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ENTREPRENEURIAL FINANCE

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EXECUTIVE SUMMARY

The decade since the Global Entrepreneurship Monitor (GEM) last focused on the topic of entrepreneurial financing has seen a number of significant changes. The two previous reports, of 2004 and of 2006, contained data from 34 and 42 nations respectively, whereas the number of reporting economies has increased in this report to 60. The earlier reports also predated the US financial crisis of 2007/2008, which was followed by a significant global downturn (2008 to 2012). This recent financial crisis, the worst and longest-lasting of the last 80 years, has had a profound effect on the economic, as well as the entrepreneurial landscape. The *Global Competitiveness Report 2015/16,* for example, notes that one of the most striking ways in which the global financial crisis has created new obstacles for doing business is the increased citing of lack of access to finance as one of the most serious problems for businesses in many economies. Obtaining finance is particularly difficult for small and medium-sized enterprises.

Entrepreneurial financing has also evolved considerably over the past decade. Many of the previous models of entrepreneurial finance remain relevant today, including informal investment through the founders themselves, as well as borrowing from friends, family and colleagues. Venture capital (VC) investments in promising entrepreneurial firms remain important, particularly in developed economies. However, newer financing models, including business angels, microfinance, and small business accelerators, have matured considerably over the past 10 years, while a brand new model, crowdfunding, has emerged as a popular alternative for financing.

KEY FINDINGS

Amount of money needed by early-stage entrepreneurs

- The median initial funding requirements varied considerably across countries – from modest amounts in the Philippines (221 US$), Uruguay (257 US$) and Indonesia (369 US$) to substantial amounts in Switzerland (54,351 US$), Italy (55,511 US$) and Korea (88,500 US$).
- As with the individual countries, the average initial funding requirements vary considerably from a regional perspective. North American and European entrepreneurs required the highest amount of capital to start businesses on average and Latin American and the Caribbean the lowest, although there were wide discrepancies within each region.
- The amount of funding needed is generally lowest in efficiency-driven economies and highest in innovation-driven economies. In factor-driven economies, entrepreneurs required 24% more money to start, compared to efficiency-driven economies, indicating that they were starting businesses in commodities that required substantial upfront investment.

- For all the GEM nations combined, the **average** amount needed to start a business was 54,000 US$ in 2004 and 65,000 US$ in 2006. In 2015, the **median** was 13,000 US$ – indicating a willingness to start a business with fewer resources and the capability to do so, thanks to the influence of the internet.

Sources of funding for early-stage entrepreneurs

- From a global perspective, 95% of entrepreneurs use personal funds when starting a business. Israel and Spain, at 79%, report the lowest percentage of entrepreneurs using own money as a source of entrepreneurial finance.
- The average rate of own investment (expected own investment as a share of total required investment) ranges widely. The share of own investment ranges from a low of 47% in Burkina Faso and Senegal to highs of more than 90% in China (91%), Panama (93%), Vietnam (95%) and Indonesia (98%).
- Entrepreneurs themselves provided 66% of the start-up capital for their new ventures in 2004, 62% in 2006 and 72% in 2015, indicating a stronger sense of self-reliance in the present economic climate.
- In Latin America and the Caribbean, personal savings are an important source of financing for three-quarters of entrepreneurs, while Africa as a region reports the lowest use of own funds (59%). Half of the entrepreneurs in Asia and Oceania obtain finance from family. Africa and Asia and Oceania are the regions most likely to rely on friends for entrepreneurial finance (with around a fifth of entrepreneurs relying on this source).
- Banks are an important source of finance in all regions – their funding contributions range from a quarter of entrepreneurs in Africa and Asia and Oceania, up to providing financing for a third of entrepreneurs in North America. The healthy levels of government funding support in North America and Europe, as well as a growing support in Africa are likely to be as a result of politicians become increasingly cognisant that entrepreneurship plays a vital role in the growth of economies.
- Entrepreneurs in North America are substantially more likely to have access to more sophisticated sources of entrepreneurial funding, such as VC and crowdfunding. Fourteen percent of North American entrepreneurs are financed through crowdfunding. By contrast, Africa and Asia and Oceania, both at 2%, lag significantly in terms of access to this form of funding.

Informal investor activity

- The average prevalence rate of informal investors among the adult population of the GEM nations reached 3.6% in 2004 and 4.0% in 2006, whereas the median in 2015 reached 4.2%.
- The percentage of early-stage entrepreneurs who received funds from informal investors is highest in Africa (12%) and North America (11%).
- The average amount of funds provided by informal investors shows marked variation across the regions. In Latin America and the Caribbean and Africa, the average amounts provided by informal investors are small (1,510 US$ and 1,520 US$ respectively). Although Europe has the lowest percentage of early-stage entrepreneurs receiving funds from informal investors (6%), these informal investors provide the highest average amounts of funding (12,583 US$).
- In all regions, the majority of informal investors provide funds to close family members, while a substantial percentage provide funds to friends and neighbours. Latin America and the Caribbean leads in both these categories, with 45% of informal investors providing finance to close family member and 30% supporting friends/neighbours.
- Informal investors in Asia and Oceania, and Latin America and the Caribbean show the highest tendency to provide finance to other relatives – double the percentage in the other three regions, while North Americans are the most likely to fund work colleagues. North Americans are also the group most likely to fund strangers – a fifth of informal investors in North America fall into this category.
- Africa, as a region, has the biggest discrepancy between the average amounts of funding provided by female and male informal investors. Male African informal investors provide 20 times more money than their female counterparts. In Asia and Oceania and Europe, on the other hand, female informal investors provide, on average, more funding than their male counterparts. In Europe, female informal investors provide almost double the amount of money, compared to male investors.

Demographic factors and funding requirements

- Women stated that they needed fewer funds to start a business than men in all economies except Malaysia and Luxembourg. The largest discrepancy between the amounts women and men needed for funding was in Canada – an 8.5 times difference.
- Male entrepreneurs in factor-driven economies stated that they needed 2.8 times, on average, more than women to start a business. For efficiency- and innovation-driven economies, the multiple was 2.4 times.
- In factor-driven economies, there is a marked spike in the amount needed by 55 to 64 year olds (at almost 17,000 US$, it is about four times more than the average amount needed

by entrepreneurs in the other age cohorts).
- Compared to the other two development phases, entrepreneurs in the innovation-driven economies required substantially more funding to start their businesses across all age groups. The 35 to 44 year olds had the highest funding requirements.

How entrepreneurs use their funding

- Within most of the geographical regions, the economies showed dramatic variation in terms of the amount of finance required for both necessity- and opportunity-driven ventures. North America showed markedly less variation than the other regions, ref ecting the strong economic similarities between Canada and the United States.
- On the whole, opportunity-driven entrepreneurs stated that they needed more funds to start their businesses. The highest funding requirements were reported by improvement-driven opportunity (IDO) entrepreneurs (i.e. those seeking to improve their situation, either through increased independence or through increased income, versus maintaining their income).
- Innovation economies lead the way in terms of average amount spent in both agriculture and mining, indicating that they invest in technology and equipment to carry most of the workload. Although factor-driven economies have high levels of activity in agriculture and mining, production is labour-intensive, with a significantly lower spend for both these industry sectors.
- Factor-driven economies do less manufacturing than both efficiency- and innovation-driven economies and entrepreneurs spend, on average, 3,600 US$ to start a business in this sector, compared to an average of just over 11,000 US$ for efficiency-driven economies and an average of 350,000 US$ for innovation-driven entrepreneurs.
- Entrepreneurs in innovation-driven economies spend the most, on average, on transportation, ICT and finance services, since demand is high for the strong infrastructural support that other industries need to function optimally.
- Factor-driven economies' wholesale and retail distribution systems are rudimentary but active, and entrepreneurs spend 4,600 US$ to start businesses in this sector. Start-ups in administrative services (17,650 US$) and services (15,875 US$) are considerably more costly.
- A consistent finding in this report, as well as the 2004 and 2006 reports on entrepreneurial finance, was that the amount needed to start a business with the intent to grow was the largest amount. The median in 2015 was 35,000 US$, with 22% of the entrepreneurs predicting that they would increase employment by more than five jobs within the next five years.
- The funding requirements of high-growth entrepreneurs in innovation-driven economies are substantially higher than for high-growth entrepreneurs in efficiency- and factor-driven economies. The average amount of funding required by entrepreneurs in innovation-driven economies who anticipate creating six or more jobs are 76,876 US$, compared to 11,854 US$ for efficiency and 7,767 US$ for factor-driven economies.
- High-growth entrepreneurs in innovation-driven economies require almost four times more funding than those who anticipate creating zero to five jobs. The differential is 2.5 and 2.3 in efficiency and factor-driven economies, respectively.
- Latin America and the Caribbean shows the smallest difference in funding requirements between medium to high-growth and low growth entrepreneurs, while North America shows the biggest difference. In North America, entrepreneurs projecting six-plus jobs require seven times more money, on average, than those projecting zero to five jobs, compared to a differential of 2.5 in Latin America and the Caribbean.
- The difference in funding requirements between innovative and non-innovative entrepreneurs in factor- and efficiency-driven economies is minimal. The biggest difference in average amount of money needed is in innovation- driven economies, where innovative entrepreneurs need about 1.5 times more funds to start their businesses than non-innovative entrepreneurs.
- From a regional perspective, innovation levels are highest in North America and lowest in Africa. In Africa, there is no difference in the amount of money required for start-up by innovative compared to non-innovative entrepreneurs, while in North America, innovative entrepreneurs need 1.6 times more funding than non-innovative entrepreneurs.
- For all three phases of economic development, entrepreneurs with 25% or more international revenue require around twice as much money as entrepreneurs with the less than 25% international revenue.
- European entrepreneurs with strong international orientation have the highest funding requirements, followed by North America. Africa is the region with the largest difference in funding needs with respect to degree of internationalisation. Entrepreneurs in Africa with 25% or more international revenue need almost 4.5 times more money, on average, than those with less than 25% international sales.

CHAPTER 1:

INTRODUCTION AND BACKGROUND

It is fitting that GEM is revisiting the topic of entrepreneurial financing in 2016 – 10 years after its previous report on this topic. Not only does 10 years mark an appropriate time for reflection, but the earlier report predated the U.S. financial crisis of 2007/2008, which was followed by a significant global downturn (2008 to 2012). The two previous reports, of 2004 and of 2006, contained data from 34 and 42 nations respectively, whereas the number of reporting countries has increased in this report to 60. The average prevalence rate of informal investors among the adult population of the GEM nations reached 3.6% in 2004 and 4.0% in 2006, whereas the median in 2015 reached 4.2%. Entrepreneurs themselves provided 66% of the start-up capital for their new ventures in 2004, 62% in 2006 and 72% in 2015, indicating a stronger sense of self-reliance in the present economic climate. For all the GEM nations combined, the **average** amount needed to start a business was $54 000 in 2004 and $65 000 in 2006. In 2015, the **median** amount was $13 000. Although the fact that medians were used in 2015, as opposed to average amounts in the previous two reports means that a straight comparison is not possible, this does indicate a willingness among current entrepreneurs to start a business with fewer resources and the capability to do so, thanks to the influence of the internet. A consistent finding in all three reports was that the amount needed to start a business with the intent to grow was the largest amount. The median in 2015 was $35 000, with 22% of the entrepreneurs predicting that they would increase employment by more than five jobs within the next five years.

This recent financial crisis, the worst and longest-lasting of the last 80 years, has had a profound effect on the economic, as well as the entrepreneurial landscape. The recovery has been less robust, more uncertain, and taken longer than many expected. The International Labour Organisation's *World Employment and Social Outlook (WESO) Report 2016* warns that sluggish economic growth has complicated the task of bringing unemployment and underemployment even back to pre-crisis levels in most economies. If current policy responses are maintained, it argues, the outlook is for continued economic weakening – the world economy is projected to grow by only around 3%, significantly less than before the advent of the global crisis, posing significant challenges to enterprises and workers.[1] The *Global Competitiveness Report 2015/16* notes that one of the most striking ways in which the global financial crisis has created new obstacles for doing business is the increased citing of lack of access to finance as one of the most serious problems for businesses in many economies. Obtaining finance is particularly difficult for small and medium-sized enterprises. *The Global Competitiveness Report* indicates that in 2015, access to finance was the fourth most pressing concern in advanced economies (up from the seventh ranked problematic factor for doing business in 2007). In developing economies as a group, it was the number one concern in 2015 (up from third in 2007)[2].

Entrepreneurial financing has also evolved considerably over the past decade. Many of the previous models of entrepreneurial finance remain relevant today, including informal investment through the founders themselves, as well as borrowing from friends, family, and colleagues. Venture capital (VC) continues to make headlines for hefty investments in promising entrepreneurial firms – but the lion's share of VC invested is still largely in developed economies with the United States (52%), Europe (11%), Israel (2%) and Canada (1%) claiming a total of 66% of the total VC invested in 2014. An encouraging trend is that China (16%), and India (5%) are claiming more than ever before.[3] However, newer financing models, including business angels, microfinance, and small business accelerators, have matured considerably over the past 10 years while a brand new model, crowdfunding, has emerged as a popular alternative for financing. This report, therefore, examines the current entrepreneurial financing ecosystem as experienced by GEM's diverse set of members, who together represent every region of the world and all stages of economic development.

1.1 AN OVERVIEW OF RESEARCH FINDINGS ON CURRENT MODELS OF FINANCING ENTREPRENEURSHIP

Bootstrapping

The term 'bootstrapping' is a relatively recent way of describing the oldest model of entrepreneurial finance: self-funding. This means dipping into entrepreneurs' personal finances and other resources to fund their new business. According to Geoffrey Gregson, Director of the Centre for Entrepreneurship Research at the University of Edinburgh Business School, bootstrapping activities typically include using personal savings and credit cards to access cash, as well as working from home, seeking free advice, using credit from business partners such as customers and suppliers, and leveraging personal networks to save on start-up costs (Gregson, 2014).

Entrepreneurs use the bootstrapping model for various reasons either by choice or by necessity. Some entrepreneurs pursue this model by choice, because by self-funding they do not need to give up ownership stakes or equity if their business succeeds. Other entrepreneurs favour this model because it reduces the risk of securing a large loan from outside funders. This approach has been popularised in books such as *The $100 Startup,* by Chris Guillebeau, which argues that advances in technology have reduced the cost of starting up a business so that many entrepreneurial projects can now be bootstrapped by choice.

But more often, bootstrapping is born out of necessity when entrepreneurs cannot secure outside funding and have no other choice than to use their own resources. This is especially true for women entrepreneurs who may face unequal treatment from traditional lenders, both in developed and developing countries (World Bank, 2015). These entrepreneurs are forced to use bootstrapping to launch and sustain their businesses, since lending can create stress on cash f ows necessary to keep the ventures operating.

1 International Labour Organisation. *World Employment and Social Outlook: Trends 2016/International Labour Office.* Geneva: ILO, 2016

2 Schwab, K. and Sala-i-Martín, X. 2015. *World Economic Forum: The Global Competitiveness Report 2015 to 2016*. http://www.weforum.org/reports/global-competitiveness-report-2015-2016

3 Vanham, Peter. (2015). World Economic Forum: *Which countries have the most venture capital investments?* https://www.weforum.org/agenda/2015/07/which-countries-have-the-most-venture-capital-investments/

Friends, family and colleagues

The impact of informal investment – through friends, family members and colleagues – on entrepreneurship is immense. Since 2012, an average of 6% of GEM member economies' adult population (i.e. aged 18 to 64) have provided informal investment to an entrepreneur per year, totaling over 1 trillion US$ a year over the period 2012 to 2015. This represents an increase since the 2006 GEM report on financing, which calculated that 4% of GEM member economies' adult population had provided informal investment, totaling 600 billion US$. (It should be noted that only 42 countries participated in the 2006 GEM year, compared to an average of 66 countries from 2012 to 2015).

Entrepreneurs often use informal funding from friends, family members and colleagues, because they cannot secure formal investment through VC or other outside funding. Unlike bootstrapping, however, entrepreneurs may owe their friends or family members some form of equity or controlling stake in return. With this in mind, Gregson warns that this type of financing can put the entrepreneur in the awkward position of family members or friends expecting to play a major role in the company in return for their investment (Gregson, 2014).

The role of informal investment through friends, family, and colleagues has already started evolving into new forms with the onset of online crowdfunding. In the era of massive social networks that can be tapped by entrepreneurs, it is likely that crowdfunding will increasingly take the place of asking close relations for funding directly. (The crowdfunding model will be discussed in detail later).

Institutionally-support financing

Public funding

Entrepreneurs may occasionally receive "seed" capital through a grant or loan from a government or non-profit organisation such as a university or NGOs. The institution providing the grant or loan may want to spur entrepreneurship generally, or have an interest in promoting a promising new sector. Some sectors, such as cutting-edge medicine, information technology or energy production, have high start-up costs or are exceptionally risky, which make them unattractive to private funders. Enterprises in these sectors can therefore only get off the ground through this form of public or academic financing. Often, in exchange for seed capital, entrepreneurs will agree to either surrender or share in the rights to any commercialised intellectual property with the funding institution (Bussgang, 2014).

It is also increasingly common for government entities to combine with private venture capitalists to fund entrepreneurs. There has been skepticism in the literature and in policy discussions as to whether this helps or hinders entrepreneurship. However, in a study of combined financing in 20 developed and developing countries, Brander, Du, and Hellman (2014) found that markets with more government financing tend to also have more private financing per firm as well as more successful entrepreneurial 'exits' via an initial public offering or acquisition.

Accelerators

The accelerator model of entrepreneurial finance has become very popular in the United States and is beginning to spread to the rest of the world. Though it is a relatively recent phenomenon, the model borrows from the more established 'incubator' model, where an organisation (private or public) typically provides entrepreneurs with funding, business mentorship and office space for a duration of one to five years. Accelerator programmes, by comparison, 'accelerate' this process to three to six months, with more emphasis placed on networking with venture capitalists and other successful companies during the programme. Additionally, accelerators feature a 'Demo Day' at the end of the programme where entrepreneurs pitch to qualified investors in the hopes of securing more financing for their business. In exchange for this opportunity, entrepreneurs usually give up a small amount of equity, in the range of 6% to 10%, to the sponsoring accelerator (Brookings, 2016).

Despite their fairly recent advent, accelerators have spread rapidly throughout developed and developing countries and have demonstrated success over other forms of financing. It is estimated that there are over 700 accelerator programmes in the United States alone (Brookings, 2016), with the most popular programmes being Y Combinator (founded in 2005) and TechStars (2006). There are hundreds of programmes worldwide as well, including such ambitious programmes as the Vietnam Silicon Valley project, which offers a four-month 'intensive start-up accelerator' (VSV, 2016).

Scholars have begun studying the accelerator model, with qualified positive results. Feher and Hochberg (2015) determined that U.S. metropolitan areas containing an accelerator programme experience an overall increase in entrepreneurial investment. Winston-Smith and Hanningan (2015) found that graduates from top accelerators received their next round of financing more quickly and were more likely to be acquired than a comparable set of entrepreneurs financed by angel investors. However, the choice of accelerator programme seems to have a considerable impact on the success of the entrepreneur. A 2012 study from Aziz Gilani, director of venture capital firm DFJ Mercury, found that 45% of a set of 29 North American accelerator programmes that he studied failed to raise funding for any of their graduates. In 2014, Hallen, Bingham, and Cohen found positive benefits (quick financing, high levels of acquisition) for entrepreneurs in top accelerator programmes, but these results dissipated when their sample of accelerators was broadened.

Venture capital

Venture capital (VC) is the term most often associated with financing risky entrepreneurial ventures with potentially high returns. This is in large part due to the attention garnered when entrepreneurs secure sizeable VC investment – especially when that investment pays off. Venture capital firms tend to specialise in areas in which the partners have experience – either industry-specific, or location-based. Although venture capitalists may keep an eye on early stage start-ups, most VC investment comes at a later stage when ventures are positioned for growth (i.e. they tend to be second round financiers). The high visibility of VC in business news, however, may mislead people with respect to the role and relative size of VC within the entrepreneurial ecosystem as a whole. For example, only about 0.16% of small businesses started in the United States receive VC (Gregson, 2014). Additionally, the average age of a business receiving this type of funding is four years (Small Business Association, 2013); start-ups rarely receive VC.

The term venture capital can broadly apply to several entrepreneurial financing models. However, the term is most often used to refer to when a VC fund, managed by an individual or set of decision-makers, uses wealthy investors' money to identify and finance high-growth new companies. VC funds often make substantial investments in these new companies, ranging from $250,000 to upwards of $100 million, and generally seek a return of 10 times their investment via the company going public or being bought out (Gregson, 2014). In exchange for their investment, VC funds usually expect a 20 to 30% (or higher) share of equity ownership in any funded company (Bussgang, 2014).

Despite the difficulty of accessing VC, the model is seen by many scholars and policy-makers as an essential factor for spurring high-value, innovative companies in their countries. Indeed, VC has financed some of the fastest growing companies in the world, such as Skype, Zappos, Facebook, and Alibaba. The numbers also demonstrate that VC can foster tremendous business opportunity. In 2014, the most recent data available, over 80 billion US$ were invested globally through VC, and made a number of initial public offerings (IPOs) possible for companies in China, India, and Israel, among many others (Ernst & Young, 2015). This explains why many countries are attempting to expand the model. Venture Capital for Africa (VC4A), for example, connects African entrepreneurs to VC funds. In 2015, 24 Nigerian and 19 Kenyan start-ups received VC, among dozens of other start-ups from other African nations (according to VC4A).

Angel investors

Angel investors are high net worth individuals who identify and invest in high quality entrepreneurs in exchange for equity. Angel investors are individuals who may act individually or in groups. Their activity is project by project-area focused. Often, angels are high-worth individuals who have successfully started and operated their own businesses and have skills they may share with entrepreneurs. In a low interest rate environment, angel investing offers an alternative investment strategy for individuals who want to participate because of interest in a particular industry or venture area and have the knowledge to add value.

On the surface, angels may sound similar to VC funds; however, the essential difference is that they do not act on behalf of a group of investors. This frees angels to invest in a broader range of companies that may take longer to grow or may not deliver the high rates of return expected by VC investors. This characteristic of angel investors augments their popular image as investors who may fund an entrepreneur out of personal interest or a sense of social responsibility. Angel investors sometimes fund an entrepreneurial project through its entire growth stage, while others invest just in the early stages as a bridge to formal venture capital at a later stage. Angels also may group together in a business angel network (BAN) to share resources with other investors.

Determining the size and impact of angel investors is difficult, as they are not required to publicly report their activities. However, it is estimated that US angels invested over 24 billion US$ in 73 400 companies in 2014 (Small Business Association, 2014). In Europe, angels are estimated to have invested 5.5 billion euros in almost 3 000 companies in 2013 (EBAN, 2014). Beyond these raw numbers, though, it is difficulty to calculate the economic impact of angel investing. Research from Mason, Harrison and Botelho (2015) indicates that angel investors have difficulties obtaining successful exits (IPO or buyout) in their invested company, though they posit that this is because many angels do not adopt an exit-centric investment strategy. Deffains-Crapsky and Klein (2016) note that angels in the United States and Europe play a crucial role as an ‘indispensable’ intermediary between entrepreneurs and formal VC. The authors admit, however, that the role of angels in the development of innovative entrepreneurship is understudied and poorly understood. Clearly, additional research on the impact of angel investors is needed, perhaps in addition to a more robust definition on successful funding of entrepreneurship.

