Enhancing productivity in Latin America

FROM SUBSISTENCE TO TRANSFORMATIONAL ENTREPRENEURSHIP

SUMMARY AND MAIN RESULTS

2013 RED Economics and Development Report

CAF DEVELOPMENT BANK OF LATIN AMERICA

Enhancing productivity in Latin America:

from subsistence to transformational entrepreneurship

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Foreword

Latin America's low aggregate productivity growth is reflected in an overwhelming number of self-employed enterprises and micro-businesses and a shortage of medium-sized and larger establishments capable of generating quality jobs and productivity gains. A lot of these small-scale enterprises stem from lack of other opportunities in the labor market and do not have the potential to become dynamic or transformational. Meanwhile, formal firms face external and internal restrictions to grow and to create enough high-quality jobs.

The Economics and Development Report 2013 (RED2013), whose main conclusions are described in this shorter document, emphasizes the role of entrepreneurship—the creation of companies that generate sustained increases in employment and productivity—as a key factor to Latin America's development. It does so in a comprehensive way, reviewing not only the potential impediments for high-skilled innovative entrepreneurs to realize their projects, but also the reasons why entrepreneurs with less potential opt for entrepreneurial activities instead of a salaried job.

One of the report's main messages is that these two phenomena –constrained growth for dynamic companies and abundance of subsistence businesses—are closely linked; and recognizing this link is crucial to design entrepreneurship policy. This policy needs to adopt a multidimensional approach, integrating things like entrepreneurial talent, innovation fostering, financial access, and training.

Entrepreneurship as a driver of development[1]

INTRODUCTION

A key determinant of economic development is productivity growth—the different initiatives that make it possible to produce more goods and services with the given stock of physical and human capital in an economy[2]. Poor productivity growth explains why Latin America has not boasted more dynamic growth since the middle of the 20th century, preventing its level of income from converging to that of more developed countries[3].

Among the factors affecting productivity are technological progress (which results in new goods or new production methods), access to new domestic and international markets, and improvement in firms' management and administration processes. This innovation and creation of new products and markets is led by entrepreneurs capable of visualizing new demands, finding market applications for new technologies, and coordinating the use of production factors within their organizations more efficiently. These entrepreneurial activities often give birth to new businesses, the most successful of which grow fast and graduate swiftly from small firms to medium and large enterprises, selling their products across domestic and foreign markets.

Therefore, a key symptom of the economy's productivity, partly reflecting entrepreneurial activity, is the size distribution of firms. Unfortunately, firms in Latin America are smaller than in developed countries, and fewer new firms enjoy high growth potential. For example, firms with more than 26 years of age employ only three times more people than firms younger than 6 years old; in European countries they employ 7 times more people[4].

This weak growth implies that there are relatively few large and medium-sized firms (with more than 100 employees and with 10-99 employees, respectively), while there is an overwhelming number of small and micro enterprises (with up to 10 employees and

1. This document corresponds to Chapter 1 of CAF's 2013 Economics and Development Report (RED 2013) titled: "Enhancing productivity in Latin America: from subsistence to transformational entrepreneurship". It offers a summary review to the whole report. It was written by Pablo Sanguinetti with research assistance of Carlos Catanho and Mauricio Stern.

2. Klenow and Rodriguez Clare (1997); Hall and Jones (1999).

3. Hopenhayn and Neumeyer (2004); Pages (2010); Sanguinetti and Villar (2013)

4. Hsieh and Klenow (2012) show a similar comparison between the United States and Mexico. While in the U.S. firms older than 40 years old are eight times bigger than those younger than five years old, in the case of Mexico they are only twice as big.

with less than five employees, respectively) employing the lion's share of the workforce[5]. Most of these small-scale businesses have no growth prospects and only generate very low and volatile revenues and, therefore, they must be distinguished from more dynamic and transformational businesses with the capacity to generate employment and increase productivity[6].

The coexistence of both types of firms within countries and even within specific sectors—such as retail sales and services, where large supermarket chains and department stores coexist with small kiosks and street vendors—suggests there could be huge productivity gains from shifting labor and capital away from the small establishments toward existing or would-be medium and large companies[7].

What accounts for the low creation and development of highly productive firms in Latin America? Could this reflect less entrepreneurial disposition vis-à-vis the developed world? Or is it that people with entrepreneurial talent decide not to start their own businesses or face restrictions to grow the ones they already manage? Why do individuals with less entrepreneurial talent decide to start tiny-scale businesses when they could be part of the salaried workforce in larger and more productive organizations? Could both of these phenomena, the restrictions on growth for dynamic enterprises and the abundance of subsistence enterprises, be connected and reinforce each other?

This report seeks to answer these questions by taking into account that, first, there are people behind the startup of new businesses and the characteristics of these people determine these new businesses' productivity and growth, especially during their first years. Second, the entrepreneur's decision to start a business and make it grow has consequences for the allocation of production factors; for example, it determines whether labor demand or the use of capital will be higher or lower in different sectors. Third, the entrepreneur's decision to start a business is not only affected by his individual characteristics (such as his family environment, wealth, education, occupational trajectory, and entrepreneurial talent), but also by his firm's economic and institutional environment (e.g., access to credit, availability of technology, quality of the workforce, firm registration costs, and other regulations and taxes).

A hypothesis analyzed throughout this report is that the region's productivity problems reflect, at the same time, a shortage of job creation on behalf of firms and a shortage of skills on behalf of workers. These aspects are mutually reinforcing. The poor quality of the workforce is in part due to the lack of employment opportunities in transformational enterprises while, to some extent, there are few employment opportunities due to lack of qualified workers.

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5. On average, one-person firms account for 28% of the workforce while firms with up to five workers (including those without employees) account for 38% of the workforce, and firms with up to 10 employees account for about 50% of the workforce.

6. Lerner and Schoar (2010; Poschke (2010); Banerjee and Duflo (2011).

7. Banerjee and Duflo (2005); Hsieh and Klenow (2009); Pages (2010).

Although the concept of entrepreneurial talent has a blurry definition, different approaches from the fields of economics, management, and business psychology coincide in highlighting that a good entrepreneur must be creative and innovative, have managerial skills (need for achievement, internal locus of control, multi-tasking ability, self-efficacy) and be at least moderately capable of tolerating risk. This report presents estimates of these traits for the population of 17 Latin American cities and a United States benchmark (the city of Los Angeles), finding no significant difference between Latin American cities and the United States as far as these traits are concerned. This suggests that the very different size distribution of firms in Latin America vis-à-vis the developed world is unlikely to be explained by an entrepreneurial talent gap.

If the problem is not talent, what is it? A lot of emphasis has been placed on market failures due to asymmetric information affecting financial institutions (Buera et al., 2011; CAF, 2011). In Latin America there is also a high correlation between the decision to start a business and family wealth, suggesting possible restrictions in access to credit. Other market failures—for example those stemming from externalities—also affect firms' decisions to innovate and, by extension, their productivity. Spin-offs –companies created by former workers of formal, transformational enterprises—are a natural channel for the transmission of new ideas and technologies; and evidence shows that they tend to create more jobs. But without large and dynamic companies, this potential seedbed for innovative entrepreneurs is likely to be limited.

Government failures can also affect aggregate productivity. An unwanted effect of tax policies, credit subsidies, and even some labor and social policies, is that they prevent highly productive formal enterprises from growing, while generating incentives for the creation and survival of micro firms that only employ the founder and maybe some relatives and that add little value. Some studies support the relevance of these factors. However, a central message of this report is that they do not explain entirely the significant discrepancy between Latin America and developed economies with regard to the size distribution of firms. Nor do they explain why, despite important return and income premiums, in practice there is no reallocation of labor and capital away from informal and subsistence micro enterprises toward medium-sized and large transformational firms.

This reallocation could be accomplished through the growth of micro enterprises. However, the evidence suggests that generally, these companies do not grow. This is not so much due to financial or other external restrictions, but rather because the majority of micro entrepreneurs (almost seventy five percent) do not resemble those entrepreneurs who employ other people, not just in terms of their education, but also with regard to those psychological traits associated with successful entrepreneurship.

Faced with this reality, the alternative is for these micro entrepreneurs to move to salaried employment in the formal sector, where their income would be higher and more stable. Yet, this is difficult, too. While according to their personal characteristics a little

over one fourth of these subsistence entrepreneurs could move toward the formal sector, the best option for the rest would be to get employment in small, informal firms, where the wage levels would be comparable to what they make at present in their micro enterprises. It is no surprise, then, that they decide to stay put. This decision, though, has a significant social cost; because their job does not allow them to increase skills, rather the contrary: the already low human capital that these individuals have depreciates quickly[8]. Moreover, by choosing to be micro entrepreneurs these individuals send the wrong signals as to the potential returns on education that the young people around them could have; this affects the incentives to accumulate human capital, especially for these young people who, given their family environment and their beliefs, may think that micro entrepreneurship is the only option open to them.

As a consequence, the poor employability of a significant number of micro entrepreneurs in Latin America ends up being an important obstacle to the emergence of new firms and the growth of existing ones; since if firms wished to expand at higher rates, the required labor resources would just not be there. The region is thus stuck in an informality and low productivity trap: there is weak firm growth because, among other things, there are few skilled workers and, at the same time, there are few skilled workers because most firms do not offer the kind of employment opportunities that would discourage informal micro-entrepreneurship.

Given this diagnosis, public policies that seek to favor entrepreneurship must have a multi-dimensional approach. They must integrate aspects linked to the development of entrepreneurial talent, the promotion of innovation, access to finance and training of the workforce. These four elements of the entrepreneurial ecosystem should be accessible to all existing and newly born enterprises with growth potential, including those micro enterprises that could grow if helped. This could require innovations in the selection of programs' beneficiaries such as, for example, focusing support according to firm age as opposed to firm size. The social nature of policies aimed at subsistence microenterprises, where productive growth is less likely, must also be recognized. And this would call for an approach that targets the whole family, rather than just the economic activity of the head of the household. This is important to ensure that the incentives for the accumulation of human capital in children and youth is not weakened, and to bolster the employability of the latter through first-job programs, internships and other types of training linked to the demands of the productive sector.

This report develops these arguments in five chapters. This introductory chapter provides a motivation for the analysis of entrepreneurship as a fundamental determinant of productivity and economic development. It presents the report's main themes and advances some of its conclusions. Chapter 2 presents a diagnosis of occupational decisions

8. Work capabilities include specific skills in productive activities; cognitive abilities such as language, writing and mathematical calculation; and socio-emotional skills such as attitude at work, commitment, and responsibility. Bassi et al (2012) show that the most valuable skills for enterprises are the socio-emotional ones and that only 12 per cent of surveyed firms (in Argentina, Chile, and Brazil) state that they do not have problems finding these skills in young workers.

