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**#2016-043**

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entrepreneurship policies for economic growth and inclusive  
development**

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**UNU-MERIT Working Papers**

**ISSN 1871-9872**

**Maastricht Economic and social Research Institute on Innovation and Technology  
UNU-MERIT**

**Maastricht Graduate School of Governance  
MGSoG**

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# **Entrepreneurial heterogeneity and the design of entrepreneurship policies for economic growth and inclusive development**

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## **Abstract**

Entrepreneurship is the object of renewed and increasing attention, not only by academics, but also by policymakers worldwide. This interest partly results from a positive perception of entrepreneurship as a driver of economic growth, and the urgency for policymakers to find ways to stimulate and sustain economic growth, in developed as well as in developing countries. This trend raises the need to have a clear understanding of the role of entrepreneurship in the economy and society.

This chapter acknowledges that there is a large heterogeneity across entrepreneurs in their ability to contribute to economic growth. We present insights from macro-economic studies supporting this statement. We next take a micro perspective and discuss the evidence based literature to identify the critical factors and entrepreneur characteristics that can lead to entrepreneurial success and contribute to growth. This discussion serves as a framework against which we reflect on the rationales and effectiveness of entrepreneurial policies in developing countries.

Paper published as (forthcoming):

Calza, E., Goedhuys, M., 'Entrepreneurial heterogeneity and the design of entrepreneurship policies for economic growth and inclusive development', chapter 38, p.529-546 in: Williams, Colin C., Gurtoo, Anjula. (eds), 2017, 'Routledge Handbook of Entrepreneurship in Developing Economies', Routledge International Handbooks, London and New York: Routledge, 576p.

## 1. Introduction

After decades of exclusion from the economic debate, since the early 1990s entrepreneurship has been going through a phase of renewed interest. In advanced economies, new technological developments and globalisation of production have contributed to the rise of an entrepreneurial economy in which smaller scale production is no longer a disadvantage (Audretsch et al., 2006). Also in developing countries, the role of the private sector as a major actor and driver of growth is no longer questioned, after state-led industrialisation and development experiences massively failed. Entrepreneurship - defined as the “*discovery and exploitation of profitable opportunities*” (Shane and Ventakaraman, 2000: 218) or “*the start-up and expansion of a business firm*” (Hart, 2003) - is increasingly considered important for employment, income generation and economic growth at the more aggregate level. In advanced economies, the prolonged economic crisis and the slow recovery have fed the idea that entrepreneurship is a potential way to re-boost productivity and employment, mainly among youth. In particular, the potential for job creation from new firms, and especially ‘high growth firms’ (HGFs) (OECD, 2007), is attracting a lot of interest from the policymakers, as has been reflected also in the surge of popularity of related literature on ‘gazelles’ and HGFs (Coad et al., 2014). In developing countries, policymakers embrace entrepreneurship as a way to provide jobs for the large, young and growing labour force which often faces unemployment due to a lack of formal sector jobs. This policy ambition with entrepreneurship might lead to ineffective interventions if policy action comes without an adequate previous understanding of the heterogeneity of entrepreneurs and their potential contribution to economic or social development.

The theoretical and empirical literature has investigated the large differences among types of entrepreneurs with respect to their contribution to economic growth and inclusive development. Research has demonstrated that entrepreneurship is not *per se* a ‘binding constraint’ for developing countries (Naudé, 2011). However, it has been observed that for a large share of the new entrants entrepreneurship is a survival strategy rather than a positive choice inspired by business profitability. Moreover, exit rates are often equally large, pointing at a high turnover of firms. In this respect, a positive correlation between entry and exit rates might reveal the presence of many ‘entry mistakes’ (Bartelsman et al., 2004). At the same time, the number of small businesses that develops and successfully evolves into a medium or larger size is very small in developing countries (Schmitz, 1999), especially in African economies (Sleuwaegen and Goedhuys, 2002). This is problematic, as the growth of small and medium sized businesses encompasses a process of employment creation, technological upgrading, and a shift towards higher productivity and value addition (Hampel-Milagrosa et al., 2015). Small and medium sized enterprises (SMEs) are essential players in a process of structural change and their emergence and growth should be the focus and objective of an economic growth policy in developing countries.

Yet, entrepreneurship policies are still often designed to stimulate entry, through entrepreneurship training, funding or a combination thereof. While this may be justifiable from a social or political perspective, for economic growth, these policies may miss effectiveness. Rather policies should be developed that facilitate the growth and high growth of existing or young firms, to create formal sector employment, innovation and structural change to high productivity activities.

Empirical studies indeed provide a much more nuanced picture of the entrepreneurship contribution to economic growth— a picture that should be taken into account in the design and implementation of policies, especially in developing countries, where entrepreneurial heterogeneity is large. The aim of this chapter is to discuss the heterogeneity of entrepreneurship and to contribute to the debate on entrepreneurial policies in developing countries, from this perspective. We start by showing evidence from macro studies that investigate the contribution of entrepreneurship to economic growth, in section 2. Based on their findings, we argue that innovative growth oriented entrepreneurship has the largest contribution to growth. In section 3 we then turn to the micro level to see what can be learned from micro-evidence based studies with respect to the drivers of growth and high-growth of firms, so as to use these insights in the policy discussion in section 4.

## **2. Entrepreneurship, economic growth and inclusive development**

This role of entrepreneurship in economic development and growth has been discussed in the literature (Wennekers and Thurik, 1999; Audretsch et al., 2006; Van Praag and Versloot, 2007; Naudé, 2008). Entrepreneurial activity is thought to facilitate the structural transformation of the economy towards modern sectors, by favouring the reallocation of resources (labour and capital) towards more productive activities<sup>1</sup> (Acs and Storey, 2004; Murphy, 2006; Acs, 2006; Dias and McDermontt, 2006). Moreover, in line with the Schumpeterian idea of the ‘innovator entrepreneur’ as the primary actor of ‘creative destruction’ (Schumpeter, 1939), entrepreneurial firms induce technological change and innovation, which leads to higher valued added goods and more efficient production methods (Szirmai, Naudé and Goedhuys, 2011). Quantitatively, this process translates into increases in productivity and per capita income.

The presented arguments would imply that “*high measured levels of entrepreneurship will thus translate directly into high levels of economic growth*” (Acs, 2006). However, “*the accumulated evidence [that entrepreneurial activity is a positive driving force in the economy] remains largely inconclusive*” (Nightingale and Coad, 2014), suggesting that the role played by entrepreneurship at macro level is probably more complex and, sometimes, ambiguous.

Reynolds et al. (2001), Wennekers et al. (2005), Amorós et al. (2007) and Amorós and Cristi (2008) empirically investigate the relationship between entrepreneurial activity<sup>2</sup> and the level of economic development. Their results show that this relationship does not behave linearly, but rather follows a U-shape pattern where entrepreneurship is larger at the extreme points of low and high level of per capita income.

The existence of this U-shape relationship is in line with views of the development process as a process of structural change (Stam and van Stel, 2011; Nelson and Pack 1999; Rodrik 2007; Gries and Naudé 2010). Entrepreneurial activity is likely to be more prevalent at low levels of development, in economies where agricultural production and small-scale manufacturing dominate. It tends to be lower in an intermediate level of development characterised by physical capital expansion and economies of scale and scope, with larger firms driving economic dynamism

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<sup>1</sup> For a more specific debate about this issue, see Naudé (2008); Szirmai, Naudé and Goedhuys (2011).

<sup>2</sup> These studies use Global Entrepreneurship Monitor (GEM) data for 36 countries in 2002 for the Total Entrepreneurial Activity (TEA) (a measure of nascent entrepreneurs), and per capita income as measure of level of economic development.

(Snodgrass and Biggs, 1996; Acs, 2006; Audretsch et al., 2006; Carre and Thurik, 2002; Acs et al., 2012). It regains importance in the transition to service-based modern sectors, where the relevance of human capital, innovation and knowledge spillovers increases the role played by small firms (Audretsch et al., 2013).

Other studies empirically explore the relationship between entrepreneurship and economic growth, measured as GDP growth (Blanchflower, 2000; Carree et al., 2002). An interesting result is that the direction of this relationship is found to change along different per capita income levels. In this respect, van Stel et al. (2005) show that entrepreneurship has a negative effect on GDP growth rate for poor countries, while this turns positive for rich countries. Similarly, Stam and van Stel (2011) find that the impact of entrepreneurship on economic growth is irrelevant in middle-income countries, while it is larger for transition and high income countries. They suggest that the stronger impact in high income countries may be accounted for by the presence of more growth-oriented entrepreneurial activity in this context.

These findings raise the question why countries at a lower income and development level seem to benefit *less* from entrepreneurship, in terms of aggregate economic growth. Which features does entrepreneurship have in developing countries that could account for this different effect on growth? And, in general, which kind of entrepreneurship does seem to contribute more to economic growth? Answering these questions requires shifting the focus back to the micro foundations of entrepreneurship, shedding light on how the heterogeneity of entrepreneurial actors - *within* and *across* heterogeneous economic contexts – actually translates into different contributions to macroeconomic growth and employment.