Microfinance

Microfinance as a model for entrepreneurial finance is a few decades old. Initially, this model involved non-profit and government entities offering uncollateralised loans to impoverished people who would otherwise have no access to finance. As one of the first microfinance organisations, Grameen Bank was founded in Bangladesh by Muhammed Yunus in 1983 as a solution to providing funding opportunities to entrepreneurs in countries where lenders were reluctant to provide funds to entrepreneurs without collateral. The Grameen Foundation, founded in 1997, extended this work to provide microloans to "the poorest of the poor, paving new paths to prosperity."[4] Entrepreneurs are required to repay loans with interest. The foundation has supported entrepreneurial efforts in agriculture, retail trade, and health. Frequently, the focus of the Grameen Foundation is to provide access to funds and a financial network through mobile technology to the underserved entrepreneurs, often women who otherwise would not have access to any financial systems. Working with the Bill and Melinda Gates Foundation and the MTN Group, a leading telecommunications in Africa, the Grameen Foundation is actively working on developing an effective, mobile financial payments system in Uganda. In a project in the Philippines, the foundation is working with CARD Bank to create a mobile banking service.[5] The Grameen Foundation is active in 40 countries and has extended operations to include healthcare communication technologies.

Over time, and with advances in technology, individuals (not just governments and non-profits) have also been able to participate in microfinance. This has dramatically increased the size and scope of microfinance, and it is estimated that more than 3 500 institutions now serve over 200 million clients worldwide (Sabin, 2016). New financial products have emerged under the umbrella of microfinance, including microsaving and microinsurance. Today, the term microfinance encompasses several entrepreneurial finance activities that have evolved from its original intent.

The majority of microfinance recipients reside in Asia and the Pacific, where almost 120 million families access microfinance. In Africa and the Middle East, on the other hand, fewer than 10 million families access microfinance. Three types of institutions provide the vast majority (almost 90%) of microfinance loans (Sabin, 2016):

- Traditional, state-run banks.
- Non-bank financial institutions, which operate similarly to a bank, but often have lower capital requirements and restricted service offerings.
- NGOs, which include non-profits and charities, and are not regulated like a banking service.

Kiva is an example of a popular non-profit that allows individuals to provide microfinance loans to low-income individuals and entrepreneurs – often residing in developing countries. Each microfinance institution has its own criteria for evaluating loans. However, the most common criteria include whether the loan is for an individual or group (a group spreads the risk and increases the likelihood of repayment), how often the loan will be repaid (in installments or a lump sum), and if the loan will be a one-time payment or a gradual, 'dynamic' loan over time.

The increase in the aggregate of loan dollars and clients served has for years been heralded as success stories; however, recently scholars have begun to adopt a more nuanced view of the topic. Murdoch (2011) found that while microfinance programmes haven't revolutionised the lives of impoverished people, they have helped to ease cash f ow issues in poor households, helping them manage risk and stabilising their finances. In a major study conducted in six developing economies by Banerjee et al. (2015), microfinance was used in conjunction with skill training, home visits and counseling; access to a savings account; and health education to evaluate the efficacy of a major poverty intervention. The results of the randomised controlled tests found that subjects who received this holistic treatment, include: microfinance, experienced significant positive results in the areas of income, food security, living conditions, and mental health.

The capacity of microfinance to achieve broader social goals beyond monetary aspects is also an important consideration. Women, who often face steep if not impossible barriers to obtaining finance in developing countries, now have the ability to fund their business, thanks to microfinance. This does not just benefit the women themselves. Evidence shows that microfinance institutions favour lending to women in countries where overall trust is low. The institutions see women as more trustworthy and as having greater social impact (Aggrarwal, Goodell, and Selleck, 2015).

4 Grameen Foundation Annual Report 2014-2015 *When Micro Goes Mobile.* http://www.grameenfoundation.org/sites/default/files/Grameen_Foundation_2014-2015_Annual_Report.pdf

5 http://www.grameenfoundation.org/what-we-do/financial-services/mobile-financial-services

Peer-to-peer lending

Peer-to-peer (P2P) lending is a recent financing model akin to microfinance. The model offers individuals with limited access to traditional finance the opportunity to get uncollateralised loans directly from their peers. Where they differ is that P2P loans are focused almost entirely on profit, and involve a more rigorous screening process based on the recipient's credit history and other relevant criteria. Loans are expected to be repaid with interest relatively quickly; equity or other ownership arrangements are not considered. Because this model favours individuals with a strong credit history, it is more established in developed countries, although it is gradually spreading to developing countries as well (Xusheng, 2014). It should also be noted that P2P lending is effectively 'purpose-agnostic' – entrepreneurs may use a P2P loan to finance their business, though evidence suggests that P2P networks are more often used to underwrite consumer debt or for other purposes (Bruton et al., 2015).

The current market of P2P lending is relatively small in the entrepreneurial finance ecosystem, compared to other models. LendingClub and Prosper, by far the two largest P2P networks in the United States, together created about 10 billion US$ in loans in 2015, of which only a fraction applied to entrepreneurs (NSRInvest, 2016). However, since 2010 the volume of loans has almost doubled every year, and traditional banks are starting to debate how they can either compete with or join these networks (PWC, 2015). Data is scant on the relative success of P2P lending for entrepreneurship; however, there are likely to be further studies as the model grows in volume and importance as an alternative form of entrepreneurial financing.

Crowdfunding

Crowdfunding is the newest viable model for entrepreneurial financing. It is broadly similar to microfinance or P2P lending in the use of peer financing; however, it is almost entirely focused on entrepreneurial projects, while offering alternative repayment and equity arrangements. In this model, entrepreneurs pitch their projects to prospective lenders through an online platform, such as Kickstarter or Indiegogo, with a specific goal for how much funding they need to achieve their project. There is also considerable flexibility within the crowdfunding model with respect to how entrepreneurs can finance their projects, as well as compensate their investors.

Entrepreneurs often choose between an 'all or nothing' or 'keep what you get' model for financing their projects. The 'all or nothing' model means the entrepreneur will return the investors' money unless they receive *all* the money needed for their goal; while the 'keep what you get' model means the entrepreneurs keep all the money they get, regardless of whether they meet their goal. Perhaps not surprisingly, the 'all or nothing' model has been found to attract more investors and more capital (Wash and Solomon, 2014). Entrepreneurs also must decide how they will compensate their investors: through rewards or equity. Rewards are tokens of appreciation given to investors, usually in the form of a personalised product. There are innumerable types of rewards, but they could range from a piece of clothing from a funded designer, a personalised song, or a fancy colouring book. Equity stakes are rare among crowdfunded projects. Currently, the major online platforms, Kickstarter and Indiegogo, do not offer any projects with equity stakes. In fact, in many countries, including the entire European Union, issuing shares through crowdfunding is illegal (Moritz and Block, 2014). In the United States, however, Title III of the 2012 Jumpstart Our Business Startups (JOBS) Act, approved in late 2015, allows lower income investors (under 100,000 US$ in annual income) to invest up to 2 000 US$ or 5% of their income in a small business in exchange for equity. Investors making over 100,000 US$ in income can invest up to 10% of their income.

Studies indicate that entrepreneurs like the crowdfunding model for three reasons. First and foremost, it provides a viable alternative for collecting funds. It also offers entrepreneurs public attention for themselves and their products. Finally, it allows entrepreneurs to gain immediate feedback on their products, which can be incorporated into future iterations (Belleflamme et al. 2014). Similarly, Mollick and Kuppuswany (2014) found that crowdfunding facilitates more direct interaction with customers and more press coverage.

Crowdfunding also holds promise for addressing the gender inequities of traditional finance. Women entrepreneurs, in both the developed and developing world, are highly underserved by traditional finance, often for reasons of societal barriers or a lack of business connections in male-dominated industries. However, a recent study from Marom, Robb, and Sade (2016) found that 35% of founders on Kickstarter were women, as were 44% of investors on that platform.

1.2 KEY TRENDS AFFECTING ENTREPRENEURIAL ECOSYSTEMS

1.2.1 Globalisation and technology

Business is increasingly global. As the awareness of who has access to resources is growing, stakeholders are exploring ways to increase the types of financing available in all economies. While traditional forms of entrepreneurial finance such as self-funding and borrowing from friends and family continue, other financing sources such as peer-to-peer lending, including crowdfunding, microfinance, and community co-operatives' lending practices, have increased. There is an increasing acknowledgement that there are a number of ways to create economic and social value in the entrepreneurial ecosystem – for example investing, lending, connecting, and sharing skills.

Positive developments such as the rapid diffusion of information and communication technologies (ICTs), giving rise to new business models and revolutionising industries, bear great promise for a future wave of innovations that could drive longer-term growth. In particular, technology enables the digital and mobile economy. The concept of the 'marketplace' is being redefined by mobile technology, creating online access to goods and services. Entrepreneurs are building platforms to enable trade, such as totally-online businesses, auction sites, and digital meeting places designed to match buyers and sellers for employment opportunities, real estate, financing, etc. The Internet of Things (IoT) has had an immense impact on entrepreneurial ecosystems, facilitating access to entrepreneurial education, understanding of business opportunities and markets, awareness of economic and social value creating activities, communication with customers and business partners, links to resources, and financing methods.

A key inf uence is the increasing migration of ideas and people – through mobile communication and searches, individuals can readily reference and make comparisons about the opportunities and resources available in other economies. Ideas for ventures that work well in one economy can be transplanted to another economy, while individuals with skills and ability move to areas which they perceive as rewarding entrepreneurial behaviour. There has been a change in mindset from the concept of 'you live where you were born' to a desire to live where the opportunities for a better life are more prevalent. High-impact and innovative entrepreneurs, in particular, are likely to be highly mobile.

1.2.2 Social influences

A number of social and demographic factors are having an impact on the entrepreneurial ecosystem. Millennials have come of age and are looking for employment at a time when the persistent impact of the global economic crisis has exacerbated the difficulty that new entrants into the labour market have in finding a job, and youth unemployment has become a significant concern worldwide. The ILO *World Employment and Social Outlook (WESO) Report 2015* noted that the youth unemployment rate reached 13.0%, which is almost three times higher than the unemployment rate for adults. To make matters worse, the ILO predicted that between 2014 and 2019, youth unemployment will rise by up to 8%

in parts of Europe, South America and Africa[6]. Many young people are, therefore, likely to turn to creating ventures as a means of employment. At the same time, an increasing number of people in the 60+ age group expect a long life and longer active working career. They either want or need income, and are remaining part of the workforce well past official retirement age. These senior members of the workforce have skills gained from a lifetime of career experience which they employ as entrepreneurs and/or mentors.

Worldwide, more people are actively engaged in both social as well as economic interests through entrepreneurship (entrepreneurs and other stakeholders including investors, customers, and business partners – suppliers and designers). In the wake of the global financial crisis, it has become increasingly important for policy-makers, business and civil society leaders to work together and to focus on inclusive and sustainable growth – the creation of enabling environments that foster innovation, facilitate more productive economies and, critically, open up new and better job opportunities for all segments of the population. This is ref ected in the increased inf uence of governments, educational institutions and corporations on the activities of the innovation community, through policy changes, online tools, accelerators and incubators. Groups of angels, venture capitalists, and serial entrepreneurs are becoming more willing to invest in entrepreneurial ventures, including providing seed capital for early-stage entrepreneurial ventures.

Of increasing significance is the link between global violence and entrepreneurial opportunities. There is strong evidence to suggest a correlation between violence, instability, and a lack of economic opportunities. Failure to make available economic opportunities to disenfranchised youth in economies where governments have faulty infrastructure, including corruption, offers little incentive to youth to work

6 International Labour Organisation. *World Employment and Social Outlook: Trends 2015/International Labour Office*. Geneva: ILO, 2015

within the economic system to better their lives. High un- and underemployment rates make societies more vulnerable to civil disorder and political upheaval. The ILO's *World Economic and Social Outlook Report 2015* estimates that social unrest has increased as joblessness persists and, worldwide, currently sits at 10% higher than before the financial crisis. Economies facing high or rapidly rising youth unemployment (particularly among the male youth) are especially vulnerable to social unrest. This is compounded where educated young people cannot find satisfactory employment opportunities – as is the case in many Middle Eastern and North African countries[7]. In those economies where the median age is low and the economic uncertainty is high, little good can result from continuing this situation. Rather, as globalisation increases and economies are more connected, the well-being and hopes for the future of the youth become critically important. All young people want to see a future for themselves. Entrepreneurial opportunities are a significant part of the constructive path to economic health for youth all over the world, but in particular in developing economies. It may fall to the world to find ways to foster entrepreneurial efforts in these economies as a means to support global peace by offering every youth a path to a bright economic future.

1.2.3 Changes to financial instruments and the economic environment

In the wake of the global economic crisis, many economies have acknowledged the need for a shift in economic and employment policies, noting that a policy focus on quantity and quality of jobs and tackling income inequality is paramount. As a result, more governments are recognising and extolling the virtues of entrepreneurship as a growth engine of the economy and creator of jobs. Many people who experienced the recession also feel an increased need for independence. This results in necessity entrepreneurs gearing up their efforts to create work, while innovation entrepreneurs seek control over their own destiny. As economies start to shrug off the effects of the global recession, customers are becoming more active in buying leading to increasing demand. Low interest rates are affecting entrepreneurs' borrowing capability, but also affecting the investment activities of stakeholders such as investors and corporations.

A number of key trends affect the sources and usage of entrepreneurial funding. Special programmes linked to financial institutions have been developed, for example the Small Business Administration (SBA) in the United States, that foster entrepreneurial efforts through education and special or targeted financial programmes (veterans, women, diversity candidates). There has been continued growth of the microfinance industry, while new and developing peer-to-peer lending efforts through crowdfunding have evolved.

An exciting development is mobile payments, which provide momentum for both local and global economic activity. These allow for more secure transfer of funds – although we hear about the exceptions to security, the amount of funds being transferred for investing or transacting globally has steadily increased. As described above, the Grameen Foundation is active in the mobile payments infrastructure in many countries such as Uganda and the Philippines. Another example of mobile payments is M-Pesa[8]. A payments system built on the mobile communications (phone) infrastructure, enabling more entrepreneurs to enter the entrepreneurial ecosystem, M-Pesa is currently available in Kenya, Tanzania, Afghanistan, Mozambique, Egypt, Democratic Republic of Congo, India, Lesotho, Romania, Albania and Ghana. Active customers of M-Pesa increased by 27.1% to 25.3 million in the year ended 31 March 2016, boosted by market launches in Albania and Ghana and supported by a network of more than 261 000 agents in 11 M-Pesa countries.[9]

M-Pesa supports a financial system for depositing, withdrawing and transferring funds, and making payments for products and services.[10] It allows entrepreneurs to take the travel time that they once spent to get to a physical payment system (local post office, bank, etc.) out of their work day, so they can focus more on building their business models. The key impact is a much more robust infrastructure in which entrepreneurs can transact with customers, pay suppliers, and save currency for future growth. Mobile payments systems are more effective in economies where banking operations are minimal (the South African launch of M-Pesa, for example, has been reduced by the presence of a banking system that offers other options for payments systems)[11].

7 *Ibid*

8 'M-Pesa' comes from M for Mobile and Pesa, the Swahili word for money

9 http://www.vodafone.com/content/index/media/vodafone-group-releases/2016/mpesa-25million.html

10 http://www.mit.edu/~tavneet/M-PESA.pdf

11 http://www.cgap.org/blog/10-things-you-thought-you-knew-about-m-pesa

POLICY BRIEF

MALAYSIA

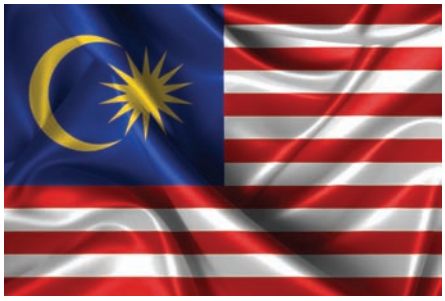
Population:
30.3 million (2014)

GEM TEA rate:
5.9% (2014)
2.9% (2015)

GDP:
326,9 billion US$ (PPP 2014)

SMME contribution to GDP:
33% (2013)

GDP per capita:
10,804 US$ (PPP 2014)



Kuala Lumpur at sunrise

HOW THE STATE CAN PROMOTE BETTER ACCESS TO FINANCE

By crafting several interventions aimed at both the banking and the non-banking systems, the Malaysian government has been able to ensure that SMMEs have relatively good access to finance.

As a share of loans, SMME financing increased from 30% to over 41% of total outstanding business financing between 1999 and 2011.[1] Today, the country is ranked by the World Bank and others as one of the world's leading countries when it comes to access to finance.[2]

A number of changes – such as increased support for venture capital, angel investing and the expansion of credit guarantees – followed the introduction of the Financial Sector Master Plan[3] in 2001, which aimed to develop a resilient, diversified and efficient financial sector. Some of the changes implemented also helped to reduce the impact the 2008 Global Financial Crisis had on Malaysia and ensured that SMME financing expanded by 6% from 2007 to September 2009.[4]

Over the years, the Malaysian government has carried out several initiatives to improve SMMEs' access to credit.

1 SMME Masterplan 2012 to 2020: (http://www.smecorp.gov.my/vn2/node/190)

2 Malaysia was ranked second by the World Economic Forum for 'Ease of Access to Loans' and second for venture capital availability (*Global Competitiveness Reports 2014 and 2015*) and ranked at 23 by the World Bank on 'Getting Credit' (*Doing Business 2015*).

3 Bank Negara Malaysia, 2001 Financial Sector Masterplan. (http://www.bnm.gov.my/index.php?ch=en_publication_catalogue&pg=en_publication_blueprint&ac=19&lang=en&eId=box1)

4 Bin Ibrahim, M, 2011. *The impact of the global crisis on Malaysia's financial system.* http://www.bis.org/publ/bppdf/bispap54p.pdf

These include:

- The setting up of a credit guarantee scheme (CGC) by the Reserve Bank in which banks were initially mandated via legislation to meet minimum targets of net credit lent to SMMEs (between 3% and 12% of net lending). Between its inception in 1972 and 2012, CGC guaranteed more than 420 000 loans worth 51 billion ringgits (11,7 billion US$). The scheme has been successful in that 100 000 of the 450 000 borrowers who have used the scheme since its inception no longer have to depend on guarantee finance when they want to access finance.[5]
- The introduction in 2001 of the Central Credit Reference Information System (CCRIS), a credit reporting system. Subsequent to its introduction, loans to SMMEs grew by almost 9% to 2012, while impairments had fallen from 16% to 2%.[6]
- The establishment of the SMME Credit Bureau by CGC in 2008 to assist SMMEs to enhance their credit standing, in order to facilitate easier access to financing. By the end of 2012 the bureau had issued over 800 000 credit reports and rated over 400 000 SMMEs.[7]
- Partnering with the private sector to promote venture capital (VC) investments. Between 2001 and 2012 the state, through Malaysia Venture Capital Management (one of five state VC funds), contributed 450 million ringgits to 11 private sector venture capital funds. These funds have sourced a further 205.5 million ringgits.[8]
- Promoting angel investing through an angel tax incentive (which offers high net worth individuals that invest in Malaysia tech start-ups a tax deduction of up to 500,000 ringgits[9]), setting up a government seed fund run by Cradle Fund to help commercialise new ideas (which has helped fund 700 firms since 200310[10]) and through the state helping to set up angel investment networks (beginning in 2008).

5 Small Business Insight. 23 April 2015. *Get banks to take a share in guarantee fund*. http://www.smallbusinessinsight.org/blog/get-banks-to-take-a-share-in-guarantee-fund

6 Bernama, 9 November 2012, *BNM. Credit info sharing has spurred loan growth*, The Malaysian Insider. http://www.themalaysianinsider.com/business/article/bnm-credit-info-sharing-has-spurred-loan-growth

7 Small Business Insight, *Get banks to take a share in guarantee fund*, 23 April 2015. http://www.smallbusinessinsight.org/blog/get-banks-to-take-a-share-in-guarantee-fund

8 Timm, S. 2012. Trade and Industrial Policy Strategies.

9 For more details on the incentive see www.mban.com.my

10 Cradle Fund news release. http://www.cradle.com.my/news/cradle-doubles-co-investment-value-to-hit-rm56-7mil-mark/

- In August 2015, Malaysia became one of first emerging economies to allow equity crowdfunding, when rules came into effect. The Malaysian law allows individuals to invest between 500 and 5 000 ringgits in funds held by peer-to-peer lenders.[11]
- Since the late 1980s Malaysia has also had several large microfinance institutions, some of which are government-run (such as Tekun), that help fund micro firms.

Since it set up the National SMME Development Council, chaired by the prime minister, in 2004 to steer SMME policy-making, Malaysia has been able to help grow its small business sector. The GDP contribution of SMMEs has increased from 29% in 2005 to 33% in 2013. But most notable is that while the economy expanded an annual rate of 4.7% from 2005 to 2013, the SMME sector grew at a higher 6.3% on the back of better productivity gains.[12]

Access to finance is one of six focus areas in Malaysia's SMME Master Plan 2012 to 2020. Key is getting private sector funders to finance early-stage businesses. The plan aims to diversify funding options for SMMEs outside of the banking system, such as vamping up the provision of VC and angel funding. Under the Financial Blueprint 2011 to 2020, the Malaysian government is now targeting the expansion of venture capital, angel investing and seed funding to finance innovation to help the country transform into a high value-added, high-income economy.[13]

However, while GEM experts rate the availability of good infrastructure, finance and internal market dynamics highly in the South East Asian country, the case of Malaysia shows too that the high availability of finance alone is not sufficient to promote entrepreneurship. The country still has a low early-stage entrepreneurship (TEA) rate, when compared to similar economies. GEM experts note that improvements in entrepreneurship education and training, to inculcate a culture of entrepreneurship at a young age, would help in this respect.[14]

11 Small Business Insight. 27 August 2015. *Malaysia makes history with crowdfunding rules*. Small Business Insight. http://www.smallbusinessinsight.org/blog/malaysia-makes-history-with-crowdfunding-rules

12 SMME Corp annual report 2013/14. (http://www.smecorp.gov.my/vn2/node/1475)

13 Bank Negara Malaysia, Financial Sector Blueprint: 2011-2020. (http://www.bnm.gov.my/files/publication/fsbp/en/BNM_FSBP_FULL_en.pdf)

14 Gem Report 2010. (http://www.gemconsortium.org/report/47513)

CHAPTER 2:

A GLOBAL PERSPECTIVE ON ENTREPRENEURIAL FINANCE

This chapter analyses the GEM 2015 findings on entrepreneurial finance. A key focus is to develop an understanding of the current entrepreneurial financing ecosystem as experienced by GEM's diverse set of economy members, and to highlight regional, as well as economic development phase trends in terms of sources and usage of entrepreneurial finance. Data tables on the indicators for all the economies in this report, arranged by geographical region, are included in Appendix 1.