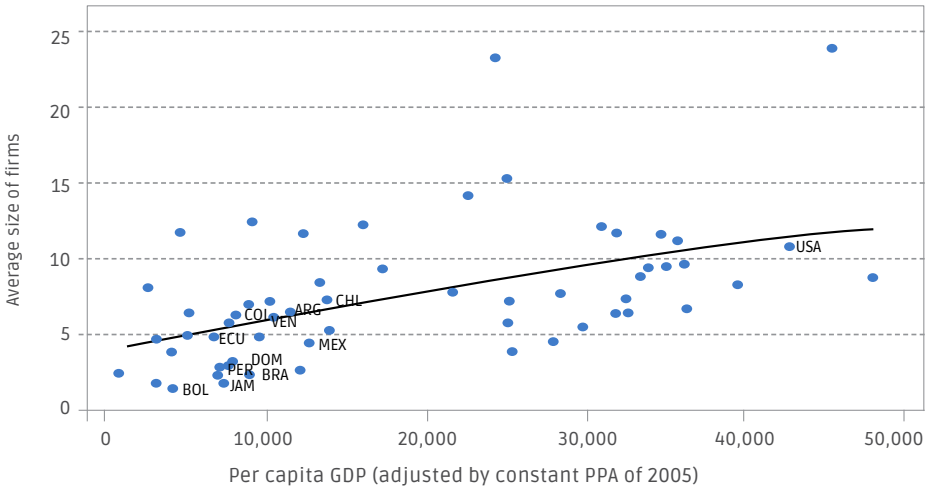
of the economically active population of Latin America, documenting the characteristics of the region's entrepreneurs, both in terms of basic socio-economic indicators (age, gender, education, among others) as well as other personality traits associated with entrepreneurial talent. Chapter 3 makes an in-depth analysis of micro enterprises, quantifying what percentage of them could have growth potential and which could be classified as subsistence activities motivated by the lack of employment opportunity. This chapter also analyzes micro entrepreneurs' chances of transitioning to formal work. Chapter 4 analyzes the dynamics of creation, growth, and disappearance of formal enterprises in Latin America, analyzing factors internal to the firms as well as environmental. Building on the diagnosis of the preceding chapters, Chapter 5 proposes an analysis of public policies that promote productive entrepreneurship with a wide vision, integrating the development of entrepreneurial talent, the promotion of technological innovation, access to finance, and the employability of the region's many self-employed.

The low productivity of Latin American economies is in part revealed in the size distribution of firms, where microenterprises are abundant

ENTREPRENEURSHIP AND DEVELOPMENT: LATIN AMERICA IN THE GLOBAL CONTEXT

As indicated in the previous section the low productivity of Latin American economies is in part revealed in the size distribution of firms, particularly the big number of microenterprises. The hypothesis that economic development comes with an increase in the average size of firms is backed by the positive and significant correlation between firm's size and per-capita GDP for a sample of developing and developed countries (see Graph 1.1). This relationship suggests that per-capita GDP growth is partly associated with

Graph 1.1 Average size of firms and development (2004-2008)



Source: own elaboration based on the GEM (2012).

Independently of the economic sector considered, the size of the firms in developed countries is larger compared to Latin America

productivity gains that are in turn reflected in a greater average size of enterprises. The graph also shows that most Latin American countries have firms that are, on average, too small, even after taking into account their level of per capita GDP.

The source for Graph 1.1 is the Global Entrepreneurship Monitor (GEM) survey. This survey is conduced on a sample of representative individuals and focused on those that are engaged in entrepreneurial activities.[9] It covers seventy countries approximately and it includes all types of establishments, both formal and informal, and of different sizes; that is, not only those with a certain minimum number of employees, as is the case with national enterprise surveys, or the World Bank Enterprise Survey (WBES)[10]. That said, the GEM is not exempt from problems. For example, given its focus on a relatively small sample of the populations it probably under-represents the presence of large companies[11], and it may also be useless to analyze issues by sector, as its sampling does not aim to be statistically representative at the sector level.

Beyond these data difficulties, the conclusion that the average size of firms in developed countries is larger is verified in all cases, independently from the source of information used. For example, the study by García Santos and Ramos (2012) leads to this conclusion using the WBES database. The study also highlights that this result is independent from the economic sector considered, namely industry, commerce, or services[12].

The contrast between the size distribution of firms in Latin America and developed countries may also be analyzed using census data, which makes it possible to describe the complete size distribution (not only the average value) of firms. Graph 1.2 (see pg. 13) presents this information for the cases of the United States, Mexico, and Peru[13]. The advantage of using census data is that they cover the full spectrum of sizes and sectors[14].

9. About 2,000 individuals are interviewed per country; the survey is coordinated by the London Business School and Babson College.

10. A further problem with the WBES is that it only includes developing countries, which restricts the size variability of firms.

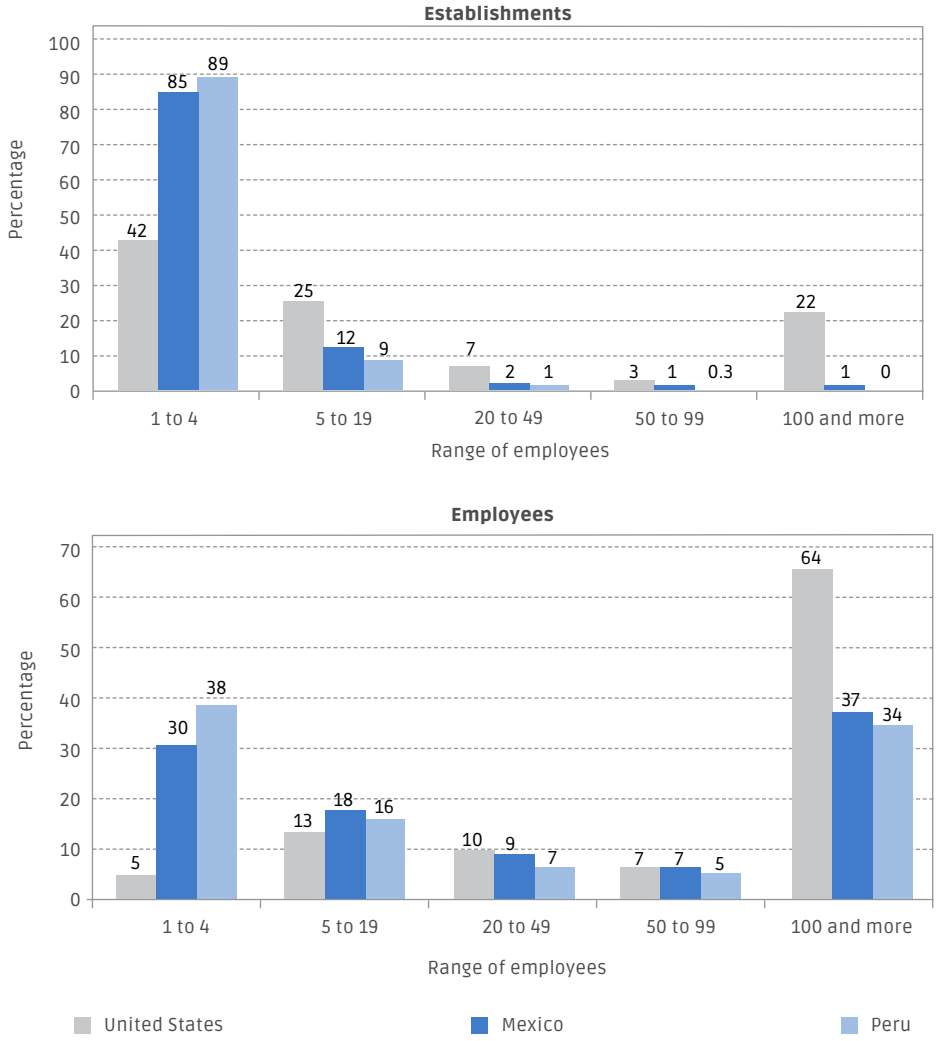
11. For example, larger firms with multiple establishments such as those listed on the stock exchange are not included.

12. Bartelsman et al. (2009) also analyze the positive association between firm size and per capita GDP using national enterprise surveys in a group of 20 developed and developing countries.

13. The information in the graph corresponds to micro data from the census statistics of the selected countries; it was not possible to obtain similar information for other countries in the region.

14. In both Mexico and Peru the statistics could still be under-estimating unregistered micro enterprises as there are problems in identifying them.

Graph 1.2 Size distribution of firms : United States, Mexico, and Peru (several years)[a/ b/]



a/ United States, 2011; Mexico, 2009; Peru, 2008.
b/ In the case of Mexico's Economic Census, only the fixed or semi-fixed economic units were taken into account as observation units, without considering the economic units that carry out their activities in an ambulatory manner or with facilities that are not permanently fixed to the ground, or homes where productive activities are conducted for self-consumption, or which offer services that are carried out somewhere else. In the case of Peru's National Economic Census, establishments were considered as observation units, excluding the homes working as employers and the un-differentiated production activities of goods and services for self-consumption carried out from the homes.

Source: Own elaboration based on the Business Dynamics Statistics Data of the U.S. Census Bureau (2012), Economic Census of Mexico (INEGI, 2009), and National Economic Census of Peru (INEI, 2008).

Evidence suggests that most micro and small enterprises in Latin America are not able to expand their scale to grow into medium-sized or large companies

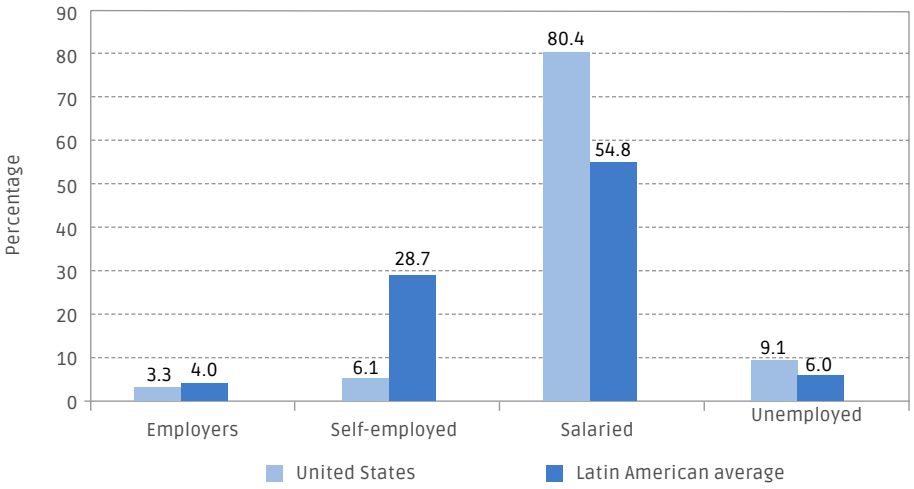
The comparison between Mexico and Peru on one hand, and the United States on the other, is interesting to highlight. First, in terms of the number of establishments by size (upper panel), in the first two countries there is a significantly higher share of establishments of up to four workers (micro enterprises) compared with the United States (85 percent versus 40 percent). In contrast, the share of small and medium-sized enterprises (5 to 100 workers) is much lower in Peru and Mexico (approximately between 10 percent and 15 percent of the total) than in the United States (35 percent). Finally, the share of larger enterprises (more than 100 employees) is very low in Peru and Mexico (less than 1 percent), while reaching 22 percent in the United States.