By exploring the sources of economic growth from a micro-perspective, various empirical studies investigate which types of entrepreneurs are more likely to create growth and employment (Autio, 2011; Stam et al., 2011; Stam and van Stel, 2011). Focusing on ‘high-growth firms’ (HGFs) and gazelles, growth-oriented ‘high-potential’ and ‘ambitious’ entrepreneurs<sup>3</sup>, these works find the considered entrepreneurial classes to consistently have a significant impact on economic growth, being accountable in large part for the higher positive effect of entrepreneurship on growth in high-income countries.

These studies support the argument that an adequate consideration of entrepreneurial heterogeneity is crucial to provide “*a more realistic evaluation of the impact of entrepreneurs by avoiding a composition fallacy that assigns the benefits of entrepreneurship to the average firm*” (Nightingale and Coad, 2004). Hence, a generalisation about the nature and features of entrepreneurs should be avoided, and especially in developing and low-income countries, where the weaker contribution of entrepreneurship to growth is the outcome of a polarised entrepreneurial universe.

Here, ‘opportunity’ driven and ‘ambitious’ entrepreneurs are rather scarce, and coexist with a multitude of marginal, unproductive and low skilled entrepreneurs in informal micro and small businesses, whose total contribution to aggregate growth is limited (Fields, 1990; House, 1984; Mead and Liedholm, 1998; Wennekers and Thurik, 1999; Beck et al., 2005; Grimm et al., 2012).

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<sup>3</sup> See next section for the detailed definitions.

However, these marginal entrepreneurs have a role in society that goes beyond economic rationales: while the economic value they create may be limited, the social value of their undertakings is important as they may improve the living conditions of marginalised groups, alleviate poverty and facilitate empowerment and social inclusion<sup>4</sup> (see Acs et al., 2013 for a discussion on the social value of entrepreneurship)<sup>5</sup>. This argument has relevant implications for policies, reflected in the design of programs and interventions based more on social and political arguments rather than economic rationales (Audretsch and Thurik, 2004).

Summarising, two fundamental lessons can be drawn from this section. First, between as well as within economic contexts, there is a relevant heterogeneity across entrepreneurial actors – most evidently in terms of performances, but also in term of features, aspirations, opportunities. Second, this heterogeneity accounts for the observed different effect of entrepreneurship on economic growth. There is a kind of entrepreneurship – mainly identified with growth-oriented start-ups and firms - that seems to be driving growth at the aggregate level. In this respect, the following section will turn to the micro level, to delve deeper into the factors that the literature has identified as triggering the growth and high-growth of firms in developing countries.

### **3. The microeconomics of growth: critical factors and lessons from empirical studies**

The growth of a business firm is defined as changes in size, usually measured by employment, sales, assets or capital. Growing firms are crucial for stable formal employment generation, which is a relevant policy issue in developing countries given the serious problem of youth unemployment. Related to this, there is large interest – both from academia and policymakers – in understanding the phenomenon of ‘high growth’ firms (HGFs) and ‘gazelles’. In many countries they account for a disproportionate share of employment creation; eg. in the UK, 6 percent of the firms account for 54% of jobs<sup>6</sup>. HGFs are thus characterised by rapid growth (in terms of employees or sale) in a short span of time (3-5 years). The Eurostat/OECD (2007) definition for ‘high growth firms’ and for ‘gazelles’ is currently widely used<sup>7</sup>, but the definition has also been adjusted in empirical studies (see for example Goedhuys and Sleuwaegen, 2010). A similar concept is high-impact entrepreneurship (HIE) by Acs, Pearson and Tracy (2007) which takes jointly sales and employment considerations into account<sup>8</sup>.

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<sup>4</sup> For example, entrepreneurial activity provides also social relations and social interactions, allows diversifying household income, and gives flexibility in the use of time for women to fulfil also household duties (Nichter and Goldmark, 2009; Grimm et al, 2012).

<sup>5</sup> This idea is close to the definition of ‘social entrepreneurship’, a rising issue in development studies. For more discussion of this issue, see Acs et al.(2013).

<sup>6</sup> NESTA’s 2009 report argues that 6% of fast-growing UK businesses generate almost 50% of new jobs created by existing firms between 2002 and 2008 (NESTA, 2009). Consistently results have been found also by Daunfeldt et al. (2013) for Sweden during the period 2005–2008. (See Coad et al., 2014 for a more detailed discussion about HGFs and job creation).

<sup>7</sup> This defines as ‘high growth firms’ the enterprises that are originally larger than 10 employees, and have an average annual growth rate of at least 20% over 3 consecutive years (Eurostat/OECD, 2007). Gazelles are a subgroup of HGFs, namely those up to 5 years of age.

<sup>8</sup> They define a high-impact firm as an enterprise in which sales have doubled over the most recent 4-year-period and which has an employment growth quantifier of 2 or greater over the same period. The employment growth quantifier (EGQ) is the product of the absolute and percent change in employment over a 4-year-period of time, expressed as a decimal, and is used to mitigate the unfavourable impact of measuring employment change solely in either percent or absolute terms.

A set of related concepts, mainly applied to GEM data, look at the motivation and growth intentions of entrepreneurs. For instance Stam et al. (2011) examine ‘ambitious’ entrepreneurship, i.e. entrepreneurs expecting to grow their firm. Wong et al. (2005) define ‘high potential’ entrepreneurial activity considering additional criteria of innovation and export activity<sup>9</sup>.

Knowing under which conditions these classes of entrepreneurs are likely to emerge can help tailoring policies that boost employment. But it is equally important to understand the determinants of average firm growth for a more broad based development perspective. The literature on firm growth has indicated that there are many unidentified and unobservable factors that are responsible for the growth of firms. There is a lot of randomness to the growth of firms; yet, a growing number of studies find that there are systematic observable factors – such as firm size, age, innovation, capabilities and resources; entrepreneur characteristics; contextual factors and institutions – that significantly shift the growth perspectives of firms. These are the factors policymakers can consider in the design of policies. Without the purpose of completeness<sup>10</sup>, we briefly discuss some of these factors below.

### 3.1 Firm characteristics

#### *Size and age*

A large body of empirical studies<sup>11</sup> find a significant negative relationship between firm growth and size – thus, small firms grow faster than large firms – and between the variability in growth and firm size – small firms have very high but also very low growth rates. These findings are stylised facts (Bartelsman et al., 2004). A similar negative relationship is also observed between firm age and growth, and the variability in growth. Hence, *smaller and younger firms* grow faster than larger and older ones, but the volatility in their growth rates is also higher.

This observation lends support to the theoretical passive ‘Bayesian’ learning model of Jovanovic’s (1982), which states that entrepreneurs start firms without knowing a priori how efficient they are. Once established in the industry and absorbing knowledge from the market, the entrepreneurs learn about their own efficiency levels. The more successful firms get positive feedback from the market and expand up to a size that corresponds with their efficiency level; the least efficient firms by contrast stagnate or are even forced to exit. This process takes place in the earliest years after start-up, and explains why young surviving firms grow faster than older firms.

The size-age-growth relationships have been tested for developing countries in the context of African firms. McPherson (1996), Goedhuys and Sleuwaegen (1999), Sleuwaegen and Goedhuys (2002), Biggs and Srivastava (1996), Bigsten and Gebreyesus (2007) provide empirical evidence that younger and smaller firms have higher growth rates than larger and older ones. However, important non-linearities in the size-growth and age-growth relationship have been found.

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<sup>9</sup> The term ‘high impact TEA’ refers to start-ups that are going to employ at least 20 workers within 5 years, with a positive market creation and 25% of costumers abroad, and that employ technologies that were not available a year previously (Wong et.al, 2005, in Naudé’, 2008: 3)

<sup>10</sup> For more elaborate and complete review of the literature about performance driving factors, refer to Coad (2009), Vivarelli and Quatraro (2014), Goedhuys and Sleuwaegen (2010), Nichter and Goldmark (2009), Naudé (2008),

<sup>11</sup> See Coad (2009) for an overview.



Sleuwaegen and Goedhuys (2002) found that while small firms grow faster, for the smallest starters these growth rates flatten out dramatically quickly. For the Ivorian firms in their sample, it was found that firms that started at a larger size tended to regress less fast in growth rate over time than smaller firms. They found this process to be particularly helpful in explaining the weak representation of medium sized firm in the economy, as the smallest firms stagnate quickly, while the medium firms grow steadily larger. A similar growth path is described in Grimm et al. (2012), who look at the informal sector in West Africa and find that the returns to capital are fairly high but drop quickly for the larger informal firms. Bigsten and Gebreeyesus (2007) found that both young Ethiopian firms grow faster in their early years of activity, but also older firms grow slightly faster, when firms are likely to benefit increasingly from reputation effects.

These non-linearities are important to understand in a developing country context. They help explain the emergence and persistence of duality in the market structure, with survivalist entrepreneurs active in the informal sector, and a more modern economy dominated by larger firms. The main challenge is therefore to identify factors that can open up the transition from micro and small firms to small and medium sized firms. Innovation and capabilities emerge as triggering factors.