In the seventeen years since its inception, GEM has measured entrepreneurship in over 100 countries, covering all geographic regions and all economic levels, and has gained widespread recognition as the most informative and authoritative longitudinal study of entrepreneurship in the world. In 2015, 60 economies participated in the GEM Adult Population Survey (APS), comprising approximately 75% of the world's population and 90% of the world's total GDP. The economies that participated in the 2015 GEM cycle are shown in Table 1, grouped according to geographic region and economic development level. Classification of economies by economic development level is adapted from the World Economic Forum (WEF). According to WEF's classification, the factor-driven phase is dominated by subsistence agriculture and extraction businesses, with a heavy reliance on (unskilled) labour and natural resources. In the efficiency-driven phase, an economy has become more competitive with further development accompanied by industrialisation and an increased reliance on economies of scale, with capital-intensive large organisations more dominant. As development advances into the innovation-driven phase, businesses are more knowledge-intensive, and the service sector expands (http://weforum.org).

Table 1: GEM economies by geographic region and economic development level, 2015

Region	Factor- driven economies	Efficiency-driven economies	Innovation-driven economies
Africa	Botswana, Burkina Faso, Cameroon, Egypt, Senegal, Tunisia	Morocco, South Africa	
Asia and Oceania	India, Iran, Philippines, Vietnam	China, Indonesia, Kazakhstan, Lebanon, Malaysia, Thailand	Australia, Israel, Republic of South Korea, Taiwan
Latin America and the Caribbean (LAC)		Argentina, Barbados, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Panama, Peru, Puerto Rico, Uruguay	
Europe		Bulgaria, Croatia, Estonia, Hungary, Latvia, Poland, Romania, Macedonia	Belgium, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom
North America (NA)			Canada, United States

2.1 HOW MUCH MONEY DO EARLY-STAGE (TEA) ENTREPRENEURS[1] NEED TO START A BUSINESS

Securing sufficient funding is an important resource for every business, especially for start-ups and for growing firms. New entrepreneurs generally rely on personal funding, as well as funding from family and friends, and pursue bank and investor funding at more advanced stages of the start-up process.

Entrepreneurs were asked to indicate how much money, in total, they required to start their businesses. There are stages of entrepreneurial development as the entrepreneurial ecosystems become established. Entrepreneurs and policy-makers go up a learning curve with respect to how most effectively and efficiently to invest in entrepreneurial efforts.

In looking at the wide distribution of amounts in figure one 'How much money to start', we see a low average of 869 US$ in the Philippines and a high of 15,410 893 US$ in Switzerland, with variations along the way. It is for this reason that the authors decided to go with reporting the median (rather than the average) for all questions relating to amounts.

The median initial funding requirements varied considerably across countries – from modest amounts in the Philippines (221 US$), Uruguay (257 US$) and Indonesia (369 US$) to substantial amounts in Switzerland (54,351 US$), Italy (55,511 US$) and Korea (88,500 US$). For all the GEM nations combined, the **average** amount needed to start a business was 54,000 US$ in 2004 and 65,000 US$ in 2006. In 2015, the **median** amount was 13,000 US$. Although the fact that medians were used in 2015 as opposed to average amounts in the previous two reports means that a straight comparison is not possible, this does indicating a willingness among current entrepreneurs to start a business with fewer resources and the capability to do so thanks to the influence of the internet.

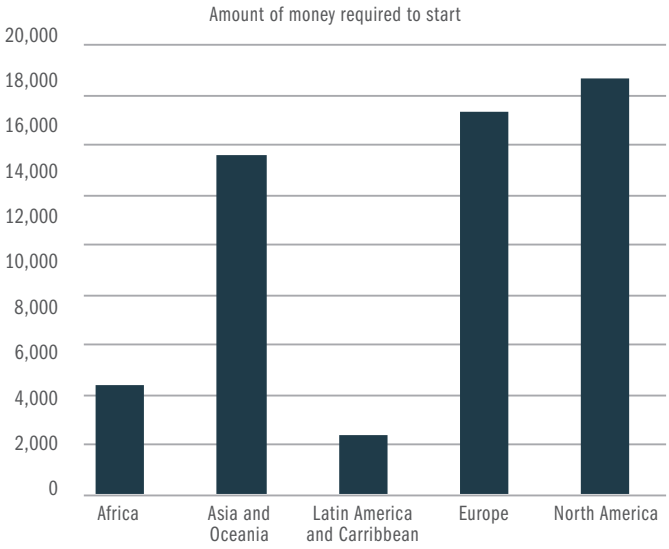
As with the individual countries, the average initial funding requirements vary considerably from a regional perspective. **Figure 1** indicates that North American and European entrepreneurs required the highest amount of capital to start businesses on average and Latin American and the Caribbean the lowest, although there were wide discrepancies within each region. Entrepreneurs needed, on average, 4,886 US$ in Africa; 15,209 US$ in Asia and Oceania; 2,606 US$ in Latin America and the Caribbean; 17,221 US$ in Europe; and 18,673 US$ in North America.

1 A primary measure of entrepreneurship used by GEM is the Total Early-Stage Entrepreneurial Activity (TEA) rate. TEA indicates the prevalence of individuals engaged in nascent entrepreneurship and new firm ownership in the adult (18 to 64 years of age) population. Nascent entrepreneurs are those who have taken steps to start a new business, but have not yet paid salaries or wages for more than three months. New entrepreneurs are running new businesses that have been in operation for between three and 42 months (i.e. 3.5 years).

The average amount of money required to start a business is substantially lower for Latin America and the Caribbean and for Africa, compared to the other regions. In these two regions, factor- and efficiency- driven economies predominate, and the low start-up costs are probably a ref ection of the type of ventures started by entrepreneurs. Many of these entrepreneurs are likely to be in the retail/wholesale and services sectors. Barriers to entry into these sectors, in terms of both skills and capital required, are low. As a result, however, these tend to be an over-traded sector, populated by low profit margin businesses and a high level of competition for limited markets, which can threaten the sustainability of these businesses.

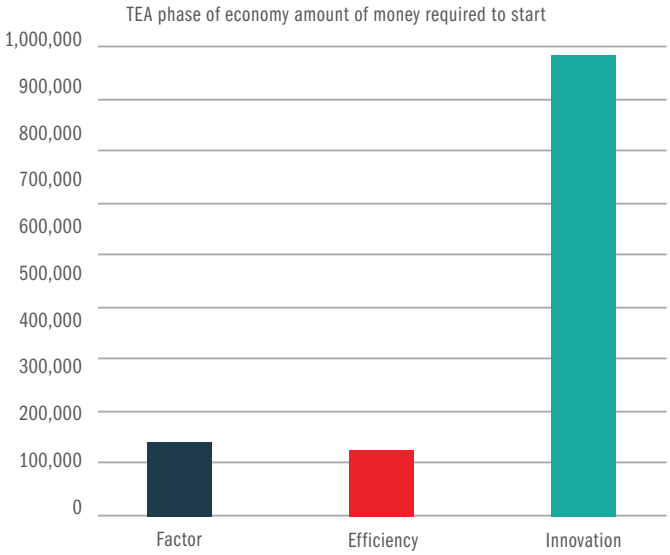
Figure 2 shows the average amount of entrepreneurial finance needed, by phase of economic development. In all three types of economy, there is variation in amounts of funding needed for entrepreneurs to start a business. However, the amount of funding needed is generally lowest in efficiency-driven economies, where entrepreneurs are seeking to make improvements and enhancements to products and services, and highest in innovation-driven economies where entrepreneurs are creating new products and services. In factor-driven economies, entrepreneurs required 24% more money to start, compared to efficiency-driven economies, indicating that they were starting businesses in commodities that required substantial upfront investment.

Figure 1: Average* amount of money required to start a business (US$), by geographical region, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

Figure 2: Average* amount of money required to start a business (US$), by phase of economic development, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

Figure 3: Percentage of entrepreneurs using own money to fund their business venture, GEM 2015

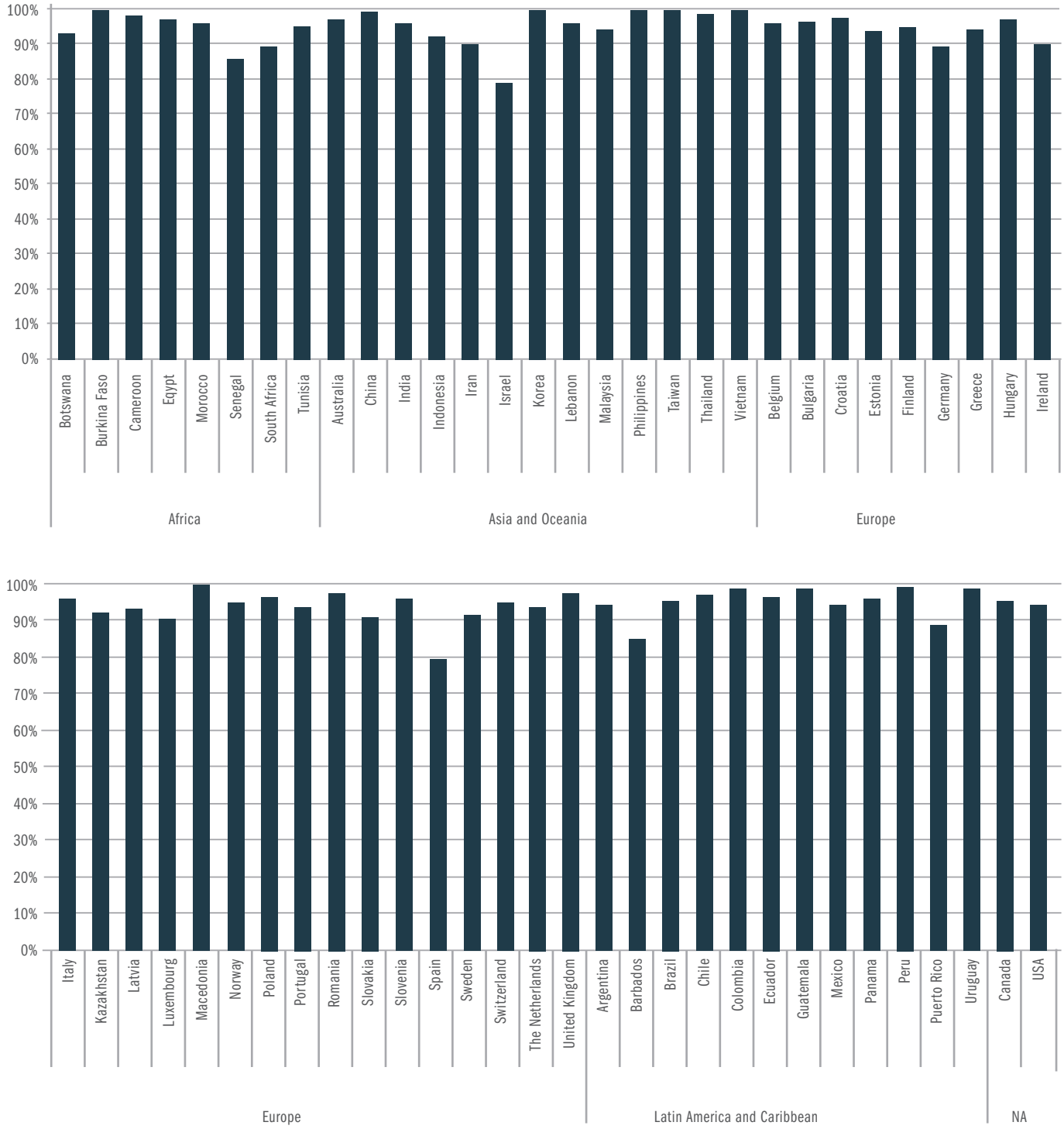
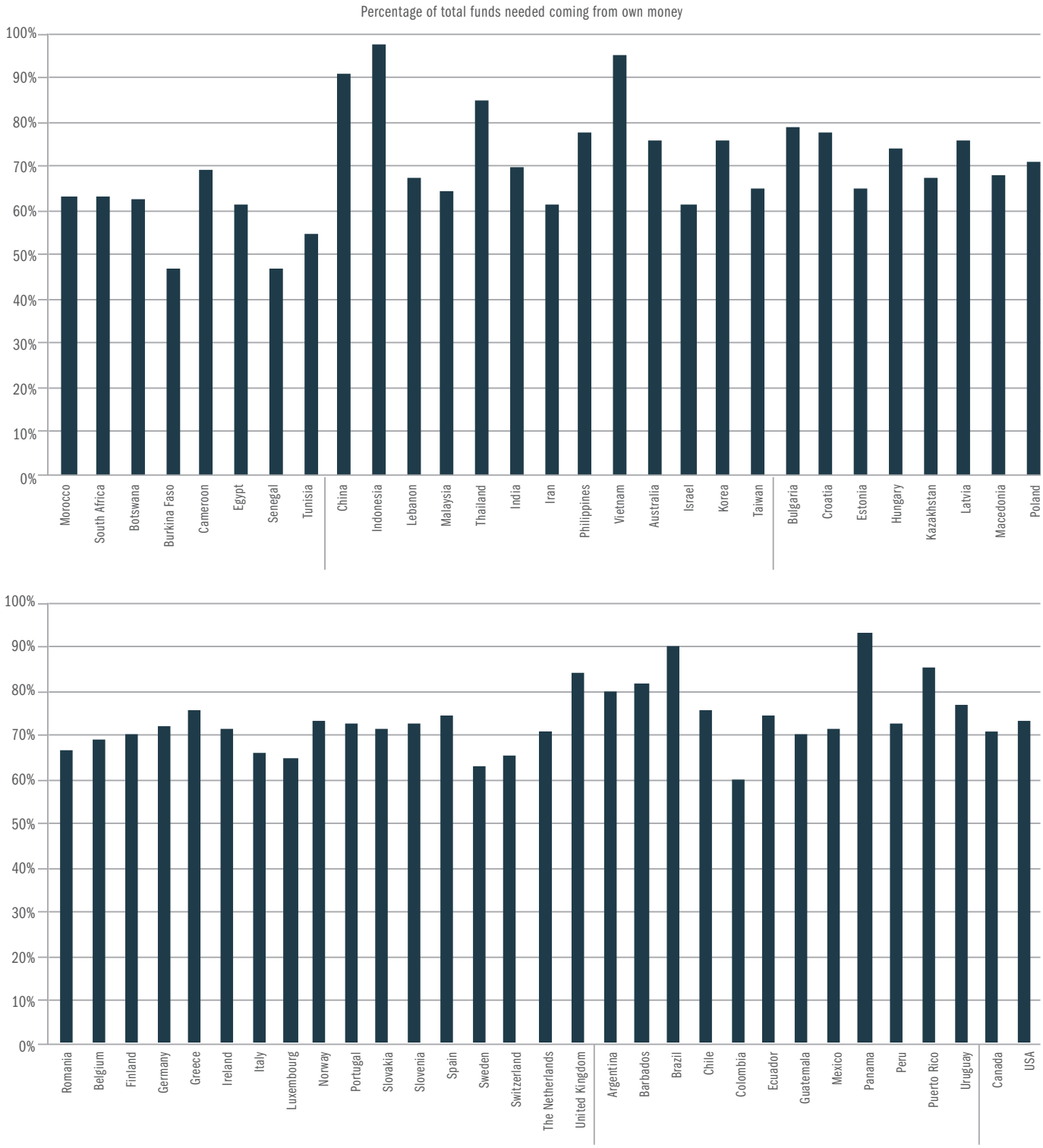


Figure 4: Percentage of the total amount of money required to fund a venture which comes from entrepreneurs' own money, GEM 2015



2.2 SOURCES OF ENTREPRENEURIAL FINANCE

The finding that access to finance is a key problem is a common feature of research on problems facing all entrepreneurs. This is confirmed by the GEM data, which indicates that entrepreneurs rely to a great extent on their personal savings to fund their entrepreneurial ventures in all areas of the globe. From a global perspective, 95% of entrepreneurs use personal funds when starting a business. Israel and Spain, at 79%, report the lowest percentage of entrepreneurs using own money as a source of entrepreneurial finance (**Figure 3**).

Figure 4 indicates the percentage of the total amount of money needed to fund a venture that comes from the entrepreneur's own resources. The average rate of own investment (expected own investment as a share of total required investment) ranges widely. The share of own investment ranges from a low of 47% in Burkina Faso and Senegal (both of which rely heavily on funds from family, at 36% and 45% respectively) to highs of over 90% in China (91%), Panama (93%), Vietnam (95%) and Indonesia (98%).

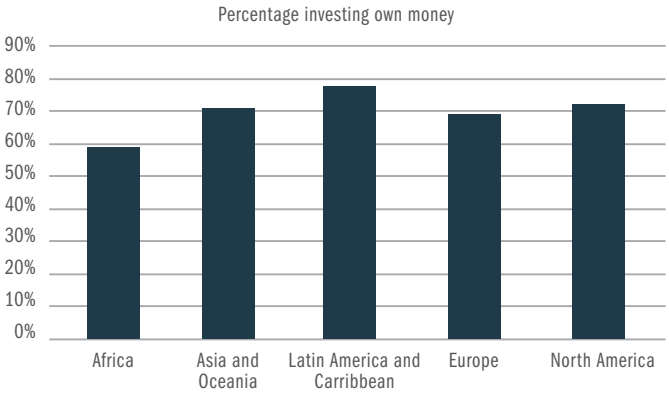
From an individual country perspective, there is considerable variation with respect to other primary sources of funding. Indian entrepreneurs rely most heavily on their network of family (81%) and friends (52%), while employers are most active in supporting entrepreneurial activity in Columbia (25%) and China (22%).

In terms of institutionally-supported finance, banks provided significant lending to entrepreneurs in Peru (49% of the time) as well as in Finland (48%), Ecuador (47%), Colombia (45%), and South Korea (45%). Government supports entrepreneurs most highly in Botswana (37%), Estonia (40%), Ireland (40%), and Greece (44%), indicating that the political leaders in these countries recognise the need for strong ecosystem support to build their entrepreneurial infrastructure.

The venture capital community is becoming more active earlier in the venture funding process with Ireland (25%), United States (24%), Macedonia (22%), and the Philippines (21%) indicating a closer tie to the start-up community.

Crowdfunding has become prevalent as a source of financing in Greece (19%), Guatemala (18%), the United States (15%), Canada (13%), and Finland (13%) – these entrepreneurs are aware of and savvy about how to connect to platforms and garner attention from individual investors.

Figure 5: Average percentage of entrepreneurs using own money to fund their ventures, by region, GEM 2015



Figures 5 and **6** show that the regions differ significantly in terms of the primary sources of financing for early-stage entrepreneurs. In Latin America and the Caribbean, personal savings are an important source of financing for three-quarters of entrepreneurs, while Africa as a region reports the lowest use of own funds (59%). Asia and Oceania reports the highest level of family support, from a financial perspective, for entrepreneurs (49%), followed by Africa at 43%. Africa, Asia and Oceania are the regions also most likely to rely on friends for entrepreneurial finance (with around a fifth of entrepreneurs relying on this source). These are regions that are less likely to have easily accessible lending available from financial institutions, so that entrepreneurs must rely more on their own or family resources.

Banks are an important source of finance in all regions – their funding contributions range from a quarter of entrepreneurs in Africa, Asia and Oceania, up to providing financing for a third of entrepreneurs in North America. The healthy levels of government funding support in North America and Europe, as well as a growing support in Africa are likely to be as a result of politicians become increasingly cognisant that entrepreneurship plays a vital role in the growth of economies. Entrepreneurs in North America are substantially more likely to have access to more sophisticated sources of entrepreneurial funding, such as VC and crowdfunding. Crowdfunding is a new form of funding that allows individuals to support entrepreneurial ventures with small amounts of contributions. Fourteen percent of North American entrepreneurs have already learned how to develop this resource and appeal to individual investors on a broad scale. By contrast, Africa, Asia and Oceania, both at 2%, lag significantly in terms of access to this form of funding.

Figure 6: Sources of finance for early-stage entrepreneurs, by region, GEM 2015

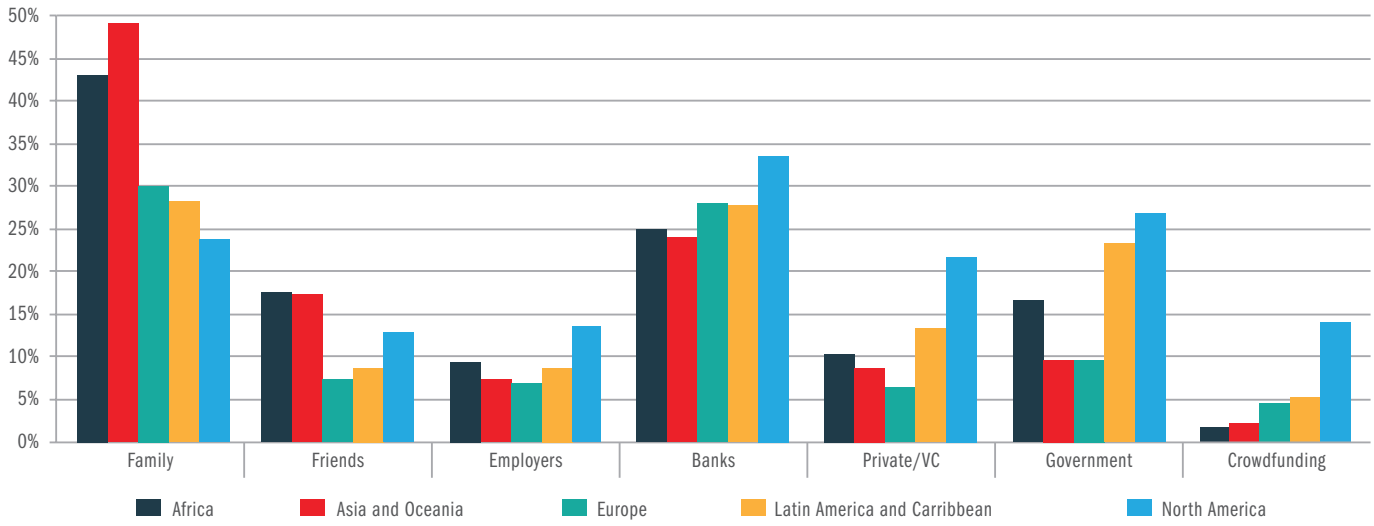


Figure 7: Sources of finance for early-stage entrepreneurs, by phase of economic development, GEM 2015

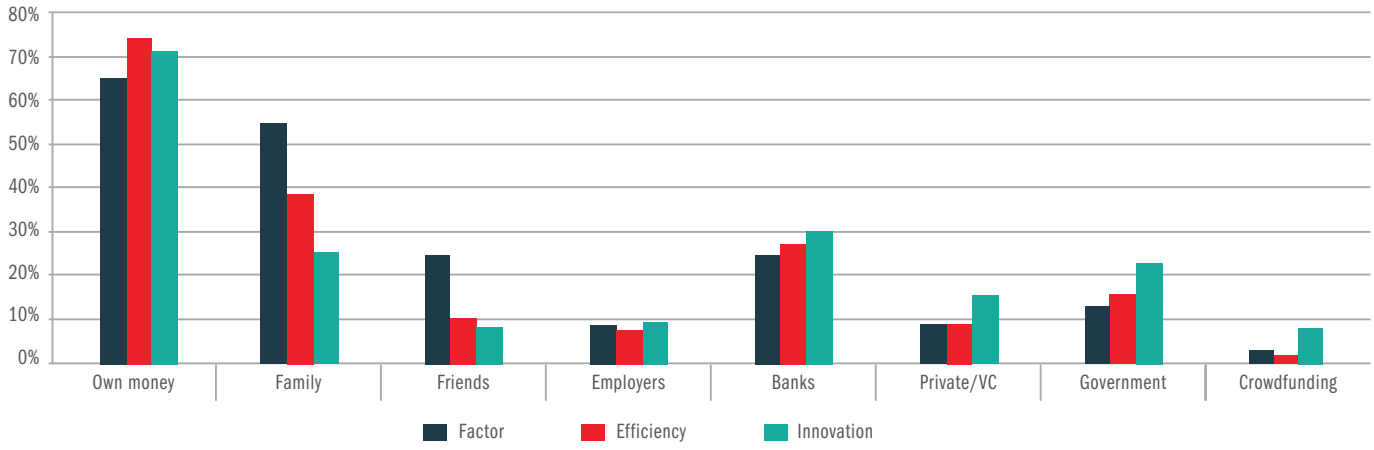


Figure 7 shows that entrepreneurs in efficiency-driven economies relied most on their own resources, with three-quarters of these entrepreneurs using personal savings as a primary source of entrepreneurial finance. Entrepreneurs in factor-driven economies relied more heavily on family and friends, compared to entrepreneurs in the other two economic development phases. Ventures in the innovation-driven economies took most advantage of crowdfunding. Guatemala is an interesting outlier among the efficiency-driven economies, with 6% of entrepreneurs indicating they had used VC funds and 18% of entrepreneurs indicating that they had taken advantage of crowdfunding platforms to raise funds. Guatemalan entrepreneurs made use of Kickstarter and Indiegogo to access individuals in many countries who might fund their enterprise. Students from Guatemala frequently complete higher education in the United States, Europe and Canada, where many they would they would be introduced to the idea of crowdfunding and would be educated in how to use these platforms.

