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For Benevolence and for Self-interest

Social and Commercial Entrepreneurial Activity Across Nations

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ABSTRACT

We conceptualise social entrepreneurship as a source of social capital which, when present in the environment, enhances commercial entrepreneurship. We also argue that social entrepreneurship should be recognised as a second form of Baumol's (1990) productive entrepreneurship and that it will therefore compete at the individual level for resources with commercial entrepreneurship. Unlike institutional void theory, we see social entrepreneurship as conditional on institutional quality, but consistent with the institutional void perspective we see it as filling the gaps where government activism is lower. These arguments motivate our hypotheses that we test and largely confirm applying multilevel modelling. Our analysis is based on population-representative samples in 47 countries (the 2009 GEM dataset).

Introduction

Recently practitioners and researchers have been intrigued by the notion of social entrepreneurship. Social entrepreneurs can be defined as individuals starting up an organisation which pursues predominantly other-regarding or pro-social goals, i.e. goals that target societal rather than only private gains, people in need, or more generally aim to provide benefits to people in addition to or other than the founders and owners of the organisation (e.g., Dacin, Dacin & Matear, 2010; Mair& Marti, 2006; Justo, Lepoutre&Terjesen, 2010; Short, Moss & Lumpkin, 2009; Zahra, Gedajlovic, Neubaum & Shulman, 2009). Practitioners and politicians increasingly regard social entrepreneurship as a source of innovative concepts for addressing social issues such as poverty as well as an efficient means of public service provision (e.g., Bornstein, 2007; Economist, 2010). Extending this analysis, we argue that a wide presence of social entrepreneurs in a country is a source of social capital and as result, has positive consequences for commercial entrepreneurship. Parallel to this, we see a relatively more entrepreneurial culture – as indicated for example by a high prevalence of commercial entrepreneurship within a country – as being conducive to social entrepreneurship. Thus, we hypothesise that the two forms of entrepreneurship are mutually supportive at the country-level

and examine the potential spillovers between them. In addition we emphasise the difference between the static and the dynamic view of social capital, stressing the importance of new social initiatives as opposed to participation in social organisations created by others.

We define entrepreneurship as "new entry" through the efforts towards the creation of an organisation (e.g., Gartner, 1989; Reynolds et al., 2005) resulting from an individual's occupational choice to work for his/her own account and risk (e.g., Hebert & Link, 1982). This definition of entrepreneurship emphasizes new initiative. Significantly for our subsequent work, it is applicable to both commercial and social entrepreneurship as it allows for variation regarding the types of goals pursued while undertaking the entrepreneurial activity. Baumol (1990, 1993) proposed that there were three forms of entrepreneurship – productive, non-productive and destructive. Productive activities include all forms of wealth creation through for example innovation, employment creation and arbitrage, while non-productive activity is the direction of entrepreneurial effort to the (self-oriented) redistribution of wealth through rent-seeking, lobbying and other political processes. Destructive entrepreneurship includes for example criminal activities. For a given potential number of entrepreneurs in a society, their decision as to which form of entrepreneurship to choose will be in part influenced by the return to each, and Baumol proposes that this in turn will be determined by the character of a country's economic, political and legal institutions.

We extend Baumol's framework by applying it for the first time to social entrepreneurship and the accumulation of social capital. In our view, social entrepreneurship has to be categorized as a form of productive entrepreneurship. At the same time, to some extent, commercial and social entrepreneurship must compete with each other for the efforts of entrepreneurs, and we develop this insight when comparing the determinants of the two forms of entrepreneurial activity. Yet, while there is an element of competition between the two activities on the individual level, we also propose that higher levels of social and commercial entrepreneurship in the environment will be mutually supportive. This is because social entrepreneurship leads to the accumulation in a country of social capital which enhances levels of commercial entrepreneurship. At the same time, if a country's social attitudes, culture and institutions are supportive of productive entrepreneurship, this will favor social entrepreneurship as well as commercial projects.

Our theoretical development and supporting empirical work is focused to establish more carefully this pattern of competition and mutual support between the two forms of entrepreneurship. Our primary contribution is to develop hypotheses about the positive impact of social capital, as represented by social entrepreneurship, on commercial entrepreneurship. We also consider the way that a thriving commercial entrepreneurial culture and institutions would stimulate social entrepreneurship. Much of the existing literature has tended to view social entrepreneurial activity as an informal institution substituting for weak formal institutions, which would imply that social entrepreneurship would be more prevalent when formal institutions are weaker. Instead, we propose that the same institutional factors will encourage both forms of productive entrepreneurship. Moreover, we therefore hypothesise that many of the factors established in the literature as likely to influence individual decisions to become commercial entrepreneurs, for example access to financial resources, will influence social entrepreneurs in the same way. Yet since we regard social entrepreneurship as a parallel form of productive activity, which to a significant extent competes with commercial entrepreneurship for the work effort of potential entrepreneurs, we also argue that the two forms of entrepreneurship compete for the attention and work efforts of potential entrepreneurs at the individual level. This leads us to propose a crowding out effect, namely that social and commercial entrepreneurial activity will be negatively associated at the level of the individual.

Our second main contribution is to test and for the most part confirm these original hypotheses on a large dataset which is particularly well suited for the examination of these ideas. We

combined the 2009 Global Entrepreneurship Monitor (GEM) data for 47 countries (N.>100,000) with a large number of country-level institutional indicators and macroeconomic controls. We utilize the GEM adult population survey in 2009 because it has social entrepreneurship as its special theme. Our empirical methodology is to estimate equations explaining individual choices to become commercial and social entrepreneurs in terms of personal characteristics, including for example entrepreneurial self-efficacy, fear of failure, gender, education and age; country specific institutions; and the spillover effects between country level and individual social and commercial entrepreneurship respectively. As such, our methodology sheds light on both country-level determinants and on individual level factors affecting social entrepreneurial activity, which are still poorly understood. We use multi-level modelling to test simultaneously for associations on the individual-level as well ascross-level relationships. Our study therefore highlights how and why social entrepreneurship might have similar antecedents and correlates compared with commercial entrepreneurship. The parallel analysis of commercial entrepreneurship provides a reference point against which to compare the findings on social entrepreneurship and therefore help to develop a more fine-grained understanding of the latter.

Overall then our study contributes both to the empirics and to the theory of social entrepreneurship research; to the former by exploring individual- and country-level antecedents of social entrepreneurial activity and to the latter by stressing the linkages between social entrepreneurship, social capital and commercial entrepreneurship. It advances past research into social entrepreneurship which has been primarily conceptual or case-based in nature (see for instance, Dacin et al., 2010, Short et al., 2009 for reviews or the July 2010 special issue on social entrepreneurship in this journal, e.g., Corner & Ho, 2010; DiDomenico, Haugh & Tracey, 2010; Nicholls, 2010).
Our findings largely confirm our hypotheses, but also generate some interesting anomalies that highlight the need for further research on this important topic. Thus we confirm the positive impact of social capital formation on commercial entrepreneurship, in the sense that the country prevalence rate of social entrepreneurship is found to influence positively the likelihood of individual commercial entrepreneurial activity. We also largely confirm the hypothesized positive spillover between commercial entrepreneurship at the country-leveland its social counterpart. However, the notion that social and commercial entrepreneurship compete at the individual level is not fully supported; nascent social entrepreneurial activity is negatively associated at the individual level with participation in existing commercial entrepreneurship, but nascent commercial entrepreneurial activity is positively associated with participation in existing social entrepreneurship. Most of our other hypotheses are largely confirmed – for example country level institutional quality and individual's access to financial resources for the most part impact commercial and social entrepreneurship in a similar way.

The remainder of the paper is organized as follows. In the next section we present our conceptual framework and hypotheses, before presenting our methodology in the third section. We present results in the fourth section and discuss them in the fifth before considering the broader implications and some suggestions for further work in the conclusions.