### *Innovation and capabilities*

There is a broad theoretical reasoning that firm-specific investments in innovation raise competences and open up growth opportunities (Aghion and Howitt, 1992; Geroski, 2000; see Coad, 2009 for a discussion). The idea behind it is that efficiency levels of firms do not necessarily need to be fixed, as in Jovanovic (1982)'s passive learning model, but can be increased over time through research, innovation and the development of specific competences. These can raise efficiency or productivity levels of firms, and hence firms experience extra growth opportunities.

Various studies have investigated empirically to what extent innovation and technology development can increase the growth potential of firms in developing countries. Gebreeyesus (2011) found for Ethiopia that innovation triggered employment growth in SMEs. Goedhuys and Veugelers (2012) have similar findings for Brazil. Goedhuys and Sleuwaegen (2010) found that in Africa product innovation raised not only the average growth of firms, but especially high-growth of firms. Similar findings of innovation driving high-growth are presented in studies on developed economies (Almus, 2002; Coad and Rao, 2008; Stam and Wennberg, 2009; Hölzl and Friesenbichler, 2010; Czarnitzki and Delanote 2013).

Another related strand in the literature investigates innovation and technology development in developing countries in relation to productivity<sup>12</sup>. The productivity enhancing effect of innovation consistently found in the literature is clearly the mechanism behind the faster growth of innovative or technologically active firms. It has to be kept in mind that in developing countries a majority of firms is operating substantially below the technological frontier. Hence, firms' innovation efforts are primarily oriented towards absorbing, adapting, mastering and eventually improving technologies developed elsewhere. Several authors have pointed at the importance of 'technological capabilities' of firms in developing countries as the knowledge and skills - technical, managerial

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<sup>12</sup> See a special issue on this topic by Goedhuys, Janz, Mairesse and Mohnen (2008a).

and institutional – necessary for firms to utilise equipment and technology efficiently (Lall 1992). Firms build up these capabilities, by engaging in a wide variety of innovative activities, such as training of the workforce, investment in machinery and the use of ICT, technology licensing from abroad, aimed at introducing products and production processes that are new to the firm and reinforce the firm’s competitive position. Empirical studies from developing countries find that these variables indeed shift productivity, representing the underlying engine of growth at the micro level (Fernandes, 2006; Chudnovsky et al., 2006; Goedhuys, 2007; Pietrobelli and Saliola, 2008; Goedhuys et al., 2008b, 2013; Dutz and O’Connell, 2013; Goedhuys and Srholec, 2014; Howard et al., 2014).

### *Resources*

Another important firm-level factor is the availability of resources, both tangible and intangible. Among the elements that can be labelled as intangible resources, social capital and social networks<sup>13</sup> seem to be valuable assets for firms in developing countries, since they can facilitate access to information and resources (e.g. credit), reduce transaction costs, help contract enforcement and regulation, thus having a possible positive impact on firms’ productivity and growth (Barr, 1998; Johannisson and Nilsson, 1989; Nichter and Goldmark, 2009).

Among tangible resources, financial assets have been traditionally considered one of the main factors affecting firms’ performance in developing countries. It is argued that their availability facilitates productive investment, while their lack limits growth and even undermines firms’ survival. This seems to hold especially for micro and small firms in developing countries during early years, since they tend to find it more difficult to prove their reliability and to get credit (Shiffer and Weder, 2001; Beck et al., 2005; Beck and Demircuc-Kunt, 2006). In this sense, various empirical studies show that start-ups tend to be financially constrained in developing countries (Paulson and Townsend, 2004; Ayyagari et al., 2008; Desai et al., 2003). This makes initial wealth conditions more important and implies that in the presence of start-up costs, wealth inequality might play a role in determining the likelihood of becoming an entrepreneur (Banerjee and Newton, 2003; Cagetti and De Nardi, 2005).

### *3.2. Entrepreneur characteristics*

Entrepreneur’s individual characteristics - such as the age of the entrepreneur, education, work experience, gender, ethnicity, migrant status and family background – may also affect the performance of the entrepreneurial firm.

‘*Entrepreneurial ability*’ is probably the individual aspect that has attracted more attention as driver of entrepreneurial activity and performance. It is rather complex and multidimensional concept: it refers to skills, abilities to perceive opportunities and to learn, abilities gained through relevant education and experience, but also to some specific attitudes of entrepreneurial behaviour, such as calculated risk-taking, desire for independence, perseverance, focus on achievement, optimism and an internal *locus* of control (Licht, 2007). The multidimensionality of the concept poses a clear

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<sup>13</sup> In this context, the term ‘social network’ refers to interpersonal relationship, or better said “*micro-level relationships between agents in an economy*” (Nichter and Goldmark, 2009:1461).

challenge for empirical investigation; in practice, ability it is often proxied by education and experience.

Empirical studies show that the *experience* gained in previous jobs may have a positive impact on performance in entrepreneurial firms, through increasing both the entrepreneur's ability and social network (Biggs and Shah, 2006)<sup>14</sup>. *Education* might affect the entrepreneurship in two ways: by raising the entrepreneurial ability of the individual, stimulating entry, but also by increasing his opportunities on the job market, reducing entry (Giannetti and Simoniov, 2004). Thus, the net effect of education on entry is not easily predicted.

Van Der Sluis et al. (2004) summarised evidence from at least 20 African countries and investigated the impact of schooling and experience on entrepreneurial performance. They find evidence supporting the idea that more educated entrepreneurs show superior growth performance. Yet, other studies find no effect of schooling on growth in Latin America (Alvarez and Crespi, 2003). Again, these ambiguous results reinforce the importance of looking at the context, by considering context or country-specific thresholds for education level, below which no effects on growth and productivity can be observed (Nichter and Goldmark, 2009). Moreover, it is also likely that the effect of education on firm's entry and growth could be industry- and sector-specific, thus expected to be positive and much stronger in sectors with higher knowledge and technological intensity.

Also the *age* of the entrepreneur may affect entrepreneurial ability and, consequently, performance (Cortes et al, 1987). This effect might take place in two opposite ways: on one side, younger entrepreneurs might to underestimate the risk and overestimate their abilities, resulting in a higher risk profile and an expected negative impact on survival and growth; on the other hand, young entrepreneurs are also likely to be more innovative and better able to perceive opportunities.

Finally, *gender* and *ethnicity* are other individual variables that used in modelling firm performance in developing countries. In some developing countries, some ethnic groups have been recognised to be particularly entrepreneurially active, thus increasing the likelihood of their members to succeed as entrepreneurs by benefitting from the access to an existing and functioning network (Ramachandran and Shah, 1999; Biggs and Shah, 2006). The relevance of *gender* becomes clear when looking at the share of women that own or run entrepreneurial firms, which is between 40% and 80% of small businesses (Mead and Liedholm, 1998). Empirical analyses found that women entrepreneurial firms are more constrained, and therefore tend to grow slower than those owned by men (Mead and Liedholm, 1998) due to: a lack of alternative opportunities in wage employment for many women (Rubio, 1991), also given their lower education and literacy level; the need to allocate time to household duties and family responsibilities, aside entrepreneurial activities (Downing and Daniels, 1992); the entrepreneurial activity being often located within the household (ILO, 2004).

### 3.3 Contextual factors affecting firm growth perspective

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<sup>14</sup> The argument that entrepreneurial ability can be developed through learning is particularly relevant for the specific debate about the role of 'serial' and 'habitual entrepreneurs' in affecting entrepreneurial performance. 'Serial entrepreneurs' "*are individuals who have sold or closed at least one business*" and 'habitual entrepreneurs' (that includes also 'portfolio entrepreneur') are "*individuals who currently have minority or majority ownership stakes in two or more independent business.*" (Ucbasaran et al., 2006:5).

Context-related and socio-economic factors also affect entry and performance, representing external constraints or opportunities for entrepreneurial firms. *Macroeconomic conditions* are generally recognised to be relevant for entrepreneurial activity. Positive growth rates, when associated with rising demand, generate market opportunities that favour firm growth and boost the generation of other important factors, such as infrastructure. However, when growth comes along with a rise of employment, this might also raise the opportunity cost of being an entrepreneur with respect to a wage job, and consequently increase exit and reduce entry rates. Symmetrically, negative growth spans may imply a contraction of wage employment alternatives, resulting eventually in an increase of ‘necessity’ entrepreneurship (Liedhom, 2002; Pisani and Pagán, 2004; Bosma et al., 2005; Naudé, 2008). Also macroeconomic stability, such as low price and low exchange rate volatility, plays a positive role by reducing uncertainty and favouring credit, investment and business expansion. This contributes to generate a favourable *business environment*, which is considered to be a positive factor for firm growth (Dethier et al., 2011), despite the fact that the magnitude of its effect being still object of debate (Hampel-Milagrosa et al., 2015) and that it might even change according to firms’ characteristics (such as size) (Aterido et al., 2009).