2.3 ENTREPRENEURIAL FINANCE: INFORMAL INVESTORS

As noted in Chapter 1, the impact of informal investment – through friends, family members and colleagues – on entrepreneurship is immense. Entrepreneurs often use informal funding from friends, family members and colleagues because they cannot secure formal investment through VC or other outside funding. Since 2012, an average of 6% of GEM member economies' adult populations have provided informal investment to an entrepreneur per year, totaling over 1 trillion US$ a year over the period 2012 to 2015.

The percentage of the adult population who acted as an informal investor for entrepreneurial ventures varied considerably within the regions. Africa and Latin America and the Caribbean showed the greatest variation. In Africa, the percentage of informal investors in the population ranged from 1% in South Africa to 14% in Senegal, with a regional average of 7%. In Latin America and the Caribbean, the percentage ranged from 1% in Brazil and Puerto Rico to 14% in Chile. Asia and Oceania had a regional average of 4%, ranging from 2% in India to 10% in Vietnam. In Europe, the variation was much smaller – from 1% in Bulgaria, Italy and Portugal to 5% in Estonia, Latvia, Slovakia, and Switzerland. Four percent of the population in Canada and 5% in the United States act as informal investors.

Figure 8 indicates the percentage of early-stage (TEA) entrepreneurs that who received funds from informal investors in each region. Africa (12%) and North America (11%) show the highest levels of informal investment, followed by Asia and Oceania (9%). The average amount of funds provided by informal investors shows marked variation across the regions (**Figure 9**). In Latin America and the Caribbean and Africa, the average amounts provided by informal investors are small (1,510 US$ and 1,520 US$, respectively). Although Europe has the lowest percentage of early-stage entrepreneurs receiving funds from informal investors (6%), these informal investors provide the highest average amounts of funding ($12 583).

Figure 10 shows the recipients of funding from informal investors across the geographical regions. In all regions, the majority of informal investors provide funds to close family members, while a substantial percentage provide funds to friends and neighbours. Latin America and the Caribbean leads in both these categories, with 45% of informal investors providing finance to close family member and 30% supporting friends/neighbours.

Figure 8: Percentage of early-stage (TEA) entrepreneurs receiving finance from informal investors, by region, GEM 2015

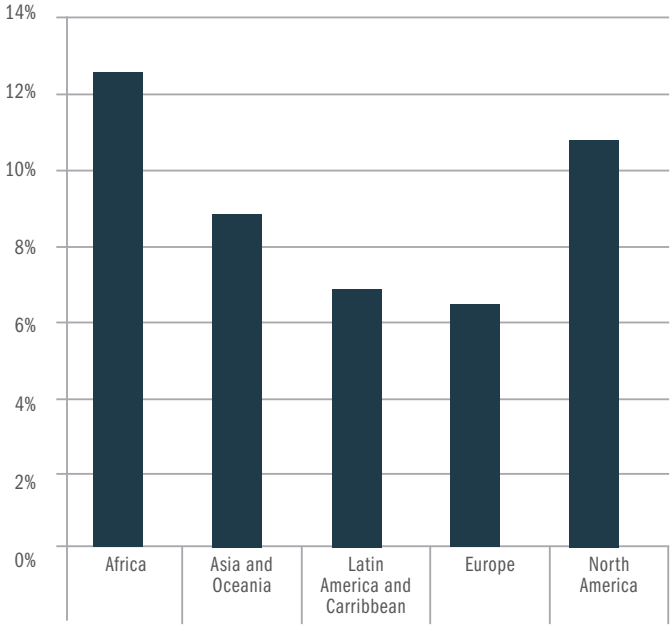
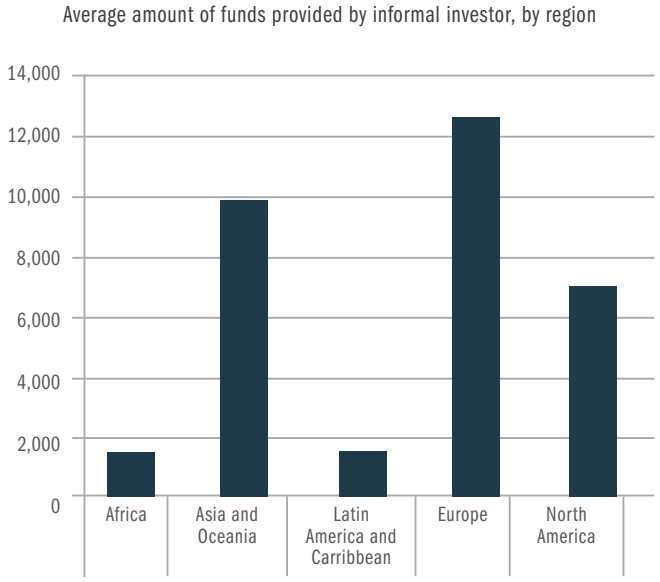
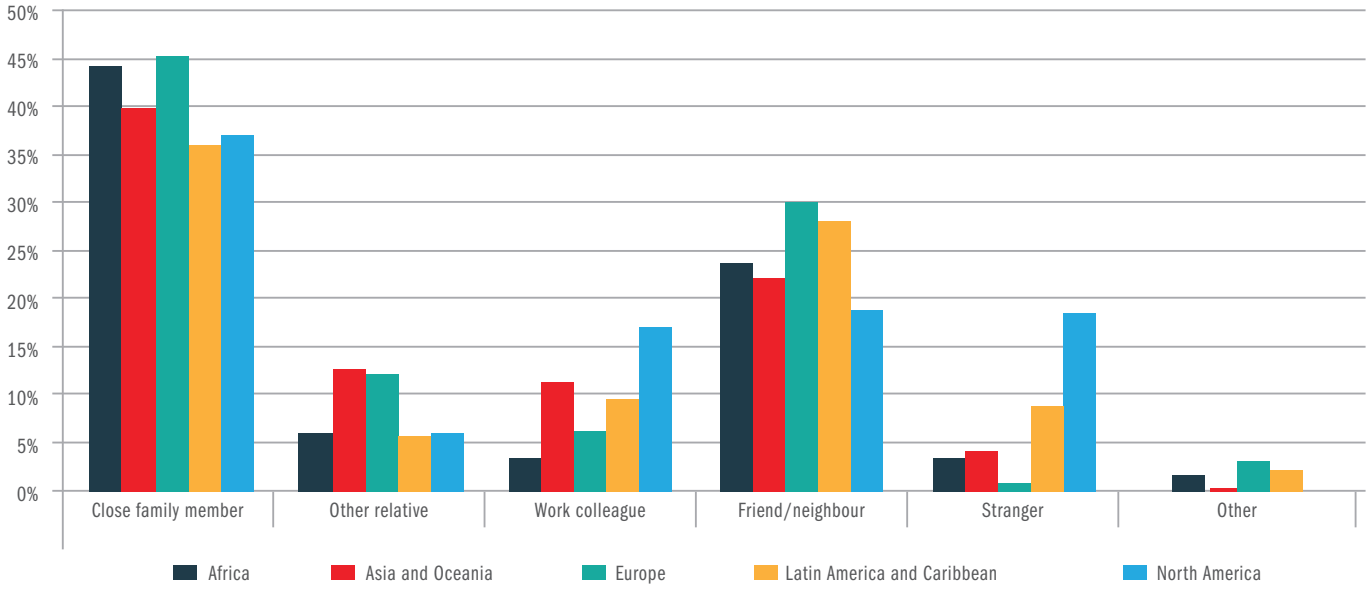


Figure 9: Average* amount of money provided by informal investors (US$), by region, GEM 2015



*Average of median amount of money provided, for all economies in the relevant category

Figure 10: Recipients of informal investor funding, by region, GEM 2105



Informal investors in Asia and Oceania and Latin America and the Caribbean show the highest tendency to provide finance to other relatives – double the percentage in the other three regions, while North Americans are the most likely to fund work colleagues. North Americans are also the group most likely to fund strangers – a fifth of informal investors in North America fall into this category. In Europe, 9% of informal investors are prepared to fund strangers, while in the other three regions, the percentages all fall below 5%.

It is clear that in the regions in which factor- and efficiency-driven economies predominate (Africa, Asia and Oceania and Latin America and the Caribbean), a close personal relationship between investor and recipient is an important criterion. The availability of the Internet and other forms of technology is also likely to be an important factor. In more developed areas (such as North America, in particular), the Internet is an important medium through which entrepreneurs are able to connect with communities of funders, rather than having to rely on geographical proximity as is the case in regions characterised by small social settlements and poor infrastructure. The median amounts of funds provided by female and male informal investors vary to a large extent within each geographic area. In Africa, the median amount provided by female informal investors ranges from 51 US$ for Burkina Faso to 6,475 US$ for Egypt. For male informal investors the range is 181 US$ (Botswana) to 4,359 US$ (Tunisia). In Asia and Oceania, the median amount provided by female informal investors ranges from 156 US$ for the Philippines to 66,375 US$ for Korea. For male informal investors, the range is 398 US$ (Malaysia) to 44,250 US$ (Korea). In Latin America and the Caribbean, the median amount provided by female informal investors ranges from 156 US$ for Brazil to 10,000 US$ for Puerto Rico. For male informal investors, the range is 183 US$ (Uruguay) to 15,611 US$ (Brazil). In the European Union, the median amount provided by female informal investors ranges from 284 US$ for Estonia to 56,344 US$ for the Netherlands. For male informal investors, the range is 213 US$ (Estonia) to 82,158 US$ (Norway). In Canada and the United States, the median amount provided by female informal investors is 3,969 US$ and 5,000 US$, respectively, while for male informal investors it is 7,343 US$ and 14,000 US$, respectively.

Table 2 indicates that Africa, as a region, has the biggest discrepancy between the average amounts of funding provided by female and male informal investors. Male African informal investors provide twenty times more money than their female counterparts. In Asia and Oceania and Europe, on the other hand, female informal investors provide, on average, more funding than their male counterparts. In Europe, female informal investors provide almost double the amount of money, compared to male investors.

Table 2: Average* amount of money provided by informal investors, by gender and region, GEM 2015

Region	Average amount of money provided by female informal investors (US$)	Average amount of money provided by male informal investors (US$)
Africa	1,268	26,855
Asia and Oceania	11,482	9,908
Latin America and the Caribbean	1,816	2,762
European Union	23,876	12,474
North America	4,485	10,672

*Average of median amount of money provided, for all economies in the relevant category

2.4 FUNDING REQUIREMENTS: GENDER

Figure 11 indicates the average amount of money required to start a business, disaggregated according to gender, for all economies in the GEM 2105 cycle. Women stated that they needed fewer funds to start a business than men in all economies except Malaysia (3,054 US$ compared with 2,655 US$) and Luxembourg (16,650 US$ compared with 13,870 US$). In the country with the largest discrepancy between the amounts women and men needed for funding, Canada, men stated that they needed on average 33,730 US$ to start a business whereas women indicated 3,970 US$ – an 8.5 times difference. The discrepancy indicates that even in developed economies, women are still entering into different types of businesses than men, focusing more on the business-to-consumer models than business-to-business customers. When the data is disaggregated according to phase of economic development, male entrepreneurs in factor-driven economies stated that they needed 2.8 times, on average, more than women to start a business. For efficiency- and innovation-driven economies, the multiple was 2.4 times.

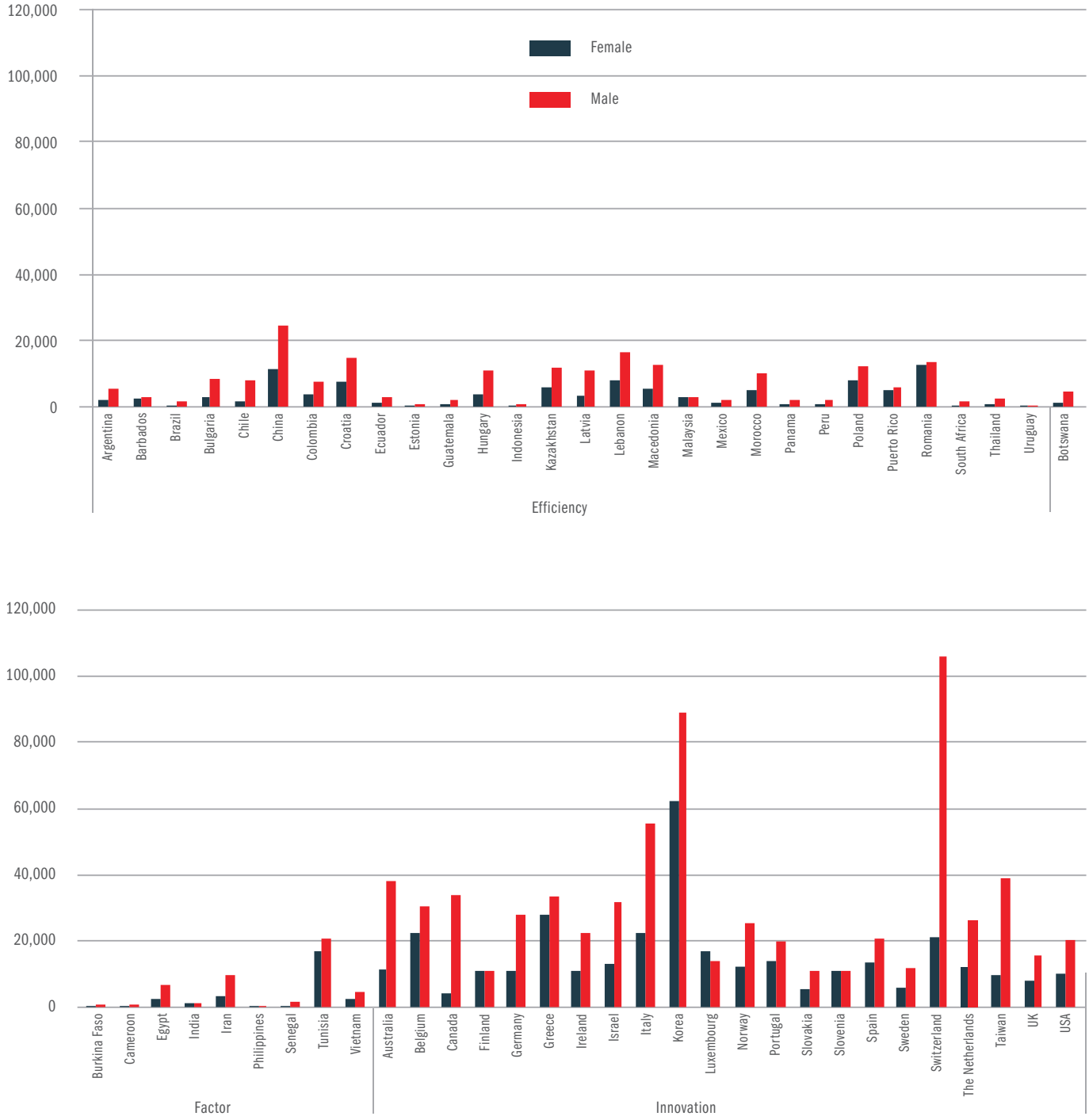
The data therefore suggests that there is a gender gap in almost every economy. This most probably ref ects the difference in the types of ventures that women and men tend to start.

These differences exist, irrespective of type of economy or geographic region. The *GEM Special Report on Women's Entrepreneurship (2015)* found that a substantial majority (more than two-thirds) of early-stage entrepreneurship activity by women is in the consumer services sector. Reasons for this range from differences in laws that restrict the types of jobs that women are permitted to engage in, to the fact that women have limited access to owning land or being able to engage in agricultural activities. Proportionately, women entrepreneurs are about half as likely as men entrepreneurs to be involved in the transforming sector and over 40% less likely to be active in the business services sector[2]. In addition, women who engage in entrepreneurial activity are more likely to be motivated by necessity. The *GEM Global Report 2105/16* notes that the factor-driven economies have the highest average female TEA rates and the highest rate relative to men. Among these entrepreneurs, however, women are nearly one-third more likely to start businesses out of necessity than men[3].

2 Kelley, D., Brush, C, Greene, P., Herrington, M., Ali, A. and Kew, P. Global Entrepreneurship Monitor 2014/2015: Special Report on Women's Entrepreneurship. Global Entrepreneurship Research Association, 2015. www.gemconsortium.org

3 Kelley, D., Singer, S. and Herrington, M. *Global Entrepreneurship Monitor 2015/16: Global Report*. Global Entrepreneurship Research Association, 2016. www.gemconsortium.org

Figure 11: Average* amount of money required to start a business (US$), by gender, GEM 2015

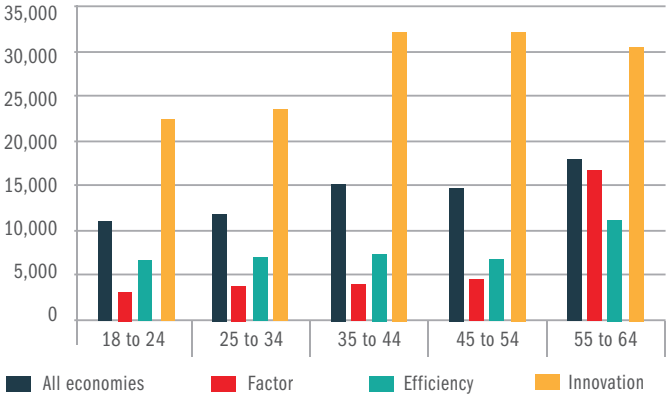


*Average of median amount of money required, for each economy

2.5 FUNDING REQUIREMENTS: AGE

The inf uence of age on entrepreneurial activity tends to be very similar throughout GEM. The prevalence of early-stage entrepreneurial activity tends to be relatively low in the 18 to 24 years cohort, peaks among 25 to 34 year olds, and then declines as age increases with the sharpest decrease after the age of 54. The higher prevalence of entrepreneurial activity between the ages of 25 and 44 could be attributed to the fact that these individuals have had time to develop their skills and knowledge through education as well as through work experience, building their confidence in their own abilities. A critical factor is that they may have accumulated other resources such as networks, personal savings and access to other financial resources. Although access to finance is a perennial problem for all small businesses, the youth are particularly vulnerable to this limitation. Young people often have no credit history or assets to serve as collateral in order to secure loans from financial institutions. In the 25 to 34 age cohort, in addition, they may be a little less established in a career that may offer high salaries and perks (less opportunity costs) or they may have fewer financial obligations such as families to support and loan repayments.

Figure 12: Average* amount of money required to start a business (US$), by age and phase of economic development, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

Figure 12 indicates the average of the median amount of money needed to start a business, disaggregated according to age and phase of economic development. In factor-driven economies, 18 to 24 year olds needed, on average, 3,264 US$ to start a business. The amount of funding increased slightly for each of the following three age cohorts, with a marked spike in the amount needed by 55 to 64 year olds (at almost 17,000 US$, it is about four times more than the average amount needed by entrepreneurs in the other age cohorts).

The *2015/16 GEM Global Report* notes that compared to the other two development phases, the factor-driven economies show relatively high participation among the oldest age group – 17% of the adult population aged 55 to 64 are involved in entrepreneurial activity, compared to 9% in efficiency and 5% in innovation-driven economies[4]. For efficiency-driven economies, 18 to 24 year olds stated that 7,100 US$ suited their needs. The 55 to 64 year olds again said that they needed the most funding, at just under 11,500 US$; however, the margin (relative to the other age cohorts) is much smaller than for the factor-driven economies. Compared to the other two development phases, entrepreneurs in the innovation-driven economies required substantially more funding to start their businesses across all age groups. The 35 to 44 year olds had the highest funding requirements at almost 32,400 US$, with the lowest average amount needed by 18 to 24 year olds (22,670 US$).

4 Ibid

2.6 HOW ENTREPRENEURS USE THEIR FUNDING

2.6.1 Funding needs of necessity and opportunity entrepreneurs

The relative prevalence of opportunity-motivated versus necessity-motivated entrepreneurial activity provides useful insights into the quality of early-stage entrepreneurial activity in a given economy.

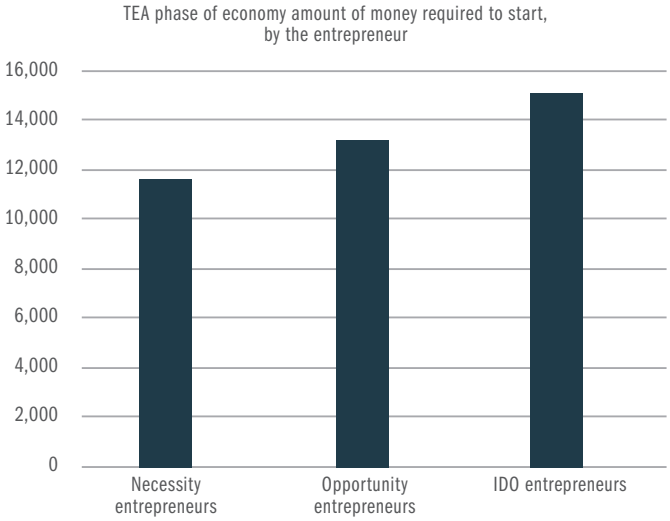
Necessity based early-stage entrepreneurial activity: This is defined as the percentage of those involved in early-stage entrepreneurial activity who claim to be driven by necessity (having no better choice for work) as opposed to opportunity. This is also described as survivalist-driven motivation.