Second, in terms of the distribution of employment by firm size (lower panel), this distribution is U-shaped in Mexico and Peru, while more even in the United States, except for companies with more than 100 employees, which employ a very large share of the total number of workers. In Mexico and Peru, the U-shaped distribution reflects what is known as the 'missing middle' phenomenon, which points to an important segmentation of the labor market: a very significant part of salaried workers is employed in micro enterprises of up to four employees (from 30 percent up to 38 percent) or in small enterprises with between 5 and 20 employees (from 16 percent up to 18 percent), or in large enterprises with more than 100 employees (from 34 percent up to 37 percent), while medium-sized enterprises with between 20 and 100 employees employ only 12 percent to 16 percent of salaried workers. The distribution of employment across these three groups of firms – micro and small enterprises, medium-sized enterprises, and large enterprises – for the United States is 18 percent, 17 percent, and 64 percent, respectively.

Thus, the distribution of employment by firm size in the two Latin American countries stands out for the high concentration of employment in micro enterprises and the relatively low share of workers employed in large enterprises of more than 100 employees. This evidence suggests that most micro and small enterprises in Latin America are not able to expand their scale to grow into medium-sized or large companies.

A similar picture is obtained looking at the distribution of the population's occupations using household surveys. Graph 1.3 (see pg. 15), in particular, makes it possible to compare the distribution of the active working-age population in Latin America and the United States. It shows that the share of entrepreneurs that hire workers averages 4 percent in Latin America and 3.3 percent in the United States. However, the share of self-employed workers – entrepreneurs that do not hire other workers – is substantially higher in Latin America than in the United States (28.7 percent versus 6.1 percent), while the number of salaried workers is considerable lower (54.8 percent versus 80.4 percent).

Graph 1.3 Active population distribution by occupational category in Latin America and the United States (several years)[a/]



a/ Argentina, 2010; Bolivia, 2008; Brazil, 2009; Chile, 2009; Colombia, 2010; Costa Rica, 2010; Ecuador, 2010; El Salvador, 2010; United States, 2011; Guatemala, 2006; Honduras, 2009; Mexico, 2006; Nicaragua, 2005; Panama, 2010; Paraguay, 2010; Peru, 2010; Dominican Republic, 2010; Uruguay, 2010; Venezuela, RB, 2007.

Fuente: own elaboration based on Gasparini et al. (2012).

Workers employed in firms of more than five employees earn, on average, 24 percent more than those employed in smaller firms

Why is the size distribution of firms a relevant issue? Generally, the size of a firm is positively associated with its productivity: it is an indicator of how efficiently it combines labor and capital to produce a specific amount of goods or services[15]. The more productive a firm, the greater its capacity to reward the production factors it employs, including labor (with better salaries). The evidence suggests that workers employed in firms of more than five employees earn, on average, 24 percent more than those employed in smaller firms, even after taking into account differences in education, age, gender, and other individual attributes.

How could greater entrepreneurial activity reverse these trends in the size and productivity of firms, and the occupational structures, in Latin America? The emergence of new transformational enterprises increases the productivity of the economy not only due to their direct impact –the appearance of new goods and services of better quality at lower costs-, but also due to their positive effect on the rest of the economy. First, the development of new dynamic enterprises with the capacity to generate more employment enables the reallocation of labor and capital from firms and sectors that are

15. The relationship between the size of a company and its productivity goes both ways. On one hand, specific characteristics such as the entrepreneurial capacity of the firm's owners and managers may be associated with greater productivity and this may imply that the firm can hire more capital and labor and therefore produce more. On the other hand, increases in the scale of production may imply gains in productivity due to lower costs per unit or other scale-related benefits.

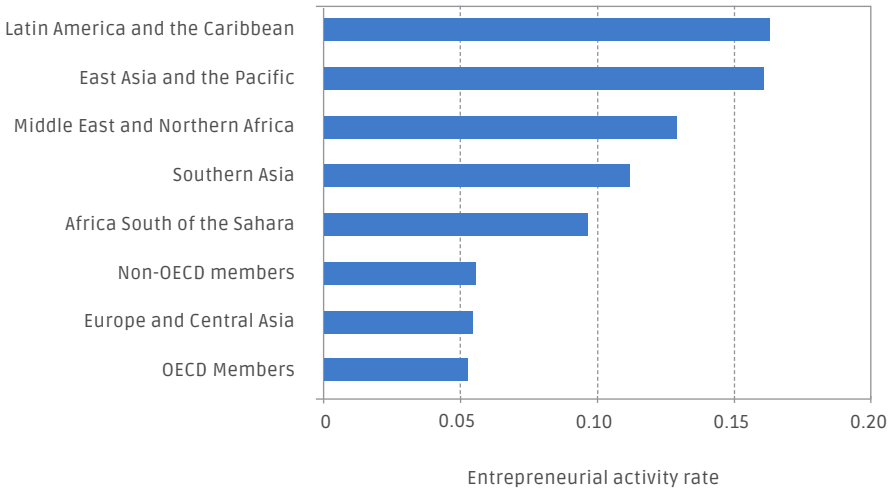
lagging. This structural change is fundamental for the increase of aggregate productivity (Hsieh and Klenow, 2009; Rodrik, 2011). Moreover, the appearance of new goods and services also boosts the productivity of other activities that use these goods or services as inputs.

Furthermore, this process of innovation generates more competitive markets and creates incentives for market participants to change and to improve their product designs and their production processes.

Given the benefits of entrepreneurial activity on the size distribution of firms and the productivity of the economies, where is Latin America in terms of its entrepreneurial rate or "entrepreneurial capital"? Is this rate relatively low compared with that of other regions or countries?

The GEM survey offers a simple way to quantify entrepreneurial activity for a wide group of countries and regions, which facilitates comparisons. This survey defines entrepreneur as an individual that is starting a new business (i.e., has been devoted to this process for the past 12 months) or is the owner of a firm less than 42 months old (see also Adragna and Lusardi, 2010; Poschke, 2010). The entrepreneurial rate or "entrepreneurial capital" is calculated as the share of entrepreneurs in the population between 18 and 65 years of age. Graph 1.4 presents this indicator for the main regions of the world.

Graph 1.4 Entrepreneurial activity rate by regions (2004-2008 average)



Source: own elaboration based on the GEM (2012).

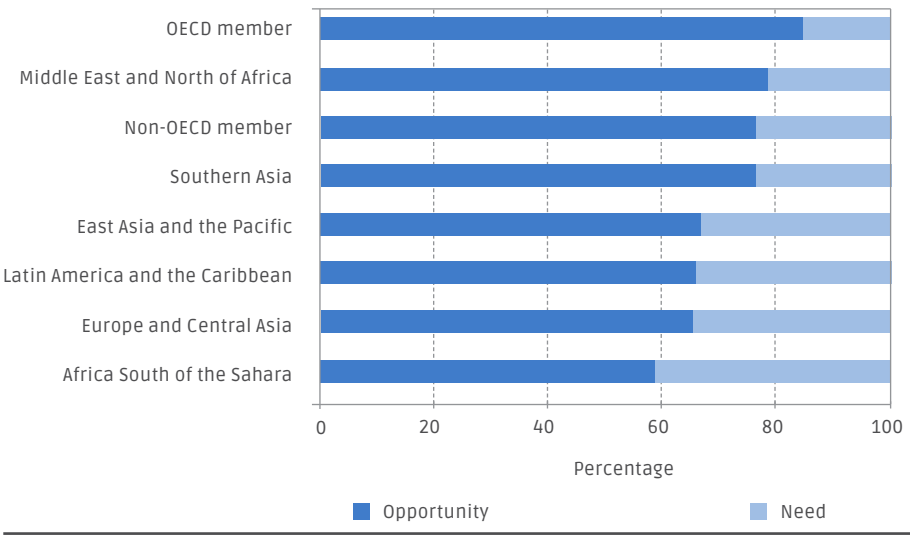
According to this metric, Latin America and East Asia are the regions with the most entrepreneurial activity, with rates close to 17 percent, while the developed world has rates of only approximately 6 percent. To what extent does this greater entrepreneurial activity in Latin America and East Asia suggest greater economic dynamism, foretelling significant productivity and income growth over time?

In Latin America there are several individuals who are self-employed in small informal businesses. Most of these subsistence entrepreneurs have no prospects of expanding their activities, creating jobs or increasing production

Unfortunately, as shown in the previous section and other work, in Latin America (and also in East Asia) many "entrepreneurs" work in small, informal businesses. They are basically self-employed workers with very low productivity and revenue-making capacity. This phenomenon explains why a higher entrepreneurial rate may not necessarily be reflected in greater economic dynamism. Most of these subsistence entrepreneurs have no prospects of expanding their activities, creating jobs or increasing production.

The GEM survey also proposes a simple breakdown of enterprises according to whether the entrepreneur's decision to start the enterprise was motivated by the opportunity of running a potentially profitable business, or if it was based on need in the absence of other alternatives, such as salaried employment. Graph 1.5 presents this breakdown for the main regions of the world. It shows that close to one third of entrepreneurs in Latin America state that they chose this activity due to lack of alternatives, while in East Asia this percentage is a little lower, and in the OECD it is less than 15 percent.

Graph 1.5 Distribution of entrepreneurial activity by opportunity and need (2004-2008 average)



Source: own elaboration based on the GEM (2012)

After subtracting the group of those that engage in entrepreneurial activities due to need from the universe of entrepreneurs, Latin America still boasts high entrepreneurial rates compared with other regions (close to 12 percent compared with five percent for the OECD). To what extent could these relatively high entrepreneurial rates lead to the emergence of more enterprises and to higher productivity growth in the future? Could it be that the instrument used in the GEM survey is still not sufficiently precise to identify the entrepreneurs with the capacity to create transformational enterprises? To answer these questions, the following section deepens the analysis of those characteristics that define a good entrepreneur, borrowing from the fields of economics, management, and business psychology. Based on these inputs, we propose a methodology to measure entrepreneurial skills and we apply it to a sample of Latin American cities and a United States benchmark (the city of Los Angeles).

HOW TO DEFINE A "GOOD ENTREPRENEUR"? ATTRIBUTES OF ENTREPRENEURIAL TALENT

As indicated in the introduction, one of the main messages of this report is that the process of creation and development of enterprises is closely linked to the personality traits of the founding entrepreneurs, especially in the first years of their life cycle. Entrepreneurial skills –in addition to physical and human capital, and the available technology—are fundamental to determine the size and productivity of firms. What are the personality traits that define a successful entrepreneur?