Development of Research Framework and Hypotheses

Social Entrepreneurship as a Source of Social Capital

Social capital refers to informal norms of cooperation (e.g., Fukuyama, 2001; Stephan &Uhlaner, 2010) or more broadly to "features of social organisations such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam, 1995, p.67). In past research, social capital has been variously measured, for instance as the level of generalized trust within a population (e.g.,Uslaner, 2002), informal norms supporting cooperation (Stephan &Uhlaner, 2010), or the level of membership within voluntary organisations (e.g., Putnam, 1993). Social entrepreneurs undertake entrepreneurial activity in order to further social rather than private objectives at either the local or the national level, building voluntary structures that support group needs and thereby building levels of generalized trust. Moreover, the organizations that they create are often run on cooperative lines, helping to build a constituency of individuals whose relationships are more consensual and mutually supportive. In consequence, we propose that social entrepreneurship is a source of a country's social capital.
Building on the above conceptualisation of social capital, we also introduce a more dynamic perspective. For us, the emphasis on the importance of participation in large established social organisations can be misleading because such organisations can become embedded in the existing structures of the social and political establishment. In consequence, they may adopt para-state characteristics that have little to do with building societal norms of cooperation. An organisation imposed from above will be very different from one created from below and social initiative, revealed in particular in creating social enterprises, can determine the 'quality' of social capital. Thus, for us, the entrepreneurial element defines social self-organisation. In this, our theoretical perspective combines positive aspects of social capital stressed in the literature quoted above, with Olson's emphasis on beneficial effects of innovation and change in social structures (Olson, 1982; 2000).
Social entrepreneurs, through creating new social initiatives that aim to benefit others, also signal that it is good to care about others, and therefore reinforce norms of cooperation. This resonates with related findings by Krishna (2007) who finds in a longitudinal study of Indian villages that a higher prevalence of self-initiated community-based organisations (as opposed to government or NGO initiated organisations) led to stronger cooperative norms. Similarly Peredo and Chrisman (2006) suggest that community-based enterprises draw on social capital in order to be formed but that their emergence then creates further social capital. These findings and theories are in line with the more general argument that the display of pro-social behaviour – such as creating new social initiatives and not just participation in organisations created by others –leads to the development of cooperative norms and trust among people (Putnam, 1993; Bolino, Turnley&Bloodgood, 2002).

The Relationship between Social Entrepreneurship and Commercial Entrepreneurship

We noted above Baumol's (1990) categorization of the forms of entrepreneurship– productive, non-productive and destructive. Productive activities include all forms of wealth creation, while non-productive activity is the direction of entrepreneurial effort to the (self-oriented) redistribution of wealth through political processes. We extend this framework by considering for the first time within it the role of social entrepreneurship. Given Baumol's definitions, we propose that social entrepreneurship has to be placed in the category of productive entrepreneurship since it is a form of wealth creation. Indeed, Gartner's definition of entrepreneurship that we adopt above highlights the close similarity between the activities of

social and commercial entrepreneurs, but allows for the differences in terms of objectives of the organization.

Baumol's approach implies a fairly fixed supply of entrepreneurial talent within any society; therefore the supply of either type of productive entrepreneurship instead of a non-productive or destructive one, will be influenced by the political and institutional arrangements in each country. At the same time, the two types of productive entrepreneurship, commercial and social,have to compete with each other for the attention and effort of an individual entrepreneur. We also propose that higher levels of social and commercial entrepreneurship will be mutually supportive at the country-level. If it is accepted that social entrepreneurship is a source of social capital, then this has important implications for commercial entrepreneurship as well; we expect the country-level social entrepreneurship rate to have a positive impact on the likelihood that individuals start a commercial business. This is because social capital buffers the risk associated with creating a new organisation by providing access to resources, information and social support. In fact, past research finds a positive relation between social capital and commercial entrepreneurshipon the country-level. For instance, Stephan & Uhlaner (2010) found social capital, defined as norms supporting cooperation, to lead to higher subsequent rates of commercial entrepreneurship rates through encouraging experimentation and strengthening the legitimacy of entrepreneurship. Kwon & Arenius (2010) found social capital, defined as generalized trust and voluntary associational membership, to be related to higher levels of entrepreneurial opportunity recognition – an important antecedent of entrepreneurial activity. Furthermore, Dakhli & DeClercq (2004) use trust and associational activity as indicators of social capital and find them to be related to innovation, while DeClercq, Danis & Dakhli (2010) find associational activity related to entrepreneurial activity in a sample of emerging economies. Hence we propose a positive effect from the prevalence of social entrepreneurship at the country level– seen as one source of social capital – on the development of individual commercial entrepreneurial activity.

H1a: The prevalence of social entrepreneurship at the country-level is positively associated with the likelihood that individuals will undertake commercial entrepreneurial activity.

This complementarity between social and commercial entrepreneurship might run in both directions. Hence one might also observe a positive impact from the country prevalence rate of commercial entrepreneurship on individual social entrepreneurial activity. This is because a high prevalence rate of commercial entrepreneurship might 'signal' that entrepreneurship is a legitimate occupational choice. Thus, potential social entrepreneurs are more likely to perceive entrepreneurship as a legitimate occupation and are therefore reinforced to pursue their social goals through entrepreneurship rather than for instance volunteering or seeking employment in either the social organisations created by others or in the government sector. There is evidence for this view: previous studies comparing regions found a positive effect of a higher prevalence of business start-ups within a region on the likelihood of an individual creating a business him-/herself (Mueller, 2006; Wagner & Sternberg, 2004). Thus,

H1b: The prevalence of commercial entrepreneurship at the country-level is positively associated with the likelihood that individuals will undertake social entrepreneurial activity.

We argued above that while social and commercial entrepreneurship are mutually supportive at the country level, they must compete for the effort of entrepreneurs at the individual level. Starting a business–be it social or commercial–requires the founder to invest considerable resources such as their time and financial resources (e.g., Meyskens, Robb-Post, Stamp, Carsrud & Reynolds, 2010; Reynolds, 2011; Shane, 2003). The investments and effort by an individual necessary to launch either type of enterprise, commercial or social, arguably preclude that the

individual has sufficient additional resources to be able to start the other type of business at the same time as well. Thus,

H2: The likelihood that an individual will undertake social entrepreneurial activity is negatively associated with the likelihood of undertaking commercial activity and vice versa.

Individual-Level Predictors of Social and Commercial Entrepreneurial Activity

The notion that commercial and social activities are both related forms of productive entrepreneurship implies that some of the generic entrepreneurial processes and tasks individuals need to complete in order to create an organisation are likely to be very similar for both types of entrepreneurs. In this context, we discuss in particular the availability of capital, informed by financial and resource theory, as well as the availability of role models, self-efficacy and the willingness to bear risks informed by social learning theory (Bandura, 1986) and economic occupational choice theory (Kihlstrom & Laffont, 1979) respectively.

Acquiring sufficient resources in general and capital in particular is one of the key tasks each entrepreneur is confronted with in the creation of an enterprise (e.g., Baron, 2008). Past research confirms the importance of *access to capital* and in particular access to informal capital for potential entrepreneurs to engage in the business start-up process (e.g., Blanchflower & Oswald, 1998; Ho & Wong, 2006; Korosteleva & Mickiewicz, 2011). Similarly, past research finds access to capital to be equally important in the process of creating a social enterprise (Meyskens *et al*., 2010). Thus, we expect access to financial resources to be positively related to both the propensity to undertake social and commercial entrepreneurial activity.

Past research finds that *knowing an entrepreneur* has a positive influence on an individual's engagement in the business start-up process (e.g., Arenius & Minniti, 2005; Wagner & Sternberg, 2004). The mechanism is likely to be twofold. First, knowing an entrepreneur provides the individual with a role model for successful entrepreneurial behaviour from which he/she can learn how to start a business (Minniti*et al.,* 2005b; Scherer, Adams, Carley & Wiebe, 1989). In addition, the entrepreneur might provide active support and encouragement as well as assistthe individual with finding the resources required for business creation (Aldrich, Rosen, & Woodward, 1987; Djankov, Qian, Roland & Zhuravskaya, 2006; Nanda & Sorensen 2007; Aidis et al 2008a; 2008b). Network capital also facilitates entrepreneurs' access to finance (Aldrich *et al*., 1987, Johannisson, 2000). The benefits of knowing an entrepreneur, i.e. learning how to set up an enterprise, receiving informal social support including access to finance, should be similar for social entrepreneurs. Thus, knowing an entrepreneur should have a positive influence on individuals' undertaking both social and commercial entrepreneurial activity.

Finally, extensive research supports the notion that individuals who believe in their own skills (*entrepreneurial self-efficacy*) and who are willing to accept risk (*no fear of failure*) are more likely to be both interested in and to succeed in becoming entrepreneurs (e.g. Arenius & Minniti, 2005; Koellinger, 2008; Rauch & Frese, 2007; Wagner & Sternberg, 2004). Starting any business, be it social or commercial, is a highly uncertain process. Thus potential social and commercial entrepreneurs are likely to abandon their business creation efforts, if they do not perceive themselves to be in a position to complete this process and/or perceive their efforts will fail to lead to the creation of a business. Indeed Rauch and Frese (2007), in the arguably most comprehensive meta-analytic review of research on entrepreneur personality traits published to date, find self-efficacy to be closely related to business creation and business success.

Similarly, the willingness to accept risk is typically seen as a key trait of entrepreneurs, again in light of the uncertainty inherent in the enterprise creation process (e.g., Kihlstrom & Laffont 1979). Individuals with lower risk aversion are presumed to be more inclined to engage in entrepreneurial activity. Evidence supporting this notion is somewhat mixed (e.g. Ardagna & Lusardi, 2008; Cramer *et al.,* 2002; Miner & Raju, 2004; Stewart & Roth, 2001, 2004).