Opportunity based early-stage entrepreneurial activity: This is the percentage of those involved in early-stage entrepreneurial activity driven purely or partly by opportunity, as opposed to finding no other option for work. This includes taking advantage of a business opportunity or having a job, but seeking a better opportunity.

GEM research has shown that businesses started by opportunity-driven entrepreneurs are much more likely to survive and employ people than those started by necessity-driven entrepreneurs. One would therefore expect economies with higher developmental levels to have a high ratio of opportunity entrepreneurs to necessity entrepreneurs. However, in developing countries the levels of necessity-driven entrepreneurship tend to be high unless there is some form of 'security blanket' in the form of social benefits, pensions, child support, etc.

The *2015/16 GEM Global Report* notes that most entrepreneurs around the world are opportunity-motivated. Even in the factor- and efficiency-driven economies, 69% of entrepreneurs stated that they chose to pursue an opportunity as a basis for their entrepreneurial motivations, rather than starting out of necessity (i.e. because they had no better options for work). The innovation-driven economies show a higher proportion of opportunity-motivated entrepreneurs, at 78%. At a regional level, necessity-driven entrepreneurship was highest in Africa and Latin America and the Caribbean, with 30% of entrepreneurs, on average, citing this motive. On the whole, opportunity-driven entrepreneurs stated that they needed more funds to start their businesses (**Figure 13**). The highest funding requirements were reported by those

Figure 13: Average* amount of money required to start a business (US$), by entrepreneurial motivation, GEM 2015



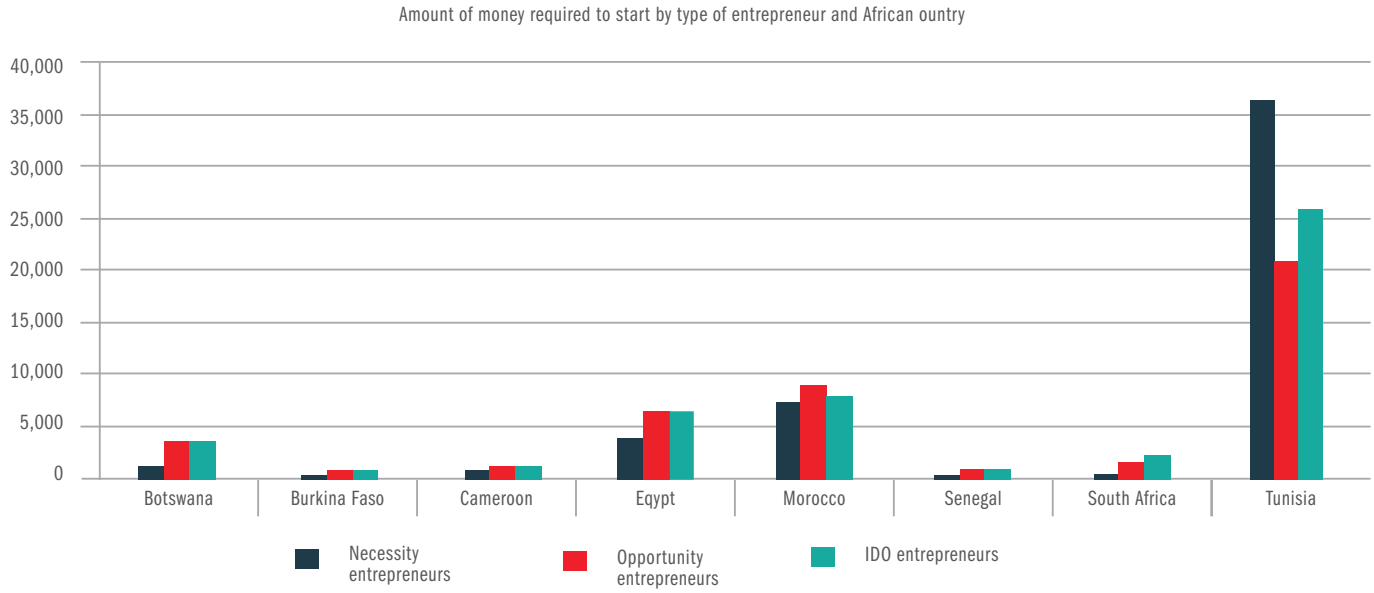
*Average of median amount of money needed, for all economies in the relevant category

entrepreneurs seeking to improve their situation, either through increased independence or through increased income (versus maintaining their income). GEM calls these entrepreneurs improvement-driven opportunity (IDO) entrepreneurs.

For the most part, entrepreneurs in factor-driven economies needed less money to start than did those in efficiency-driven economies, while innovation-driven economies required the most funding because of the higher cost of technology and skills required to start businesses in these economies. Within most of the geographical regions, the economies showed dramatic variation in terms of the amount of finance required for both necessity- and opportunity-driven ventures. In Africa, necessity entrepreneurs in Tunisia stated they needed the most (35,894 US$) whereas those in Burkina Faso needed the least – just a few hundred dollars. African opportunity entrepreneurs' amounts ranged from just over 500 US$ in Burkina Faso to Tunisia at 20,500 US$ (**Figure 14**).

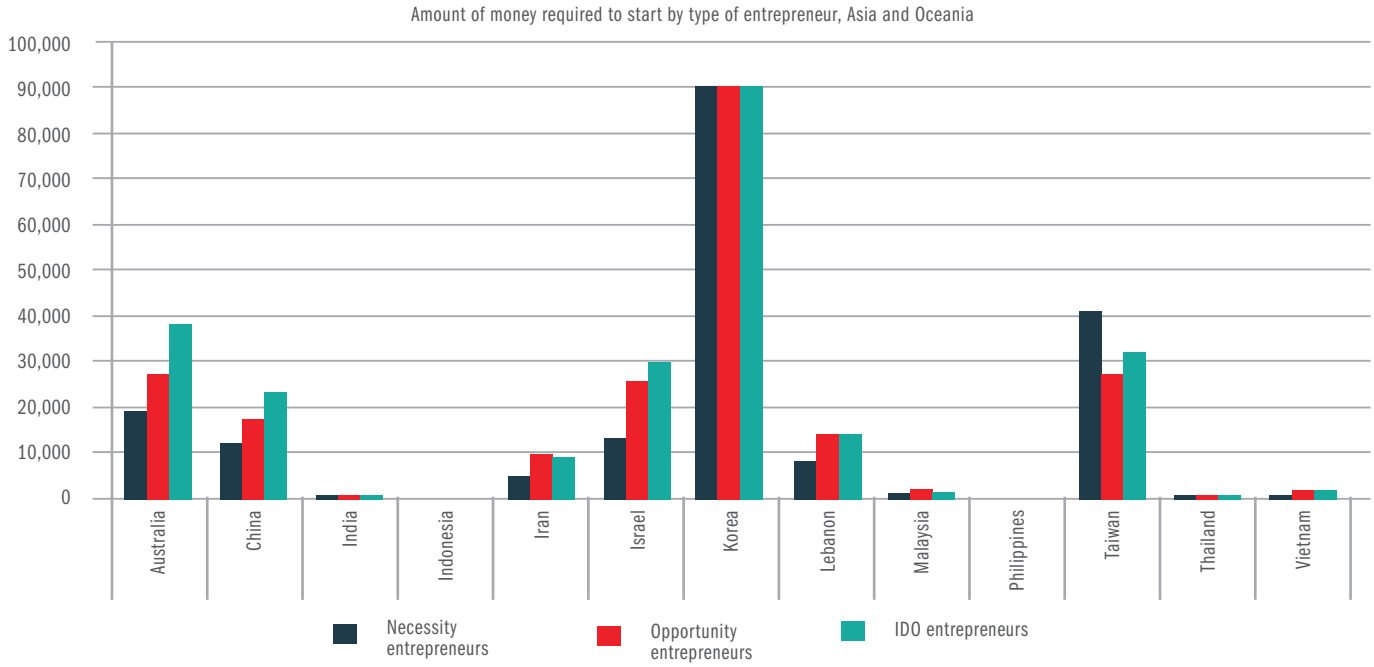
Figure 15 shows that in Asia there were vast differences as well, with South Korea requiring over 88,000 US$ to start a venture based on necessity or opportunity and Indonesia and the Philippines requiring just over 200 US$ for necessity-driven ventures and 369 US$ and 332 US$ for opportunity-driven ventures, respectively.

Figure 14: Average* amount of money required to start a business (US$) in African economies, by entrepreneurial motivation, GEM 2015



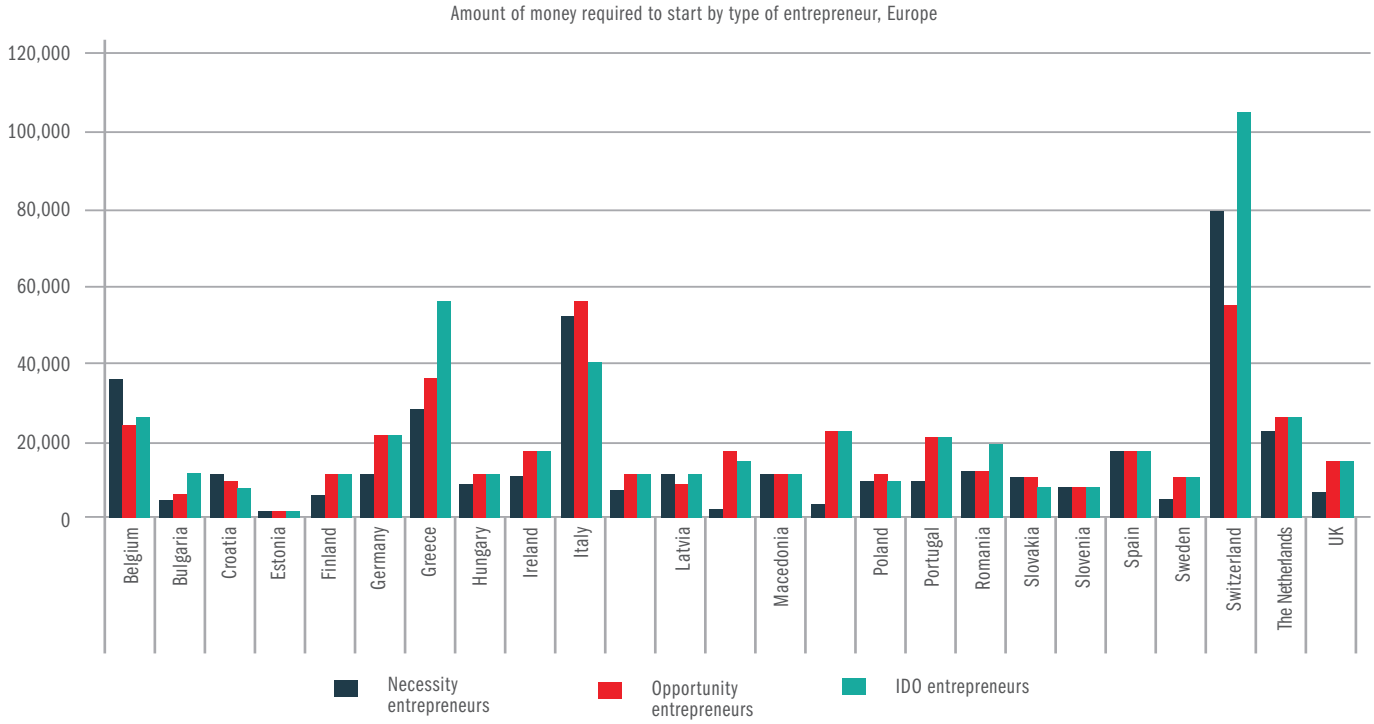
*Median amount of money needed, for each economy

Figure 15: Average* amount of money required to start a business (US$) in Asia and Oceania economies, by entrepreneurial motivation, GEM 2015



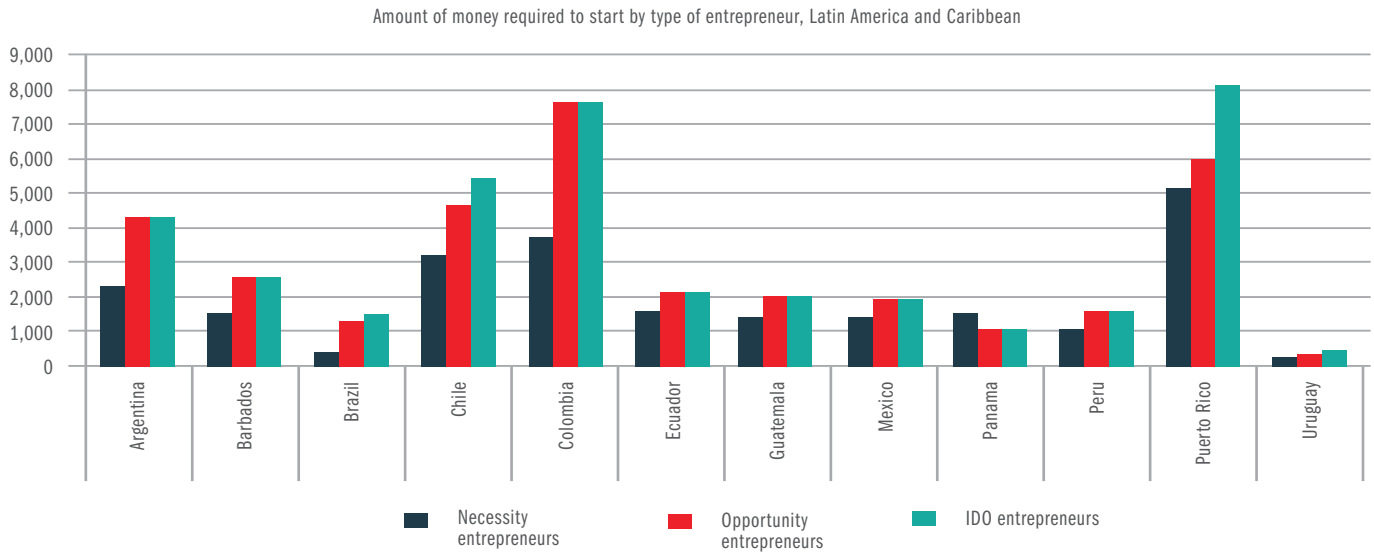
*Median amount of money needed, for each economy

Figure 16: Average* amount of money required to start a business (US$) in European economies, by entrepreneurial motivation, GEM 2015



*Median amount of money needed, for each economy

Figure 17: Average* amount of money required to start a business (US$) in Latin American and the Caribbean economies, by entrepreneurial motivation, GEM 2015



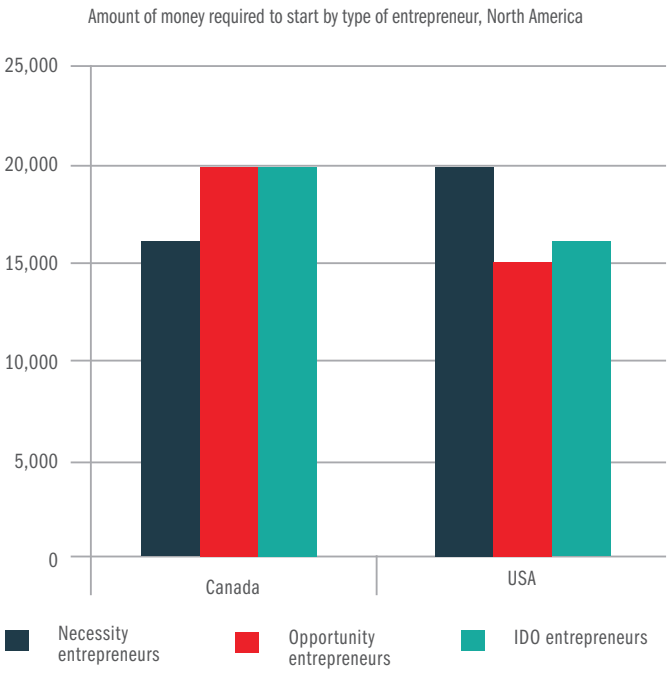
*Median amount of money needed, for each economy

In Europe, Estonian necessity entrepreneurs started businesses with a median of 567 US$, whereas Swiss entrepreneurs stated that more than 79,000 US$ was required, reflecting the enormous differences in European economies (**Figure 16**). Similar differences existed among entrepreneurs starting a business to pursue opportunities, with Estonian entrepreneurs stating that 567 US$ would suffice to start an opportunity-oriented venture, while Italian opportunity entrepreneurs required 55,500 US$ – again highlighting the diversity in ventures in Europe.

Figure 17 shows that in Latin America, necessity entrepreneurs ranged from Brazil at just 312 US$ to Puerto Rico, where entrepreneurs said that they needed 5,000 US$. Opportunity-driven entrepreneurs in Peru needed just less than 1,600 US$ and those in Colombia just over 7,500 US$.

In North America, there was markedly less variation, reflecting the strong economic similarities between Canada and the United States. Necessity entrepreneurs needed a median of just under 16,000 US$ (Canada) and 20,000 US$ (US). Opportunity-driven ventures in Canada required just under 20,000 US$, while those in the United States needed 15,000 US$ (**Figure 18**).

Figure 18: Average* amount of money required to start a business (US$) in North American economies, by entrepreneurial motivation, GEM 2015



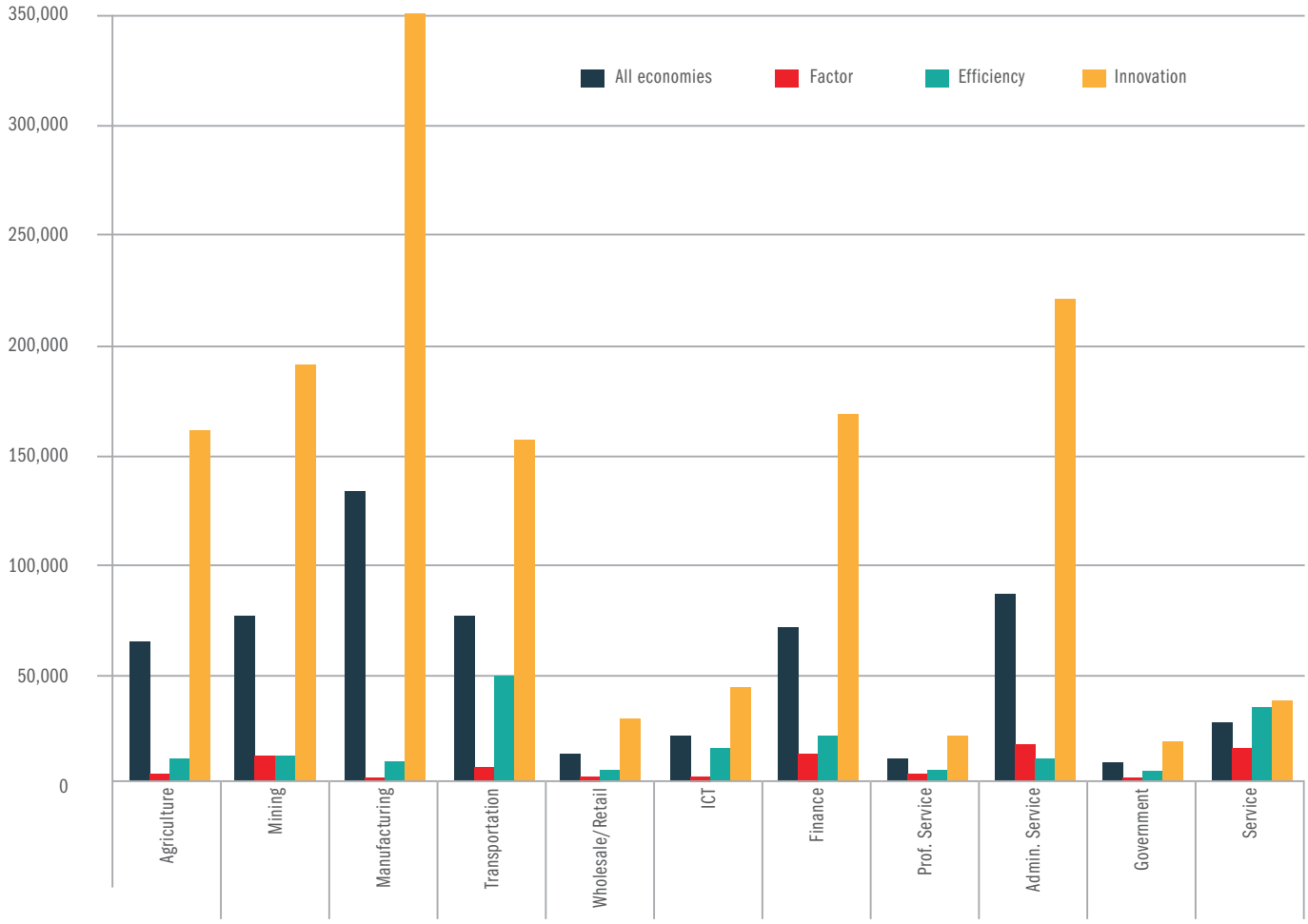
*Median amount of money needed, for each economy

2.6.2 Funding needs according to industry sector

The *2015/16 GEM Global Report* highlights important differences in industry participation among the regions. Half or more of the entrepreneurs in Africa, Asia and Oceania, and Latin America and the Caribbean are starting wholesale or retail businesses, compared to only just over a quarter of entrepreneurs in Europe and North America. In contrast, around half of North American and European entrepreneurs operate in knowledge and service-based industries (information and communications, financial, professional, health, education and other services) compared to less than a quarter of the entrepreneurs in the other regions. A similar divide in terms of these two groups of industries can be seen between the factor- and efficiency-driven group averages, (which tend to include most of African, Asia and Oceania, and Latin America and the Caribbean), and the innovation-driven economies, which account for both North American and most European economies in the 2015 GEM sample.

Figure 19 shows the average amount of money used by early-stage entrepreneurs in different industry sectors, and phases of economic development. Factor-driven economies have high levels of activity in agriculture and mining, since they depend on natural resources to a large extent, but innovation economies lead the way in terms of average amount spent in both agriculture (160,500 US$) and mining (189,574 US$), indicating that they invest in technology and equipment to carry most of the workload. In factor-driven economies, on the other hand, production is labour-intensive, with a significantly lower spend for agriculture (5,700 US$) and mining (just under 13,000 US$). Efficiency-driven economies have improved processes but have not invested in the latest technology; they fall between factor- and innovation-driven economies, with average median spend for agriculture of 12,200 US$ and 12,500 US$ for mining.

Figure 19: Average* amount of money required (US$), by industry sector and phase of economic development, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

Factor-driven economies do less manufacturing than both efficiency- and innovation-driven economies and entrepreneurs spend, on average, 3,600 US$ to start a business in this sector. Efficiency-driven economy entrepreneurs invest in manufacturing processes and quality improvements and spend, on average, just over 11,000 US$ to start up. Entrepreneurs in innovation-driven economies, again, rely on technology and equipment more than on manual labour and have highly automated processes in their manufacturing industries. Average spending requires large, upfront investment, and innovation-driven entrepreneurs spend on average 350,000 US$ to start their businesses.

All types of infrastructure – including transportation, information and communications technology (ICT), and finance – provide the support for all industries in an economy. Entrepreneurs in innovation-driven economies spend the most, on average, on all three industries, since demand is high for the strong infrastructural support whichthat other industries need to function optimally. The average spend in innovation-driven economies is 157,000 US$ for transportation, 44,500 US$ for ICT, and 168,350 US$ for finance ventures. Entrepreneurs in efficiency-driven economies spend on average 49,000 US$ to start a transportation business, 16,000 US$ for ICT, and 22,400 US$ for finance start-ups.