Personality Traits and Entrepreneurship

The study of the personality traits that determine whether a person will engage in entrepreneurial activity has received a lot of attention by entrepreneurship researchers in recent years (Caliendo and Kritikos, 2012). The questions that have been asked include not only whether these traits are different between those that engage in entrepreneurial activities and those that do not (such as salaried workers), but also which traits are associated with the size and success of the businesses; whether these traits could be altered (for example, accumulated) or influenced by the individual's socio-economic environment; and whether the presence of these traits may affect the outcomes of training programs involving cognitive elements (for example, learning marketing strategies, accounting, or other management tools).

Different studies conclude that those who attain business success are individuals with capacity for creative and innovative thought, tolerance to uncertainty and risk, and qualities that predispose them to managerial tasks. In addition, a key determinant of the decision to engage in entrepreneurial activities is the value placed on autonomy. What follows is a description of each of these attributes.

Innovation and Creativity

The most cited references regarding entrepreneurial activity as a driver of economic growth are probably the works of Schumpeter (1911, 1942), in which the "creative destruction" hypothesis is developed. Schumpeter associates entrepreneurship with the emergence of firms that develop new products or production technologies displacing established enterprises; this process increases the aggregate productivity of the economy and boosts economic growth. What distinguishes an entrepreneur is his search for innovation. Following Schumpeter (1942, pg 13), "… these agents seek to reform or revolutionize production patterns commercially exploiting an innovation… a technology that has not yet been used …; carrying out this kind of task is difficult and it constitutes a different economic function, as this type of task breaks the routine and in addition, it may encounter resistance..."

The process of converting ideas into goods and services through enterprises and industries is uncertain, as there is not always consensus on what a good idea is. The successful entrepreneur is the one who reads or interpreters those opportunities

Innovation occurs when an individual (or group of individuals) converts new ideas or technologies into marketable goods or services through the creation of a new firm (Acs and Amoros, 2008). This process of converting ideas into goods and services through enterprises and industries is uncertain, as there is not always consensus on what a good ideas is (barring the possibility of establishing a probability of success). The successful entrepreneur is the one who reads or interprets those opportunities.

Psychological approaches also highlight creativity as a trait of successful entrepreneurs. The capacity to imagine, to "follow dreams", and test new ideas has been identified by various studies in the field (Kalkan and Kaygusuz, 2012; Kümbül-Güler, 2008). The way to measure this capacity through surveys has been to ask respondents whether they would do things differently at work, whether they find it easy or difficult to adapt to changes, or whether they regularly imagine new ideas or projects.

Risk Tolerance

A different approach (Knight, 1921) emphasizes the capacity to take risks as the main characteristic of the entrepreneur. Entrepreneurs can face uncertainty regarding the availability of inputs and natural resources, technological progress, and market prices. Although the cost of some factors – such as labor and other inputs – and maybe even the price of some final goods may be set in advance, the changing nature of markets may cause them to fluctuate unexpectedly. For this reason business owners must have the capacity to tolerate risk and weigh possible contingencies. The revenue stream from entrepreneurial activity is more volatile than the income from salaried employment, requiring a greater capacity to tolerate risk.

The positive correlation between risk tolerance and the decision to engage in entrepreneurial activities has been corroborated in several studies (Cramer et al., 2002; Caliendo

The flow of income resulting from an entrepreneurial activity fluctuates more compared with those resulting from a salaried employment. Thus, the entrepreneurs need to be able to tolerate risks

et al. 2009, Hartog et al., 2002). However, successful entrepreneurs are not compulsive gamblers simply maximizing the risk of their investments (Stewart and Roth, 2001). A study by Caliendo et al. (2010) shows a non-linear relationship between risk tolerance and entrepreneurial success: individuals with low and high risk tolerance have a lower probability of running lasting businesses than those whose risk tolerance is moderate.

In addition, individuals who tolerate risk benefit more from entrepreneurship training programs than those who are risk averse (Fairlie and Holleran, 2011). This finding highlights the importance of measuring risk attitudes among current and potential entrepreneurs, and of using this information to target training efforts.

Risk tolerance has been measured with questions that inquire whether the individual needs to command all the necessary information before making a decision; or whether he/she prefers a job with a fixed, secure wage instead of another that offers the potential of a higher income, but with a certain degree of uncertainty.

Management Skills

In addition to being creative and moderately able to take risks, entrepreneurs must be motivated to face difficulties, solve problems, and set ambitious goals for themselves and their organizations. Not only does this affect their decision to engage in entrepreneurial activity, but it also determines the size and relative success of their enterprises. There are four aspects of personality that are associated with these characteristics: need for achievement, internal locus of control, multitasking ability, and self-efficacy.

Need for Achievement

Successful entrepreneurs seek to stand out by setting ambitious goals. McClelland (1961) is one of the first to analyze the personality traits associated with entrepreneurship, and he highlights need for achievement among them. This trait has also been identified in more recent studies (Collins et al., 2004). Need for achievement drives individuals to carry out challenging tasks, take responsibility for their actions, receive advice and suggestions, and seek new and better ways to improve outcomes (Rauch and Frese, 2000).

Entrepreneurs with need for achievement seek, for example, to become sales leaders in their industry, taking the place of established suppliers. To this end, they adopt aggressive competitive strategies to win markets and oust leading enterprises (Boyd, 1984; Lumkin and Dess, 1996). Remarkably, need for achievement may be developed through training, producing a positive effect on the volume and productivity of businesses (Miron and McClelland, 1979).

Surveys measuring need for achievement ask whether individuals prefer challenging activities rather than easy ones, or whether they do not mind carrying out routine

work as long as they get a good salary, or whether they dislike it when things are not done properly.

In addition to being creative and moderately able to take risks, entrepreneurs must be motivated to face difficulties, solve problems, and set ambitious goals for themselves and their organizations

Internal locus of control

People have internal locus of control when they believe that their outcomes and achievements depend mainly on their actions rather than on external factors. It can be assumed that people with higher internal locus of control will have a greater tendency to start their own businesses because entrepreneurship provides the possibility to make discretionary decisions and enjoy greater control over one's actions. Rotter (1966) was one of the first researchers to analyze this trait using what came to be known as the "Rotter scale"—a scale sorting individuals by how strongly they believe that their actions have influenced their outcomes (the stronger the belief, the higher his/her internal locus of control). Spector (1982) has found this trait to be more prevalent among the founders of enterprises than among other individuals. De Mel et al. (2010) also found that, in Sri Lanka, this trait is stronger among medium- and small-sized entrepreneurs than among micro entrepreneurs.

A usual way to assess this trait is by asking individuals whether what they have achieved in life has depended on their personal choices and actions, or whether they attribute bad outcomes to bad luck.

Multitasking Ability

This trait, also known as polychronicity, is associated with the capacity to carry out several tasks at the same time (Bluedorn, 1999). It also implies a preference for an acceptable command of various capacities rather than a strong specialization in just a few. The successful entrepreneur tends to have experience in diverse activities related to its business, i.e., he tends to have the desire and the capacity for differing activities, which requires training in various entrepreneurial fields[16]. Lazear (2004, 2005) describes the extent to which different individuals in the United States have been exposed to different tasks and occupations, and how this affects the probability of becoming an entrepreneur.

Multitasking ability is the closest to the concept of management skills used by Lucas (1978), which determines two fundamental aspects of the size distribution of firms: which individuals become entrepreneurs and, in the case they do, how big their companies are.

This trait has been assessed asking individuals whether they prefer to be relatively good at several tasks or very good at a few.

16. The command of various entrepreneurship skills has also been identified by the expression "jack-of-all-trades" (Silva, 2007).

Many entrepreneurship success stories are about people who leaves secure, well-paid jobs in large organizations for the possibility of organizing their own businesses in more flexible enviroments

Self-efficacy

This trait is associated with the individual's belief in his own skills to respond to the challenges of a specific job or to reach certain objectives or outcomes (Bandura, 1994). It is also related with other attributes that stand out in successful entrepreneurs, such as self-confidence and optimism (Bird, 1995; Kalkan and Kaygusuz, 2012).

Self-efficacy has been highlighted as an important predictor of deciding to engage in entrepreneurial activities (Shane et al. 2003; Chen et al., 1998). Moreover, according to certain studies (i.e., Vecchio, 2003), it also explains business growth (or lack thereof). And regarding whether this trait may be influenced by the environment in which individuals grew up, Oliveira et al. (2005) document that, in Spain, individuals raised in favorable social environments, receiving the support of family and friends, report higher self-efficacy.

Role models or mentors can also boost self-efficacy, because observing individuals who are similar and who have succeeded in their projects can encourage people with less experience. A study carried out in Holland found that 54 percent of the entrepreneurs in a survey stated that model or mentor entrepreneurs had played a significant role in their decisions to start their own businesses, and that those contacts helped them to increase their self- efficacy (Bosma et al., 2012).

To measure this trait, individuals may be asked whether they keep their promises and whether they are capable of learning anything if they set their minds to it (Driessen, 2012).

Autonomy

An attractive aspect of entrepreneurship is the possibility to "be your own boss". Behind the preference for autonomy lies a desire to have more control over the goals that an individual wants to attain. Autonomy also implies having full freedom to make decisions. Many entrepreneurship success stories are about people who leave secure, well-paid jobs in large organizations –albeit where their potential for growth was limited—for the possibility of organizing their own businesses in more flexible environments.

Indeed, faced with the possibility that creative individuals demanding more autonomy to develop their own work may leave organizations, many large firms have encouraged "intrapreneurship", decentralizing organizational structures to provide more autonomy to different productive and product development units to encourage innovation (Lumpkin and Dess, 1996).

The preference for autonomy has been identified in several surveys, where individuals state that they are willing to sacrifice income to be self-employed rather than continue as salaried workers. Empirical studies such as Carter et al. (2003) and Feldman and Bolino (2000) show that this factor is a significant determinant of people's occupational choices.

To measure this trait through surveys individuals have been asked, for example, whether they feel uncomfortable when others decide for them, or whether they tend to defend their point of view when someone disagrees with their position.

The previous analysis has identified a series of personality traits as determining of entrepreneurial abilities and skills. However, there is no general consensus regarding the characteristics determining, first, the decision to become an entrepreneur, and second, conditional on this decision having been made, the size, dynamics, and productivity of the entrepreneur's firm.

Moreover, it is also worth analyzing to which extent these qualities may be influenced by an individual's environment (e.g., family, neighborhood, formal education), and whether these pro-entrepreneurship traits can be acquired through work experience or training. Evidence has already been presented confirming this is indeed the case. This suggests that policies supporting entrepreneurial activities should promote entrepreneurial talent not only through management education, but also through the generation of entrepreneurial networks, and through models or mentors who can contribute their experience to the formation of emerging entrepreneurs.

