the process or lower their growth ambitions once they have started.

3.1.5 Managerial experience

The effect of managerial experience was mixed, with positive and negative associations for nascent and established entrepreneurs and only one study (with a very low negative association) for young entrepreneurs. One large sample that measured growth intentions in two different ways (see section 3.1.1) returned two very different effect sizes (0.31 and -0.05), again illustrating the difficulty of drawing inferences in this area without taking additional factors into account. All three significant individual associations for managerial experience were positive, however.

3.1.6 Industry experience

The effect of industry experience was also mixed. For established business owner-managers, one study returned a negative effect and two a positive effect (only one of which was significant). The average weighted effect size was .14 but it was not robust. The only study on nascent entrepreneurs that recorded industry experience reported a positive but not significant effect.

3.1.7 Risk-taking

Four studies of established entrepreneurs returned effect sizes for risk-taking propensity, measured in different ways. The average weighted effect

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size was 0.24, which is a small to medium effect. Tests suggested that this result was reasonably robust and that there is a direct association between growth intention and risk-taking propensity. Two studies using the same sample but different measures of growth ambition of nascent entrepreneurs found significant and positive effect sizes of 0.32 and 0.25.

In summary, there appears to be a small to medium association between growth intention and risk-taking propensity. The direction of causality is open to debate. One interpretation might be that risk-taking propensity is a rather stable “trait”, and that it might cause growth intention. Another interpretation, favoured by some leading business growth researchers, is that growth intention helps to generate an “entrepreneurial orientation” the main dimensions of which are risk-taking, pro-activeness and innovativeness. These researchers argue for a causal relationship between entrepreneurial orientation and realised growth³⁴, so that growth intention may have both direct and indirect effects on realised growth. There is considerable evidence across many countries of a link between entrepreneurial orientation and business performance, particularly for smaller businesses³⁵.

3.1.8 Achievement orientation

Two studies returned effect sizes for achievement motivation (i.e. when an individual feels a need to perform certain tasks to a high level of excellence) among established business owners. The average weighted effect size was small at 0.17 but robust. One study of nascent entrepreneurs returned a large effect size of 0.72. In summary, while the evidence is limited for achievement orientation and growth orientation, it does point to a positive effect.

3.1.9 Innovation/innovativeness

The average weighted effect size for six studies of established business owners was .16, which while small was robust. For the two new business owner studies the average weighted effect size was 0.15 and was also

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robust. For the five nascent entrepreneur studies the average weighted effect size was 0.19 and was robust. Since in each stage in the entrepreneurial process, the average effect size was the same and robust, this suggests that innovativeness and growth ambition are linked. Note that innovativeness is a component of “entrepreneurial orientation”, as noted in section 3.1.7 above.

One consequence of growth ambition may be innovativeness; in a saturated market or resource-poor environment, entrepreneurs may realise they have to do something new or different in order to achieve growth. It is possible that this relationship works both ways, or it might generate a virtuous circle: innovative entrepreneurs may generate more sales and get a “taste for growth”³⁶ as a result.

3.1.10 Motivation for starting the business

Surprisingly few individual-level studies were located that had motivation data from which effect sizes could be extracted. Four studies of nascent entrepreneurs, based on the same US PSED database³⁷, returned an average weighted effect size of 0.20 for wealth as a motivator but this was not a robust result. Further inspection revealed medium and significant effect sizes for the two studies that measured growth intention in terms of expected future absolute sales, but small and not significant effect sizes for the two studies that used a dichotomous variable that contrasted wanting to grow the business as big as possible with growing to a manageable size.

The same four studies returned a very small average weighted effect size for independence as a motive (0.002); this was not significantly different from zero. While none of the studies produced significant effects, the two studies measuring growth intentions using absolute size were positive while the other two were negative.

One Swedish study on established entrepreneurs found positive small to medium effect sizes for both motivations on growth intention³⁸.

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Overall, the evidence suggests that at the nascent business stage, wealth-seeking may act as a motivator of growth intention, at least in the US, but independence seeking is not an important motivator.