Factor-driven economy entrepreneurs face considerable challenges to design and construct infrastructure. In many instances, they are the first or early providers of infrastructure and spend, on average, 8,500 US$ to start a venture in transportation, 4,500 US$ in ICT, and 13,900 US$ for finance.

Innovation-driven economies have experienced significant developments in wholesale and retail, professional services, administrative services, and services, and have the strongest consumer economies. To start a company in wholesale and retail, the average entrepreneur spends 30,000 US$. Professional services entrepreneurs invest 22,650 US$ to start up and administrative services companies that can provide outsourcing of a wide variety of services spend 219,000 US$ to start up. Services company entrepreneurs in innovation-driven economies spend 38,230 US$ to begin.

Efficiency-driven economies are in the process of setting up wholesale and retail distribution, as well as professional services, administrative services, and services. Growth in consumer demand, as well as a strengthening middle class, support the rise of these companies. Entrepreneurs who started companies in wholesale and retail spent 7,200 US$, those in professional services 6,400 US$, administrative services 11,200 US$, and services 35,100 US$.

Factor-driven economies' wholesale and retail distribution systems are rudimentary but active, and entrepreneurs spend 4,600 US$ to start businesses in this sector. To start a professional services venture costs 5,235 US$. Start-ups in administrative services (17,650 US$) and services (15,875 US$) are considerably more costly.

2.6.3 Funding needs according to job creation aspirations

A key focus in many economies' development strategies is to facilitate growth that is sustainable and inclusive, in order to generate widespread employment and to reduce poverty. The potential of the SMME sector to create job opportunities is thus a crucial factor. GEM asks early-stage entrepreneurs how many employees (other than the owners) they currently have and expect to have in the next five years. The difference between current and expected employees indicates growth expectations. It is important to note that the expressed growth potential has, as yet, not been tested – however, businesses that do not aspire to grow are significantly less likely to do so successfully.

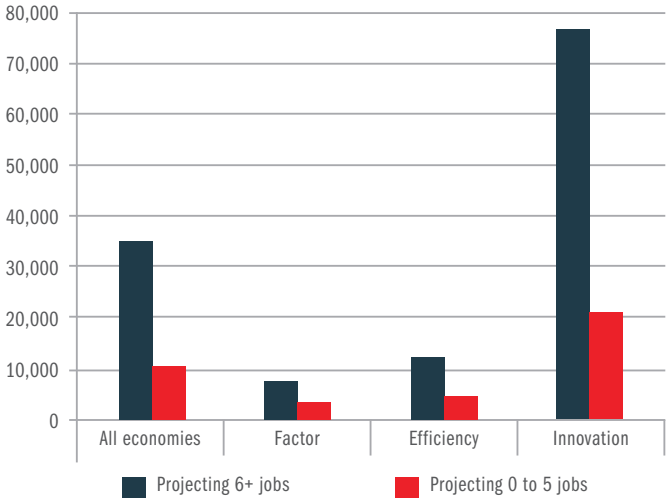
Research has shown that innovative and high-growth enterprises are extremely mobile and will move from areas in which they feel their growth potential is being constrained. Small businesses and high-growth businesses have different finance requirements, with small businesses needing better access to grants, subsidies and soft loans, while policies that promote research and development (R&D) loans and innovation grants, business angel finance and venture finance would be more beneficial in promoting high-growth entrepreneurs[5]. Alleviating regulatory burdens, as well as offering targeted financial support is important in developing an environment that allows high-growth businesses to f ourish.

Figures 20 and **21** show the average amount of funding required by entrepreneurs with medium to high growth expectations (i.e. who anticipate building businesses capable of creating six jobs or more) compared to the funding needs of entrepreneurs who predict that they will add zero to five jobs.

The funding requirements of high-growth entrepreneurs in innovation-driven economies are substantially higher than for high-growth entrepreneurs in efficiency- and factor-driven economies. The average amount of funding required by entrepreneurs in innovation-driven economies who anticipate creating six or more jobs is 76,876 US$, compared to 11,854 US$ for efficiency and 7,767 US$ for factor-driven economies. High-growth entrepreneurs in innovation-driven economies require almost four times more funding than those who anticipate creating zero to five jobs. The differential is 2.5 and 2.3 in efficiency and factor-driven economies, respectively.

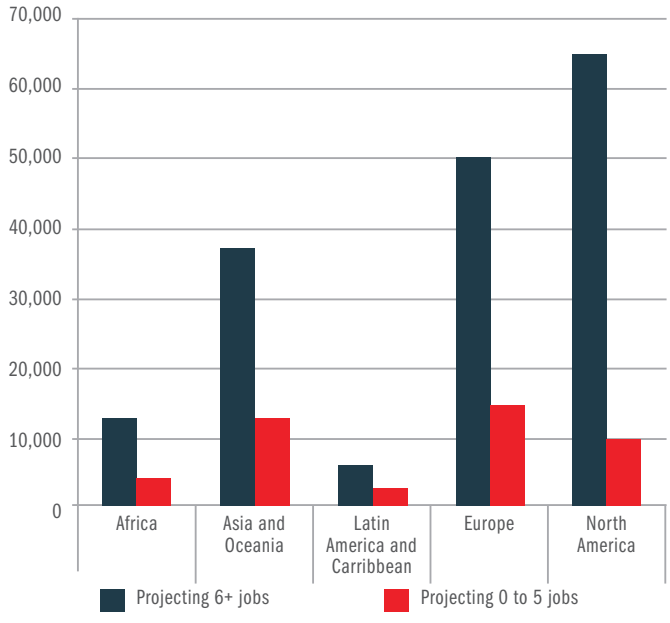
5 Erkko A. 2007. *2007 Global Report on High-Growth Entrepreneurship*

Figure 20: Average* amount of money required (US$), by job creation aspirations and phase of economic development, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

Figure 21: Average* amount of money required (US$), by job creation aspirations and region, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

The average amount of funding needed by entrepreneurs who predict they will add zero to five jobs in factor-driven economies is 3,350 US$, while in efficiency- and innovation-driven economies it is 4,569 US$ and 20,864 US$, respectively.

From a regional perspective, the Latin America and the Caribbean region shows the smallest difference in funding requirements between medium to high-growth and low growth entrepreneurs, while North America shows the greatest difference. In North America, entrepreneurs projecting six-plus jobs require seven times more money, on average, than those projecting zero to five jobs, compared to a differential of 2.5 in Latin America and the Caribbean. The average amount of funding needed by entrepreneurs who anticipate building businesses capable of creating six jobs or more is Africa 11,994 US$; Asia and Oceania 36,721 US$; Latin America and the Caribbean 5,391 US$; European Union 49,959 US$; and North America 64,693 US$. By contrast, the average amount of funding needed by entrepreneurs who predict they will add zero to five jobs is Africa 3,844 US$; Asia and Oceania 12,295 US$; Latin America and the Caribbean 2,125 US$; European Union 14,389 US$; and North America 8,969 US$.

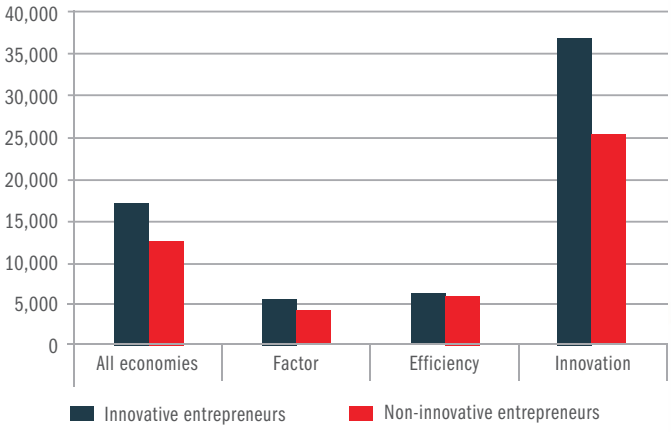
2.6.4 Funding needs according to level of innovation

Innovation and entrepreneurship are closely connected concepts. It is argued that entrepreneurs disrupt market equilibrium by introducing new product-market combinations into a market, teaching customers to want new things and driving out less productive firms as their innovations advance the production frontier. Innovation goes beyond just creating novel products and services. To commercialise their innovations, entrepreneurs need to identify new market niches and develop creative ways to offer, deliver and promote their products. All of this requires an awareness of competitive offerings, and the ability to incorporate this knowledge into distinct products and services. Innovation capabilities are thus important to economies' ability to become competitive, particularly in higher-productivity sectors.

Figure 22 indicates that the difference in funding requirements between innovative and non-innovative entrepreneurs in factor- and efficiency-driven economies is minimal. The average amount of funding needed by innovative entrepreneurs in factor-driven economies is 5,249 US$, compared to 4,090 US$ for non-innovative entrepreneurs. In efficiency-driven economies, the averages are 5,905 US$ for innovative and 5,672 US$ for non-innovative entrepreneurs. The biggest difference in the average amount of money needed is in innovation-driven economies, where innovative entrepreneurs need about 1.5 times more funds to start their businesses than non-innovative entrepreneurs (36,628 US$ versus 25,001 US$).

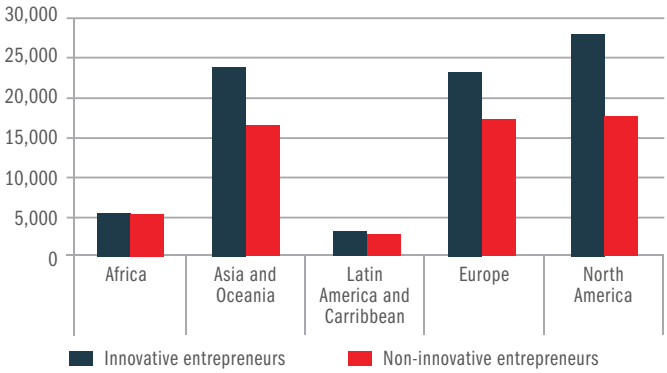
The *2015/16 GEM Global Report* notes that from a regional perspective, innovation levels are highest in North America and lowest in Africa. **Figure 23** indicates that in Africa, there is no difference in the amount of money required for start-up by innovative compared to non-innovative entrepreneurs (5,154 US$ compared to 5,154 US$). In North America, innovative entrepreneurs need 1.6 times more funding than non-innovative entrepreneurs (27,862 US$ versus 17,423 US$). In the other three regions, the average amount of money needed by innovative entrepreneurs is 22,054 US$ in Asia and Oceania, 3,085 US$ in Latin America and the Caribbean and 22,315 US$ in Europe. The average amount of funding needed by non-innovative entrepreneurs is Asia and Oceania 15,231 US$; Latin America and the Caribbean 2,535 US$; and Europe 16,538 US$.

Figure 22: Average* amount of money required (US$), by innovation level and phase of economic development, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

Figure 23: Average* amount of money required (US$), by innovation level and region, GEM 2015



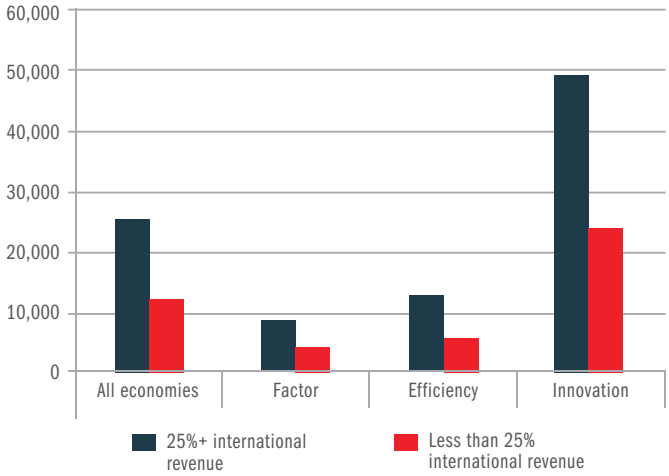
*Average of median amount of money needed, for all economies in the relevant category

2.6.5 Funding requirements according to degree of international orientation

For many entrepreneurs, internationalisation is a means to access larger and more diverse markets. In economies with large and relatively aff uent internal markets, there may be less incentive for early-stage entrepreneurs to reach out to international markets. The ability to sell internationally is inf uenced by a range of factors: for example, the ability to conduct supply and distribution activities through the Internet, particularly to the extent this facilitates international trade. GEM regards entrepreneurs who aim to have more than 25% of their customers coming from international markets as having a strong international orientation. **Figure 24** indicates that for all three phases of economic development, entrepreneurs with 25% or more international revenue require around twice as much money as entrepreneurs with the less than 25% international revenue. The average amount of funding needed by entrepreneurs with 25% or more international revenue is 8,255 US$ for factor-driven; 12,321 US$ for efficiency-driven and 48,826 US$ for innovation-driven economies. Entrepreneurs with less than 25% international revenue need an average of 3,781 US$ for factor-driven; 5,302 US$ for efficiency-driven and 23,550 US$ for innovation-driven economies.

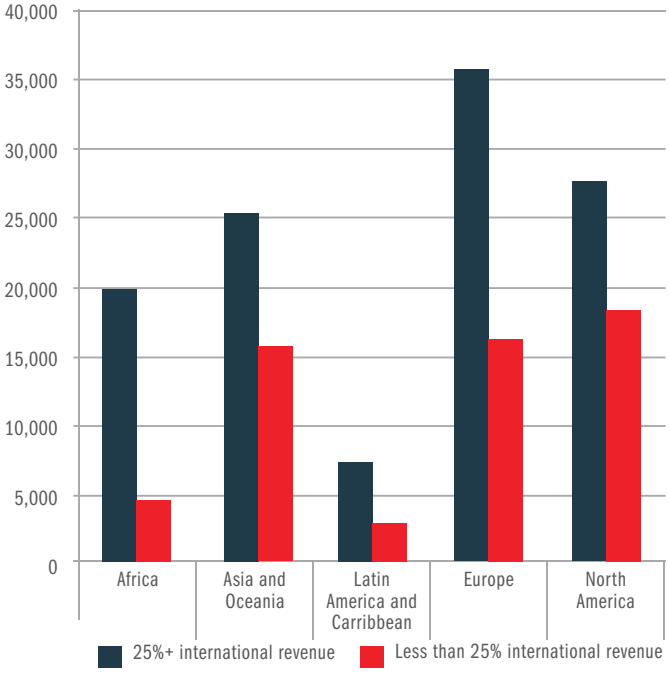
The 2015/16 GEM Global Report indicates that Europe and North America report the highest internationalisation levels of all the regions, with each region reporting, on average, around one fifth of entrepreneurs with substantial international sales. The report notes that European economies exhibit among the highest levels on this indicator, with Luxembourg, Switzerland, Croatia and Slovenia, for example, each containing over a third of entrepreneurs with substantial international sales. **Figure 25** indicates that European entrepreneurs with strong international orientation have the highest funding requirements, followed by North America. Africa is the region with the largest difference in funding needs with respect to degree of internationalisation. Entrepreneurs in Africa with 25% or more international revenue need almost 4.5 times more money, on average, than those with less than 25% international sales (19,428 US$ compared to 4,422 US$). The average amount of funding needed by entrepreneurs with more than 25% international revenue is Asia and Oceania (23,192 US$); Latin America and the Caribbean (6,505 US$); Europe (34,187 US$); and North America (27,346 US$). The average amount of funding needed by entrepreneurs with less than 25% international revenue is Asia and Oceania (14,401 US$); Latin America and the Caribbean (2,602 US$); Europe (15,395 US$); and North America (17,939).

Figure 24: Average* amount of money required (US$), by degree of international orientation and phase of economic development, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

Figure 25: Average* amount of money required (US$), by degree of international orientation and region, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

POLICY BRIEF

ISRAEL

Population:
8.2 million (2014)

GEM TEA rate:
10.0% (2013)
11.8% (2015)

GDP:
303,8 billion US$ (PPP 2014)

SMME contribution to GDP:
45% (2012)

GDP per capita:
36,991 US$ (PPP 2014)

Jerusalem

HOW THE STATE CAN PROMOTE A LOCAL VENTURE CAPITAL SECTOR

Israel's Yozma Pprogramme is evidence that governments can help stimulate a venture capital (VC) industry, and in so doing, provide high-growth firms with better access to finance. Today Israel spends a higher proportion on VC, as a share of gross domestic product (GDP), than any member of the OECD, a club of mainly rich countries[1].

The programme involved the state contributing 100 million US$ in 1993. Foreign investors were required to partner with a local Israeli to access state funding. For every dollar the state put in, investors were expected to contribute a further 1,50 US$.[2] Yozma helped establish 10 funds, each capitalised with more than $20 million US$. In 1998, the government phased out its involvement in the programme when it successfully auctioned off its direct co-investments in 14 companies and sold its interest in nine Yozma funds to its co-investment partners. By 2000, the private sector led the public sector in VC investments.

Impact

As a result of the programme, the amount of capital raised by VC funds rose from 27 million US$ in 1992 to 2.7 billion

1 OECD. 2015. *Main science and technology indicators.* http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/main-science-and-technology-indicators/volume-2015/issue-1_msti-v2015-1-en#page1

2 Sorenson, O. 31 July 2012. *Israel's Yozma an example for Canada, Financial Post.* (http://business.financialpost.com/fp-comment/israels-yozma-an-example-for-canada)

US$ in 2000.[3] This helped increase the number of Israeli start-ups from 300 in 1992 to 2 500 by 2000.[4] Between 1997 and 2012, 24 billion US$ was invested in the VC sector in Israel, during which time 100 Israeli high-tech firms listed on the Nasdaq index.[5]

The programme has since spurred governments from other countries to set up similar funds, including India, Chile and Malaysia. The Yozma Group is also looking at assisting governments in Asia and Oceania to expand their respective VC sectors.

Why was it successful?

The programme allowed private funders to select companies in which to invest, while the state ensured that the money was spread across as many funds as possible to promote a greater number of investments and impact. In addition, the programme encouraged Israeli VC firms to foster relationships with international investors.[6]

Importantly, what contributed to the success of the programme is that Israel already had in place the necessary conditions for a thriving high-tech sector – namely good academic and science institutions, a significant amount of government R&D spend (through defence projects) and a risk-taking and pioneering culture.[7]

Governments have a key role to play in building a VC market for small firms and start-ups, as shown by the initial funding from the US military which helped create Silicon Valley. A 2013 report[8] found that companies that received investment from a mixture of both private and government VC entities tended to receive more capital and exit with higher returns than did those backed only by private or by government VC.

Now for an angel ecosystem

Building on its success in kick-starting the country's venture capital sector, the government is trying to stimulate more angel investing. A radical amendment (in 2014) to the country's 2011 Angel Law rules allows investors to write off 100% of their investment in the initial year it was made in a qualifying start-up. Previously, investments had to be written off over several years.[9] The amendments were projected to come into effect at the end of 2015.[10]

The government – which wants to attract more ordinary skilled Israelis to invest in start-ups (rather than just experienced angel investors) – took the decision to amend the original rules because these generated only a low number of requests (29 million US$ was invested in just 60 investments[11]) for investment approval. The previous rules also created an unforeseen problem. As investors could only write off an investment over three years, and only if it was still classed as a start-up, an investor might seek to delay the start-up they were investing in from reaching sales stage in order to obtain their benefit. The government plans to recoup the 50 million US$ it is expected to lose in tax, through income tax on salaries and other indirect taxes levied on companies.[12]

Visit www.yozma.com for more information.

3 Avnimelech, G. 2009. *VC policy: Yozma program 15-year perspective*, Copenhagen Business School. http://www.researchgate.net/publication/228921726_VC_Policy_Yozma_Program_15-Years_perspective

4 Teubel, M. 2013. "*Promoting high tech entrepreneurial systems: Reflections on the Israeli experience*. http://www3.grips.ac.jp/~gist/en/events/document/gistseminar_52_2.pdf

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7 Baygan, G. 2003. *Venture Capital Policy Review: Israel STI Working Paper*, OECD. http://www.oecd.org/israel/2491258.pdf

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11 ibid

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CHAPTER 3:

CONCLUSIONS AND RECOMMENDATIONS

BUILDING THE ENTREPRENEURIAL COMMUNITY

The world is a set of differing economic and financial systems operating as one, global business network. It is a puzzle that is moving towards forming a single coherent picture, but today the shapes of the independent pieces do not quite fit. Technology and social innovation are spurring changes in access to financial infrastructure through the Internet of Things (IoT), mobile access, and the sharing of knowledge. Differences in infrastructure, although still vast, are becoming less so. Entrepreneurs of today and tomorrow are recognising that economic opportunity relies on not only on access to finance and communication, as parts of the entrepreneurial ecosystem, but also their own efforts.

Governments and investors are supporting entrepreneurial efforts in more ways than ever before, recognising that economic growth through trade and job opportunities relies on entrepreneurship. In the 60 countries that participated in the *2015 Global Entrepreneurship Monitor Special Finance Report*, we are seeing change occur with positive strides. There are more entrepreneurs, more sources of finance, and more opportunities for individuals and communities to build their economic future. The digital age is making innovation possible at an unprecedented level. However, with global, mobile communications comes the realisation in the most distant regions that inequality and access to resources varies considerably across the globe.

The challenge going forward in the global economy is to develop an entrepreneurial capability and infrastructure in every economy to enable economic success. As the worst effects of the recession are left behind, managing opportunities will rely on the development of entrepreneurial ecosystems through education, government support, and financial resources, as well as the management of how these ecosystems interrelate with the overall global environment and economy.