*Institutions* – defined by Baumol (1990) as “rules of the game” – are particularly important for the generation of an adequate context for entrepreneurial prosperity. The lack of a clear legal framework, certainty of property rights, enforcement and dispute resolution mechanisms constitute a major obstacle for firms’ growth (Beck et al., 2005). Also *cultural values and non-pecuniary benefits* can play a role in favouring entry and performance of entrepreneurial firms (Blanchflowers and Oswald, 1998; Taylor, 1996), for example when a high value is attached to independence or to the ‘social status’ of the entrepreneur, or when there is no ‘stigma’ associated with entrepreneurial failure (Licht, 2007; Bosma et al., 2005).

The presence of specific *regulations and standards* might affect positively firms’ performance in developing countries, conditional on being able to meet these standards. For example, achieving high quality standards for products addressed to developed countries demand requires firms to improve their managerial practices. This increases efficiency and productivity and stimulates firm growth by gaining access to these markets (Goedhuys and Sleuwaegen, 2013). At the same time, these quality standards can act as entry barriers for a large number of less competitive entrepreneurial actors, raising sunk cost of entry in foreign markets (Kaplinsky, 2010). Different is the case of regulations and administrative procedures that affect entry and start-up costs: it has been showed that heavier regulations of entry are likely to be associated with higher costs, higher corruption and larger informality (Djankov et al., 2002; Klapper et al, 2006; Ayyagari et al., 2007), and higher negative impact of risk aversion (Ardagna and Lusardi, 2010), thus generating an unfavourable context for entrepreneurial activity.

Lastly, *informality* is one of the most typical features of developing country contexts<sup>15</sup>. Informality inhibits and slows down entrepreneurial firm growth in developing countries (Nichter and Goldmark, 2009; Sleuwaegen and Goedhuys, 2002; La Porta and Shleifer, 2011). Informality is often encountered in traditional non-dynamic and subsistence sectors, and it is associated with high vulnerability, illegality, and scarce efficiency (De Paula and Scheinkman, 2007). The empirical

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<sup>15</sup> Between 40% and 80% of non-agricultural work force is estimated to be informal in developing countries (ILO, 2004).

literature shows that informality might constrain firms' growth also by limiting the incentives of becoming large and 'too visible', with the risk of incurring taxation (Snodgrass and Biggs, 1996), and by limiting access to formal business opportunities - such as participating in public procurement - and to other important resources - such as formal credit or alternative inputs (Sleuwaegen and Goedhuys, 2002). Given the importance of this issue, one of the main challenges of promoting more productive entrepreneurship in developing countries has to do with reducing barriers to the formal sector, such as red tape, excessive regulation, corruption and bribery in the process of obtaining permits, and a lack of support services to formal firms.

Related to the dichotomy of formality *versus* informality, another important context-related factor for developing country entrepreneurs is the geographical location, especially in term of rural *versus* non rural entrepreneurs, and the sector and type of activity, whether agricultural *versus* non-agricultural, and farming versus non-farming (Nagler and Naudé, 2014).

#### **4. Lessons for the design and implementation of effective entrepreneurship policies**

Why are entrepreneurial policies needed? Answering this question is crucial for developing countries, given the scarce availability of resources and the high opportunity cost of possible misuse. Once the rationales and the aims of the policies are clear, a second issue concerns the effective implementation: how can ('good') entrepreneurship be promoted in developing countries?

##### *4.1 Why entrepreneurship policies?*

The economic rationales for policy interventions have traditionally referred to the existence of market failures. First, there are spillovers and positive externalities that the entrepreneurial actor cannot fully appropriate, reducing his incentive to establish a firm. Second there exists asymmetry of information in the credit market that may lead to adverse selection and may prevent profitable projects from being funded. As a result, the entrepreneurial activity that emerges in a country remains below the level that would be socially optimal (Naudé, 2008).

In addition to market failures, the constraints to both entry and growth faced by entrepreneurial firms in developing countries come from various other sources. Externally, institutional and information failures, poor infrastructure and regulatory environment, corruption, macroeconomic uncertainty represent some serious limitations to start-up and business expansion (Goedhuys and Sleuwaegen, 2000; Sleuwaegen and Goedhuys, 2002; Acs and Virgill, 2009). On top of these, internal constraints are often even more stringent (Hampel-Milagrosa et al., 2015), such as low levels of human capital, education and entrepreneurial ability.

Furthermore, the already mentioned possible 'social value' of entrepreneurship in a developing context brings into the picture also an eventual 'social rationale' for policy intervention, more related to human development goals than directly to productivity, structural change and growth.

Policy measures to reduce market failures typically focus on facilitating *entry*, by alleviating the severity of the credit constraint faced by small firms and start-ups in developing countries, or by lowering the cost of formal entry through broad based direct entry subsidies.

However, these general pro-entry interventions have been criticised as ineffective for economic growth<sup>16</sup>. In fact, various studies point at ‘perverse’ consequences on the average quality and performance of the entrepreneurial pool, since, by lowering entry barriers, these interventions tend to select-in also individuals with lower entrepreneurial ability and productivity (Santarelli and Vivarelli, 2002; Shane, 2009; Stam and van Stel, 2011). This also has consequences on the credit market (Ghatak et al 2007; De Meza and Webb, 1987) and the use of financial resources. First, broad based subsidised entry is likely to induce crowding-out, as some of the beneficiaries would have entered anyway, with their own resources. Second, they may generate ‘turbulence’ (Beesley and Hamilton, 1984) and ‘entry mistakes’, given by the entry of unproductive and low quality entrepreneurs followed by a high rate of firm exit once the support is suspended, resulting into a net waste of resources (Vivarelli, 2013). Thus, higher entrepreneurial entry rates do not *per se* result in higher growth, revealing the insufficiency of general policies that only aim at increasing the ‘quantity’ of entrepreneurs.

If the support to entrepreneurship in developing countries should not be based on general interventions to maximise entry, but also on stimulating growth, we need to look back at the profiles of entrepreneurs and to understand their different constraints and contributions to economy and society.

#### 4.2 Which policy interventions in developing countries?

Entrepreneurial policies in developing countries should be grounded on the heterogeneity of entrepreneurial ventures. This means not only understanding heterogeneity, but translating it into tailored interventions to address the constraints and boost the potential of different entrepreneurial subgroups.

‘Necessity’ driven entrepreneurs account for the largest share of self-employed in developing countries. Despite their limited contribution to economic growth and structural transformation (see section 2), policy action should not disregard this multitude of micro and small, often informal entrepreneurs, who that may actually respond to social objectives. Policies can mainly focus at removing some of the most severe external and internal constraints they face (Grimm et al., 2012). Interventions could facilitate the access to credit, such as via microfinance programs (Quartaro and Vivarelli, 2014), as well as foster the formation of human capital and entrepreneurial skills, via education and training programs (Holz and Schmitz, 1990; Goedhuys and Sleuwaegen, 2000). Often a business start-up training program for micro-entrepreneurs is combined with financial support of some sort, which appears to be more successful than separate interventions. Recent evaluations generally find these programs to indeed increase start-ups within a given period of evaluation, even though there is doubt on their effectiveness for firms’ survival and potential to generate income for, and beyond its immediate owner (McKenzie and Woodruff, 2014).

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<sup>16</sup> “Stimulating entrepreneurship alone will be insufficient as it is likely to attract necessity entrepreneurs with low human capital levels who do not contribute to economic growth” (Stam and van Stel, 2011). “Many routinely adopted policies for entrepreneurship, such as provision of credit, are shown to have more subtle effects, not all of which are conducive to growth-enhancing entrepreneurship” (Naudé, 2008: 24).

Policymakers should also be aware of the unique opportunities offered by internet connectivity and the widespread use of mobile phone by microentrepreneurs in developing countries. Micro-entrepreneurs use their mobile phone applications for financial transactions, such as the successful case of M-Pesa<sup>17</sup> in Kenya and elsewhere shows; for accessing market information, knowledge on production or farming technologies (eg. M-Farm, iCow<sup>18</sup>); for information on health related issues (e.g. M-Pedigree, Mimba Bora<sup>19</sup>), and so on. The magnitude of the impact of these technologies on entrepreneurs' access to information and cash, and the speed at which knowledge spreads among micro-entrepreneurs is unprecedented. There is a role for government to take the lead in establishing a well-functioning and competitive market for telecom that facilitates this development. By contrast, 'opportunity' driven entrepreneurs in the formal sector have a different profile and face different limitations. Being less internally constrained<sup>20</sup>, they would not benefit too much from basic education and training interventions; instead, the potential of these entrepreneurs could be better untapped by a better business environment and the provision of business development services. In this respect, there is a rather shared agreement on the importance of interventions aiming at 'levelling the playing field', like: setting stronger institutions, such as property rights and rule of law (Wiggins, 1995; Parker, 2007), fostering formalisation (Bruhn and McKenzie, 2013; La Porta and Shleifer, 2011; Djankov et al., 2002), reducing uncertainty (economic and political), improving information flows and collaboration to reduce transaction costs. The provision of business development services, including business consulting and counselling, technology upgrading and the provision of relevant market information, have equally proved to be effective interventions for SMEs (Grimm and Paffhausen, 2014) leading to employment creation.