However, in their meta-analysis, Rauch & Frese (2007) report a small but significant relationship of the propensity to take risk and business creation and success. Zhao, Seibert & Lumpkin (2010) in a further meta-analysis confirm that there is a positive relationship of the propensity to bear risk with the intention to create a business.[1]

We suggest that individuals engaging in social entrepreneurial activity also need to be self-efficacious and willing to bear risk, since the uncertainty associated with the creation of a social enterprise is no less than the uncertainty involved in creating a commercial business. Supporting this reasoning, past research finds established social and commercial entrepreneurs to hold similarly strong perceptions of self-efficacy and willingness to bear risk (Lukes & Stephan, 2008).

Taken together, we hypothesise that important individual-level antecedents of commercial entrepreneurial activity – in particular the availability of finance, availability of role models, and beliefs in own skills, and the willingness to bear risk - are likely to be of similar importance for social and commercial entrepreneurship. Thus,

H3: Greater access to financial resources, knowing an entrepreneur, believing in one's own skills and low fear of failure are positively related to the likelihood that an individual will undertake both (H3a) social and (H3b) commercial entrepreneurial activity.

Country-Level Predictors of Social and Commercial Entrepreneurial Activity

If social and commercial entrepreneurship are both forms of productive entrepreneurship, then the contextual factors determining a country's levels of entrepreneurial activity, for example a strong institutional framework, will be common to both, attracting more entrepreneurial talent away from unproductive and destructive forms of entrepreneurship towards the productive ones. Entrepreneurial theory related to macro level factors posits that both (1) the quality of government and (2) government activism (proxied by the size of the government) are key determinants of commercial entrepreneurial activity (Fogel, Hawk, Morck & Yeung, 2006). Indeed, this has been confirmed by empirical research. In particular, Aidis, Estrin& Mickiewicz (2010) find secure property rights and a small size of the state sector to be positively associated with commercial entrepreneurial activity. Here security of property rights is seen a key component of the constitutional level of the institutional framework, and is equivalent to effective constraints being imposed on the arbitrary action by the executive branch of the government, as lack of those constraints results in the risk of expropriation (*Ibid.*; Williamson, 2000; Acemoglu & Johnson, 2005).

While the argument linking security of property rights to commercial entry is well established in the literature, the literature contains a counterargument with respect to social (not for profit) entrepreneurship. In particular, the line of reasoning represented by the 'institutional void' theory (Dacin*et al*., 2010; Mair& Marti, 2009) suggests a reverse relationship, namely that the lack of strong formal institutions leads to higher demand for social entrepreneurial activity and therefore higher social enterprise start-up rates. Within this theoretical tradition, weak institutions creates 'void' that social entrepreneurs use as an opportunity to create new organisations (Mair & Marti, 2009).

However, this approach appears to imply that social entrepreneurship is seen not as a category akin to productive commercial entrepreneurship, but as the contrasting one, as social entrepreneurship develops to substitute for weaknesses in the institutional environment. As argued above, we do not believe that this is correct – social and commercial entrepreneurship are alternative forms of the same type of entrepreneurial activity, with the purpose of creating

[1]Notably, Zhao *et al.* (2010) find no significant relationship of risk propensity with business success. However, their review is less comprehensive in this regard than Rauch and Frese's (2007).

(broadly defined) social wealth, and as such will be encouraged by a similar institutional environment. If insecurity of property rights is linked to arbitrary government, and – parallel to this – social entrepreneurship is defined primarily as social initiative, there is a clear argument for a positive association between effective property rights and social entrepreneurship. Accordingly, we posit that arbitrary government is likely to hamper not just commercial but also social initiatives. Indeed, Estrin & Mickiewicz (2011) argue that while authoritarian regimes may be characterised by a high degree of social organisation, they are not compatible with self-organisation, as the latter poses a potential threat to their hold on power. Consistent with this perspective, even if the accumulation of assets is not a primary goal of social entrepreneurship, weexpect property rights to be important for social entrepreneurial activity as well.

H4: Country-level property rights are positively associated with the likelihood that individualsundertake both (H4a) social and (H4b) commercial entrepreneurial activity.

However, the institutional void perspective retains validity, provided we more carefully distinguish between the institutional quality (as represented by property rights) and governmental activism, following the categorisation developed by Fogel, Hawk, Morck & Yeung (2006) and Aidis, Estrin& Mickiewicz (2010). In particular, the institutional void perspective includes a second argument (Dacin *et al.*, 2010) regarding the state provision of social services: where these remain limited, there is more demand for self-organisation responding to social needs. Thus, a smaller state sector creates demand for social entrepreneurship. Past research on commercial entrepreneurship identified a similar negative impact of the size of the state sector on commercial business creation (e.g., Aidis *et al.*, 2010), albeit the underlying mechanism is understood to be different from the one proposed for social entrepreneurship. A larger state offers a more extensive welfare system that is financed by higher levels of taxation, which discourages commercial entrepreneurial activity. However, given that social entrepreneurship is less driven by profit motives, it is perhaps less likely to respond negatively both to higher taxation and to higher opportunity cost of commercial entrepreneurship represented by social welfare. Taken together, while the underlying reasons may differ for social and commercial entrepreneurship, we posit:
H5a: The size of the state sector is negatively related to the likelihood that individuals undertake both (H5a) social entrepreneurial activity and (H5b)commercial entrepreneurial activity.

Methods

Sample, Measures and Modelling Strategy

To test our hypotheses we merge Global Entrepreneurship Monitor (GEM) data with a variety of country-level institutional indicators and macroeconomic controls. We utilize data collected through the GEM adult population survey in 2009, which has social entrepreneurship as its special theme. It covers 55 countries worldwide. With very few exceptions, the data consist of representative samples of at least 2,000 individuals in each country. The samples are drawn from the working age population which avoids the potential selectivity bias that could affect studies which focus on existing entrepreneurs. GEM surveys were completed through phone calls, and through face-to-face interviews in countries, where low density of the telephone network could create a bias. National datasets are harmonised across all countries included in the survey.

Social and Commercial Entrepreneurship

The GEM methodology is designed to capture a wide range of business creation activities (Reynolds, Bosma, Autio, Hunt, De Bono, Servais, Lopez-Garcia &Chin, 2005). One can distinguish between:
(a) individuals who intend to create a new venture,
(b) those who are in the process of establishing a new firm (start-ups, or nascent entrepreneurs),
(c) those currently operating young firms (under 3.5 years), and
(d) other owners-managers of established businesses (3.5 years and older).
These four types of activities were identified separately for commercial and for social entrepreneurship, with a possibility that some respondents were active in more than one of the resulting eight categories (Bosma, Levie, Bygrave, Justo, Lepoutre & Terjesen, 2010).
We commence by discussing our measures of the dependent variable; the individual likelihood of becoming a commercial or social entrepreneur. Leaving entrepreneurial intentions aside (i.e. category (a)), we investigate separately the determinants of the start-up activity (category (b)) and of the young and established entrepreneurship (jointly, categories (c) and (d)).
The start-up or nascent entrepreneurial activity is characterised by a high risk of being interrupted without being transformed into a successful business venture, therefore may be seen as a measure of entrepreneurship, which is not robust. Yet is has been popular in empirical research for two reasons. First, the element of newness that is represented by a start-up activity may capture the idea of entrepreneurial entry well. Second, in the context of building a formal estimable model, the focus on nascent entrepreneurial activity alleviates endogeneity problems that are difficult to overcome in the context of cross-sectional data. For example, many individual characteristics, including attitudes and resources, cannot be seen as exogenous for business owners who already manage their ventures for some period of time. In consequence, we make the nascent entrepreneurial activity - both commercial and social - our primary focus. However, to ensure robustness of our findings, we always check whether replacing start-up activity with ownership and management of existing ventures asthe dependent variables influences the main findings. In these additional models, we take care to exclude those explanatory variables that we consider likely to be endogeneous in such a context (e.g., knowing an entrepreneurs, believing in own skills, fearing failure).
Bosma et al. (2010) offer further discussion of the survey methodology and report country prevalence rates for both social and commercial entrepreneurship.

Individual-Level Predictor Variables

Access to capital, knowing an entrepreneur, entrepreneurial self-efficacy and fear of failure (Hypothesis 3) are also captured through the GEM survey. We proxy access to capital through the GEM-question whether the respondent has been a business angel in the past 3 years in response to the question “Did you have, in the past three years, personally provided funds for a new business started by someone else, excluding any purchases of stocks or mutual funds?”. Knowing an entrepreneur is captured through the question “Do you know someone personally who started a business in the past 2 years?”; entrepreneurial self-efficacy through an affirmative response to “Do you have the knowledge, skill and experience required to start a new business.”, and fear of failure through “Would fear of failure prevent you from starting a business?”. All questions allow only “yes” or “no” answers.