3.1.11 Self-efficacy

Self-efficacy is defined as task-specific self-confidence – i.e., one's belief that if one undertakes a given task, one is likely to successfully accomplish it. One would expect that confidence in one's ability to manage a growing business would increase the likelihood that one would want to grow the business. Unfortunately only one study, on established business owners, measured this directly³⁹. This study returned a medium effect size (0.38). In this study, self-efficacy correlated positively with past venture growth, reflecting the confidence that comes from success. Three other studies of nascent or new business owners, measured different types of self-efficacy, for example in starting a business, managing people or financial management and so they are not comparable.

3.2 Business characteristics

3.2.1 High technology

There was no evidence from the meta-analysis that growth intention is more prevalent in high-tech businesses. The three studies of established entrepreneurs returned one negative and two positive effects, and the average weighted effect (-0.02) was negative, very small and not significantly different from zero. One study each for new and nascent entrepreneurs was recorded. Both effect sizes were positive (0.05 and 0.13) but neither effect was statistically significant in the original study.

3.2.2 Exporting

Only three studies were located that provided correlations of growth intention and export intensity. All reported positive effects; one for nascent entrepreneurs was modest (0.18) one for new business owners was medium (.30) and one for established business owners was small (0.04).

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3.2.3 Age of Business

David Birch's focus on young businesses that experience a rapid but temporary burst of fast growth as "gazelles"⁴⁰ might lead one to assume that that younger businesses might, on average, have more owners with growth intentions than older businesses. However, the nine studies located that measured business age, all of established business owners, returned a wide range of effect sizes from negative (-0.24) to positive (0.10). The average weighted effect size was small and negative (-0.05) but was not robust. There is thus no clear, universal tendency for an association between the age of a business and the growth intentions of its owners. This suggests that other factors (firm size and national context might be among them) may influence any effect that age of the business actually has on growth intentions.

3.2.4 Size of business

Studies tend to suggest business growth rates tend to decline with increasing size⁴¹. If this is true, one might expect growth intentions to also decline with business size. Six studies on established business owner-managers returned a wide range of effect sizes for the association between number of employees and growth ambition from negative (-0.18) to positive (0.30). The average weighted effect size was 0.05, and was not robust. Four of the six effect sizes were negative but only one of them was statistically significant. Given the very different samples (different size and age boundaries and national contexts) it is perhaps not surprising that the meta-analysis should return a wide range of effect sizes. The result for the two studies of new business owners was also mixed.

On the other hand, two studies (one in the Netherlands, one in Kosova⁴²) of established business owners returned identical, statistically significant positive effect sizes (0.21) for number of employees at startup and growth intentions. This result could suffer from selection bias however because exited businesses in the cohort are excluded. Assuming these two studies are representative all we can infer from them is that, of all businesses that survive beyond the first few years, those that were big at the start are more

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likely to have growth intentions. There is no clear evidence from these studies that all larger new businesses are more likely to have growth intentions. However, it may be the case that businesses that are larger at the start are more likely to survive the first few years, and the survivors are more likely to have growth intentions.

Three studies of established business owners reported associations between current sales (revenues) and growth intentions. Two had significant positive associations and one had a negative but non-significant association. The average weighted effect size was not robust.

In summary, as with business age, there seems to be no clear evidence that growth intentions vary directly with business size. If there are associations, between business age and size on the one side and growth intentions on the other, they are more subtle than the linear associations assessed here.

3.3 Country level effects

Two studies were located that employed Global Entrepreneurship Monitor (GEM) country-level data on the prevalence of growth-oriented entrepreneurs, defined as the percentage of the working age population who were early-stage entrepreneurs and aspired to employ at least 20 people in 5 years⁴³.

Four studies were located that employed GEM country-level data on the relative prevalence of growth-oriented entrepreneurs, defined as the proportion of early-stage entrepreneurs who aspired to employ at least 20 people in 5 years⁴⁴.

It is very important for policy (and research) purposes to realise that the prevalence of growth-oriented entrepreneurs and their relative prevalence are very different measures, and are subject to different influences.

The studies were based on partially overlapping datasets over the 2000 to 2008 period, so they are not truly independent. Furthermore, they are not

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representative of all countries; the GEM country level samples for this period highly over-represent the richest nations.

3.3.1 Prevalence of growth-oriented early-stage entrepreneurs

Two studies measured the extent of regulations relevant to business startup and growth. One study amalgamated comparable international data into a regulatory burden index, while the second created two indices, one on employment flexibility and the other on red tape. To compare the effect sizes of regulation across the two studies, the two indices in the second study were averaged. The average weighted effect size was negative (-0.22) and robust, indicating the higher the regulatory burden in a country, the lower the prevalence rate of growth-oriented entrepreneurs.