Furthermore, generating a more favourable entrepreneurial context could stimulate more 'positive' entrepreneurship by reducing the relative attractiveness of illegal and predatory activities (Mehlum et al, 2003). Some regulatory and institutional interventions might be beneficial also for 'necessity' and informal entrepreneurs: for example, labour market reforms aiming at generating more stable and formal wage employment might offer better income alternatives for marginal and survival entrepreneur, thus contributing to improve their living conditions (Quartaro and Vivarelli, 2014). A more favourable entrepreneurial context could also be supported by the promotion and diffusion of an 'entrepreneurial culture' and 'entrepreneurial values', by lowering the 'cultural barriers' that might prevent entry and strengthening the non-pecuniary benefits associated with being an entrepreneur (Moskowitz and Vissin-Jorgensen, 2002; Licht, 2007). This holds in particular when these 'cultural barriers' are more stringent for some specific vulnerable groups, such as women. Policy interventions should recognise the value and the social function (e.g. household income

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<sup>17</sup> M-Pesa is a mobile-phone based money transfer and microfinancing service. Originally started in Kenya, due to its success it has rapidly expanded to Tanzania, Afghanistan, South Africa, India and Eastern Europe.

<sup>18</sup> M-Farm is a SMS (text message) mobile phone tool that helps Kenyan farmers to get information on to the retail price of their products, buy their farm inputs at favourable prices, and find buyers for their produce. iCow is another Kenyan mobile phone application that provides tips on cow breeding, animal nutrition, milk production efficiency and gestation to small dairy farmers.

<sup>19</sup> M-Pedigree is a mobile platform to track back the origin of drugs and medical products through an exchange of information between manufacturers and consumers, with the aim of increasing health security and reduce counterfeit medicines in Ghana. Mimba Bora is a mobile application that helps expectant women monitor their pregnancy.

<sup>20</sup> According to Grimm et al. (2012), also some low-performing entrepreneurs might not be so internally constrained as they are perceived to be. These are defined as 'constrained gazelles'.

diversification, economic independence, social relations) of female entrepreneurship, supporting the perception of women entrepreneurs as ‘role models’.

A crucial entrepreneurial subgroup is represented by ‘high impact’ and ‘growth-oriented’ entrepreneurs, given their potential contribution to economic growth and employment (see section 2). Policy interventions should aim at promoting this ‘quality entrepreneurship’ by fostering factors whose effects on growth have been recognised in the literature – such as research and development (R&D), innovation and adherence to international standards facilitating exports.

Some studies empirically show the positive impact of adherence to international management and product standards in developing countries, both in terms of formal employment creation and with respect to poverty alleviation (Goedhuys and Sleuwaegen, 2013; Henson et al., 2011; Gebreeysus, 2014; Maertens and Swinnen, 2009). For firms willing to enter foreign markets, the attainment of standards certificates may be a necessary condition. However, to obtain certification, firms have to go through a process of external auditing, which can be costly for smaller producers. In this sense, policies helping meet standards by creating awareness, organising or subsidising business consultants, establishing channels of information related to quality of goods and high-margin international markets, could provide producers with more profitable opportunities, effectively contributing to income and formal wage employment in developing countries.

Research and development, leading to product and process innovation is clearly associated with firm growth, with macro-implications in terms of productivity and structural transformation (Szirmai, Naudé and Goedhuys, 2011; Vivarelli, 2013; Dias and McDermott, 2006). Since innovation is costly and involves risk and uncertainty, policies can play a crucial role in bearing part of the risk and costs, supporting start-ups and growth-oriented entrepreneurs to perform innovative activities. This can be done through tax exemptions, grants and subsidies or other forms fiscal incentives or financial assistance. These interventions are justified considering the positive externalities innovation activities have on capabilities and the positive spillovers for the whole economy (Cohen and Levinthal, 1990).

Some of the interventions oriented at specific firms with innovation, growth or export potential, imply ‘targeting’, which still represents one of the major challenges to the implementation of tailored pro-growth policies in developing countries. Targeting can be controversial, as it may lead policymakers to ‘pick winners’ which would do equally well without support, resulting in dead weight loss. The problem boils down to being able to identify a priori exactly those firms that have high growth potential, but are somehow constrained to realise it. With targeted support it would be possible to unleash their growth. In practice, due to the large heterogeneity, unpredictability and randomness of a firm growth path, it is very difficult to identify these firms (Daunfeldt et al., 2014; Hindle et al., 2011; Hölzl and Janger, 2013; Mason and Brown, 2013; Coad et al., 2014; Santarelli and Vivarelli, 2002; 2007). Therefore, in practice, targeting is done on the basis of observable characteristics that the literature has identified as related to success (e.g. small, young, innovative companies with highly educated managers, embedded in a social network, etc.), in order to reduce the targeting error. Furthermore, even if targeting is possible, the process is costly and the actual effectiveness of targeting should be assessed by rigorously evaluating the intervention.



The policy interventions presented in this section have been discussed for the different entrepreneurial subgroups. However, we are aware of the fact that entrepreneurial heterogeneity is so pervasive that it is not possible to set clear-cut boundaries between entrepreneurial profiles. The expressions of ‘necessity’, ‘opportunity’, and ‘high impact’ entrepreneurs have to be taken as an attempt to summarise the main characteristics of different entrepreneurial types, but they are far from defining a ‘representative’ or average agents. Rather than precisely delimited and homogenous sets, they should be better considered like points along a *continuum* of entrepreneurial activity (Nightingale and Coad, 2014), where most firms fall somewhere in between this range.

#### 4.3 *Dealing with exits*

A last consideration is dedicated to a possible further expansion of the scope of action for entrepreneurial policies. Both in developed and in developing countries, policies have focused almost exclusively on fostering entry and growth of entrepreneurial firms. In this respect, they have mirrored the scarce interest showed by literature towards other stages of entrepreneurial firms’ lifecycle, such as decline, exit and death (Coad et al., 2014; Hampel-Milagrosa et al., 2015). In fact, despite being rather common and frequent phenomena among entrepreneurial firms, an adequate understanding of the processes of decline and exit is still missing, such as a discussion on which type of interventions could help better address their consequences is still left out of the debate.

Among the various reasons that may push entrepreneurs to leave the business and exit, the factors associated with business failure and insufficient profitability have been most frequently considered (Jovanovic, 1982). However, this seems to be an oversimplification of the exit dynamic, and the literature shows that exit is not necessarily due to unsuccessful economic results. Exit and dissolution may have a value per se (Taylor, 1999; Abbring and Campbell, 2003) and act as a form of learning experience and ‘self-assessment’ (Jovanovic, 1982; Kanbur, 1979). At the same time, it could also be the best response to a change in the opportunity costs of being an entrepreneur (Andresson, 2006), or be due to retirement and to transferring of the firm to another generation (Kanniainen and Poutvaara, 2007).

A better understanding of the factors driving survival and exit would contribute to the design and implementation of entrepreneurial policies, especially when it comes to utilising the knowledge and valuable assets of firms with unique experience that can benefit the society in a variety of ways. Further analyses of these phenomena and their implications, together with better exploring the role played by ‘serial entrepreneurs’ (Ucbasaran et al., 2006), could provide new insights for more comprehensive and ‘well rounded’ entrepreneurial policies, effective in addressing resource redeployment and supporting the re-starting entrepreneurial activities.