Country-Level Institutional Predictors

The second set of variables concerns the measurement of the quality of institutions across countries. No universally accepted set of variables yet exists for the quality of property rights (Hypothesis 4), though many scholars have relied on the Heritage Foundation–Wall Street Journal index of quality of property rights (e.g., Acemoglu & Johnson, 2005; Autio & Acs, 2010). However, Aidis*et al.* (2010) argue that the Heritage Foundation variable integrates two dimensions of property rights, namely protection from arbitrary government and protection of private contracts and given our theoretical framework we follow Acemoglu & Johnson (2005) in believing the former to be more important, especially for entrepreneurship. We therefore use as our main measure of strength of property rights the Polity IV measure of efficient constraints on the arbitrary power of the executive branch of the government, dubbed as *"constraints on executive".*

To measure our second institutional variable, the *size of the state* (Hypothesis 5), we use the Heritage Foundation indicator, which is based on the quadratic transformation of the ratio of government expense to GDP, with lower scores signifying a larger government.

Country-Level Control Variables

Our empirical analysis also requires a number of control variables at the country level. It is well established that rates of commercial entrepreneurship vary with levels of development, and it seems likely that this also applies to social entrepreneurship. We follow Aidis*et al.* (2010) in controlling for this by using *per capita GDP* at purchasing power parity as well as the *GDP annual growth rate* (obtained from the World Bank World Development Indicators) for cyclical effects.

Our study may be subject to potential endogeneity which may arise because the prevalence rate of social and commercial entrepreneurship per country is likely to be affected by some of the macro variables, for instance GDP growth rate. We address this issue by lagging our macroeconomics and institutional variables by one year.

Individual-Level Control Variables

Previous GEM-based research shows that individuals with higher *educational attainment* are more likely to start a business (Minniti*et al.,* 2005b) and to direct their efforts towards high-growth activities (Autio, 2005). We use two variables to control for education, concerning secondary and tertiary education respectively. In addition, middle-aged persons are more likely to start a business (Reynolds *et al*., 1999; Minniti*et al.,* 2005b). Thus, we introduce a quadratic term in the age of the individual to address this possibility. Furthermore, entrepreneurial activity is found to vary significantly with *gender*: being a male is more likely to drive up the rates of entrepreneurship (Minniti*et al.,* 2005a; Grilo & Thurik, 2005) so we include a dummy variable for gender. Individuals who are currently employed are also found to be more likely to become entrepreneurs (Minniti*et al.,* 2005a), so we include a dummy variable for *employment status*. Definitions of the variables discussed above are reported in Table 1 below.

{Table 1}

Estimation

We follow Autio&Acs (2010) in using multilevel modelling to address the issues of unobserved heterogeneity within the context of a cross-country, cross-individual dataset. Multilevel modelling takes account of the fact that our dataset has a hierarchical structure in which individuals represent level one and country samples represent level two. This allows us to control for clustering of the data within a country. Failure to do this would lead to biased results.

Specifically, clustering may give rise to the problem of unit dependencies, where, for example, two respondents from the same country in the same year are more likely to exhibit similar patterns in their behaviour whether this concerns entrepreneurial entry or any other strategic choice. In this case, the independence assumption does not hold, and a multi-level, random effects model should be employed to obtain the correct standard errors (Rabe-Hesketh, Skrondal & Pickles, 2005).

We examined whether the choice of multilevel modelling with country effects is justified on this dataset: we tested the significance of country group effects (random intercepts) by performing a likelihood ratio (LR) test which compares the multilevel model with a single-level model. We found that country effects are significant for models of both commercial and social entrepreneurship, thus confirming the choice of methodology.

In addition to individual effects (subscript *ij* below) we also introduced country averages (subscript *j* below), distinguishing between individual level and group level variation, so that for instance coefficient β_{16} for $InEmployment_{ij}$ represents an individual effect of being in employment, and coefficient β_{17} for $In\ Employment_j$ represents anenvironment effect of the employment prevalence rate in a given country that may also affect the individual entrepreneurial decision. By using the LR test we verified that the inclusion of environment effects was needed.

Our full regression model (corresponding to specification (5) in Table 3 below) is therefore specified as follows:

$$StartupCom_{ij} = \beta_0 + \beta_1 StartupSoc_j + \beta_2 CurrComBus_{ij} + \beta_3 CurrComBus_j + \beta_4 CurrSocBus_{ij} + \beta_5 CurrSocBus_j + \beta_6 Female_{ij} + \beta_7 Female_j + \beta_8 EducSecpost_{ij} + \beta_9 EducSecpost_j + \beta_{10} EducPost_{ij} + \beta_{11} EducPost_j + \beta_{12} Age_{ij} + \beta_{13} Age_j + \beta_{14} AgeSq_{ij} + \beta_{15} AgeSq_j + \beta_{16} InEmployment_{ij} + \beta_{17} InEmployment_j + \beta_{18} BusAngel_{ij} + \beta_{19} BusAngel_j + \beta_{20} KnowsEntrep_{ij} + \beta_{21} KnowsEntrep_j + \beta_{22} FearFail_{ij} + \beta_{23} FearFail_j + \beta_{24} Skills_{ij} + \beta_{25} Skills_j + \beta_{26} l.ExecConstr_j + \beta_{27} l.GovSize_j + \beta_{28} l.GDPpc_j + \beta_{29} l.GDPgrowth_j + u_{0j} + \varepsilon_{ij} \quad (1)$$

Here, $StartupCom_{ij}$ is our core measure of entrepreneurial entry representing an involvement in a start-up activity (nascent entrepreneurship). This is used in model (1) and (5) below for commercial entrepreneurs. Models (2) and (6) relate to social entrepreneurship, and we apply the measure of nascent social entrepreneurial activity (start-up). In models (3) and (7) we replace commercial start-up with existing ownership and management of commercial businesses (both "young" and "established" businesses in GEM terminology). And finally in models (4) and (8) we estimate using management and ownership of social enterprises as the dependent variable. All our models have a similar structure. Coefficients $\{\beta_2\text{-}\beta_{25}\}$ represent pairs of variables, where the first relates to individual effect and the second to the country level average of the same variable – the environment effect, as discussed above. The only exception is that for the model of nascent commercial entrepreneurship (model 5) we do not introduce nascent social entrepreneurship at the individual level but only the country-level prevalence rate for nascent social entrepreneurship. This is done to alleviate multicollinearity (see below). For the same reason, in the specification of model 6 for nascent social entrepreneurship, we do not include an individual level effect for nascent commercial entrepreneurship, but only the country-level prevalence rate of nascent commercial entrepreneurship. Finally coefficients $\{\beta_{26}\text{-}\beta_{29}\}$ represent the lagged values of the institutional variables and macroeconomic controls. The combination of $u_{0j} + \varepsilon_{ij}$ represents the random part of the equation, where u_{0j} are the country level residuals and ε_{ij} are individual-level residuals.

We have noted several potential problems of multicollinearity. These can be identified empirically either by studying a correlation table between variables[2] or by measures such as

[2]We do not reproduce a full correlation matrix here due to space limitations. It is available on request.

variance inflation factors. The first method does not take into account that multicollinearity is always a specification-specific issue, and the second does not tell us what it is in the underlying correlation structure that causes problems. Hence we performed a battery of more detailed tests, running regression models based on all sets of our explanatory variables, taking each explanatory variable as a dependent in turn. We identified a number of potential problems and verified the ways that the omission of variables may affect the results. Fortunately, given the large size of our sample, most of those problems do not make coefficients unstable. All these tests are available on request.

However, we face the following standard dilemma: while including country mean effects is desirable based on PR test results, these variables are also a source of some multicollinearity (for example between the age variables and executive constraints, making the latter marginally less significant, as the countries with higher average age have also stronger institutions). For this reason, we present both equations with individual effects only (models 1-4) and full specifications (models 5-8), focusing on the latter in our discussion.

Results

Tables 2 and 3 (models 1 through 8) present the result of our analyses, whereby odd numbers relate to estimations for commercial entrepreneurial activity and even numbers to estimations for social entrepreneurial activity. We present two sets of estimations; the first (models 1 through 4) uses individual level predictors only and serves as a comparison standard (as outlined above). The second set of estimations (models 5 through 8) introduces country-level effects in addition to individual-level predictors.

Social and Commercial Entrepreneurial Activity (H1a, H1b, H2)

In testing for H1a, we find that the country-level prevalence rate of new social initiative (nascent social entrepreneurs) has a positive effect on individuals starting a commercial business (Table 3, model 5). In addition, the country-level prevalence rate of young and established social entrepreneurs has a positive impact on individuals being young or established commercial entrepreneurs (Table 3, model 7). Both results fully support H1a and the notion that the country prevalence rate of new social initiative acts as social capital and positively influences individual commercial entrepreneurial activity.