Given that several attributes define a good entrepreneur, it might be difficult to find all of them in one person. Can opportunities be created for individuals with different skills to interact in order to carry out successful entrepreneurial activities? For example, creative individuals with good ideas could benefit from contacts with people who are willing to take moderate risks or who have strong managerial skills. How could these exchanges be promoted? To the extent that there are no well-developed markets for them, public intervention would be justified, for example through the promotion of entrepreneurial networks or contacts between entrepreneurs with productive ideas and mentors or experienced leaders; or through training to provide missing skills.

Outcomes of the Measurement of Attributes of Entrepreneurial Talent

Once the personality traits associated with successful entrepreneurship have been identified, the next step is to measure them in order to assess to which extent they are present in the population and whether they correlate with individual's occupational choices and the characteristics of their firms (e.g., their size). This report seeks to provide new evidence on this topic for different Latin American cities.[17] To do this, the 2012 ECAF survey included a section with questions measuring different characteristics that could be associated with entrepreneurial talent, as described above. The 2012 ECAF involved 500 household inter-

17. Several studies have supplied measurements of various characteristics associated with entrepreneurial talent. However, most of them refer to developed countries and have been criticised for sampling and representation problems (Brock and Evans, 1988; Amit et al, 1993). For developing countries, de Mel et al, (2010) provide evidence on micro entrepreneurs in Sri Lanka. No studies for Latin America have been identified measuring entrepreneurial traits for representative samples covering several cities in several countries.

The comparison between the cities of Latin America and the city of Los Angeles regarding the set of attributes associated to entrepreneurial talent reveals that is not obvius that one group scores better than the other

views in each of 17 cities in Latin America[18] and in the city of Los Angeles in the United States. The purpose of including Los Angeles in the survey was to have a developed country benchmark.

Table 1.1 (see pg. 25) presents average values for each indicator in the case of the total employed population and also by occupational category (entrepreneurs vs. salaried workers). In the case of Latin America, within the entrepreneurial category it also distinguishes between the employers and the self-employed[19]. The scale for all the attributes goes from 1 to 5, where a higher score is associated with a stronger presence of the characteristic or psychological trait under analysis[20].

When comparing the average scores of the employed population in Latin America with those of the employed population in Los Angeles, it is not obvious that one group scores better than the other. Latin Americans seem to score higher in need for achievement and have a greater preference for autonomy. But the workers from Los Angeles score higher in multitasking ability and creativity. And there are no significant differences between the two groups in terms of internal locus of control, self-efficacy and risk tolerance.

When the indicators are analyzed by occupational category, the results are consistent with expectation. Entrepreneurs from both Latin America and Los Angeles have higher risk tolerance than employees, and they also score slightly higher in certain managerial skills (particularly need for achievement). Furthermore, in Los Angeles, there are also significant differences between the two occupation groups with regard to internal locus of control and self-efficacy . And in Latin America, there are significant differences within entrepreneurs, between the employers and the self-employed[21]. The employers have greater need for achievement, internal locus of control, creativity, risk tolerance and preference for autonomy than the self-employed and the employees. This means that a large share of the region's entrepreneurs –the self-employed—possess entrepreneurship abilities that are significantly poorer than those of the employers, and (barring greater risk tolerance) rather resemble those of the employees.

This conclusion may be better appreciated with the help of Graph 1.6 (see p. 26), which plots the full distributions (not just the average values shown in Table 1.1), of each attribute describing entrepreneurial talent, distinguishing between entrepreneurs and non-entrepreneurs (i.e., salaried workers). The left panels show the results for the city of Los Angeles, while the right panels correspond to the Latin American average. In the case of Los Angeles, for almost all the attributes (save multi-tasking ability), the distribution corresponding to

18. The survey includes Buenos Aires, Cordoba, La Paz, Santa Cruz, San Pablo, Rio de Janeiro, Bogata, Medellin, Quito, Guayaquil, Lima, Arequipa, Montevideo, Salto, Caracas, Maracibo and Panama City.

19. This distinction could not be made for Los Angeles due to the small size in the number of the employer's sample.

20. Details of the questionnaire measuring each characteristic are found in Appendix A at the end of chapter one in the full version of this report.

21. In the case of self-efficacy the difference is statistically significative at 10%

Table 1.1 Estimation of the attributes of entrepreneurial talent for selected cities of Latin America and the United States (2012)[a/ b/]

Attributes of entrepreneurial talent	Average in Latin American cities					Los Angeles, United States		
	Employed population	Salaried	Entrepreneur	Type of entrepreneur		Employed population	Salaried	Entrepreneur
				Employer	Self-employed			
Managerial skills								
Need for achievement	3.77[c/]	3.75[d/]	3.80[d/]	3.92[f/]	3.77[f/]	3.59[c/]	3.56[e/]	3.74[e/]
Internal locus of control	3.45	3.45	3.44	3.58[f/]	3.41[f/]	3.47	3.43[e/]	3.63[e/]
Multi-tasking capacity	2.95[c/]	2.94	2.97	3.05	2.95	3.04[c/]	3.04	3.02
Self-efficacy	4.23	4.23	4.23	4.28	4.22	4.20	4.16	4.33
Innovation								
Innovation and creativity	2.61[c/]	2.60	2.62	2.81[f/]	2.58[f/]	2.94[c/]	2.91	3.06
Attitude toward risk								
Risk tolerance	2.30	2.15[d/]	2.54[d/]	2.90[f/]	2.46[f/]	2.41	2.30[e/]	2.83[e/]
Autonomy	3.72[c/]	3.72	3.73	3.84[f/]	3.70[f/]	3.61[c/]	3.60	3.67

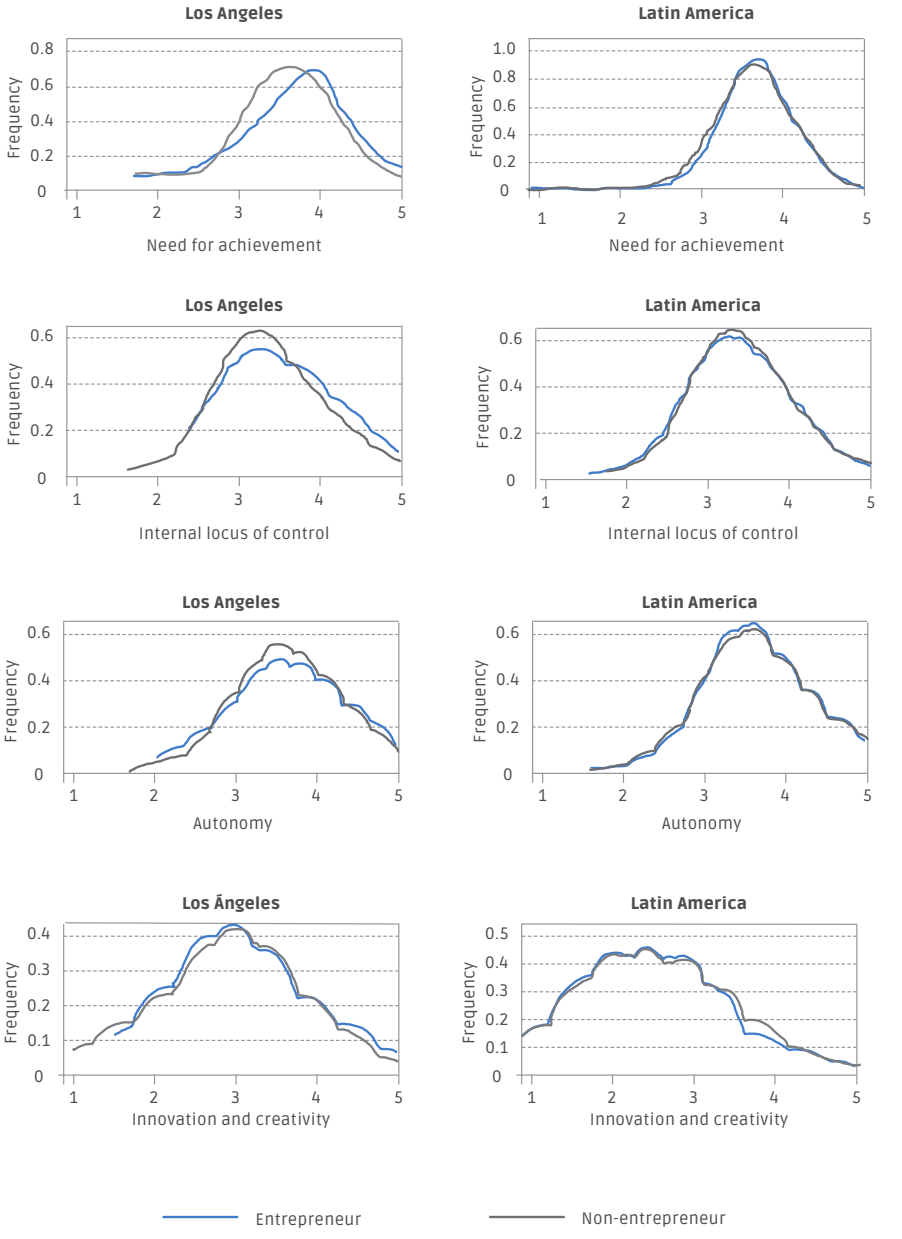
a/ The psychological traits indices are built as simple averages of the answers to questions which are indicative of each trait. Each index varies between 1 and 5, and a greater value is associated with a larger presence of the corresponding psychological trait in the individual. The risk tolerance indicator is based on an exercise where the individual must choose between an assured payment and a lottery with a certain expected value. The indicator varies between 1 and 4, and a greater value is associated with greater risk tolerance.
b/ Buenos Aires, Cordoba, La Paz, Santa Cruz, San Pablo, Rio de Janeiro, Bogota, Medellin, Quito, Guayaquil, Panama City, Lima, Arequipa, Montevideo, Salto, Caracas, Maracaibo and Los Angeles.
c/ Shows that the values corresponding to the employed population are statistically different between the Latin American cities and Los Angeles (at a significance level of 5 percent).
d/ Shows that the values corresponding to salaried workers and entrepreneurs are statistically different between them in the cities of Latin America (at a significance level of 5 percent).
e/Shows that the values corresponding to salaried workers and entrepreneurs are statistically different between them in the city of Los Angeles (at a significance level of 5 percent).
f/ Shows that the values corresponding to employers and self-employed workers are statistically different between them in the cities of Latin America (at a significance level of 5 percent).