These two studies returned effect sizes of different signs for GDP per capita. These differences, on subsamples of the same database, illustrate the dangers of employing unrepresentative samples of a population (in this case, of countries).

These two studies also returned effect sizes of different signs for measures of property protection/rule of law. Thus there is no clear evidence that rule of law from these studies has a direct effect on the prevalence of growth-oriented entrepreneurs. However, one of the studies found that rule of law interacts with regulatory burden: when rule of law is strong, and regulatory burden is high, then prevalence of early-stage entrepreneurs is low⁴⁵.

Another multi-level study, not included in this meta-analysis, found that strong intellectual property rights may encourage entrepreneurs from high-income households to exhibit greater growth orientations; however, the effect was negative for entrepreneurs with higher education⁴⁶.

3.3.2 Relative prevalence of growth-oriented entrepreneurs

Three studies measured regulatory burden in different ways. One study had one measure of employment protection and another of start-up procedures. To make it more equivalent to the regulatory burden measures

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in the other two studies, the average of these measures was used to calculate an effect size. The average weighted effect size was negative, medium to strong and robust at -0.42.

Two studies found significant positive associations between the prevalence of wealth motives for starting a business and relative prevalence of growth-oriented entrepreneurs. The average weighted effect size was large and positive (0.59).

These two studies also found significant negative associations between the prevalence of independence motives for starting a business and relative prevalence of growth-oriented entrepreneurs. The average weighted effect size was medium to large and negative (-0.45).

Two studies found significant positive associations between regulatory protection/rule of law (measured in different ways) and relative prevalence of growth-oriented entrepreneurs. The average weighted effect size was medium, positive and robust at 0.29.

One of these studies found that rule of law and regulatory burden interacted; when rule of law is strong and regulatory burden is high, relative prevalence of growth-oriented entrepreneurs is low. Another multi-level study, not included in this meta-analysis, found that strong intellectual property rights may encourage more educated and wealthy entrepreneurs to engage in growth-oriented entrepreneurship⁴⁷.

Three studies included GDP per capita. Two had positive effect sizes and one had a negative effect size. The average weighted effect size was .08 but was not robust. Four studies included annual GDP growth. Three had positive effect sizes and one had a negative effect size. The average weighted effect size was 0.29, but it was not robust. The evidence is therefore not clear on whether wealth or growth in wealth has an effect on the relative prevalence of early-stage entrepreneurs.

One of these country-level studies suggested that a significant proportion of the difference in prevalence rates of growth-oriented early-stage

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entrepreneurs between the US and the UK may lie in the larger “home” market of the US⁴⁸. US entrepreneurs may be more growth-oriented because they have a larger home market. Other differences between the UK and US that seemed to be associated with differences in growth-oriented entrepreneur prevalence rates included a higher prevalence of wealth-driven motives among entrepreneurs in the US, higher prevalence of individuals in tertiary education in the US, and greater employment protection in the UK.

The UK also appeared to have a lower prevalence of wealth motives relative to the average across 17 developed economies. Finally, economies in transition appeared to have higher relative prevalence rates.

Based on the evidence presented in this and the previous section, Section 4 considers what could be done to raise growth intentions in the UK.

4 Raising Entrepreneurial Growth Intentions: Implications for Policy

4.1 Business growth’s golden combination: growth intention, innovation and exporting

Collectively, the research suggests that at the individual level, entrepreneurs’ growth intentions are a consequence of individual characteristics, and more weakly affected by environmental effects. Entrepreneurs who are risk-taking, achievement-oriented and innovative are more likely to be growth-oriented. These three characteristics are correlated with each other. One explanation for this may be that innovations “can be easily identified as one’s own”, and therefore are a measure of achievement for task- or achievement-oriented people⁴⁹.

There is some evidence that entrepreneurs who are motivated by wealth are more likely to be growth-oriented, and that countries with higher proportions of wealth-seeking entrepreneurs and lower proportions of independence-seeking entrepreneurs have more growth-oriented entrepreneurs. However, entrepreneurs may use wealth as a measure of

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achievement rather than an end in itself; the role of wealth seeking for its own sake in growth intentions of business owners may well vary by culture.