Next we tested whether the country-level prevalence rate of commercial entrepreneurs has a positive influence on individuals starting a social enterprise (H1b). In line with our prediction, we find that the country-level prevalence rate of new commercial initiative (nascent commercial entrepreneurs) has a positive effect on individuals starting a social enterprise (Table 3, model 6). Further, the country-level prevalence rate of young and established commercial entrepreneurs has a positive impact on individuals being young or established social entrepreneurs (Table 3, model 8). Taken together these findings provide full support for H1b.

Turning to the individual-level and testing for H2, we find that being the owner of a young and established social enterprise is positively associated with also starting a commercial business (Table 2, model 1), although the effect is no longer significant when we introduce country-level variables in Table 3 (model 5). Importantly, we do not observe the hypothesized negative effect of being a social entrepreneur on starting a commercial business as posited in H2. In line with H2, however, we observe that those who are currently young or established commercial entrepreneurs are less likely to also start a social enterprise at the same time (Table 2, model 2, Table 3, model 5).

Notable, beyond our specific hypothesis, is that being a young or established commercial entrepreneur is also negatively associated with starting another commercial business, while being

a young and established social entrepreneur is positively associated with starting another social enterprise.

Individual-level Predictors of Social and Commercial Entrepreneurship (H3)
In line with H3a and H3b, we find that greater access to capital (i.e. being a business angel in the past 3 years), knowing an entrepreneur, and entrepreneurial self-efficacy are all positively associated with starting a social enterprise (Table 2, model 2 and Table 3, model 6). The same factors are also all positively associated with starting a commercial business (Table 2, model 1 and Table 3, model 5). We also find support for the proposed negative impact of fear of failure on new commercial entrepreneurial activity (again in line with H3b), while fear of failure is not significantly related with starting a social enterprise. Therefore H3a is supported with the exception of fear of failure and H3b receives full support.

Country-level Institutional Predictors of Social and Commercial Entrepreneurship (H4, H5)
We find mixed support for H4. With regard to social entrepreneurship, constraints on the executive have the expected positive effect on individuals being young or established social entrepreneurs (Table 3, model 8) as proposed in H4a. However, we find no significant impact of constraints on the executive on individuals starting up social enterprise (Table 3, model 6). Regarding H4b, we find constraints on the executive to be positively associated with starting up a commercial business (Table 3, model 5), while they have no significant effect on individuals being a young or established commercial enterprise (Table 3, model 7).
Finally regarding H5 and the effects of government size, we find no association of government size with social entrepreneurial activity, neither starting a social initiative (Table 3, model 6) nor being a young and established social entrepreneur (Table 3, model 8). However, we find that smaller governments are associated with more individuals starting up a commercial enterprise (Table 3, model 5) and being young and established entrepreneurs. Thus the results support H5b but not H5a.

Further Results
With regard to the control variables, several findings are worth noting. We find that education is more strongly related to social entrepreneurship (Table 3, models 6 and 8) than to commercial entrepreneurship (Table 3, models 5 and 7). In line with past research, men are more likely to start a commercial business (Table 3, model 5); in contrast gender has no significant association with starting a social enterprise (Table 3, model 6). Individuals in employment (vs. non-employment) are more likely to undertake commercial entrepreneurial activity (Table 3, model 5). There is no significant association of employment status with social entrepreneurship; however we observe a negative country-level effect such that employment is negatively related with the likelihood that individuals undertake social entrepreneurial activity (Table 3, model 6). Finally, age shows a similar and significant hump-shaped relationship with both types of entrepreneurship (Table 3, models 5 and 6).

Discussion

This multi-level study builds novel insights into social entrepreneurship as a dynamic form of social capital and as a type of productive entrepreneurial activity. It contributes to the empirics and theory of social entrepreneurship research by exploring individual- and country-level antecedents of social entrepreneurship, conducting equivalent tests for commercial

entrepreneurship, and, most importantly, by highlighting the linkages between both types of entrepreneurship.

Social and Commercial Entrepreneurship: Mutual Reinforcement and Competition

In line with our argument and hypothesis H1a that social entrepreneurship constitutes one form of social capital that facilitates commercial business start-ups, we find a positive spillover effect of the country-level prevalence rate of social enterprise start-ups on individuals' likelihood to undertake a commercial business start-up. This supports our argument that new social initiative acts as a form of social capital. In other words, our research contributes a fresh and dynamic perspective on social capital, a research stream which has long been plagued with measurement and conceptual problems (e.g., Fukuyama, 2001; Stephan & Uhlaner, 2010; van Deth, 2003). In particular, we introduce a country-level measure of new social initiative, or social enterprises start-ups, as an indicator of social capital which captures the beneficial aspects of change in social structures created from below (Krishna, 2007; Olson, 1982; Peredo &Chrisman, 2006) rather than the static aspects of social capital as membership in large established organisation, which may well be part of the political establishment and have little impact on developing cooperative norms in society at large. It is our view, that the country-level prevalence rate of new social initiative complements existing measures of country-level social capital including cooperative norms (e.g., Fukuyama, 2001; Stephan &Uhlaner, 2010), generalized trust (e.g., Uslaner, 2002; Knack &Kefer, 1997) and associational membership (e.g., De Clercq *et al.*, 2010; Nissan, Castano & Carrasco, 2010; Putnam, 1993).

Furthermore, we find that the complementarity between commercial and social entrepreneurship also runs in the other direction, i.e. the country-level prevalence rate of commercial entrepreneurship has a positive effect on individuals' likelihood to undertake a social enterprise start-up. This is in line with our argument (H1b) that a high prevalence rate of commercial entrepreneurship signals that entrepreneurship is a legitimate and feasible occupational choice – thereby attracting people into social entrepreneurship that otherwise might have pursued their pro-social objectives through working in large established organisations or for the government. The mutual spillover effects of country-level social and commercial entrepreneurship on individual commercial and social enterprise start-up activity respectively reflect a thriving entrepreneurial culture that mutually reinforce productive forms of entrepreneurship.

We find further evidence for a positive spillover effect of social entrepreneurship on commercial entrepreneurship on the *individual level*, i.e. young or established social entrepreneurs, in addition to being more likely to start another new social initiative, are also more likely to start up a commercial enterprise. This is clearly different from our H2 in which we assumed social and commercial entrepreneurial activity would compete for the effort and resources of the individual entrepreneur and therefore expected a negative relationship between the two. It is, moreover, also different from the relationship observed for commercial entrepreneurs where the resource competition argumentation holds and we see the expected crowding out of social entrepreneurial activity when the individual is already engaged in commercial entrepreneurship (H2). One reason why resource competition appears to be less of an issue for social entrepreneurs could be the alleged collaborative stance of social entrepreneurs. While social entrepreneurs may be similarly dependent on resources as commercial entrepreneurs (e.g., Meyskens *et al*., 2010), they may have an advantage over commercial enterprises in that they 'procure' resources moreintensely through collaboration with various actors outside their enterprise (e.g., Corner & Ho, 2010; Meyskens *et al*., 2010).

The finding that young or established social entrepreneurs are likely to also start-up a commercial business in parallel to their existing social enterprise, furthermore, suggests that social entrepreneurship may be a 'way into' commercial entrepreneurship. It may be that through

being a social entrepreneur, some of these individuals discover that economic sustainability and autonomy may only be fully achieved through for-profit commercial entrepreneurship. Or it may be that people who are typically less attracted to commercial entrepreneurship, such as women (see below), build their entrepreneurial self-efficacy in the process of running a social enterprise and consequently feel empowered to pursue a commercial start-up. Clearly future studies are needed to test these different explanations and tease out the underlying mechanisms.

Individual-Level Predictors

In line with our hypotheses H3a and H3b we find that in particular attitudinal indicators (self-efficacy and the availability of an entrepreneur role model) as well as the availability of financial resources have similar effects on social and commercial entrepreneurship. These similar effects support the notion that social cognitive theory as well as financial and resource theory are equally relevant and applicable to social and commercial entrepreneurship. Meyskens *et al.* (2010) make a similar argument with regard to resource theory, but this is to our knowledge the first study to show that social cognitive theory (Bandura, 1986) is equally applicable to both types of entrepreneurial activity. Overall, these findings suggest that on the individual-level the entrepreneurial process is highly similar whether a social or a commercial enterprise is being created, or in other words, the entrepreneurial method is equally applicable to pursue different goals.

However, the pattern of effects for our socio-demographic control variables points to where and how social and commercial entrepreneurship differ – they seem to attract people with different socio-demographic profiles. In particular, the gender and education differences, are consistent with the notion that social entrepreneurship differs from commercial entrepreneurship in its goals. While women are under-represented in commercial entrepreneurship, our findings suggest they are no less or more likely to become a social entrepreneur than men. In addition, higher education seems to be more strongly related to the likelihood of engaging in social rather than in commercial entrepreneurship. These findings can be explained by the referring back to the value or goal orientations underlying social and commercial entrepreneurship (Gorgievski, Ascalon & Stephan, 2011). In particular, the social goals pursued by social entrepreneurs are more compatible with a pro-social value posture which is more likely to be found in women than in men and for more highly educated people (e.g., Schwartz & Rubel-Lifschitz, 2009). Finally, although public media appear to suggest that social entrepreneurship is a phenomenon driven by the young generation, we observe no differences in the hump-shaped effect that age has both on social and commercial entrepreneurship, suggesting no such generation effect.