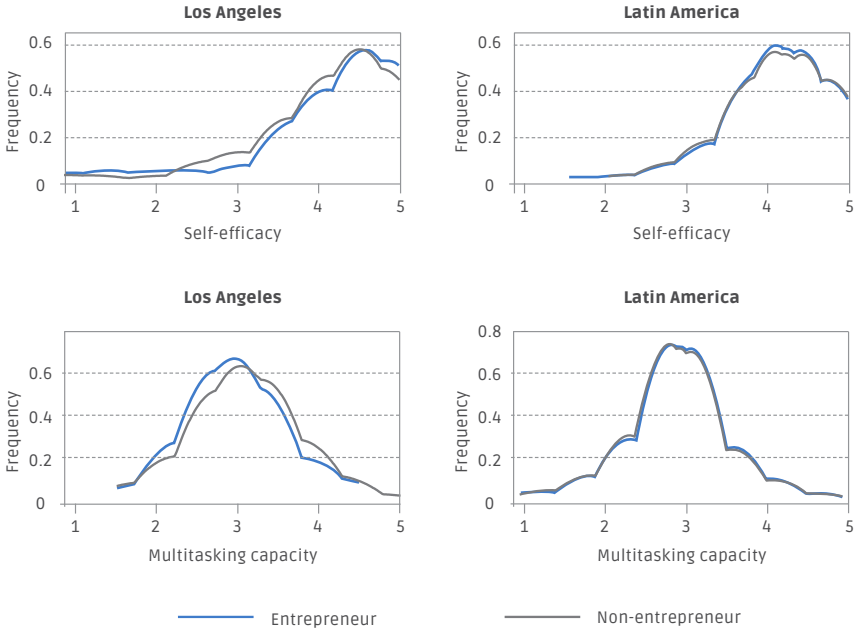
Source: own elaboration based on the 2012 ECAF.

entrepreneurs is to the right of that corresponding to the non-entrepreneurs, suggesting again that the entrepreneurs stand out for their pro-entrepreneurship traits. In Latin America, this is much less clear, with both distributions almost overlapping.

Graph 1.7 (see pg. 28) illustrates a similar phenomenon for the case of risk tolerance. It shows the share of entrepreneurs and non-entrepreneurs corresponding to each level of risk tolerance (low, medium-low, medium-high, and high) in Los Angeles (upper panel) and Latin America (lower panel). While in Los Angeles 58 percent of entrepreneurs have a medium-high or high level of risk tolerance against 38 percent of non-entrepreneurs; in

Graph 1.6 Distribution of the attributes of entrepreneurial talent of entrepreneurs and non-entrepreneurs in selected cities of Latin America and the United States (2012)[a/]





a/ Buenos Aires, Cordoba, La Paz, Santa Cruz, San Pablo, Rio de Janeiro, Bogota, Medellin, Quito, Guayaquil, Panama City, Lima, Arequipa, Montevideo, Salto, Caracas, Maracaibo and Los Angeles.

Source: own elaboration based on the 2012 ECAF

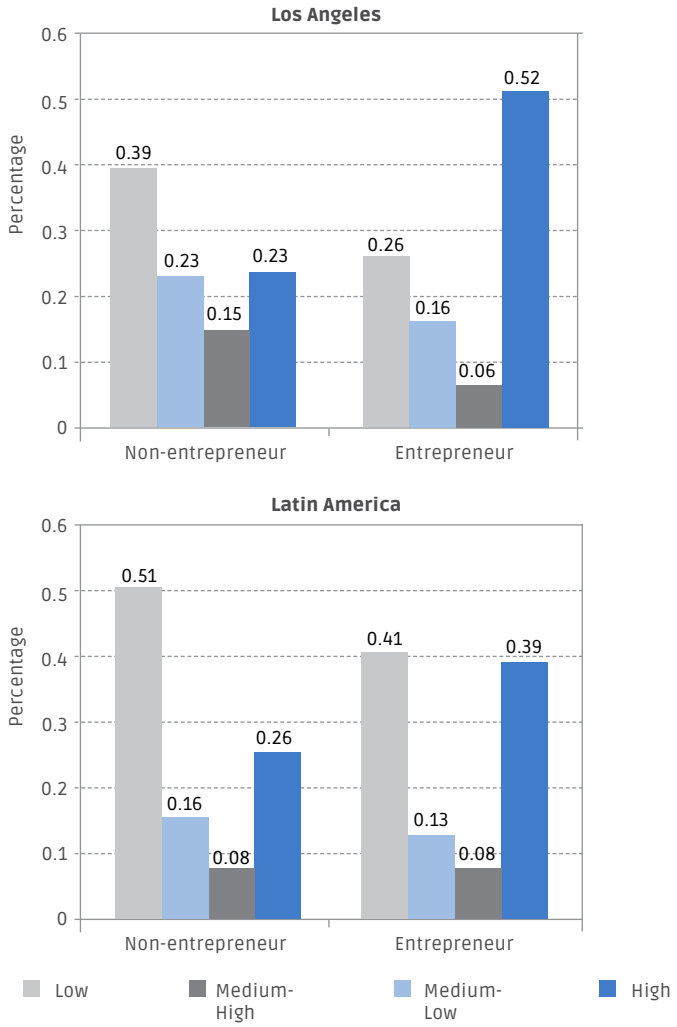
A significant part of the Latin American entrepreneurs corresponds to self-employed workers that do not stand out for their attributes associated with entrepreneurship, compared with employers. They seem more like salaried workers

Latin America, this gap is not that big: 47 percent vs. 34 percent.

This evidence suggests that, on average, entrepreneurs in Latin America have a smaller skill advantage over non-entrepreneurs than in Los Angeles. However, as Table 1.1 showed, there are no significant differences between Latin America and Los Angeles when considering all the attributes among the total employed population, i.e., the Latin American population does not have less entrepreneurial talent than that of developed countries (in this case represented by Los Angeles). The problem could be that people with low-skills –basically a big chunk of micro entrepreneurs– opt for entrepreneurship when their best option could be salaried employment.

Why would individuals with low entrepreneurial talent decide to start a business? Probably because they are unable to find alternative salaried employment. But in turn, formal salaried jobs depend on the creation and growth of formal firms. Why are individuals with high entrepreneurial talent not creating and growing businesses that could create demand for the available workforce? What factors are preventing this kind of formal employment growth? Can both phenomena – the growth constraints of dynamic firms and the abundance of subsistence enterprises – be connected and reinforce each other?

Graph 1.7 Share of entrepreneurs and non-entrepreneurs corresponding to each level of risk tolerance (low, medium-low, medium-high, and high) in selected cities of Latin America and the United States (2012)[a/]



a/ Buenos Aires, Cordoba, La Paz, Santa Cruz, San Pablo, Rio de Janeiro, Bogota, Medellin, Quito, Guayaquil, Panama City, Lima,

Source: own elaboration based on the 2012 ECAF.

The following section describes a conceptual framework that makes it possible to answer these questions.

In Latin America the problem would lie in the fact that people with a low level of skills, basically an important proportion of micro-entrepreneurs, are engaging in entrepreneurial activities when their best option would be salaried work

CONCEPTUAL FRAMEWORK: ENTREPRENEURIAL TALENT, WORK CAPACITIES, AND THE DECISION TO ENGAGE IN ENTREPRENEURIAL ACTIVITY

The previous analysis suggests that there is a wide spectrum of individual qualities that define entrepreneurial skills. Now, beyond the distribution of these qualities among the population, whether they are used to create enterprises will depend on people's occupational choices. Thus, to understand the extent to which the production factor "entrepreneurial capacity or entrepreneurial capital" can boost development one should study people's occupational choices and see if those individuals with high entrepreneurial talent opt for entrepreneurship.

As suggested, the problem of development and low economic productivity may be explained in part by occupational choices that do not correspond to relative skills. Individuals with high entrepreneurial talent, for different reasons, are not creating companies, while individuals with a low entrepreneurial talent are doing precisely that, even though they should be employees. How do entrepreneurial capacities and other personal characteristics such as wealth, age, gender or family background interact with elements of the economic and institutional environment to influence a person's decision to start and grow a business?

Diverse studies look at the traits associated with entrepreneurial talent to analyze how they can affect people's occupational choices (i.e., people are not "born" entrepreneurs or employees) and whether they can account for differences in firm sizes and their subsequent impact on aggregate productivity.

Lucas' (1978) seminal study associates entrepreneurial talent with management skills, while Kihlstrom and Laffont (1979) propose that individuals differ according to their capacity to tolerate risk. In both approaches, individuals decide their occupation– employees or entrepreneurs– to maximize their expected income and utility given their capacities. In these models, people with greater skills (i.e. stronger management skills or lower risk aversion) are the ones who opt to start a business, and their businesses are bigger (i.e, they demand more labor and capital).

These studies have some interesting implications regarding the evolution of entrepreneurial activity and the size of the enterprises along the development path. As economies accumulate more capital and technology, wages increase. This implies that fewer individuals choose to be entrepreneurs, and that these are precisely those with greater entrepreneurial skills, who establish larger companies. The gradual disappearance of small businesses as economies develop is not caused by "unfair" competition from larger companies (Parker, 2004); it happens simply

because these small entrepreneurs now find it more attractive to be employees in companies that offer better wages. The positive correlation between the size of firms and per capita GDP predicted by these theories is consistent with the evidence shown in the second section.

One problem with these theories though is that, according to their predictions, the probability that an individual becomes an entrepreneur should increase with his productivity as an entrepreneur. People with low skills should get salaried jobs while people with high talent should create businesses. However, the empirical evidence described in the previous section showed that there is a large number of people that choose to create enterprises not so much to exploit a market opportunity but rather due to the lack of opportunities for salaried jobs. These subsistence entrepreneurs establish very small, low productivity businesses, in most cases not employing other workers. So, the evidence seems to show that individuals with both low and high entrepreneurial skills decide to engage in entrepreneurial activity, even if of course with very different outcomes. How can this U-shaped relationship between skills and entrepreneurship be explained?

To understand this phenomenon, so typical of Latin American economies (and other developing countries), it could be assumed that income from entrepreneurial activities increase with the level of skills, but only beyond the point at which individuals can create and manage firms that demand labor and other production factors. Below that minimum skill level (e.g., the case of micro entrepreneurs or the self-employed), (subsistence) income from entrepreneurial activities is independent from entrepreneurial skill.

Separately, individuals may differ not only in entrepreneurial skill but also in their capacity or productivity as salaried employees. This capacity is related to formal education and previous employment experience, but it also depends on basic attitudes and habits of work responsibility and commitment (e.g., compliance with work hours, capacity to interact with other individuals). Salaries increase with this capacity, reflecting individuals' greater productivity at their job, but also when the economy and the firms where individuals are employed have more capital and access better technology.