## References

- Abbring, J. and Campbell, J.R. (2003). 'A firm's first year,' Federal Reserve Bank of Chicago Working Paper WP-03-11. Chicago.
- Acemoglu, D. (1995). 'Reward Structures and the Allocation of Talent,' *European Economic Review*, 39: 17-33.
- Acs, Z., Boardman, M. and McNeely, C. (2013). 'The social value of productive entrepreneurship,' *Small Business Economics*, 40(3): 785-796.
- Acs, Z. (2006). 'How Is Entrepreneurship Good for Economic Growth?,' *Innovations: Technology, Governance, Globalization*, MIT Press, vol. 1(1): 97-107. March.
- Acs, Z. J., Audretsch, D. B. and Lehmann, E. E. (2013). 'The knowledge spillover theory of entrepreneurship,' *Small Business Economics*, 41(4): 757-774.
- Acs, Z. J., Audretsch, D. B., Braunerhjelm, P. and Carlsson, B. (2012). 'Growth and entrepreneurship,' *Small Business Economics*, 39(2): 289-300.
- Acs, Z. and Storey, D. (2004). 'Introduction: Entrepreneurship and Economic Development,' *Regional Studies* 38(8): 871-877.
- Acs, Z. J., Parsons W., and Tracy, S. (2007). High-impact firms: Gazelles revisited, An office of advocacy Working Paper, U.S. Small Business Administration, Washington, D.C.
- Ács, Z.J. and Virgill, N. (2009). Entrepreneurship in developing countries,' *Jena economic research papers* 2009,023,
- Aghion, P. and Howitt, P. (1992). 'A Model of Growth through Creative Destruction,' *Econometrica*, 60(2):323-351.
- Almus, M. (2002). 'What characterizes a fast-growing firm?,' *Applied Economics*, 34(12): 1497-1508.
- Alvarez, R. and Crespi, G. (2003). 'Determinants of Technical Efficiency in Small Firms,' *Small Business Economics*, 20(3): 233-244.
- Amorós, J.E., Robin, C.F. and Gertosio, J.T. (2007). 'Quantifying the Relationship between Entrepreneurship and Competitiveness Development Stages in Latin America,' Paper presented at the ICSB World Conference, Turku, 13 June.
- Amorós, J. and Cristi, O. (2008). 'Longitudinal analysis of entrepreneurship and competitiveness dynamics in Latin America,' *International Entrepreneurship and Management Journal*, 4(4): 381-399.
- Andersson, P. (2006). 'Determinants of Exits from Self-Employment', Essay IV in a PhD thesis in economics, Swedish Institute for Social Research, Stockholm University.
- Aterido, R., M. Hallward-Driemeier, and Pagés, C. (2009). 'Big Constraints to Small Firms' Growth? Business Environment and Employment Growth across Firms,' *Economic Development and Cultural Change*, 59(3): 609-647
- Audretsch, D. and Thurik, R. (2004). 'A Model of the Entrepreneurial Economy,' Discussion Paper on Entrepreneurship, Growth and Public Policy, Jena: Max Planck Institute.
- Audretsch, D. B. (2011). 'Entrepreneurship policy,' in *World encyclopedia of entrepreneurship*, 111-121.
- Audretsch, D. (2012). 'Entrepreneurship research,' *Management Decision*, 50(5): 755-764.
- Audretsch, D. B., Keilbach, M. C. and Lehmann, E. E. (2006). 'Entrepreneurship and economic growth'. New York: Oxford University Press: 12-33.
- Autio, E. (2011). 'High-aspiration entrepreneurship,' in Minniti, M., ed., *The dynamics of entrepreneurship*. Oxford: Oxford University Press.
- Ayyagari, M., T. Beck, and Demircug-Kunt, A. (2007). 'Small and Medium Enterprises Across the Globe,' *Small Business Economics*, 29(4): 415-434.
- Ayyagari, M., A. Demircug-Kunt, and Maksimovic, V. (2008). 'How Important Are Financing Constraints? The Role of Finance in the Business Environment,' *The World Bank Economic Review*, 22(3): 483-516.
- Ayyagari, M., Demircug-Kunt, A. and Maksimovic, V. (2011). 'Small vs. Young Firms Across the World: Contribution to Employment, Job Creation, and Growth,' *World Bank Policy Research Working Paper No. 5631*.
- Baldwin, J. R. and Gorecki, P. K. (1987). 'Plant creation versus plant acquisition: The entry process in Canadian manufacturing,' *International Journal of Industrial Organization*, 5(1): 27-41.

- Baldwin, J. R. and Gorecki, P. K. (1991). 'Firm Entry and Exit in the Canadian Manufacturing Sector, 1970-1982,' *The Canadian Journal of Economics / Revue canadienne d'Economie*, 24(2): 300-323.
- Banerjee, A., & Newman, A. (2003). 'Inequality, growth and trade policy,' Massachusetts Institute of Technology, Cambridge, Mass, and London School of Economics and Political Science.
- Barr, A. (1998). 'Enterprise performance and the functional diversity of social capital,' Working Paper. Center for Studies on African Economies. University of Oxford.
- Bartelsman, E. J., Haltiwanger, J. and Scarpetta, S. (2004). 'Microeconomic Evidence of Creative Destruction in Industrial and Developing Countries,' IZA Discussion Paper No. 1374; Tinbergen Institute Discussion Papers No. TI 2004-114/3; World Bank Policy Research Paper No. 346
- Baumol, W. J. (1990). 'Entrepreneurship: Productive, unproductive, and destructive,' *Journal of Political Economy*, 98(5): 893-921.
- Bosma, N., de Wit, G. and Carree, M. (2005). 'Modelling Entrepreneurship: Unifying the Equilibrium and Entry/Exit Approach,' *Small Business Economics*, 25:35-48.
- Beck, T. and A. Demircü-Kunt (2006). 'Small and medium-size enterprises: Access to finance as a growth constraint,' *Journal of Banking & Finance*, 30(11): 2931-2943.
- Beck, T., Demircü-Kunt, A. and Maksimovic, V. (2005). 'Financial and legal constraints to growth: Does firm size matter?,' *The Journal of Finance*, 60(1): 137-177.
- Beesley, M. E. and Hamilton, R. T. (1984). 'Small Firms' Seedbed Role and the Concept of Turbulence,' *The Journal of Industrial Economics*, 33(2): 217-231.
- Biggs, T. and Srivastava, P. (1996). 'Structural aspects of manufacturing in Sub-saharian Africa,' *The World Bank Discussion Paper* 346.
- Biggs, T. and Shan, M.K. (2006). 'African SMES, networks, and manufacturing performance,' *Journal of Banking & Finance*, 30(11): 3043-3066.
- Bigsten, A. and Gebreeyesus, M. (2007). 'The Small, the Young, and the Productive: Determinants of Manufacturing Firm Growth in Ethiopia,' *Economic Development and Cultural Change*, 55(4): 813-840.
- Blanchflower, D.G. and Oswald, A.J. (1998). 'What Makes an Entrepreneur?,' *Journal of Labor Economics*, 16(1): 26-60.
- Blanchflower, D. G. (2000). 'Self-Employment in OECD Countries,' *Labor Economics*, 7: 471-505.
- Bruhn, M. and McKenzie, D. (2013). 'Entry Regulation and Formalization of Microenterprises in Developing Countries,' *World Bank Policy Research Working Paper* 6507. Washington, World Bank.
- Cagetti, M. and De Nardi, M. (2005). 'Wealth Inequality: Data and Models,' *Federal Reserve Bank of Chicago, Working Paper* WP 2005-10. Chicago.
- Carree, M. and Thurik, R. (2002). 'The Impact of Entrepreneurship on Economic Growth', Chapter prepared for the *International Handbook of Entrepreneurship Research* (eds. Zoltan Acs and David Audretsch)
- Carree, M. A., A. J. van Stel, A. R. Thurik and Wennekers, A. R. M. (2002). 'Economic Development and Business Ownership: An Analysis Using Data of 23 OECD Countries in the Period 1976-1996,' *Small Business Economics*, 19, 271-290.
- Chudnovsky, D., A. López and G. Pupato (2006). 'Innovation and productivity in developing countries: A study of Argentine manufacturing firms' behavior (1992-2001),' *Research Policy*, 35(2): 266-288.
- Coad, A. (2009). 'The Growth of Firms'. Edward Elgar.
- Coad, A. and Rao, R. (2008). 'Innovation and firm growth in high-tech sectors: A quantile regression approach,' *Research Policy*, 37(4): 633-648
- Coad, A., Daunfeldt, S.-O., Hözl, W., Johansson, D. and Nightingale, P. (2014). 'High-growth firms: Introduction to the special section,' *Industrial and Corporate Change*, 23(1): 91-112.
- Cohen, W. M. and Levinthal, D. A. (1990). 'Absorptive Capacity: A New Perspective on Learning and Innovation,' *Administrative Science Quarterly*, 35(1): 128-152.
- Cortes, M., Berry, A., & Ishaq, A. (1987). 'Success in small and medium scale enterprises: The evidence from Colombia'. Washington, DC: The World Bank.
- Cressy, R. (2006). 'Why do most firms die young?,' *Small Business Economics*, 26: 103-116.