Country-Level Predictors

We found evidence that both forms of entrepreneurship are supported by effective constraints on governments' executive, or effective protection of property rights as proposed in H4a and H4b. Moreover, and in line with our hypothesis H5b we find the predicted negative effect of a large state (government size) on commercial entrepreneurship, thereby replicating and extending Aidis *et al*'s (2010) findings. However, no significant relationship of the size of the state sector with social entrepreneurship existed (H5a). Taken together, our findings regarding country-level institutional influences on social entrepreneurship clearly do not support the institutional void perspective – i.e., it is not the lack of strong formal institutions and a small state sector that promote social entrepreneurship as suggested by the institutional void view. If anything our results suggest the existence of strong formal institutions is important for the development of social entrepreneurship. Limited provision of social services by the state, and therefore larger societal need, was unrelated to social entrepreneurship.

Taken together the findings relating to country-level effects suggest that social entrepreneurship is also a type of productive entrepreneurial activity – promoted by similar institutions as commercial entrepreneurship. This notion is further supported by the pattern of findings at the individual level, which we discussed above.

Strengths and Limitations

Apart from being able to draw on population representative samples across a wide range of countries, one further strength of our study is the use of multi-level modelling, which allows us to test individual-level relationships at the same time as country-effects. This way we address the ecological fallacy (e.g., Hofstede, 1980), namely that relationships observed on one-level of analysis (e.g. country-level) may not necessarily generalize and may indeed be quite different from that equivalent relationship at a different level of analysis (e.g. individual-level). A limitation is the cross-sectional nature of the data. Nevertheless, we were able to alleviate this limitation somewhat in that we used lagged data for country-level predictors of institutions and GDP. One important area for future research based on micro studies is to explore in more detail the processes whereby social entrepreneurship builds social capital.

Conclusions

We propose that social entrepreneurship acts as a dynamic form of social capital, for which we provide evidence by establishing that the country level prevalence of nascent social entrepreneurship, or new social initiative, exerts a positive influence on the likelihood with which individuals within that country pursue commercial entrepreneurship. We also argue that social entrepreneurship is best conceptualized as a productive form of entrepreneurship in Baumol's (1990) sense. This has the implication that many of the institutional and individual characteristics supportive of entrepreneurial activity will be the same for commercial and social entrepreneurship. It is therefore not consistent with the institutional void perspective, which views social entrepreneurship as an informal institution substituting for formal ones, and therefore being more likely when institutions are weaker. Once again the data largely support our interpretation. In addition, we find that predictors drawn from social cognitive and financial resource theories have similar effects on social and commercial entrepreneurship – suggesting the existence of a generic entrepreneurial process or method, which can be applied to pursue different goals.

We find positive spillovers at the individual level from social on commercial entrepreneurship, though not vice versa. Our original thinking was that these two forms of productive entrepreneurship would compete with each other at the level of the individual. This is true for people who choose to be commercial entrepreneurs at the outset, but not for social entrepreneurs. These results should be read jointly with some preliminary evidence that social entrepreneurs are a slightly different set of people – more educated and more likely to be female. In that sense, it would appear that social entrepreneurship "widens the funnel" of entry into entrepreneurial activity, perhaps bringing in individuals who would otherwise not be attracted to entrepreneurship and thereby generating a virtuous circle enhancing levels of commercial entrepreneurship as well.

Our findings have important implications for policy makers. At one level, policy makers do not have to do anything new to encourage social entrepreneurship. The factors that support commercial entrepreneurial activity, for example strong property rights and a positive pro-entrepreneurship cultural environment which increases opportunity recognition and reduces the fear of failure, also support social entrepreneurship. But we have seen that social entrepreneurship generates spillover effects on commercial entrepreneurial activity – in its role

as social capital on the country-level, on the individual level, and widening the funnel of entry into entrepreneurial activity. Hence, one way of promoting entrepreneurship and creating an entrepreneurial climate, may be via promoting social entrepreneurship, perhaps by targeting financial assistance towards the groups likely to undertake such activities, especially given that social entrepreneurship is seen as an effective way to address social issues (Bornstein, 2007).
In recent years, the value of commercial entrepreneurship in the process of wealth creation has been reaffirmed again, returning to the forefront of business research. In this paper we stress that not only commercially- but also socially motivated forms of entrepreneurship need to be taken seriously, as these two processes reinforce each other. This appears parallel to other efforts to widen the paradigm inherited from Adam Smith (which include, for example, taking happiness more seriously, see Powdthavee, 2010): both business and economics research need to recognise that not only self-interest but also benevolence may be a key driver behind the value creation processes.

References

Acemoglu, D. & Johnson, S. (2005). Unbundling Institutions.*Journal of Political Economy*, *113*, 949-995.

Aidis, R., Estrin, S., & Mickiewicz, T. (2008a). Institutions and entrepreneurship development in Russia: a comparative perspective. *Journal of Business Venturing*, *23*, 656-672.

Aidis, R., Korosteleva, J., & Mickiewicz, T. (2008b). Entrepreneurship in Russia.In L. Dana, Welpe, I., Ratten, V., & Han, M. (Eds.), *Entrepreneurship and internationalisation of SMEs in Asia*.Cheltenham: Edward Elgar, 265-274.

Aidis, R., Estrin, S., & Mickiewicz, T. (2010).Size matters: Entrepreneurial entry and government. *Small Business Economics*.Advanced online publication DOI: 10.1007/s11187-010-9299-y.

Aldrich, H., Rosen, B., & Woodward, W. (1987).The impact of social networks on business funding and profit.*Frontiers of Entrepreneurship Research*.Wellesley, MA: Babson College.

Ardagna, S., &Lusardi, A. (2008). Explaining international differences in entrepreneurship: the role of individual characteristics and regulatory constraints.NBER Working Paper, No. 14012.

Arenius, P., &Minniti, M. (2005).Perceptual Variables and Nascent Entrepreneurship.*Small Business Economics*, *24(3)*, 233-247.

Autio, E. (2005). *Global Entrepreneurship Monitor: 2005 Report on high-expectation entrepreneurship*. London Business School and Babson College: London, U.K.& Babson Park, MA.

Autio, E. and Acs, Z. (2010).Intellectual property protection and the formation of entrepreneurial growth aspirations.*Strategic Entrepreneurship Journal*, *4(3)*, 234–251.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs,NJ: Prentice-Hall.

Baron, R.A. (2008).The role of affect in the entrepreneurial process.*Academy of Management Review*, *33(2)*, 328-340.

Baumol, W.J. (1990). Entrepreneurship: productive, unproductive, and destructive. *The Journal of Political Economy*, *98 (5)*, 893-921.

Baumol, W.J. (1993). Formal entrepreneurship theory in economics: Existence and bounds, *Journal of Business Venturing*, *8 (3)*, 197-210.

Blanchflower, D.G. & Oswald, A.J. (1998). What makes an entrepreneur? *Journal of Labour Economics, 16,* 26-60.

Bolino, M.C., Turnley, W.H., Bloodgood, J.M. (2002). Citizenship behavior and the creation of social capital in organizations.*Academy of Management Review, 27*, 505-522.

Bornstein, D. (2007). *How to Change the World: Social Entrepreneurs and the Power of New Ideas.* Oxford: Oxford University Press.

Bosma, N., Levie, J., Bygrave, W., Justo, R., Lepoutre, J., Terjesen, S. (2010). *Global Entrepreneurship Monitor.2009 Executive Report*. Babson Park, MA: Babson College.

Corner, P.D. & Ho, M. (2010). How Opportunities Develop in Social Entrepreneurship. *Entrepreneurship Theory and Practice, 34*, 635-659.

Cramer, J.S., Hartog, J., Jonker, N., & Van Praag, C.M. (2002).Low risk aversion encourages the choice for entrepreneurship: an empirical test of a truism. *Journal of Economic Behavior and Organization*, 48 (1): 29-36.

Dacin, P. A., Dacin, M. A., &Matear, M. (2010). Social entrepreneurship: Why we don't need a new theory and how we move forward from here. *Academy of Management Perspectives, 24*, 37-57.

Dakhli, M., & De Clercq, D. (2004). Human capital, social capital, and innovation: Amulticountrystudy. *Entrepreneurship & Regional Development, 16*, 107–128.

De Clercq, D., Danis, W.D., Dakhli, M. (2010).The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies.*International Business Review, 19,* 85–101.

DiDomenico, M., Haugh, H. &Tracey,P. (2010). Social Bricolage: Theorizing Social Value Creation in Social Enterprises. *Entrepreneurship Theory and Practice, 34*, 681-703.