The identification by one country-level study⁵⁰ of national population size as a significant factor (for developed countries) in the prevalence of growth intentions fits with what we know about the link between innovation, exporting and growth⁵¹. A consistent result from the meta-analysis is that innovation and exporting are associated with growth intentions. If UK entrepreneurs were to think of the European Union as their home market, rather than just the UK, the prevalence of entrepreneurs with growth intentions might increase.

4.2 Raising or enabling aspirations?

Achievement-oriented, proactive individuals may weigh up the opportunity costs of growing their own business against other options for achievement, such as speculation or working for large organisations. Individuals will act in a certain way if they believe that that act will result in a given outcome⁵². Therefore, if the rewards of growth can be expropriated, fewer growth-oriented entrepreneurs will emerge⁵³.

Given that rule of law is strong in the UK, a focus on the burden of regulations on growth-oriented entrepreneurs is warranted. While the burden of regulations is relatively light in the UK, employment protection regulations may still act as a barrier to growth orientation in the UK in comparison with the US⁵⁴. Employment legislation aside, the risk of expropriation of the rewards of serial, growth-oriented entrepreneurship is low in the UK thanks to Entrepreneurs' Relief. Thus, potential growth oriented entrepreneurs should expect that growth will generate financial rewards. Anecdotal evidence supports this⁵⁵.

Unfortunately, fewer entrepreneurs in the UK than in the US seem to want greater financial rewards⁵⁶. There is a relative lack of wealth motivation and a greater prevalence of independence motives for starting a business in the UK compared with the US - although these differences are even more marked between the US and Continental European countries. At the

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country level, the prevalence of these motives among entrepreneurs impacts on growth-orientation, but in opposite directions⁵⁷.

In the UK, parental expectations and position in social structures affect aspiration and ambition among individuals in the general population⁵⁸. This is linked to educational attainment which in turn affects success later in life. One of the differences between the US and the UK which was associated with the business growth intention gap in one study in this meta-analysis was the higher tertiary education enrolment ratio in the US, illustrating the role of general human capital in growth orientation. The difference for males is particularly stark. In 2009, the tertiary education gross enrolment ratio for males in the UK was only 49%, compared with an OECD average of 58% and a US average of 79%⁵⁹. If the tertiary education enrolment ratio falls further in the UK in relation to the US and other developed countries, we may expect a knock-on effect on growth-orientation.

While more basic research is needed in this area, one of the findings to emerge from recent reviews of the literature on aspiration and education⁶⁰ is that lack of knowledge may be preventing aspirations of more disadvantaged children from being pursued. While having growth-oriented entrepreneurs (and other high achievers) interact directly with children and young people in schools might be an ideal form of knowledge transfer, internet-based video case studies of growth-oriented entrepreneurs succeeding from very different family backgrounds might help to bridge this gap in a more time and cost-efficient way.

4.3 Entrepreneurship or intrapreneurship?

Potential innovative, growth-oriented entrepreneurs may have choices over the context in which they can express their innovativeness and/or need to achieve challenging tasks. One study found that 70% of fast-growing founders in the US “replicated or modified an idea encountered through previous employment”⁶¹. In theory, these founders could have developed their new business ideas for their employer, i.e. they could have become “intrapreneurs”, but were either unable to or chose not to.

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GEM data suggests that the businesses in the United Kingdom provide a relatively good environment for intrapreneurship, lying in the top quartile of 32 economies surveyed in 2011 by GEM for employer encouragement of intrapreneurship⁶². Unlike the UK's rate of independent entrepreneurship, its rate of private sector entrepreneurial employee activity is the same as that in the US⁶³. Intrapreneurs and growth-oriented entrepreneurs seem similar in demographic background, and the relative prevalence of growth-oriented intrapreneurs appears to be higher than that of growth-oriented independent entrepreneurs⁶⁴.

Policymakers might want to think carefully about whether they wish to favour one context for the expression of growth-oriented entrepreneurship (intrapreneurship) over another ("independent" entrepreneurship), particularly given the relative lack of interest in the UK, compared with the US, for extrinsic rewards (such as wealth and social recognition based on wealth) over intrinsic rewards. Unfortunately, very little is known about the relative impact on the economy of intrapreneurship and independent entrepreneurship, and the relative risks and rewards of these alternatives, either in the UK or elsewhere⁶⁵.

In Section 5, important research questions that remain after this review are discussed.