RECOMMENDATIONS

- Encourage education about self-financing and informal investing. Since these are the two forms of finance most often accessed by entrepreneurs, it is important to develop an understanding about grass-roots financing from entrepreneurs and informal investors. Informal investment has an enormous impact on overall entrepreneurial activity. This type of financing is particularly important in developing economies where there are no or few highly structured and sophisticated forms of financing, such as VCs and angel investors. Crowdfunding is very new and not know to the majority of entrepreneurs in these economies.
- Develop entrepreneurial ecosystems in terms of government policy and action, financial infrastructure, education, and access to markets. It is critical to recognise the importance of developing an overall approach to building synergies in entrepreneurial efforts and infrastructures.
- As the world becomes more interconnected, building an understanding of how financial and other resources and requirements for independent states, as well as regional and global trading partners contribute to collaborative efforts will become increasingly key to establishing effective short and long-range programmes.
- Develop government programmes to understand funding requirements in factor-driven, efficiency-driven and innovation-driven economies and to support entrepreneurial finance education with banks and other financial institutions. Whereas grass-roots funding is prevalent among entrepreneurial ventures, VC supports high growth, scalable opportunities. Healthy financial ecosystems need to have an array of financial resources and an understanding of which funding is most effective for varying stages of a venture's activity.
- Build partnerships among entrepreneurs and innovation community members – including investors, corporations, and universities – through structures such as accelerators, incubators and clusters to enable experimentation and learning. Opportunities for entrepreneurs to experiment and learn create a more successful set of entrepreneurial ventures.
- Encourage and support the efforts of women in entrepreneurship, in order to address the gender gap. Women more often return the fruits of labour to the community. Building programmes to support women entrepreneurs contributes to a healthy community economy. Governments, in conjunction with the private sector, should initiate funds that are accessible to women without requiring the normal forms of security such as collateral. Funding criteria should be based upon risk rather than assets.
- Encourage and regulate the development of mobile payments and market systems for goods and services in economies with less robust financial infrastructures, in order to build entrepreneurial capabilities to connect entrepreneurial ventures to markets and financial resources. This is particularly important in developing economies, where traditional forms of banking are not readily available.
- Develop effective crowdfunding and other peer-to-peer platforms and regulations to efficiently allow individuals to informally invest, cognisant of the risk and rewards available. Allowing the entrepreneurial community to see which ventures gain support and thrive or fail builds knowledge currency about essential entrepreneurial skills.
- Develop and support microfinance in factor-driven economies and in geographic areas of efficiency-driven economies and innovation economies that are underserved. Microfinance has the capacity to achieve broad social goals.
- Understand skill gaps and develop an educational infrastructure to address these gaps – particularly in economies with lower median ages and high unemployment. Building an assessment of entrepreneurial skills, resources and markets creates a map of opportunity development.
- Encourage partnerships between countries with aging populations and high employment and countries with younger median ages and high unemployment. Diverse partnerships with complementary interests can foster new opportunities for development.
- Build digital infrastructure capabilities in areas beyond cities that make use of climate positive energy resources when possible and 'off the grid' energy sources where necessary, in order to connect remote entrepreneurs with markets.
- Co-ordinate business partnerships among industries and entrepreneurs to create a pipeline of innovation and investment and a dialogue between new and existing businesses.
- Encourage government and financial institutions to build a data-base of potential funders that who are easily accessible and do not require long and complicated Internet searches.
- Offer tax breaks to potential investors that incentivise them to invest in relatively high-risk ventures, as has been done in Israel and Chile. Institutional funding should also be channelled into establishing VC funds.
- New funding models need to be explored that encourage development of the informal sector and encourage ventures in this sector to grow and move into the formal economy.

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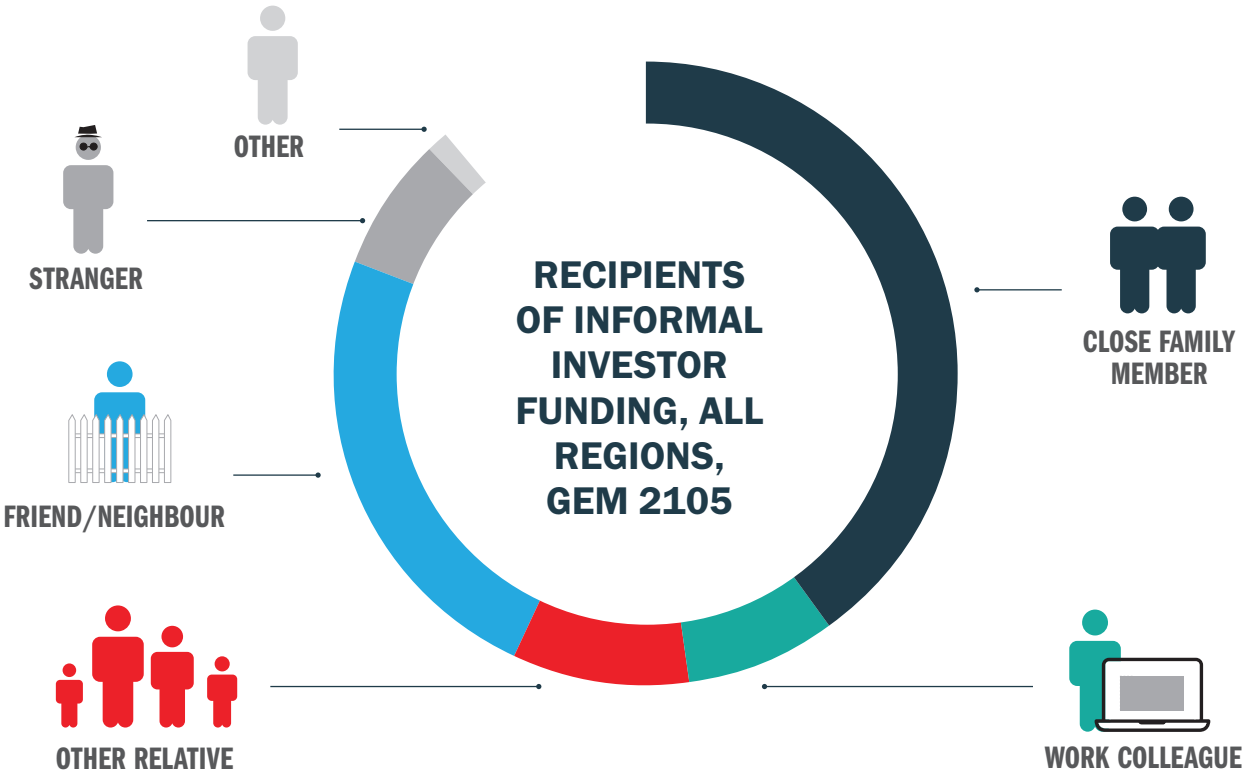

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APPENDIX 1:

DATA TABLES

Table 1: Sources of funding used by early-stage entrepreneurs, by region and phase of economic development, GEM 2015

Region	Activity	Economy	Amount of money required to start a business (median - US$)	Percentage of total money required to start a business which comes from entrepreneur's own funds	Percentage of entrepreneurs using own money as a source of funding	Percentage of entrepreneurs using family as a source of funding	Percentage of entrepreneurs using friends as a source of funding	Percentage of entrepreneurs using employers as a source of funding	Percentage of entrepreneurs using banks as a source of funding	Percentage of entrepreneurs using private/venture capital sources of funding	Percentage of entrepreneurs using government sources of funding	Percentage of entrepreneurs using crowdfunding
Africa	Factor	Botswana	2,006	62.9	94.0	37.5	14.1	6.0	24.3	16.1	36.6	1.3
Africa	Factor	Burkina Faso	423	46.9	100.0	35.9	6.4	4.7	13.3	5.4	20.5	
Africa	Factor	Cameroon	846	69.6	99.0	34.8	22.0	3.6	12.2	2.5	7.4	0.6
Africa	Factor	Egypt	6 475	61.5	97.0	44.2	12.9	19.6	26.9	8.3	7.4	4.7
Africa	Factor	Senegal	846	47.3	86.0	45.2	36.6	14.7	40.5	17.9	15.8	
Africa	Factor	Tunisia	20,511	54.9	95.0	68.7	31.5	12.9	39.0	15.0	19.9	
Africa	Efficiency	Morocco	7,173	63.2	97.0	43.7	7.4	8.7	20.8	6.2	3.6	3.9
Africa	Efficiency	South Africa	810	63.6	90.0	33.6	9.6	5.8	22.6	11.9	22.7	3.1
Asia and Oceania	Factor	India	1,253	69.7	96.0	80.8	51.6	6.4	41.2	6.8	6.1	
Asia and Oceania	Factor	Iran	6,500	61.6	90.0	52.9	16.9	9.7	40.2	4.6	4.8	0.9
Asia and Oceania	Factor	Philippines	221	77.8	100.0	65.9	32.7	5.9	9.0	20.8	15.8	0.8
Asia and Oceania	Factor	Vietnam	2,438	95.4	100.0	81.5	28.1	7.0	10.0	5.9	8.9	
Asia and Oceania	Efficiency	China	16,263	91.3	99.0	68.2	31.7	22.4	26.3	14.4	15.5	6.4
Asia and Oceania	Efficiency	Indonesia	369	97.7	92.0	52.5	10.2	3.4	20.9	4.3	13.0	0.0
Asia and Oceania	Efficiency	Lebanon	11,948	67.6	96.0	62.5	10.7	4.3	19.6	4.9	0.8	
Asia and Oceania	Efficiency	Malaysia	2,655	64.8	96.0	46.8	2.1	4.2	34.4	1.9	19.9	0.0
Asia and Oceania	Efficiency	Thailand	1,464	85.1	99.0	69.3	13.8	8.7	23.3	7.2	3.8	9.4

Table 1: Sources of funding used by early-stage entrepreneurs, by region and phase of economic development, GEM 2015

Region	Activity	Economy	Amount of money required to start a business (median - US$)	Percentage of total money required to start a business which comes from entrepreneur's own funds	Percentage of entrepreneurs using own money as a source of funding	Percentage of entrepreneurs using family as a source of funding	Percentage of entrepreneurs using friends as a source of funding	Percentage of entrepreneurs using employers as a source of funding	Percentage of entrepreneurs using banks as a source of funding	Percentage of entrepreneurs using private/venture capital sources of funding	Percentage of entrepreneurs using government sources of funding	Percentage of entrepreneurs using crowdfunding
Asia and Oceania	Innovation	Australia	22,786	76.0	97.0	19.7	6.7	6.2	24.1	17.2	13.3	5.5
Asia and Oceania	Innovation	Israel	26,189	61.8	79.0	35.5	8.8	9.9	30.3	10.7	9.9	2.8
Asia and Oceania	Innovation	Korea	88,500	76.1	100.0	38.2	8.8	6.8	44.9	12.2	20.2	3.8
Asia and Oceania	Innovation	Taiwan	32,341	65.3	100.0	14.2	19.2	8.0	12.2	11.7	4.5	0.0
Europe	Efficiency	Bulgaria	5,676	79.4	97.0	60.2	20.7	3.2	16.9	0.0	6.5	0.0
Europe	Efficiency	Croatia	11,002	77.9	98.0	34.3	16.2	11.1	31.7	12.9	37.0	6.9
Europe	Efficiency	Estonia	567	65.3	94.0	27.8	12.4	10.1	27.8	21.1	40.0	7.9
Europe	Efficiency	Hungary	10,748	74.3	97.0	27.1	7.0	8.3	17.3	9.2	33.9	6.0
Europe	Efficiency	Kazakhstan	10,715	67.7	92.0	58.0	17.5	6.6	40.6	8.4	20.0	3.8
Europe	Efficiency	Latvia	11,102	76.1	92.0	35.9	8.0	6.6	21.3	8.6	11.0	2.6
Europe	Efficiency	Macedonia	11,000	68.0	100.0	39.2	16.0	6.1	39.1	22.3	20.2	1.8
Europe	Efficiency	Poland	11,395	71.2	97.0	23.6	4.6	18.7	28.6	13.4	43.4	2.9
Europe	Efficiency	Romania	12,498	66.2	98.0	35.9	8.3	8.9	26.6	13.5	27.2	5.0
Europe	Innovation	Belgium	27,756	69.1	97.0	12.9	6.6	6.6	41.4	16.8	24.2	8.7
Europe	Innovation	Finland	11,102	70.1	94.0	24.9	7.2	12.6	47.6	15.0	30.9	12.7
Europe	Innovation	Germany	22,205	72.1	90.0	21.0	7.1	11.1	26.8	12.4	20.1	
Europe	Innovation	Greece	33,307	75.5	94.0	35.2	11.6	11.6	30.4	19.4	44.1	18.7
Europe	Innovation	Ireland	16,098	71.4	90.0	18.7	7.8	14.6	35.9	25.1	40.0	

Table 1: Sources of funding used by early-stage entrepreneurs, by region and phase of economic development, GEM 2015

Region	Activity	Economy	Amount of money required to start a business (median - US$)	Percentage of total money required to start a business which comes from entrepreneur's own funds	Percentage of entrepreneurs using own money as a source of funding	Percentage of entrepreneurs using family as a source of funding	Percentage of entrepreneurs using friends as a source of funding	Percentage of entrepreneurs using employers as a source of funding	Percentage of entrepreneurs using banks as a source of funding	Percentage of entrepreneurs using private/venture capital sources of funding	Percentage of entrepreneurs using government sources of funding	Percentage of entrepreneurs using crowdfunding
Europe	Innovation	Italy	55,511	65.8	96.0	30.2	9.3	9.4	38.0	14.3	24.8	
Europe	Innovation	Luxembourg	13,878	64.8	90.0	27.0	8.1	7.8	38.7	15.2	29.9	8.4
Europe	Innovation	Netherlands	22,205	70.5	93.0	18.4	6.2	8.5	21.1	12.6	9.8	7.0
Europe	Innovation	Norway	25,280	72.8	94.0	4.6	1.5	3.7	13.0	10.4	13.7	
Europe	Innovation	Portugal	16,653	72.4	95.0	28.7	9.4	4.7	23.1	10.7	16.6	2.4
Europe	Innovation	Slovakia	11,102	71.4	91.0	25.5	12.1	4.8	32.5	19.0	33.3	10.2
Europe	Innovation	Slovenia	11,102	72.7	96.0	47.0	4.3	14.2	18.6	14.3	14.5	8.0
Europe	Innovation	Spain	16,653	74.4	79.0	21.1	3.6	13.4	25.6	5.9	12.1	2.4
Europe	Innovation	Sweden	11,852	62.7	91.0	27.1	7.6	10.7	30.3	18.9	19.7	8.7
Europe	Innovation	Switzerland	54,351	65.4	96.0	29.7	12.9	9.3	28.6	16.1	17.0	7.0
Europe	Innovation	United Kingdom	13,986	84.0	98.0	21.1	3.6	3.4	16.9	11.7	16.0	7.7
Latin America and Caribbean	Efficiency	Argentina	3,576	80.0	94.0	29.1	5.3	5.4	18.4	6.5	10.8	
Latin America and Caribbean	Efficiency	Barbados	2,500	81.4	84.0	25.7	7.0	2.7	21.4	5.3	3.8	
Latin America and Caribbean	Efficiency	Brazil	624	90.0	96.0	21.9	4.5	2.9	12.8	2.0	1.7	0.9
Latin America and Caribbean	Efficiency	Chile	4,680	75.6	98.0	23.1	7.5	12.2	30.3	14.7	27.8	8.5

Table 1: Sources of funding used by early-stage entrepreneurs, by region and phase of economic development, GEM 2015

Region	Activity	Economy	Amount of money required to start a business (median - US$)	Percentage of total money required to start a business which comes from entrepreneur's own funds	Percentage of entrepreneurs using own money as a source of funding	Percentage of entrepreneurs using family as a source of funding	Percentage of entrepreneurs using friends as a source of funding	Percentage of entrepreneurs using employers as a source of funding	Percentage of entrepreneurs using banks as a source of funding	Percentage of entrepreneurs using private/venture capital sources of funding	Percentage of entrepreneurs using government sources of funding	Percentage of entrepreneurs using crowdfunding
Latin America and Caribbean	Efficiency	Colombia	6,418	59.4	99.0	34.5	13.5	24.7	45.3	19.1	25.7	13.3
Latin America and Caribbean	Efficiency	Ecuador	2,000	74.0	98.0	30.1	3.7	2.4	46.5	3.0	3.7	0.8
Latin America and Caribbean	Efficiency	Guatemala	1,305	70.3	99.0	24.4	7.1	10.2	26.0	5.8	0.8	18.4
Latin America and Caribbean	Efficiency	Mexico	1,591	71.5	94.0	48.8	8.2	3.9	24.6	6.3	9.6	
Latin America and Caribbean	Efficiency	Panama	1,000	93.2	97.0	45.0	12.4	1.7	9.5	0.0	1.2	0.0
Latin America and Caribbean	Efficiency	Peru	1,577	72.4	99.0	41.1	4.9	1.8	49.4	2.3	0.6	0.3
Latin America and Caribbean	Efficiency	Puerto Rico	5,750	85.2	89.0	15.3	3.3	3.5	24.3	4.9	19.4	
Latin America and Caribbean	Efficiency	Uruguay	257	76.4	99.0	21.2	9.4	11.9	26.0	7.6	10.3	11.9
NA	Innovation	Canada	19,846	70.5	94.0	23.0	10.9	11.2	34.9	19.4	31.9	13.4
NA	Innovation	USA	17,500	73.3	93.0	24.4	14.9	15.8	32.0	23.9	21.6	14.5

Table 2: Informal investor activity, by region and phase of economic development, GEM 2015

Region	Type of economy	Economy	Percentage of informal investors in the adult population	Percentage of early-stage (TEA) entrepreneurs receiving finance from informal investors	Average amount of funds provided by informal investors (median - US$)	Percentage of informal investors providing funds to close family members	Percentage of informal investors providing funds to other relatives	Percentage of informal investors providing funds to work colleagues	Percentage of informal investors providing funds to friends/neighbours	Percentage of informal investors providing funds to strangers	Percentage of informal investors providing funds to other categories of entrepreneurs	Percentage of informal investors who are female	Percentage of informal investors who are male	Average amount of funds provided by female informal investors (median - US$)	Average amount of funds provided by male informal investors (median - US$)
Africa	Factor	Botswana	10.0	13.7	150	46.6	5.9	2.9	38.9	4.8	0.9	27.5	72.5	100	181
Africa	Factor	Burkina Faso	8.1	11.9	85	65.0	8.4	1.8	23.2	1.5	0.0	30.7	69.3	51	169
Africa	Factor	Cameroon	13.2	20.7	233	45.1	10.5	12.0	25.6	3.0	1.5	44.4	55.6	169	254
Africa	Factor	Egypt	3.2	2.7	1,424	2.5	1.6	1.6	2.2	0.0	0.0	6.0	94.0	6,475	1,360
Africa	Factor	Senegal	14.2	21.8	254	50.9	12.2	5.9	26.9	2.7	0.5	39.4	60.6	97	339
Africa	Factor	Tunisia	6.3	16.4	2,564	42.2	2.6	0.0	47.4	7.8	0.0	9.3	90.7	1,538	4,359
Africa	Efficiency	Morocco	1.6	4.2	5,021	50.2	0.0	0.0	0.0	0.0	0.0	77.2	22.8	820	204,940
Africa	Efficiency	South Africa	1.3	6.6	2,429	49.4	6.8	2.8	23.8	7.3	10.1	42.0	58.0	891	3,239
Asia and Oceania	Factor	India	2.1	7.9	783	71.6	3.7	11.8	11.1	0.0	0.0	24.6	75.4	1,567	705
Asia and Oceania	Factor	Iran	7.7	11.8	1,950	43.3	11.0	12.2	22.1	10.0	0.0	40.3	59.7	975	3,250
Asia and Oceania	Factor	Philippines	4.3	11.0	443	53.0	14.6	19.8	12.5	0.0	0.0	42.7	57.3	332	774
Asia and Oceania	Factor	Vietnam	10.1	14.3	2,438	41.0	15.4	7.7	30.8	5.1	0.0	53.8	46.2	2,438	4,631
Asia and Oceania	Efficiency	China	8.6	16.0	8,131	37.1	16.8	15.1	24.1	5.9	0.0	38.0	62.0	4,879	8,131
Asia and Oceania	Efficiency	Indonesia	3.4	5.6	369	68.4	5.7	14.6	10.0	1.3	0.0	48.4	51.6	369	479

Table 2: Informal investor activity, by region and phase of economic development, GEM 2015

Region	Type of economy	Economy	Percentage of informal investors in the adult population	Percentage of early-stage (TEA) entrepreneurs receiving finance from informal investors	Average amount of funds provided by informal investors (median - US$)	Percentage of informal investors providing funds to close family members	Percentage of informal investors providing funds to other relatives	Percentage of informal investors providing funds to work colleagues	Percentage of informal investors providing funds to friends/neighbours	Percentage of informal investors providing funds to strangers	Percentage of informal investors providing funds to other categories of entrepreneurs	Percentage of informal investors who are female	Percentage of informal investors who are male	Average amount of funds provided by female informal investors (median - US$)	Average amount of funds provided by male informal investors (median - US$)
Asia and Oceania	Efficiency	Lebanon	4.7	4.2	3,983	61.3	10.0	10.1	9.7	5.2	0.0	33.1	66.9	1,991	4,032
Asia and Oceania	Efficiency	Malaysia	2.6	12.1	717	29.1	56.5	14.4	0.0	0.0	0.0	59.6	40.4	717	398
Asia and Oceania	Efficiency	Thailand	2.8	5.5	1,464	48.4	31.1	5.3	15.2	0.0	0.0	47.9	52.1	1,172	2,197
Asia and Oceania	Innovation	Australia	3.7	8.3	30,381	35.6	0.0	11.5	52.9	0.0	0.0	50.1	49.9	11,393	37,977
Asia and Oceania	Innovation	Israel	2.7	6.1	26,189	31.8	4.7	21.8	23.4	6.4	4.7	18.4	81.6	52,378	15,713
Asia and Oceania	Innovation	Korea	2.4	6.5	44,250	33.0	6.8	6.8	20.2	20.0	0.0	33.3	66.7	66,375	44,250
Asia and Oceania	Innovation	Taiwan	4.9	13.7	16,171	0.0	0.0	8.9	77.5	4.3	0.0	20.6	79.4	16,171	16,171
Europe	Efficiency	Bulgaria	1.2	1.5	568	59.5	0.0	0.0	40.5	0.0	0.0	0.0	100.0		568
Europe	Efficiency	Croatia	1.7	7.6	10,269	30.8	11.6	13.4	20.0	7.7	8.6	32.5	67.5	6,308	10,269
Europe	Efficiency	Estonia	4.9	9.1	213	20.6	11.8	2.9	52.9	5.9	0.0	20.8	79.2	284	213
Europe	Efficiency	Hungary	3.6	7.4	3,583	39.9	14.1	6.3	19.9	0.0	0.0	24.8	75.2	3,583	3,583
Europe	Efficiency	Kazakhstan	3.6	7.7	2,679	43.0	14.2	3.2	26.9	9.4	0.0	41.7	58.3	2,679	2,679
Europe	Efficiency	Latvia	4.6	8.6	3,331	30.2	10.1	10.3	42.2	3.6	0.0	28.5	71.5	2,942	3,331
Europe	Efficiency	Macedonia	2.1	2.4	8,656	29.6	12.8	0.0	15.4	0.0	0.0	39.9	60.1	1,803	22,360

Table 2: Informal investor activity, by region and phase of economic development, GEM 2015