Djankov, S., Qian, Y., Ronald, G., &Zhuravskaya, E. 2006. Entrepreneurship in China and Russia compared, *Journal of the European Economic Association*, *4 (2-3)*, 353-365.

Economist (2010).*Social innovation. Let's hear those ideas.*Retrieved Aug 12th 2010, fromhttp://www.economist.com/node/16789766/print.

Estrin, S. & Mickiewicz, T. (2011).Entrepreneurship in Transition Economies; The Role of Institutions and Generational Change. In: Minniti, M. (ed) (2011), *The Dynamics of Entrepreneurship*, Oxford UP, forthcoming, 293-341.

Fogel, K., Hawk, A., Morck, R. &Yeung, B. (2006).Institutional Obstacles to Entrepreneurship. In: Casson, M., Yeung, B., Basu, A. &Wadeson, N. (2006). *Oxford Handbook of Entrepreneurship*. Oxford: Oxford University Press, 540-579.

Fukuyama, F. (2001).Social capital, civil society and development.*Third World Quarterly, 22*, 7–20.

Gartner, W.B. (1989). "Who is an entrepreneur?" is the wrong question. *Entrepreneurship Theory & Practice*, *13 (4)*, 47-68.

Gorgievski, M., Ascalon, M.E. & Stephan, U. (2011).Small business owners' success criteria, a values approach to personal differences. *Journal of Small Business Management, 49(2)*, 207-232.

Grilo, I., &Thurik, R. (2005).Latent and actual entrepreneurship in Europe and the US: some recent developments. *International Entrepreneurship and Management Journal*, *1(4)*, 441-459.

Harper, D. (2003).*Foundations of entrepreneurship and economic development*. Abingdon: Routledge.

Hébert, R.F., & Link, A.N. (1982).*The entrepreneurs: Mainstream views and radical critiques.* New York: Praeger.

Ho, Y. P., & Wong, P. K. (2007). Financing, Regulatory Costs and Entrepreneurial Propensity.*Small Business Economics*, *28(2-3)*, 187-204.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Johannisson, B. (2000).Networking and entrepreneurial growth.In D. Sexton & H. Lawrence (Eds), *The Blackwell handbook of entrepreneurship*. Blackwell: Oxford, 368-386.

Justo, R., Lepoutre, J. &Terjesen, S. (2010). Social Entrepreneurship. In N. Bosma, & J. Levie, J. (eds) *Global Entrepreneurship Monitor: 2009 Executive Report.* Babson Park, MA, Santiago, Chile, Háskólinn Reykjavík, Iceland, & London, UK: Babson College, Universidad del Desarrollo, Reykjavík University and London Business School.

Kihlstrom, R. , & Laffont, J-J. (1979). A General equilibrium entrepreneurial theory of firm formation based on risk aversion.*Journal of Political Economy, 87(4)*, 719-748.

Knack, S. & Keefer, P. (1997). Does Social capital have an economic payoff: A cross-country investigation,*Quarterly Journal of Economics,112 (4)*, 1251–1288.

Koellinger, P. (2008). Why are some entrepreneurs more innovative than others? *Small Business Economics, 31(1)*, 21–37.

Korosteleva, J. & T. Mickiewicz (2011). Start-up Finance in the Age of Globalisation.*Emerging Markets Finance and Trade*, forthcoming.

Krishna, A. (2007). How Does Social Capital Grow? A Seven-Year Study of Villages in India. *Journal of Politics, 69,* 941-956.

Kwon, S.-W., & Arenius, P. (2010). Nations of entrepreneurs: A social capital perspective. *Journal of Business Venturing,25(3)*, 315–330.

Lukes, M. & Stephan, U. (2008). Entrepreneurs and leaders of non-profit organizations: Similar people with different motivations. Paper presented at the Academy of Management Annual Meeting, Annaheim, USA.

Mair, J., & Marti, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business, 41,* 36–44.

Mair, J. & Marti, I. (2009). Entrepreneurship in and around institutional voids: A case study from Bangladesh. *Journalof Business Venturing, 24*, 419–435.

Meyskens, M., Robb-Post,C., Stamp, J.A., Carsrud, A.L. & Reynolds, P.D. (2010). Social ventures from a resource-based perspective: An exploratory study assessing global Ashoka fellows. *Entrepreneurship Theory & Practice, 34 (4),* 661-680.

Miner, J.B. &Raju, N.S. (2004).Risk Propensity Differences Between Managers and Entrepreneurs andBetween Low- and High-Growth Entrepreneurs: A Reply in a MoreConservative Vein. *Journal of Applied Psychology, 89(1)*, 3–13.

Minniti, M., Arenius, P., &Langowitz, N. (2005a).*Global Entrepreneurship Monitor: 2004 Report on women and entrepreneurship*. Centre for women's leadership at Babson College: London Business School.

Minniti, M., Bygrave, W., & Autio, E. (2005b). *Global Entrepreneurship Monitor: 2005 executive report*. Wellesley, MA: Babson College.

Mueller, P. (2006). Entrepreneurship in the region: breeding ground for nascent entrepreneurs? *Small Business Economics, 27,* 41–58.

Nanda, R., & Sorensen, J. (2007). Peer effects and entrepreneurship. Harvard Business School Working Paper, No. 08-051.

Nicholls, A. (2010), Thelegitimacy of social entrepreneurship: reflexive isomorphism in a pre-paradigmatic field. *Entrepreneurship Theory and Practice*, *34*, 611–633. doi: 10.1111/j.1540-6520.2010.00397.x

Nissan, E., Castano, M. S., & Carrasco, I. (2010). Drivers of non-profit activity: a cross-country analysis. *Small Business Economics,* DOI 10.1007/s11187-010-9276-5.

Olson, M (1982). *The rise and decline of nations: economic growth, stagflation, and social rigidities*. New Haven, CT: Yale University Press.

Olson, M. (2000).*Power and prosperity: outgrowing communist and capitalist dictatorships*. New York, NY: Basic Books.

Peredo, A.M. & Chrisman, J.J. (2006).Toward a theory of community-based enterprise.*Academy of Management Review, 31*, 309-328.
Powdthavee, N. (2010).*The happiness equation*.Duxford: Icon Books.
Putnam, R.D. (1993). The prosperous community: social capital and economic growth.*American Prospect, 13*, 35-42.
Putnam, R.D. (1995). Bowling alone: America's declining social capital.*Journal of Democracy*, *6*, 65-78.
Rabe-Hesketh, S., A. Skrondal and A. Pickles. (2005). Maximum likelihood estimation of limited and discrete dependent variable models with nested random. *Journal of Econometrics*, 128 (2): 301-323.
Rauch, A. &Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success'. *European Journal of Work and Organizational Psychology, 16*, 353-385.
Reynolds, P., Hay, M., & Camp, S. (1999).*Global Entrepreneurship Monitor: 1999 executive report*. Babson College, London Business School and Kauffman Foundation.
Reynolds, P., Bosma, N., Autio, E. Hunt, S., De Bono, N., Servais, A., Lopez-Garcia, P., & Chin, N. (2005). Global Entrepreneurship Monitor: Data collection design and implementation 1998-2003. *Small Business Economics, 24*, 205-231.
Reynolds, P.D. (2011). Informal and Early Formal Financial Support in the Business Creation Process: Exploration with PSED II Data Set. *Journal of Small Business Management*, *49(1)*, 27–54.
Scherer, R.F., Adams, J.S., Carley, S.S., &Wiebe, F.A. (1989). Role model performance effects on the development of entrepreneurial career preference. *Entrepreneurship Theory and Practice, 13*(3), 53-71.
Schwartz, S. H., Rubel-Lifschitz, T. (2009).Cross-national variation in the size of sex differences in values: Effects of gender equality. *Journal of Personality and Social Psychology*; *97*: 171-185.
Shane, S. (2003). *A general theory of entrepreneurship.*Celtenham: Edward Elgar.
Short, J.C., Moss, T.W., & Lumpkin, G.T. (2009). Research in social entrepreneurship: Past contributions and future opportunities. *Strategic Entrepreneurship Journal***,** *3:* 161-194.
Stephan, U. &Uhlaner, L.M. (2010). Performance based vs. socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 83*, 717-738.
Stewart, W.H., & Roth, P.L. (2001). Risk propensity differences between entrepreneurs and managers: A meta-analytic review. *Journal of Applied Psychology, 86*, 145-153.
Stewart, W. H. & Roth, P. L. (2004). Data-quality affects meta-analytic conclusions: A responseto Miner and Raju (2004) concerning entrepreneurial risk propensity. *Journal of Applied Psychology*, *89*, 14-21.
Uslaner, E.M. (2002). *The Moral Foundations of Trust.* Cambridge University Press, New York
Van Deth, J. (2003). Measuring social capital: Orthodoxies and continuing controversies.*International Journal of Social Research Methodology, 6*, 1, 79 — 92
Wagner, J. & Sternberg, R. (2004).Start-up activities, individual characteristics, and the regional milieu: Lessons for entrepreneurship support policies from German micro data. *Annals of Regional Science, 38*, 219–240.
Williamson, O. (2000) New Institutional Economics. *Journal of Economic Literature*, *38*, 595-613.
Zahra, S.A., Gedajlovic, E., Neubaum, D.O., &Shulman, J.M. (2009).A typology of social entrepreneurs: Motives, search processes and ethical challenges. *Journal of Business Venturing*, *24(5)*, 519–532.