5 Issues for further research

None of the studies employed in the meta-analysis of growth intention and realised growth were UK-based, and only two of the studies in the meta-analysis of factors associated with growth intention were UK-based. Yet many of the qualitative studies located as part of this review were indeed from the UK. Given the problem with biased recollection that has been identified through careful longitudinal quantitative studies, and the demonstrated country-level differences in factors affecting growth intention, there is a clear need for a UK-based quantitative longitudinal study that tracks a cohort of nascent entrepreneurs through time, that is representative of the entire country, and that tracks entrepreneurial

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motivation, growth intention, entrepreneurial orientation, and realised growth, with careful control of individual, peer group and industry effects.

There is also much that can be done with existing cross-sectional databases such as GEM. Growth-oriented entrepreneurs are very rare. Nascent and new entrepreneurs who expect to employ at least 20 employees in five years' time together comprise only 1% of the UK working age population. But the UK GEM database now contains information on over 220,000 individuals aged between 18 and 64. The combined sample size is now big enough that demographic and locational profiles of UK growth-oriented entrepreneurs can be built. In addition, country comparisons can be made with existing data.

Country-level comparisons cannot accurately model the effects of country level variables such as business regulation on individual-level intentions. Cross-level studies are only just beginning to emerge as, after over a decade of data collection and coverage of 100 economies, GEM data approaches a critical mass for this type of complex analysis. Critical questions here include: what is the relative impact of environmental variables that are and are not under government control (for example: home population size versus employment protection legislation), social group variables (one's peer group), and individual characteristics on the growth orientation of individual prospective and current entrepreneurs?

Much more needs to be done to investigate interaction effects: how two variables interact to affect a third variable. There is considerable suggestive evidence of complex interactions between growth intentions and other variables; growth intention affects realised growth both directly and indirectly through other variables. For example, ambitious entrepreneurs may pursue innovative, riskier strategies because of their growth intentions.

Many policy-relevant questions remain about the relative contribution of growth-oriented entrepreneurship versus growth-oriented intrapreneurship, and the opportunity costs to a potential high achiever of this occupational

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choice. For example:

- Will a potential growth-oriented entrepreneur feel they have achieved more by growing their own business rather than working in a challenging career as someone else's employee?
- Will they be more or less productive working for themselves than for others, and does this vary by country?
- What difference does the option of profit-sharing or part ownership make to ambitious, entrepreneurial individuals in their decision of whether to act entrepreneurially or intrapreneurially?

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Appendix 1: Meta-analysis literature search methodology

In February 2013, we searched electronic databases including ABI-INFORM, EconBiz, Ebsco Host, PsycINFO, Business Source Elite, WilsonBusiness, and Google Scholar).

The actual search terms included: ambitious entrepren*; "entrepren* growth aspiration" "entrepren* growth inten*" entrepren* AND "growth inten*" AND "realized growth" entrepren* "realized growth" "growth aspirations" "growth ambitions entrepreneurs" "growth intention entrepreneur" entrepren* AND "growth aspir*", growth motivation and entrepren* "growth willingness" AND entrepren*.

We also checked the references of relevant empirical studies for further articles. Second, we surveyed previous narrative reviews (e.g. Stam et al, 2012) and the GEM publications list to find relevant studies. Third, we browsed major entrepreneurship and business management research outlets, such as Entrepreneurship Theory and Practice, Frontiers of Entrepreneurship Research, Journal of Business Venturing, Journal of Small Business Management, Journal of Management Studies, Academy of Management Review, Academy of Management Journal, and Journal of Management.

Our selection criteria for the meta-analysis were as follows. First, the study must include the measurement of growth intention/ambition/willingness/aspiration to be included in the study. Second, the study must include a dependent variable that can be classified as a measure of entrepreneurial business growth: for example total or relative increase in assets, profitability, sales or employment. Third, growth intentions data should be collected at the beginning of the period in which growth is being assessed, while realised growth data should be collected at the end of this period. We did not include corporate entrepreneurs or social entrepreneurs in our study. The final criterion was that the study must include a Pearson or Spearman correlation coefficient (or its equivalent, e.g., an F value or t-

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statistic) for the independent and a dependent variable. We did not use partial correlation coefficients, such as those from regression models.