It is natural to assume that in some way both skills (entrepreneurial skill and people's capacity as salaried employees) are positively correlated, as some of their fundamental determinants, such as formal education, affect both capacities positively. Now, how are occupational choices made given the above basic assumptions about people's abilities? And how do these determine their incomes in alternative occupations? Under this set up (see details in Appendix B of Chapter 1 of the full version of this report), both individuals with low and high entrepreneurial talent may decide to engage in entrepreneurial activities. The intuition behind this occupational selection pattern is simple. In poor economies, with low stock of capital and limited access to technology, the employment and salary opportunities perceived by workers are relatively scarce, and this has a higher impact on low-skilled workers. These workers may opt for self-employment despite the low income involved (similar to what they would make as salaried workers) because of other non-pecuniary benefits such as flexible schedules and greater personal autonomy. In the case of individuals with high entrepreneur-

ial skills, even if they also face constraints to establish profitable enterprises due to lack of capital and technology, their high skills partly compensate for these deficiencies, so that they can make more as entrepreneurs than as employees. Finally, for individuals with intermediate entrepreneurial talent the best option is to seek employment in formal firms created by more successful entrepreneurs.

An important drawback of self-employment is that it offers very few opportunities to learn or to accumulate human capital

Now, although the previous analysis is interesting, it is perhaps too "static". It assumes that a low capacity of micro entrepreneurs as workers, without looking into the possible dynamic effects of their choices. Moreover, it assumes that if the economy accumulates more capital and there is more access to technology, the employment and salary opportunities generated by the creation of new firms by the highly talented entrepreneurs will allow micro entrepreneurs to transition to formal work in the long term. Nevertheless, an important drawback of self-employment is that it offers very few opportunities to learn or to accumulate human capital; on the contrary, the relatively low initial level of labor skills that these micro entrepreneurs may have could depreciate quickly, causing the potential income from future salaried job opportunities to drop, and leading them to stick to self-employment, with ever poorer chances of transitioning to the formal sector. In this context, policies to improve access to credit and capital markets would have a much lower impact in the creation of firms and formal jobs, or the increase in aggregate productivity.

The lack of human capital accumulation among the self-employed also has an impact on formal firms—precisely those firms that, in contrast with micro enterprises, would actually offer the very possibility to learn and accumulate human capital over time. These firms may find limits to grow in part because when the time comes to expand, they may not find the skilled labor they need, validating the perception of lack of salaried work that pushes many workers toward self-employment. Thus, these two problems – the abundance of subsistence enterprises and the growth constraints of dynamic firms – are connected and reinforce each other.

It is evident that this sort of low productivity and informality trap in which developing countries –and Latin America in particular—may be stuck, depends on, first, the initial occupational distribution of the population; and, second, the economic and institutional environment in each country.

For instance, lack of skilled labor is likely to be a constraint to the growth of formal firms when a large fraction of the population is self-employed; for example, when this fraction exceeds 40 percent of the active population, as is the case in several Latin American countries.

Similarly, institutions and public policies could also weaken the incentives to move from informal self-employment toward the formal salaried sector, such as when subsidies and other public assistance programs are linked to the informal condition of the individual. In the case of dynamic firms, which may include micro enterprises with growth potential, lack of access to capital, both at the start-up phase as well as later in the firms' life cycle, could have a negative impact.

Formal and potentially innovative firms do not grow, in part, because they might not find the workforce with the quality that is required

Lack of access to capital has often been mentioned as a determinant of the decision to engage in entrepreneurial activity. Market failures limiting access to credit could affect the decision of potential entrepreneurs to start a business and even in those cases where a firm is established cause it to operate at a relatively small scale. This implies a most relevant prediction: a positive correlation between the probability of starting a business and wealth. The same logic suggests that, other factors held constant, richer entrepreneurs would establish larger companies.

The interaction between the initial distribution of wealth, restrictions in capital and credit markets, and occupational decisions, may explain failures in convergence processes and in economic development, as it may determine a labor structure and a size distribution of firms that reduce economic productivity. The development process, reflected in the accumulation of capital and technological progress, modifies the occupational structure by affecting the supply and demand of different types of jobs and occupations. This, in turn, affects the distribution of wealth. And changes in the distribution of wealth, in turn, affect development because they affect the level of saving and investment, the willingness to take risks, and the fertility decisions. Overall, there is a clear mutual interdependence between the development process and the occupational structure.

Banerjee and Newman (1993) studied this interaction in a model where income-maximizing individuals may choose from three occupations: being a salaried worker, being self-employed in a small business, or being an entrepreneur employing workers. And this choice depends on the individual's initial wealth and access to capital and credit markets.

An interesting implication of this model is that the occupational structure and long term per capita income toward which the economy converges, hinges heavily upon the initial distribution of wealth. For example, if the economy starts with a very unequal distribution of wealth –with a large majority of individuals who are very poor, working in small subsistence businesses—the development process is brought to a standstill and the economy converges toward a situation where the majority of workers remain self-employed in low productivity micro enterprises, with salaried employment also offering low incomes and accounting for a small share of total employment. This happens because the large inequality in the distribution of wealth, together with the problem of access to credit markets, implies that very few individuals opt to create enterprises; only those who are very rich. This limits job creation and, given reduced labor demand, salaries are also low. Low wages make it impossible for the population to save what it would take to generate capital to establish large enterprises; there is only enough to create small businesses that also generate low incomes, only slightly above those offered in the few established companies. The resulting lack of workers renders business creation unprofitable, even for those who are sufficiently rich, leading some of them to self-employment.

This theoretical model suggests once again that the occupational decisions of different groups of the population – the entrepreneurs, the salaried workers and the self-employed– are mutually bound by interactions within the economy. For example, salaried employ-

ment may not expand because entrepreneurs cannot find workers, because many choose to be self-employed, because in the beginning company salaries are relatively low. This "vicious circle" or "informality and low-productivity trap", could get even worse if the model considered that individuals working in the informal sector lose working capacities and human capital.

The development process, resulting from capital accumulation and technological progress, modifies the occupational structure by affecting the supply and demand of different types of jobs and occupations

The existence of this informality and low-productivity trap, though, does not imply that countries must be stuck in it indefinitely. Public policy can help economies out of these bad equilibria. Activating the growth of companies that generate highly productive employment is an important step. To this end, support for the creation of new companies or for already established ones must go beyond access to capital or credit. Although access to credit is a key restriction for the development of new companies, the entrepreneurial ecosystem includes other elements such as promoting entrepreneurial talent, facilitating access to technology and other sources of innovation, and training the workforce so as to prevent the depreciation of the "employable" human capital. These elements must also be accessible to those small-scale micro enterprises that have potential to grow, which may be few and hard to identify, but the job- and revenue-creating potential of which should not be dismissed.

STRUCTURE AND MAIN CONCLUSIONS OF THE REPORT

The previous section analyzed theories about occupational decision-making and its consequences for the creation of enterprises and the evolution of aggregate productivity. This analysis generates a series of hypotheses for further research on the role of entrepreneurship in development. One such hypothesis is that entrepreneurship must be studied in the broader context of the economy's occupational structure. Responding to this, Chapter 2 offers a detailed diagnosis of the occupational structure in Latin America and analyzes the extent to which the adult population is involved in entrepreneurial activity relative to salaried employment. Special attention is paid to whether there are important differences in the personal characteristics of individuals according to their occupation, looking at educational level, gender, wealth, and the different personality traits.

A further hypothesis emerging from the previous analysis is that the large number of micro enterprises in the region could become a serious obstacle to aggregate productivity growth. Thus, Chapter 3 deepens the analysis of these subsistence entrepreneurs or self-employed workers. It analyzes the extent to which these micro enterprises may not be successful because of lack of capacity or entrepreneurial skill versus external conditions such as lack of credit or barriers to formality (e.g., taxes, regulations, etc.). In other words, it explores whether micro entrepreneurship reflects, in part, lack of formal employment opportunities and what prevents micro entrepreneurs from moving to salaried employment.

Furthermore, the theories reviewed suggest that the expansion of informal self-employment in Latin America could be due to the little creation of dynamic companies able

to generate labor opportunities, revealed by the scarcity of medium and large firms. Chapter 4 explores this, analyzing the dynamics of creation, growth, and disappearance of formal firms in Latin America; the goal is to assess whether the slow development of these firms is due to a low creation rate, weak growth, or a high disappearance rate. Moreover, the chapter analyzes the extent to which these processes are associated with the personal traits of entrepreneurs, other factors internal to the firms (such as management practices or poor investment in research and development), or external factors (such as access to capital or other distortions).

Finally, Chapter 5 focuses on the analysis of public policies favoring entrepreneurship. The analysis of potential policy interventions is supported by the conceptual framework already discussed and the diagnosis and evidence presented throughout the remaining chapters of the book. These analyses suggest that policy should distinguish between dynamic and innovative entrepreneurship and entrepreneurship by need; and the policies aimed at each must be different, even though they must recognize the interactions between both types in labor and product markets. The general conclusion emerging from this analysis is that policy interventions must integrate entrepreneurial talent, innovation, financing, and labor training. The contributions of each chapter are presented in greater detail below.

Who are the Entrepreneurs in Latin America?

One defining characteristic of the entrepreneurial population of Latin America is that it is very heterogeneous. It comprises individuals with high entrepreneurial talent leading large and highly productive firms; people who seek a source of income in the face of no other attractive employment opportunities; and people who engage in entrepreneurial activities to gain independence, work flexibility, or autonomy.

To study the profile of the Latin American entrepreneur it is necessary to distinguish between those who manage medium or large companies and generate employment for other workers from those that are in reality self-employed. The employers of Latin America, as is the case in more developed economies, tend to be male and older and with more extensive work experience and higher education level than the rest of workers. The self-employed, meanwhile, also tend to be older and with more work experience, but include a larger fraction of women and individuals with lower education level.

In addition, entrepreneurs stand out for certain aptitudes and psychological traits. Fundamentally, they are more willing to take risks and have a higher need for achievement than those who prefer salaried employment. Within entrepreneurs, employers stand out for their multi-tasking ability and for their innovate and creative thinking, but this is not the case of the self-employed, suggesting that the characteristics that lead people to engage in entrepreneurial activity are not necessarily the same as those distinguishing successful entrepreneurs. Once the decision to become an entrepreneur is made, individuals boasting creativity and innovation

ability, need for achievement, and certain managerial skills are the ones who end up in charge of larger firms.

The analysis of personal income indicates that employers perceive a higher compensation than employees or self-employed workers. This difference persists after controlling for human capital and other individual characteristics. Predictably, their incomes show higher variance than those of salaried workers. But rather surprisingly, the incomes of the self-employed show as much variance as those of the employers although they are, on average, the lowest of all occupational categories.

The fact that many self-employed workers remain in this activity despite lower and more unstable earnings may be due to other benefits – such as independence, flexibility, and the freedom to "be your own boss"—compensating for the otherwise lower pecuniary returns. If this is the case, the effect of these benefits should be reflected in the level of employment satisfaction reported by these workers. However, self-employed workers report even lower employment satisfaction than salaried workers, suggesting that greater autonomy is not enough to compensate for lower incomes. The low income and low employment satisfaction reported by self-employed workers is consistent with the hypothesis that they engage in this activity due to lack of attractive alternatives as employees in the formal sector.