Zhao, H., Seibert, S.E., Lumpkin, G.T. (2010): The Relationship of Personality to Entrepreneurial Intentions and Performance: A Meta-Analytic Review. *Journal of Management, 36(2)*, 381-404.

Table 1: Descriptive statistics and definitions of explanatory and variables

Variable	Definition	Mean	S.D.
Explanatory variables: business environment & macroeconomic variables			
Constraints on executive (t-1)	Polity IV 'Executive Constraints'; scores from 1="unlimited authority" to 7="executive parity"; higher value denotes less arbitrariness	6.17	1.59
Government size, HF (t-1)	Heritage Foundation 'Government size' index, ranging from 0 to 100; higher value denotes smaller government	56.67	20.52
GDP per capita ppp (t-1)	GDP per capita at purchasing power parity, constant at 2000 $USD (WB WDI 2010)	23,566	12,625
GDP growth rate (t-1)	Annual GDP growth rate (WB WDI 2010)	2.61	2.83
Explanatory variables: personal characteristics			
Age	The exact age of the respondent between 14 and 99 at time of interview	43	6
Female	1=female, zero otherwise	.53	.50
Being in employment	1=respondent is either in full or part time employment, 0 otherwise	.58	.49
Education: Secondary & Post-secondary	1=respondent has a secondary or post-secondary education , 0 otherwise	.69	.46
Education: Post-secondary	1=respondent has a post-secondary education	.34	.48
Bus angel in last 3 years	1=business angel in past three years, 0 otherwise	.03	.18
No fear of failure	1=respondent believes that the fear of failure would not prevent him/her from starting a business	.36	.48
Skills for startup	1=respondent declares skills needed for startup	.53	.13
Knows other entrepreneurs	1=personally knows entrepreneurs in past two years, zero otherwise	.38	.48
Dependent variables:			
Startup – commercial	1=respondent involved in commercial startup, zero otherwise	.039	.193
Startup – social	1=respondent involved in social startup, zero otherwise	.028	.028
Owner-manager of existing comm. business	1=current owner/manager of existing (young or established) commercialenterprise, 0 otherwise	.106	.308
Owner-manager of existing social enterprise	1=current owner/manager of existing social enterprise, 0 otherwise	.027	.161

Source: GEM 2009 unless specified otherwise.

Table 2.Estimations with individual variables only

DEPENDENT EXPLANATORY:	(1) Nascent com.	(2) Nascent soc.	(3) Young&est. com.	(4) Young&est. soc.
Young &estab. bus. (excl. soc.entr.)	-1.293***	-0.123*		
	(0.045)	(0.050)		
Social entrepren. young & established	0.104+	1.641***		
	(0.062)	(0.054)		
Female	-0.222***	-0.054	-0.776***	-0.313***
	(0.029)	(0.036)	(0.017)	(0.031)
Education secondary or higher	0.168***	0.255***	0.035	0.404***
	(0.038)	(0.049)	(0.022)	(0.050)
Education postsecondary	0.011	0.191***	0.094***	0.578***
	(0.034)	(0.042)	(0.021)	(0.036)
Age	0.039***	0.025***	0.180***	0.076***
	(0.006)	(0.008)	(0.004)	(0.006)
Age squared $x10^{-05}$	-60.3***	-39.1***	-194***	-78.5***
	(7.84)	(8.81)	(4.34)	(6.69)
In employment	0.559***	0.046		
	(0.035)	(0.042)		
Business angel in last 3 years	0.585***	0.304***		
	(0.047)	(0.063)		
Know somebody who started a business	0.665***	0.630***		
	(0.030)	(0.038)		
Would fear of failure prevent startup	-0.453***	-0.024		
	(0.032)	(0.038)		
Believes has skills for startup	1.451***	0.586***		
	(0.039)	(0.041)		
Constant	-4.860***	-4.842***	-5.617***	-5.987***
	(0.155)	(0.195)	(0.127)	(0.208)
Observations	121,373	121,373	175,185	169,462
Number of country_year	53	53	54	53
Log Likelihood	-20764	-14327	-54171	-18691
Wald Chi sq.	4196	2161	4342	789.4
SD of random interceipt	0.621	0.880	0.711	1.086
Res. intraclass cor.	0.105	0.191	0.133	0.264

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 3. Estimations with individual variables, macro variables and country mean effects

DEPENDENT EXPLANATORY:	(5) Nascent com	(6) Nascent soc	(7) Young&Est com	(8) Young&Est soc
Social entrepren. startup - country mean	5.104***			
	(1.365)			
Startup (excl. soc.entr.) - country mean		15.28***		
		(4.540)		
Young &estab. bus. (excl. soc.entr.)	-1.305***	-0.115*		
	(0.047)	(0.052)		
Young &estab. bus. - country mean	1.236	-4.123*		3.567+
	(0.919)	(1.679)		(1.832)
Social entrepren. young & established	0.098	1.810***		
	(0.066)	(0.056)		
Soc. entr. young&establ. - country mean	0.754	8.454*	7.486*	
	(2.155)	(3.651)	(3.457)	
Female	-0.218***	-0.056	-0.770***	-0.322***
	(0.030)	(0.038)	(0.017)	(0.033)
Female - country mean	0.601	0.399	2.473	2.583
	(1.266)	(2.506)	(2.299)	(3.376)
Education secondary or higher	0.164***	0.272***	0.0258	0.427***
	(0.039)	(0.052)	(0.023)	(0.055)
Education sec or higher - country mean	0.448	2.043*	-1.127	1.513
	(0.489)	(0.833)	(0.794)	(1.156)
Education postsecondary	0.012	0.179***	0.099***	0.603***
	(0.035)	(0.044)	(0.021)	(0.037)
Education postsecondary - country mean	-0.250	0.630	0.009	0.944
	(0.470)	(0.862)	(0.810)	(1.159)
Age	0.039***	0.024**	0.180***	0.074***
	(0.007)	(0.008)	(0.004)	(0.007)
Age - country mean	-0.115	-0.324	-0.219	-0.036
	(0.149)	(0.281)	(0.224)	(0.320)
Age squared $x10^{-05}$	-61.7***	-38.4***	-195***	-77.4***
	(8.18)	(9.29)	(4.52)	(7.17)
Age squared - country mean $x10^{-05}$	142	364	225	63.5
	(167)	(314)	(250)	(357)
In employment	0.568***	0.037		
	(0.036)	(0.044)		
In employment - country mean	0.135	-2.321*		
	(0.568)	(1.060)		
Business angel in last 3 years	0.581***	0.248***		
	(0.048)	(0.066)		
Business angel in last 3 y - country mean	-3.913+	0.745		
	(2.037)	(3.853)		
Know somebody who started a business	0.665***	0.637***		
	(0.031)	(0.039)		
Know somebody who started - coutry mean	1.475*	0.066		
	(0.741)	(1.446)		
	(5)	(6)	(7)	(8)

	Nascent com	Nascent soc	Young&Est com	Young&Estsoc
Would fear of failure prevent startup	-0.472***	-0.0284		
	(0.033)	(0.039)		
Fear of failure - country mean	-0.814	0.427		
	(0.679)	(1.214)		
Believes has skills for startup	1.452***	0.613***		
	(0.040)	(0.043)		
Skills for startup - country mean	0.243	-0.175		
	(0.436)	(0.854)		
Effective constraints on executive (t-1)	0.089*	0.081	0.028	0.197+
	(0.041)	(0.078)	(0.074)	(0.110)
Government size, Heritage score (t=1)	0.012***	-0.004	0.012*	-0.007
	(0.003)	(0.006)	(0.005)	(0.007)
Log of GDP per capita ppp (t-1)	-0.274+	-0.342	-0.0528	-0.463
	(0.162)	(0.284)	(0.244)	(0.353)
GDP growth (t-1)	-0.022	0.032	-0.021	-0.008
	(0.018)	(0.034)	(0.034)	(0.048)
Constant	-2.401	4.186	-1.497	-4.929
	(3.260)	(5.786)	(4.774)	(6.846)
Observations	113,847	113,847	163,418	159,264
Number of country_year	47	47	47	47
Log Likelihood	-19429	-13202	-50586	-17083
Wald Chi sq.	4138	2318	4029	780.6
SD of random interceipt	0.258	0.508	0.557	0.781
Res. intraclass cor.	0.020	0.073	0.086	0.156