Using these criteria, we located 13 studies with a total of 19 correlations between growth intentions and realised growth. We located 39 studies with correlations between growth intentions and individual, business and/or environmental factors. A further five cross-national studies provided correlations between country-level growth intentions and other country-level variables.

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Appendix 2: Technical details of meta-analysis of studies of growth intentions and realised growth

Type of growth measure and type of business owner/ manager	K	N	r_c	r	Sr^2 (variance in effect sizes)	Se^2 (sampling error variance)	% variance due to sampling error	95% confidence interval	homogenous or heterogenous (indicator of possible indirect effects)
All	19	4970	0.622	0.287	0.040	0.003	8.06	-0.088 to 0.663	heterogenous
Employment growth	5	1887	0.776	0.337	0.042	0.002	4.92	-0.056 to 0.730	heterogenous
Sales growth	5	1283	0.590	0.322	0.051	0.003	6.20	-0.105 to 0.748	heterogenous
young owner	9	2268	0.692	0.313	0.068	0.003	4.71	-0.187 to 0.814	heterogenous
established owner	10	2702	0.529	0.265	0.025	0.003	21.44	0.0530 to 0.477	heterogenous
young owner, sales growth	2	467	0.758	0.500	0.076	0.002	3.15	-0.033 to 1.034	heterogenous
established owner, sales growth	3	816	0.373	0.219	0.007	0.003	48.14	0.102 to 0.337	homogenous
young owner, employment growth	3	1114	0.815	0.342	0.071	0.002	2.95	-0.174 to 0.857	heterogenous
established owner, employment growth	2	773	0.676	0.330	0.000	0.002	100	0.330 to 0.330	homogenous
young owner, mix emp. and sales growth measures	2	300	0.404	0.146	0.004	0.006	100	0.146 to 0.146	homogenous
established owner, mix emp. and sales growth measures	4	1070	0.591	0.239	0.022	0.003	15.12	-0.028 to 0.507	heterogenous

Key: K = number of samples; N = combined samples size; r_c = reliability corrected and sample size weighted mean effect size; r = sample size weighted mean effect size; Sr^2 = variance in effect sizes; Se^2 = sampling error variance.

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NOTES

¹ See e.g. Andersson, S. and Tell, J. (2009). The relationship between the manager and growth in small firms. *Journal of Small Business and Enterprise Development* 16(4):586-598; Stam, E., Bosma, N., van Witteloostuijn, A., de Jong, J., Bogaert, S., Edwards, N., and Jaspers, F. (2012). *Ambitious Entrepreneurship: A review of the academic literature and new directions for public policy*. The Hague, Netherlands: Advisory Council for Science and Technology Policy.

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⁵ Levie, J. and Autio, E. (2011). Regulatory burden, rule of law, and entry of strategic entrepreneurs: An international panel study. *Journal of Management Studies* 48: 1392-1419.

⁶ Hedges, L.V., and Olkin, I. (1982). Analyses, reanalyses, and meta-analyses. *Contemporary Education Review* 1:157-165.

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⁸ Cassar, G. (2007). Money, money, money? A longitudinal investigation of entrepreneur career reasons, growth preferences and achieved growth. *Entrepreneurship and Regional Development: An International Journal* 19(1): 89-107.

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⁹ Jayawarna et al., op.cit.

¹⁰ Autio, E. (2007). Global Entrepreneurship Monitor 2007 Global Report on High-Growth Entrepreneurship. London: Global Entrepreneurship Research Association.

¹¹ Autio, E. (2012) Dinosaurs, Mice, Gazelles and Ecosystems: Removing Bottlenecks of Growth for Innovative Firms. Background Paper for the ERAC Mutual Learning Workshop, Brussels, 24 January. p4.

¹² Stam, E., Suddle, K., Hessels, J. and van Stel, A. (2009). High-growth entrepreneurs, public policies and economic growth. In: Leitao, J. and Baptista, R. (eds.), Public Policies for Fostering Entrepreneurship: A European Perspective. New York: Springer, pp.91-110; Stam, E., Hartog, C., van Stel, A., and Thurik, R. (2011). Ambitious entrepreneurship, high-growth firms, and macro-economic growth. In: Minniti, M. (ed.): The Dynamics of Entrepreneurship: Evidence from the Global Entrepreneurship Monitor Data. Oxford: Oxford University Press, pp231-250).