Finally, the analysis of the occupational mobility of entrepreneurs permits certain inferences regarding their potential and the quality of their businesses. First, a greater fraction of self-employed workers in Latin America comes from unemployment compared with more developed countries—and to the extent that entrepreneurship is a refuge from unemployment, its potential productivity will be lower. Second, transitioning from self-employment to becoming an employer is less frequent in Latin America compared with developed countries. Third, although many self-employed workers choose this activity out of lack of salaried formal employment opportunities, when such opportunities do arise (for example because of economic growth), their decision is not reversed: the entry rate into self-employment does fall, but the exit rate does not increase as it might be expected. This is consistent with the hypothesis that self-employment bodes ill for the accumulation of job-related skills and suggests that, as time passes, it is more difficult for self-employed individuals to move to formal employment positions. This is not only bad for these individuals, but also for the entrepreneurs who demand labor and for whom this market segment gets closed.

Micro Entrepreneurs: Why Don't They Grow or Become Salaried Workers?

Although there are many entrepreneurs in Latin America, most of them manage small-scale businesses and show little job-creating ability. A detailed analysis of the personal

A detailed analysis of the personal characteristics of micro entrepreneurs compared with those other entrepreneurs who hire workers suggests that only one-fourth of them has the potential to grow

characteristics of these micro entrepreneurs compared with those other entrepreneurs who hire workers suggests that only one fourth of them has the potential to grow. The remaining three-fourths can be called subsistence entrepreneurs. Many of these micro entrepreneurs are self-employed workers and particularly unskilled. They make hourly wages and report employment satisfaction levels very similar to those of informal salaried workers employed in firms with less than five employees, and well below those of formal salaried workers and medium and large employers. This evidence makes it hard to maintain that self-employment is a preferred option, for example to other occupations such as formal salaried employment. However, the transition from self-employment to formal employment is not simple. Comparing the characteristics of subsistence entrepreneurs with those of salaried workers employed in medium or large firms suggests that only one fourth of them could obtain employment in the most dynamic sector of the economy.

Why then, have most self-employed workers and small employers, who have no possibilities of growing their businesses or earning higher incomes, and who do not report high levels of employment satisfaction, chosen to be micro entrepreneurs? Two important factors behind this massive entrance into micro-entrepreneurial activities are the lack of actual salaried employment opportunities and the low levels of employability (low labor productivity) of many micro entrepreneurs. In addition, the inability of Latin American governments to establish tax and social protection systems that encourage formal salaried employment may also affect occupational decisions, promoting entry into self-employment or the creation of micro enterprises with low growth potential. Furthermore, high levels of social segregation –common in many countries of Latin America—could limit access to information and foster mistaken beliefs and low aspirations, especially among the youth who live in environments with many micro entrepreneurs and who, for this reason, underestimate the returns to education or to better possible occupations. These better occupations are basically salaried and formal jobs that would allow them to accumulate human capital and make higher and more stable incomes throughout their lives.

The Birth and Growth of Transformational Enterprises

A key to the problem of productive development in Latin America is the lack of transformational enterprises, not only because fewer high-potential projects are born, but also due to the weak growth of the existing ones. The variable that best reflects this deficient development is arguably employment. In Latin America, firms of 26 years or more employ only three times as many workers as firms that are five years old or younger; in developed countries they employ seven times as many workers.

Transformational enterprises are not only those large corporations constantly pushing the technological frontier; Latin America also lacks more modest enterprises capable of generating value. Shifting vast sectors of the population who now take refuge in self-employment toward entrepreneurial activities that, even if at a modest scale, have

continuous motivation to improve, would imply an important productive transformation for Latin America.

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The development gains would transcend the improvement in productivity and in employment satisfaction that would result directly from the shift. In addition, many of the resulting firms could serve as suppliers for other existing medium-sized, and eventually larger scale, enterprises. Some of them could adopt more ambitious scales and become important corporations themselves. They could, moreover, serve as incubators for new transformational enterprises, in the form of spin-offs. Finally, removing part of the workforce from the informal sector and self-employment could prevent those workers from losing, or could even make them improve, the skills that make them "employable". This would facilitate their transition to larger-scale enterprises while reducing the skilled labor constraints that these enterprises face. Summing up, the development and consolidation of medium-sized firms, in addition to representing a productive transformation in itself, favors the growth and development of larger firms.

Public policies could play a key role in promoting the development of transformational enterprises. The first challenge is to identify the potentially dynamic entrepreneurs. The evidence presented in this report shows the importance of skills, experience and motivation as determinants of the quality of enterprises. It also suggests that a firm's potential manifests itself at the beginning of its life cycle; so, a good strategy to target entrepreneurship policy would be to consider the firm's age as an important parameter.

Because not all enterprises have potential, some could disappear. The challenge for public policy is to minimize the social cost of this exit process, facilitating the reallocation of the freed production factors (capital and labor) to enterprises with more potential.

The environment in which firms develop is also important. The evidence suggests that in Latin America this environment is distorted and does not favor the productivity or the growth of firms. Attacking these distortions will demand important reforms aiming at improving the way different factor markets operate (especially the labor market) and promoting a more competitive environment.

Public Policies for Entrepreneurship

Latin America needs effective public intervention aimed at promoting entrepreneurship, not only to improve living conditions in the short term, but also to strengthen growth prospects in the long term, and thereby economic and social development. Developed countries –boasting the most dynamic and strongest entrepreneurial ecosystems in the world—offer many examples of direct public intervention, from promoting particular economic sectors through government procurement, to developing risk capital markets, investing in innovation systems and improving the quality of the workforce. However, history is also full of government attempts to promote entrepreneurship and private initiatives that have turned out complete failures. Therefore, the entrepreneurship policy

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agenda in each country must begin with a good diagnosis, not only of the needs of the productive system, but also of the institutional strengths and weaknesses on which any policy effort must rest.

The social problems surrounding subsistence enterprises –employing low skilled workers with little prospects of generating enough value added to escape self-employment—are extremely complex; and one can hardly expect microfinance or basic management training programs to be enough to address them. Policies aimed at this segment of enterprises should adopt a more comprehensive and multidimensional approach, tending not only to the work life of the entrepreneurs but also to the likely deficiencies in their family environments, from the education of their children to the sanitary conditions of their households. Differentiating the public interventions aimed at these types of entrepreneurs from those aimed at entrepreneurs with transformational potential could greatly improve the effectiveness of entrepreneurship policy.

For transformational entrepreneurs, this report proposes an intervention strategy encompassing four fields: innovation, entrepreneurial talent, labor skills, and financing—all within an environment that favors private initiative, where the public sector acts as a partner and as a regulator rather than as an obstacle. This vision of entrepreneurship policy may be called "entrepreneurship ecosystem", responding precisely to the market failures observed in the markets for finance, innovation, entrepreneurial talent, and labor skills. In this vision, despite the central role for the public sector, the private sector also plays a key part in diagnosing the needs for intervention and designing the national, local, and sector strategies to promote transformational entrepreneurship.

The available impact evaluations suggest that the programs with the greatest potential to generate efficiency gains and productivity improvements are those specifically aimed at addressing these market failures (i.e., in innovation, entrepreneurial talent, labor skills and financing) but also those that effectively incorporate the private sector, through co-financing or other schemes. The evidence is also very consistent with the conceptual framework developed previously, making it clear that the interventions aimed at subsistence micro entrepreneurs must go beyond microfinance and specific trainings, toward a more comprehensive strategy to aid their future transition to a dynamic labor market, where their productivity as well as the stability of their incomes could be greater.

Policies that improve the environment for entrepreneurship are necessary but not sufficient. While an economy may have a good business environment, if there are no spaces for interactions between large companies and their suppliers, or between individuals with different entrepreneurial skills, or if there are no financial instruments to relax liquidity constraints, or to share the risk, or if there are no sources of information to improve products and processes, problems will very likely persist for the development of new transformational enterprises.

A final message concerns the institutional framework for entrepreneurship policy. Clearly, entrepreneurship is no simple issue, and there is need for technical skills to conduct adequate diagnostics and policy designs that are adjusted to the specific realities of each country or region and that succeed in unlocking local potentials. The creation of specialized agencies, boards, councils or even ministries dealing with entrepreneurship is good news, but must come with a high level of professionalism and a comprehensive institutional design incorporating the expertise of the private sector albeit without responding to interests other then the increase of aggregate productivity and society's long-term well-being.

CONCLUSIONS

Latin America has a productivity problem; the human and physical capital of its economies is not being used to maximize the production of goods and services. This problem is reflected in multiple phenomena: entrepreneurs with good ideas that cannot get capital to develop new products; established enterprises wishing to expand their production that cannot find the required labor skills; self-employed workers running very small businesses and making less than what they would at a formal salaried job but that do not change occupation out of lack of opportunity; micro entrepreneurs with the will and the skills to expand their businesses, that cannot do this because of lack of training and contacts.

There is a common denominator in all these examples: labor and capital are not allocated by sector or firm to the best use. A possible explanation for this misallocation factor is that a relevant actor behind these decisions, the entrepreneur, simply does not have the necessary skills to combine these factors or make them realize their potential. Latin America could just have a shortage of individuals with the capacity for innovating thought, moderate risk tolerance, and managerial skills. However, the evidence presented in this chapter has demonstrated that this is not the case. Within the region's economically active population, there is as a large fraction of individuals with these skills as in cities of developed countries, such as Los Angeles in the United States.

The problem is not lack of entrepreneurial talent but rather that it is not deployed in the best way. There are entrepreneurs with high potential who cannot grow their companies due to the lack of capital or skilled labor. This, in turn, is partly because a large number of workers decide to start their own small businesses despite having low entrepreneurial skills, because they perceive their chances of getting salaried employment as slim or with low income potential.

This report emphasizes the role of entrepreneurship as a central factor in the development of Latin America. It seeks to answer not only why potential transformational

entrepreneurs with high capacity cannot consolidate or advance their projects, but also why low skilled or subsistence entrepreneurs decide to open small businesses instead of moving to salaried employment.

It is crucial to understand the strong connection between these two phenomena: the growth constraints of dynamic firms and the over representation of subsistence enterprises. The report's contribution to a deeper understanding of these problems could help design pro-entrepreneurship public policies with a positive impact on job creation and economic productivity in Latin America.

The CAF Economics and Development Report 2013 emphasizes the role of entrepreneurship as a key factor to Latin America's development. It does so in a comprehensive way, reviewing not only the impediments for innovative entrepreneurs to realize their projects, but also the reasons why entrepreneurs with less potential opt for entrepreneurial activities instead of a salaried job. One of the report's main messages is that these two phenomena —constrained growth for dynamic companies and abundance of subsistence entrepreneurs—are closely linked. Recognizing this link is crucial to design entrepreneurship policies which need to adopt a multidimensional approach, integrating things like entrepreneurial talent, innovation fostering, access to finance, and labor training.

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DEVELOPMENT BANK OF LATIN AMERICA