- Czarnitzki, D. and Delanote, J. (2013). 'Young innovative companies: The new high-growth firms?,' *Industrial and Corporate Change*, 22(5): 1315-1340.
- Daunfeldt, S.-O., N. Elert, and Johansson, D. (2014). 'The Economic Contribution of High-Growth Firms: Do Policy Implications Depend on the Choice of Growth Indicator?,' *Journal of Industry, Competition and Trade*, 14(3): 337-365.
- Dethier, J.-J., M. Hirn, et al. (2011). 'Explaining Enterprise Performance in Developing Countries with Business Climate Survey Data,' *The World Bank Research Observer* 26(2): 258-309.
- De Meza, D. and Webb, D. (1987). 'Too Much Investment: A Problem of Assymetric Information,' *Quarterly Journal of Economics*, 102(2): 281-92.
- Demirgüç-Kunt, A. and Maksimovic, V. (1998). 'Law, Finance, and Firm Growth,' *The Journal of Finance*, 53(6): 2107-2137.
- De Paula, A. and Scheinkman, J.A. (2007). 'The Informal Sector', NBER Working Paper 13486, Cambridge MA: National Bureau of Economic Research.
- Desai, M., Gompers, P. and Lerner, J. (2003). 'Institutions, Capital Constraints and Entrepreneurial Firm Dynamics: Evidence from Europe', National Bureau of Economic Research Working Paper Series, No. 10165.
- Desai, S. (2009). 'Measuring entrepreneurship in developing countries,' Research paper / UNU-WIDER 2009.10.
- Dias, J. and McDermott, J. (2006). 'Institutions, Education, and Development: The Role of Entrepreneurs,' *Journal of Development Economics*, 80: 299-328.
- Downing, J. and L. Daniels (1992), 'The growth and dynamics of women entrepreneurs in Southern Africa', GEMINI Technical Report No. 47/PACT Publications. New York.
- Dutz, M. A. and O'Connell, S. D. (2013). 'Productivity, innovation and growth in Sri Lanka : an empirical investigation,' World Bank Policy Research Working Paper 6354 .
- Djankov, S., et al. (2002). 'The Regulation of Entry,' *The Quarterly Journal of Economics*, 117(1): 1-37.
- Evans, D. S. (1987). 'The Relationship Between Firm Growth, Size, and Age: Estimates for 100 Manufacturing Industries,' *The Journal of Industrial Economics*, 35(4): 567-581.
- Evans, D.S. and Jovanovic, B. (1989). 'An Estimated Model of Entrepreneurial Choice under Liquidity Constraints,' *Journal of Political Economy*, 97(4): 808-27.
- Fernandes, A. M. (2006). 'Firm Productivity in Bangladesh Manufacturing Industries,' World Bank Policy Research Working Paper No. 398.
- Fields, G. S. (1990). 'Labour market modelling and the urban informal sector: Theory and evidence,' in D. Turnham, B. Salomé, & A. Schwarz (Eds.), *The informal sector revisited*: 49-69. Paris: Organisation for Economic Co-operation and Development.
- Freeman, J., G.G., Carrol and Hannan, M.T. (1983). 'The liability of newness: age dependence in organization death rates,' *American Sociology Review*, 48: 692-710.
- Gebreeyesus, M. (2011), 'Innovation and microenterprise growth in Ethiopia', in *In Entrepreneurship, innovation, and economic development* (ed. A. Szirmai). Oxford.
- Gebreeyesus, M. (2014), 'Firms' adoption of international standards: Evidence from the Ethiopian floriculture sector,' UNU-MERIT Working Paper 2014-007.
- Geroski, P. A. (1995). 'What do we know about entry?,' *International Journal of Industrial Organization*, 13(4): 421-440.
- Geroski, P. A. (2000). 'Models of technology diffusion,' *Research Policy*, 29(4-5): 603-625.
- Giannetti, M. and Simonov, A. (2004). 'On the Determinants of Entrepreneurial Activity: Social Norms, Economic Environment and Individual Characteristics,' *Swedish Economic Policy Review*, 11: 269-313.
- Ghatak, M., Morelli, M. and Sjöström, T. (2007). 'Entrepreneurial Talent, Occupational Choice and Trickle Up Policies,' *Journal of Economic Theory*, 137(1): 27-48.
- Goedhuys, M. (2007). 'Learning, product innovation, and firm heterogeneity in developing countries; Evidence from Tanzania,' *Industrial and Corporate Change*, 16(2): 269-292.
- Goedhuys, M. and Sleuwaegen, L. (1999), 'Barriers to growth of firms in developing countries: evidence from Burundi,' in *Innovation, Industry Evolution and Employment*, (eds. D. B. Audretsch and R.Thurik). Cambridge

University Press.

- Goedhuys, M. and Sleuwaegen, L. (2000). 'Entrepreneurship and growth of entrepreneurial firms in Cote d'Ivoire,' *Journal of Development Studies*, 36(3): 123-145.
- Goedhuys, M. and Sleuwaegen, L. (2010). 'High-growth entrepreneurial firms in Africa: A quantile regression approach,' *Small Business Economics*, 34(1): 31-51.
- Goedhuys, M. and L. Sleuwaegen (2013). 'The Impact of International Standards Certification on the Performance of Firms in Less Developed Countries,' *World Development*, 47(0): 87-101.
- Goedhuys, M., N. Janz, J. Mairesse and Mohnen, P. (2008a). 'Micro-evidence on innovation and development (MEIDE): an introduction,' *The European Journal of Development Research*, 20(2): 167-171.
- Goedhuys, M., N. Janz, J. Mairesse and Mohnen, P. (2008b). 'What drives productivity in Tanzanian manufacturing firms: Technology or business environment?' *European Journal of Development Research* 20(2): 199-218.
- Goedhuys, M. and Veugelers, R. (2012). 'Innovation strategies, process and product innovations and growth: Firm-level evidence from Brazil,' *Structural Change and Economic Dynamics*, 23(4): 516-529.
- Goedhuys, M., N. Janz and P. Mohnen (2014). 'Knowledge-based productivity in "low-tech" industries: evidence from firms in developing countries,' *Industrial and Corporate Change*, 23(1): 1-23.
- Goedhuys, M. and M. Srholec (2014). 'Technological Capabilities, Institutions and Firm Productivity: A Multilevel Study.' *European Journal of Development Research* 27(1): 122-139.
- Gries, T. and W. Naudé (2010). 'Entrepreneurship and structural economic transformation,' *Small Business Economics*, 34(1): 13-29.
- Grimm, M., Knorringa, P. and Lay, J. (2012). 'Constrained gazelles: High potentials in West Africa's informal economy,' *World Development*, 40(7): 1352-1368.
- Grimm, M. and Paffhausen, A.L. (2014). 'Interventions for employment creation in micro, small and medium-sized enterprises in low and middle income countries – a systematic review', University of Passau, 126 p.
- Hart, D.M. (2003). 'Entrepreneurship Policy: What it is and Where it came from,' in Hart, D.M. (ed.) *The Emergence of Entrepreneurship Policy: Governance, Start-ups and Growth in the US Knowledge Economy*. Cambridge: Cambridge University.
- Henson, S., O. Masakure and Cranfield, J. (2011). 'Do Fresh Produce Exporters in Sub-Saharan Africa Benefit from GlobalGAP Certification?,' *World Development*, 39(3): 375-386.
- Hindle, K., J. Yencken, and O'Connor, A. (2011). 'An entrepreneurship policy framework for high-growth firms: navigating between policies for picking winners and market failure,' *International Journal of Entrepreneurial Venturing*, 3(4): 324-343.
- Hölzl, W., Friesenbichler and Sylvester, K.S. (2010). 'High-Growth Firms, Innovation and the Distance to the Frontier,' *Economics Bulletin*, 30(2): 1016-1024.
- Hölzl, W. and Janger, J. (2013). 'Does the analysis of innovation barriers perceived by high growth firms provide information on innovation policy priorities?,' *Technological Forecasting and Social Change*. 80(8): 1450-1468.
- House, W. J. (1984). 'Nairobi's Informal Sector: Dynamic Entrepreneurs or Surplus Labor?,' *Economic Development and Cultural Change*, 32(2): 277-302.
- Howard, E., C. Newman, J. Rand and Tarp, F. (2014). 'Productivity-enhancing manufacturing clusters: Evidence from Vietnam,' WIDER Working Paper 2014/071.
- ILO (2004). 'A fair globalization: creating opportunities for all'. Geneva: ILO.
- Johannisson, B., & Nilsson, A. (1989). 'Community entrepreneurs: Networking for local development,' *Entrepreneurship & Regional Development*, 1(1): 3-19.
- Jovanovic, B. (1982). 'Selection and the Evolution of Industry,' *Econometrica*, 50(3): 649-670.
- Kanniainen, V. and Poutvaara, P. (2007). 'Imperfect Transmission of Tacit Knowledge and Other Barriers to Entrepreneurship,' *Comparative Labor Law and Policy Journal*, 28: 675-93.
- Kanbur, S.M. (1979). 'Of Risk-Taking and the Personal Distribution of Income,' *Journal of Political Economy*, 87(4): 769-97.
- Kaplinsky, R. (2010). 'The Role of Standards in Global Value Chains,' *World Bank Policy Research Working Paper Series*.