¹³ Levie, J. and Hart, M. (2012) Global Entrepreneurship Monitor United Kingdom Monitoring Report 2011, Aston Business School and Strathclyde Business School, p.25; Autio, E., Cleavelly, M., Hart, M., Levie, J., Acs, Z., and Szerb, L. (2012). Entrepreneurial Profile of the UK in the Light of the Global Entrepreneurship and Development Index. Imperial College London. 35pp.

¹⁴ Levie and Hart (2012), op.cit., p25.

¹⁵ Blackburn, R., Kitching, J., Hart, M., Brush, C. and Ceru, D. (2008). Growth Challenges for Small and Medium-sized Enterprises: A UK-US Comparative Study. UK Treasury and BERR Report URN 09/683.

¹⁶ Blackburn et al, op.cit.

¹⁷ Blackburn et al., op.cit., p.58.

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¹⁸ See e.g. Stam et al. 2012, op.cit., Dobbs, M. and Hamilton, R.T. (2007). Small business growth: Recent evidence and new directions. *International Journal of Entrepreneurial Behaviour and Research* 13(5):296-322; Gilbert, B.A., McDougall, P.P. and Audretsch, D.B. (2006). New Venture Growth: A review and extension. *Journal of Management* 32(6):926-950.

¹⁹ Gibb, A. and Davies, L. (1990). In pursuit of frameworks for the development of growth models of the small business. *International Small Business Journal* 9:15-30, p22.

²⁰ Cassar, G. and Gibson, B. (2007). Forecast rationality in small firms. *Journal of Small Business Management* 45(3):283-302; Delmar, F. and Wiklund, J. (2008) The Effect of Small Business Managers' Growth Motivation on Firm Growth: A Longitudinal Study. *Entrepreneurship Theory & Practice* 32(3): 437-457.

²¹ See appendix 1 for a summary of how the literature was reviewed.

²² They are: 1: Baum, J. R., and Locke, E. A. (2004). The Relationship of Entrepreneurial Traits, Skill, and Motivation to Subsequent Venture Growth. *Journal of Applied Psychology*, 89(4), 587-598; 2: Baum, J.R., Bird, B.J., and Singh, S. (2011). The practical intelligence of entrepreneurs: Antecedents and a link with new venture growth. *Personnel Psychology* 64:397-425; 3: Chandler, V. (2012). The economic impact of the Canada small business financing program. *Small Business Economics* 39:253-264; 4: Delmar and Wiklund, op. cit.; 5: Kolvereid, L. and Bullvag, E. (1996). Growth intentions and actual growth: The impact of entrepreneurial choice. *Journal of Enterprising Culture* 4(1):1-17; 6: Bellu, R.R. and Sherman, H. (1995). Predicting firm success from task motivation and attributional style: a longitudinal study. *Entrepreneurship and Regional Development: An International Journal* 7(4): 349-364; 7: Wiklund, J., and Shepherd, D.A., 2003. Aspiring for and achieving growth: the moderating role of resources and opportunities. *Journal of Management Studies* 40(8): 1919–1942; 8:

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²⁴ Cohen, J (1992). "A power primer". *Psychological Bulletin* 112 (1): 155–159.

²⁵ Cohen, op. cit., p156

²⁶ By “robust”, we mean “significantly different from zero at the 95% level”, i.e. the effect appears to be “real”.

²⁷ This was assessed using three different tests for heterogeneity.

²⁸ Stenholm (2011), op. cit., Wiklund, J., Patzelt, H. and Shepherd, D.A.(2009). Building an integrative model of small business growth. *Small Business Economics* 32: 351-374.

²⁹ 1: Baum and Locke, op. cit.; 2: Baum et al., op. cit.; 3: De Jong, J. and Marsili, O. (2011). Schumpeterian and Kirznerian opportunities: An empirical investigation of opportunity types. Paper presented at DRUID 2011, June 15-17, Copenhagen; 4: Delmar and Wiklund, op. cit.; 5: Wiklund

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³² Hoxha, D. and Capelleras, op.cit.

³³ Westhead, P., Ucbasaran, D. and Wright, M. (2003). Differences
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³⁴ Wiklund et al. (2009), op. cit.

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³⁶ Delmar and Wiklund, op.cit.

³⁷ Edelman, et al. op. cit.; Manolova, et al. (2012) op. cit.; Cassar (2007),
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