- Kevane, M. and Wydick, B. (2001). 'Microenterprise Lending to Female Entrepreneurs: Sacrificing Economic Growth for Poverty Alleviation?,' *World Development*, 29(7): 1225-1236.
- Klapper, L., Laeven, L. and Rajan, R. (2006). 'Entry regulation as a barrier to entrepreneurship,' *Journal of Financial Economics*, 82(3): 591-629.
- Lall, S. (1992). 'Technological capabilities and industrialization,' *World Development*, 20(2): 165-186.
- La Porta, R. And Shleifer, A. (2011). 'The unofficial economy in Africa,' NBER Working Paper 16821. Cambridge, MA: National Bureau for Economic Research.
- Licht, A.N. (2007). 'The Entrepreneurial Spirit and What the Law Can Do About It,' *Comparative Labor Law and Policy Journal*, 28: 817-62.
- Liedholm, C. (2002). 'Small Firm Dynamics: Evidence from Africa and Latin America,' *Small Business Economics*, 18(1-3): 225-240.
- Maertens, M. and Swinnen, J. F. M. (2009). 'Trade, Standards, and Poverty: Evidence from Senegal,' *World Development*, 37(1): 161-178.
- Mason, C. and Brown, R. (2013). 'Creating good public policy to support high-growth firms,' *Small Business Economics*, 40(2): 211-225.
- McKenzie, D. and Woodruff, C. (2014). 'What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World?,' *The World Bank Research Observer*, 29(1): 48-82.
- Mead, D. C. and Liedholm, C. (1998). 'The dynamics of micro and small enterprises in developing countries,' *World Development*, 26(1): 61-74.
- Mehlum, H., Moene, K., Torvik, R. (2003). 'Predator or Prey? Parasitic Enterprises in Economic Development,' *European Economic Review*, 47: 275-94.
- Mengistae, T. (199). 'Wage Rates and Job Queues: Does the Public Sector Overpay in Ethiopia?,' *World Bank Policy Research Working Paper No. 210*.
- McPherson, M. A. (1996). 'Growth of micro and small enterprises in southern Africa,' *Journal of Development Economics*, 48(2): 253-277.
- Moskowitz, T.J. and Vissing-Jorgensen, A. (2002). 'The Returns to Entrepreneurial Investment: A Private Equity Premium Puzzle?,' *American Economic Review*, 92: 745-79.
- Murphy, P.J., Liao, J. and Welsch, H. (2006). 'A Conceptual History of Entrepreneurial Thought,' *Journal of Management History*, 12(1): 12-35.
- Nagler, P. and Naudé, W. (2014). 'Non-Farm Entrepreneurship in Rural Africa: Patterns and Determinants,' *IZA Discussion Paper No. 800*.
- Naudé, W. (2007). 'Peace, prosperity, and pro-growth entrepreneurship,' *UNU-WIDER Discussion Paper 2007/02*. UNU-WIDER. Helsinki, Finland.
- Naudé, W. (2008). 'Entrepreneurship in economic development,' *Research paper / UNU-WIDER 2008/20*.
- Naudé, W. (2011). 'Entrepreneurship is not a binding constraint on growth and development in the poorest countries,' *World Development*, 39(1): 33-44.
- Nelson, R.R. and Pack, H. (1999). 'The Asian Miracle and Modern Growth Theory,' *The Economic Journal*, 109(457): 416-36.
- NESTA (2009). 'The Vital 6 Per Cent'. London, UK.
- Nichter, S. and Goldmark, L. (2009). 'Small Firm Growth in Developing Countries,' *World Development*, 37(9): 1453-1464.
- Nightingale, P. and Coad, A. (2014). 'Muppets and gazelles: political and methodological biases in entrepreneurship research,' *Industrial and Corporate Change*, 23(1): 113-143.
- OECD (2007). 'Eurostat-OECD manual on Business Demography Statistics'. Paris.
- Parker, S.C. (2007). 'Law and the Economics of Entrepreneurship,' *Comparative Labor Law and Policy Journal*, 28: 695-716.
- Pietrobelli, C. and Saliola, F. (2008). 'Power relationships along the value chain: multinational firms, global buyers and performance of local suppliers,' *Cambridge Journal of Economics*, 32(6): 947-962.

- Pisani, M. J. and Pagán, J. A. (2004). 'Self-employment in the era of the new economic model in Latin America: a case study from Nicaragua,' *Entrepreneurship & Regional Development*, 16(4): 335-350.
- Paulson, A. L. and Townsend, R. (2004). 'Entrepreneurship and financial constraints in Thailand,' *Journal of Corporate Finance*, 10(2): 229-262.
- Quatraro, F. and Vivarelli, M. (2015). 'Drivers of entrepreneurship and post-entry performance of newborn firms in developing countries,' *Policy Research Working Paper Series 7074*, The World Bank.
- Ramachandran, V. and Shah, M. K. (1999). 'Minority entrepreneurs and firm performance in sub-Saharan Africa,' *The Journal of Development Studies*, 36(2): 71-87.
- Reynolds, P. D., M. S. Camp, W. D. Bygrave, E. Autio and Hay, M. (2001). 'Global Entrepreneurship Monitor, 2001 Summary Report'. London Business School and Babson College: London.
- Rodrik, D. (2007). 'Industrial development: Some stylized facts and policy directions,' *Industrial development for the 21st century: sustainable development perspectives*: 7-28.
- Rubio, F. (1991). 'Microenterprise growth dynamics in the Dominican Republic: The ADEMI case,' *GEMINI working paper number 21*. Washington, DC: USAID.
- Santarelli, E. and Vivarelli, M. (2002). 'Is subsidizing entry an optimal policy?,' *Industrial and Corporate Change*, 11(1):39-52.
- Santarelli, E. and Vivarelli, M. (2007). 'Entrepreneurship and the process of firms' entry, survival and growth,' *Industrial and Corporate Change*, 16(3): 455-488.
- Schiffer, M and Weder, B. (2001). 'Firm Size and the Business Environment: Worldwide Survey Results,' *IFC Working Paper 43*. Washington.
- Schmitz, H. (1999). 'Collective efficiency and increasing returns,' *Cambridge Journal of Economics*, 23: 465-483.
- Schumpeter, J. (1939), 'Business Cycles: a Theoretical, Historical and Statistical Analysis of the Capitalist Process'. McGraw-Hill: New York.
- Schramm, C.J. (2004). 'Building Entrepreneurial Economies,' *Foreign Affairs*, 83(4):104-115.
- Shane, S. (2009). 'Why encouraging more people to become entrepreneurs is bad public policy,' *Small Business Economics*, 33(2): 141-149.
- Shane, S. and Venkataraman, S. (2000), 'The promise of Entrepreneurship as a field of research,' *Academy of Management Review*, 25(1): 217-226.
- Sleuwaegen, L. and Goedhuys, M. (2002). 'Growth of firms in developing countries, evidence from Côte d'Ivoire,' *Journal of Development Economics*, 68(1): 117-135.
- Snodgrass, D and Biggs, T. (1996). 'Industrialization and the small firm,' *International Center for Economic Growth: San Francisco*.
- Stam, E. and Wennberg, K. (2009). 'The roles of R&D in new firm growth,' *Small Business Economics*, 33(1): 77-89.
- Stam, E. and van Stel, A. (2011). 'Types of Entrepreneurship and Economic Growth,' in *Entrepreneurship, innovation, and economic development* (ed. A. Szirmai). Oxford.
- Stam, E., C. Hartog, A. van Stel and Thurik, A. (2011). 'Ambitious Entrepreneurship, High-Growth Firms, and Macroeconomic Growth,' in *The Dynamics of Entrepreneurship*. M. Minniti. Oxford, Oxford University Press.
- Stam, E., Audretsch, D. and Meijaard, J. (2007). 'Renascent Entrepreneurship: Entrepreneurial Preferences Subsequent to Firm Exit,' *Unpublished paper presented at the Babson College Entrepreneurship Conference in 2006*.
- Stiglitz, J.E. and Weiss, A. (1981). 'Credit Rationing in Markets with Imperfect Information,' *American Economic Review*, 71(3): 393-410.
- Storey, D. J. (1994 ), 'Understanding the Small Business Sector'. Routledge.
- Szirmai, A., Naudé, W. and Goedhuys, M. (2011). 'Entrepreneurship, Innovation and Economic Development: An Overview,' in *Entrepreneurship, innovation, and economic development* Oxford ; New York, Oxford University Press.
- Taylor, M.P. (1999). 'Survival of the Fittest? An Analysis of Self-Employment Duration in Britain,' *The Economic Journal*, 109: C140-C155.
- Ucbasaran, D., Westhead, P. and Wright, M. (2006). 'Habitual Entrepreneurs'. Cheltenham: Edward Elgar

- Van Praag, M.C and Verloot, P. H.(2007). 'What is the value of entrepreneurship? A review of recent research,' *Small Business Economics*, 29: 351-82.
- van der Sluis, J. , M. van Praag and Vijverberg, W. (2004). 'Education and Entrepreneurship in Industrialized Countries: A Meta-analysis,' Tinbergen Institute Working Paper No. TI 03-046/3.
- van Stel A., Carree, M. and Thurik, R. (2005). 'The Effect of Entrepreneurial Activity on National Economic Growth,' *Small Business Economics Journal*, 24(3): 311-321.
- Vivarelli, M. (2013). 'Is entrepreneurship necessarily good? Microeconomic evidence from developed and developing countries,' *Industrial and Corporate Change*, 22(6): 1453-1495.
- Wennekers, S. and Thurik, R. (1999). 'Linking entrepreneurship and economic growth,' *Small Business Economics*, 13(1): 27-56.
- Wennekers, S., Van Stel, A., Thurik, R. and Reynolds, P. (2005). 'Nascent entrepreneurship and level of economic development,' *Small Business Economics*, 24(3):293-309.
- Wiggins, S.N. (1995). 'Entrepreneurial Enterprises, Endogenous Ownership and Limits to Firm Size,' *Economic Inquiry*, 33(1): 54-69.
- Wong, P., Y. Ho and E. Autio (2005). 'Entrepreneurship, Innovation and Economic Growth: Evidence from GEM data,' *Small Business Economics*, 24(3): 335-350.
- Yamada, G. (1996). 'Urban informal employment and self-employment in developing countries: theory and evidence,' *Economic Development and Cultural Change*, 44: 289-314.



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