Region	Type of economy	Economy	Percentage of informal investors in the adult population	Percentage of early-stage (TEA) entrepreneurs receiving finance from informal investors	Average amount of funds provided by informal investors (median - US$)	Percentage of informal investors providing funds to close family members	Percentage of informal investors providing funds to other relatives	Percentage of informal investors providing funds to work colleagues	Percentage of informal investors providing funds to friends/neighbours	Percentage of informal investors providing funds to strangers	Percentage of informal investors providing funds to other categories of entrepreneurs	Percentage of informal investors who are female	Percentage of informal investors who are male	Average amount of funds provided by female informal investors (median - US$)	Average amount of funds provided by male informal investors (median - US$)
Europe	Efficiency	Poland	3.0	2.7	8,043	34.7	0.0	32.5	32.8	0.0	0.0	40.8	59.2	5,094	10,725
Europe	Efficiency	Romania	4.2	5.0	4,999	29.5	13.4	7.8	49.3	0.0	0.0	24.3	75.7	34,494	4,999
Europe	Innovation	Belgium	2.3	7.5	22,205	30.5	8.9	31.8	28.9	0.0	0.0	28.0	72.0	16,931	22,205
Europe	Innovation	Finland	2.9	6.8	5,551	9.9	0.0	19.6	29.9	30.7	10.0	11.1	88.9	27,756	4,441
Eu	Innovation	Germany	3.1	9.4	11,102	37.1	2.4	3.9	30.4	26.3	0.0	18.4	81.6	11,102	11,102
Europe	Innovation	Greece	3.2	7.6	19,429	49.1	25.2	1.9	23.8	0.0	0.0	55.5	44.5	22,205	16,653
Europe	Innovation	Ireland	2.8	6.2	3,331	44.1	4.8	11.3	31.3	0.0	0.0	17.3	82.7	1,110	8,327
Europe	Innovation	Italy	1.2	5.3	33,307	29.3	0.0	42.7	15.8	0.0	0.0	58.6	41.4	55,511	19,429
Europe	Innovation	Luxembourg	3.9	8.3	4,441	32.6	3.4	13.7	24.2	11.3	3.2	30.5	69.5	11,102	3,331
Europe	Innovation	Netherlands	3.0	6.7	11,102	41.6	0.0	12.3	43.7	2.5	0.0	14.7	85.3	56,344	11,102
Europe	Innovation	Norway	2.2	7.0	101,118	42.3	0.0	11.0	19.6	27.1	0.0	10.0	90.0	315 994	82,158
Europe	Innovation	Portugal	1.4	2.9	11,657	81.4	0.0	0.0	18.6	0.0	0.0	15.9	84.1	13,323	9,992
Europe	Innovation	Slovakia	5.0	9.8	6,106	46.9	6.3	9.4	28.1	9.4	0.0	31.6	68.4	6,384	6,106

Table 2: Informal investor activity, by region and phase of economic development, GEM 2015

Region	Type of economy	Economy	Percentage of informal investors in the adult population	Percentage of early-stage (TEA) entrepreneurs receiving finance from informal investors	Average amount of funds provided by informal investors (median - US$)	Percentage of informal investors providing funds to close family members	Percentage of informal investors providing funds to other relatives	Percentage of informal investors providing funds to work colleagues	Percentage of informal investors providing funds to friends/neighbours	Percentage of informal investors providing funds to strangers	Percentage of informal investors providing funds to other categories of entrepreneurs	Percentage of informal investors who are female	Percentage of informal investors who are male	Average amount of funds provided by female informal investors (median - US$)	Average amount of funds provided by male informal investors (median - US$)
Europe	Innovation	Slovenia	2.2	9.4	2,220	33.3	5.3	0.0	16.6	17.1	0.0	8.9	91.1	11,102	2,220
Europe	Innovation	Spain	2.3	3.0	6,661	43.2	0.0	10.7	36.6	2.8	1.0	26.5	73.5	3,608	7,772
Europe	Innovation	Sweden	4.0	9.0	3,259	38.5	0.0	2.4	5.6	23.1	16.6	21.1	78.9	4,445	2,963
Europe	Innovation	Switzerland	4.6	7.9	31,661	8.4	8.4	0.0	42.0	33.2	8.0	33.5	66.5	5,277	42,214
Europe	Innovation	United Kingdom	1.6	5.0	11,655	43.0	0.0	0.0	28.0	18.1	11.0	34.4	65.6	1,399	15,540
Latin America and Caribbean	Efficiency	Argentina	3.5	5.2	2,201	47.9	12.8	5.6	22.4	5.5	2.6	30.2	69.8	4,952	1,651
Latin America and Caribbean	Efficiency	Barbados	5.0	6.9	1,000	32.3	6.0	3.2	55.5	3.0	0.0	31.3	68.7	1,000	1,125
Latin America and Caribbean	Efficiency	Brazil	1.4	0.8	1,639	31.0	41.8	0.0	27.2	0.0	0.0	72.8	27.2	156	15,611
Latin America and Caribbean	Efficiency	Chile	13.6	17.0	2,340	43.4	7.0	5.9	40.5	1.7	0.4	29.6	70.4	936	3,120
Latin America and Caribbean	Efficiency	Colombia	3.7	5.2	1,888	35.3	7.4	16.1	35.3	0.9	0.9	17.4	82.6	1,133	3,020

Table 2: Informal investor activity, by region and phase of economic development, GEM 2015

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Latin America and Caribbean	Efficiency	Ecuador	5.4	7.7	1,000	58.0	8.0	6.0	24.0	0.0	0.0	38.0	62.0	1,000	600
Latin America and Caribbean	Efficiency	Guatemala	4.7	8.5	653	28.5	14.2	8.6	48.7	0.0	0.0	33.4	66.6	1,305	359
Latin America and Caribbean	Efficiency	Mexico	6.0	6.7	636	72.0	8.4	3.1	12.3	0.0	0.0	42.5	57.5	318	763
Latin America and Caribbean	Efficiency	Panama	3.0	5.9	2,000	47.1	11.8	0.0	29.4	0.0	0.0	46.7	53.3	200	2,500
Latin America and Caribbean	Efficiency	Peru	4.1	6.3	1,577	58.8	16.3	12.3	9.2	0.0	0.0	38.1	61.9	788	2 207
Latin America and Caribbean	Efficiency	Puerto Rico	1.1	4.0	3,000	54.7	0.0	12.3	0.0	0.0	33.0	48.0	52.0	10,000	2,000
Latin America and Caribbean	Efficiency	Uruguay	4.0	6.2	183	29.3	10.3	0.8	54.5	0.0	0.0	0.0	100.0		183
NA	Innovation	Canada	4.2	11.5	3,969	41.6	9.3	17.0	9.9	19.0	0.0	42.4	57.6	3,969	7,343
NA	Innovation	USA	4.6	9.9	10,000	31.9	2.7	17.0	27.3	18.0	0.0	27.8	72.2	5,000	14,000

Table 3: Average amount of funding needed by early-stage entrepreneurs, by motive for starting a business, GEM 2015

Region	Type of economy	Economy	Average amount of funding needed by necessity-motivated entrepreneurs (median - US$)	Average amount of funding needed by opportunity-motivated entrepreneurs (median - US$)	Average amount of funding needed by IDO (improvement-driven opportunity) entrepreneurs (median - US$)
Africa	Factor	Botswana	803	3,010	3,010
Africa	Factor	Burkina Faso	190	508	508
Africa	Factor	Cameroon	508	1,016	1,185
Africa	Factor	Egypt	3,885	6,475	6,475
Africa	Factor	Senegal	254	846	846
Africa	Factor	Tunisia	35,894	20,511	25,639
Africa	Efficiency	Morocco	7,173	8,710	7,173
Africa	Efficiency	South Africa	405	2,024	2,429
Asia and Oceania	Factor	India	1,410	1,175	1,567
Asia and Oceania	Factor	Iran	4,875	9,750	8,125
Asia and Oceania	Factor	Philippines	221	332	443
Asia and Oceania	Factor	Vietnam	1,463	3,413	3,656
Asia and Oceania	Efficiency	China	13 010	16 263	24 394
Asia and Oceania	Efficiency	Indonesia	221	369	590
Asia and Oceania	Efficiency	Lebanon	7,965	14,603	14,934
Asia and Oceania	Efficiency	Malaysia	1,195	3,054	2,921
Asia and Oceania	Efficiency	Thailand	879	1,464	1,464
Asia and Oceania	Innovation	Australia	18,988	26,584	37,977
Asia and Oceania	Innovation	Israel	13,094	26,189	28,808
Asia and Oceania	Innovation	Korea	88,500	88,500	88,500
Asia and Oceania	Innovation	Taiwan	40,427	25,873	32,341
Europe	Efficiency	Bulgaria	4,541	5,676	11,352
Europe	Efficiency	Croatia	11,149	10,269	8,802
Europe	Efficiency	Estonia	567	567	567
Europe	Efficiency	Hungary	8,956	10,748	10,748
Europe	Efficiency	Kazakhstan	6,362	11,519	10,715
Europe	Efficiency	Latvia	11,102	9 992	11,102
Europe	Efficiency	Macedonia	11,180	10,820	10,820
Europe	Efficiency	Poland	10,725	12,065	10,725
Europe	Efficiency	Romania	12,498	12,498	17,497
Europe	Innovation	Belgium	33,307	22,205	24,980
Europe	Innovation	Finland	5,551	11,102	11,102
Europe	Innovation	Germany	11,102	22,205	22,205
Europe	Innovation	Greece	27,756	33,307	55,511

Table 3: Average amount of funding needed by early-stage entrepreneurs, by motive for starting a business, GEM 2015

Region	Type of economy	Economy	Average amount of funding needed by necessity-motivated entrepreneurs (median - US$)	Average amount of funding needed by opportunity-motivated entrepreneurs (median - US$)	Average amount of funding needed by IDO (improvement-driven opportunity) entrepreneurs (median - US$)
Europe	Innovation	Ireland	11,102	16,653	16,653
Europe	Innovation	Italy	49,960	55,511	38,858
Europe	Innovation	Luxembourg	3,331	16,653	15 266
Europe	Innovation	Netherlands	22,205	27,756	27,756
Europe	Innovation	Norway	3,792	25,280	25,280
Europe	Innovation	Portugal	11,102	22,205	22,205
Europe	Innovation	Slovakia	11,102	11,102	8,882
Europe	Innovation	Slovenia	11,102	11,102	11,102
Europe	Innovation	Spain	16,653	16,653	16,653
Europe	Innovation	Sweden	6,519	11,852	11,852
Europe	Innovation	Switzerland	79,151	54,351	105,535
Europe	Innovation	United Kingdom	10,101	15,540	15,540
Latin America and Caribbean	Efficiency	Argentina	2,201	4,402	4,402
Latin America and Caribbean	Efficiency	Barbados	1,500	2,500	2,500
Latin America and Caribbean	Efficiency	Brazil	312	1,249	1,405
Latin America and Caribbean	Efficiency	Chile	3,120	4,680	5,460
Latin America and Caribbean	Efficiency	Colombia	3,775	7,550	7,550
Latin America and Caribbean	Efficiency	Ecuador	1,500	2,000	2,000
Latin America and Caribbean	Efficiency	Guatemala	1,305	1,958	1,958
Latin America and Caribbean	Efficiency	Mexico	1,272	1,909	1,909
Latin America and Caribbean	Efficiency	Panama	1,500	1,000	1 000
Latin America and Caribbean	Efficiency	Peru	946	1,577	1,577
Latin America and Caribbean	Efficiency	Puerto Rico	5,000	6,000	8,000
Latin America and Caribbean	Efficiency	Uruguay	183	293	367
NA	Innovation	Canada	15,877	19,846	19,846
NA	Innovation	USA	20,000	15,000	16,250

Table 4: Average amount of funding needed by early-stage entrepreneurs, by gender, GEM 2015

Region	Type of economy	Economy	Average amount of funding needed by female entrepreneurs (median - US$)	Average amount of funding needed by male entrepreneurs (median - US$)
Africa	Factor	Botswana	1,003	4,765
Africa	Factor	Burkina Faso	169	846
Africa	Factor	Cameroon	508	846
Africa	Factor	Egypt	2,590	6,475
Africa	Factor	Senegal	339	1,693
Africa	Factor	Tunisia	16,665	20,511
Africa	Efficiency	Morocco	5,124	10,247
Africa	Efficiency	South Africa	405	1,660
Asia and Oceania	Factor	India	1,097	1,253
Asia and Oceania	Factor	Iran	3,250	9,750
Asia and Oceania	Factor	Philippines	221	443
Asia and Oceania	Factor	Vietnam	2,438	4,509
Asia and Oceania	Efficiency	China	11,384	24,394
Asia and Oceania	Efficiency	Indonesia	295	627
Asia and Oceania	Efficiency	Lebanon	7,965	16,594
Asia and Oceania	Efficiency	Malaysia	3,054	2,655
Asia and Oceania	Efficiency	Thailand	879	2 343
Asia and Oceania	Innovation	Australia	11,393	37,977
Asia and Oceania	Innovation	Israel	13,094	31,427
Asia and Oceania	Innovation	Korea	61,950	88,500
Asia and Oceania	Innovation	Taiwan	9,702	38,810
Europe	Efficiency	Bulgaria	2,838	8,514
Europe	Efficiency	Croatia	7 335	14 669
Europe	Efficiency	Estonia	355	709
Europe	Efficiency	Hungary	3,583	10,748
Europe	Efficiency	Kazakhstan	5,759	11,679
Europe	Efficiency	Latvia	3,331	11,102
Europe	Efficiency	Macedonia	5,410	12,623
Europe	Efficiency	Poland	8,043	12,065
Europe	Efficiency	Romania	12,498	13,498
Europe	Innovation	Belgium	22,205	30,531
Europe	Innovation	Finland	11,102	11,102
Europe	Innovation	Germany	11,102	27,756
Europe	Innovation	Greece	27,756	33,307
Europe	Innovation	Ireland	11,102	22,205
Europe	Innovation	Italy	22,205	55,511
Europe	Innovation	Luxembourg	16,653	13,878
Europe	Innovation	Netherlands	12,213	26,090

Table 4: Average amount of funding needed by early-stage entrepreneurs, by gender, GEM 2015

Region	Type of economy	Economy	Average amount of funding needed by female entrepreneurs (median - US$)	Average amount of funding needed by male entrepreneurs (median - US$)
Europe	Innovation	Norway	12,324	25,280
Europe	Innovation	Portugal	13,878	19,984
Europe	Innovation	Slovakia	5,551	11,102
Europe	Innovation	Slovenia	11,102	11,102
Europe	Innovation	Spain	13,323	20,539
Europe	Innovation	Sweden	5,926	11,852
Europe	Innovation	Switzerland	21,107	105,535
Europe	Innovation	United Kingdom	7,770	15,540
Latin America and Caribbean	Efficiency	Argentina	2,201	5,502
Latin America and Caribbean	Efficiency	Barbados	2,500	3,000
Latin America and Caribbean	Efficiency	Brazil	312	1,561
Latin America and Caribbean	Efficiency	Chile	1,560	7,800
Latin America and Caribbean	Efficiency	Colombia	3,775	7,550
Latin America and Caribbean	Efficiency	Ecuador	1,100	3,000
Latin America and Caribbean	Efficiency	Guatemala	653	1 958
Latin America and Caribbean	Efficiency	Mexico	1,272	1,909
Latin America and Caribbean	Efficiency	Panama	800	1,900
Latin America and Caribbean	Efficiency	Peru	946	1,939
Latin America and Caribbean	Efficiency	Puerto Rico	5,000	6,000
Latin America and Caribbean	Efficiency	Uruguay	183	367
NA	Innovation	Canada	3,969	33,739
NA	Innovation	USA	10,000	20,000

Table 5: Average amount of funding needed by TEA entrepreneurs, by age, GEM 2015

Region	Type of economy	Economy	Average amount of funding needed by 18 - 24 year olds (median - US$)	Average amount of funding needed by 25 - 34 year olds (median - US$)	Average amount of funding needed by 35 - 44 year olds (median - US$)	Average amount of funding needed by 45 - 54 year olds (median - US$)	Average amount of funding needed by 55 - 64 year olds (median - US$)
Africa	Factor	Botswana	1,505	2,006	1,806	1,655	1,655
Africa	Factor	Burkina Faso	339	339	762	508	846
Africa	Factor	Cameroon	677	846	1,100	762	846
Africa	Factor	Egypt	6,475	6,151	5,180	5,180	3,237
Africa	Factor	Senegal	508	846	846	1 016	846
Africa	Factor	Tunisia	15,383	17,947	20,511	19,229	153,831
Africa	Efficiency	Morocco	8,198	5,124	10,247	1,230	31,766
Africa	Efficiency	South Africa	810	810	2,834	405	405
Asia and Oceania	Factor	India	1,175	1,018	1,567	1,097	1,567
Asia and Oceania	Factor	Iran	4,875	8,125	6,500	16,250	4,875
Asia and Oceania	Factor	Philippines	243	332	221	221	221
Asia and Oceania	Factor	Vietnam	1,463	2,925	4,875	2,438	1,950
Asia and Oceania	Efficiency	China	13,010	17,076	16,263	16,263	16,263
Asia and Oceania	Efficiency	Indonesia	295	369	369	369	258
Asia and Oceania	Efficiency	Lebanon	9,956	13,275	13,275	13,275	14,934
Asia and Oceania	Efficiency	Malaysia	1,593	2,655	3,014	2,921	133
Asia and Oceania	Efficiency	Thailand	879	1,464	1,464	1,464	879
Asia and Oceania	Innovation	Australia	17,849	22,786	37,977	22,786	37,977

Table 5: Average amount of funding needed by TEA entrepreneurs, by age, GEM 2015

Region	Type of economy	Economy	Average amount of funding needed by 18 - 24 year olds (median - US$)	Average amount of funding needed by 25 - 34 year olds (median - US$)	Average amount of funding needed by 35 - 44 year olds (median - US$)	Average amount of funding needed by 45 - 54 year olds (median - US$)	Average amount of funding needed by 55 - 64 year olds (median - US$)
Asia and Oceania	Innovation	Israel	26,189	26,189	26,189	13,094	26,189
Asia and Oceania	Innovation	Korea	44,250	44,250	88,500	88,500	88,500
Asia and Oceania	Innovation	Taiwan	9,702	25,873	38,810	56,597	32,341
Europe	Efficiency	Bulgaria	1,419	11,352	5,676	5,676	28,380
Europe	Efficiency	Croatia	22,004	7,335	11,149	10,269	73,347
Europe	Efficiency	Estonia	355	709	567	213	709
Europe	Efficiency	Hungary	7,165	10,748	10,748	1,791	5,374
Europe	Efficiency	Kazakhstan	10,715	9,590	10,715	16,073	5,358
Europe	Efficiency	Latvia	5,551	8,882	11,102	8,715	3,886
Europe	Efficiency	Macedonia	7,213	18,033	14,426	10,820	11,180
Europe	Efficiency	Poland	12,065	9,384	13,406	16,087	5,362
Europe	Efficiency	Romania	29,995	9,998	9,998	11,248	12,498
Europe	Innovation	Belgium	105,472	22,205	38,858	22,205	22,205
Europe	Innovation	Finland	13,878	11,102	8,882	27,756	11,102
Europe	Innovation	Germany	24,980	22,205	16,653	22 205	19,429
Europe	Innovation	Greece	19,429	22,205	33,307	52,736	77,716
Europe	Innovation	Ireland	5,829	16,653	11,102	22,205	11,102
Europe	Innovation	Italy	55,511	24,980	111,023	33 307	111,023

Table 5: Average amount of funding needed by TEA entrepreneurs, by age, GEM 2015

Region	Type of economy	Economy	Average amount of funding needed by 18 - 24 year olds (median - US$)	Average amount of funding needed by 25 - 34 year olds (median - US$)	Average amount of funding needed by 35 - 44 year olds (median - US$)	Average amount of funding needed by 45 - 54 year olds (median - US$)	Average amount of funding needed by 55 - 64 year olds (median - US$)
Europe	Innovation	Luxembourg	8,604	22,205	17,764	3,331	222
Europe	Innovation	Netherlands	6,661	13,878	30,531	36,082	27,756
Europe	Innovation	Norway		11,376	63,199	44,239	11,376
Europe	Innovation	Portugal	5,551	22,205	16,653	16,653	25,535
Europe	Innovation	Slovakia	5,551	11,102	11,102	33,307	7,216
Europe	Innovation	Slovenia	33,307	11,102	11,102	13,878	13,878
Europe	Innovation	Spain	11,102	16,653	19,984	16,653	14,988
Europe	Innovation	Sweden	6,519	17,778	11,852	11,852	10,074
Europe	Innovation	Switzerland	42,214	105,535	79,151	52,768	79,151
Europe	Innovation	United Kingdom	15,540	15,540	7,770	15,540	7,770
Latin America and Caribbean	Efficiency	Argentina	2,751	3,301	4,402	4,402	11,004
Latin America and Caribbean	Efficiency	Barbados	2,500	2,500	3,000	5,000	2,500
Latin America and Caribbean	Efficiency	Brazil	312	624	687	937	3,122
Latin America and Caribbean	Efficiency	Chile	1,560	4,368	6,240	4,680	7,800
Latin America and Caribbean	Efficiency	Colombia	5,663	5,663	7,550	7,550	7,550
Latin America and Caribbean	Efficiency	Ecuador	2,000	2,000	2,000	2,000	1,500

Table 5: Average amount of funding needed by TEA entrepreneurs, by age, GEM 2015

Region	Type of economy	Economy	Average amount of funding needed by 18 - 24 year olds (median - US$)	Average amount of funding needed by 25 - 34 year olds (median - US$)	Average amount of funding needed by 35 - 44 year olds (median - US$)	Average amount of funding needed by 45 - 54 year olds (median - US$)	Average amount of funding needed by 55 - 64 year olds (median - US$)
Latin America and Caribbean	Efficiency	Guatemala	1,305	1,958	1,958	653	1,436
Latin America and Caribbean	Efficiency	Mexico	1,591	1,591	1,591	1,909	1,272
Latin America and Caribbean	Efficiency	Panama	500	1,000	1,500	1,250	1,200
Latin America and Caribbean	Efficiency	Peru	1,577	1,261	1,577	1,577	946
Latin America and Caribbean	Efficiency	Puerto Rico	5,000	6,000	5,500	5,000	3,000
Latin America and Caribbean	Efficiency	Uruguay	137	330	165	293	641
NA	Innovation	Canada	7,939	19,053	21,831	39,693	15,877
NA	Innovation	USA	10,000	18,750	10,000	62,500	20,000

Table 6: Entrepreneur funding - amount raised, by industry

Region	Type of economy	Economy	Agriculture (median - US$)	Mining (median - US$)	Manufacturing (median - US$)	Transportation (median - US$)	Wholesale/retail (median - US$)	Information/communication technology (median - US$)	Finance (median - US$	Professional services (median - US$)	Administrative services (median - US$)	Health, education, government and social services (median - US$)	Personal/ consumer services (median - US$)
Africa	Factor	Botswana	2,508	10,032	1,003	7,022	1,003	10,032	10,032	1,797	10,032	2,307	8,026
Africa	Factor	Burkina Faso	554	1,100	339	2,962	339		846			677	1,523
Africa	Factor	Cameroon	846	677	846	1,693	677	169	339	5,078	1,693	846	3,385
Africa	Factor	Egypt	6,475	64,749	5 504	10 748	5,827	777	38,850		38,850	6,475	14,245
Africa	Factor	Senegal	846	6,770	2,539	1,693	508	9,732	3,385	2,539	931	846	8,463
Africa	Factor	Tunisia	35,894	25,639	15 383	11,537	25,639	5,640	76,916	7,692	87,684	16,665	105,118
Africa	Efficiency	Morocco	3,330	10,247	6 148	10,247	10,247			1,640		6,148	
Africa	Efficiency	South Africa	810	4,049	405	18,219	405	32,390	80,975	16,195	7,288	1,620	4,859
Asia and Oceania	Factor	India	940	3,134	3,134	3,917	1,567	4,700	5,484	392	940	783	
Asia and Oceania	Factor	Iran	6,500	16,250	6,500	16,250	8,125	6,500	2,275	9,750	11,375	4,225	3,250
Asia and Oceania	Factor	Philippines	996		77	1,881	221	2,213	664		664	443	
Asia and Oceania	Factor	Vietnam	1,463	1,463	975	26,813	2,438	5,363		25,106	24,375	4,144	14,625
Asia and Oceania	Efficiency	China	36,591	32,526	81,314	48,789	14,637	85,380	44,723	24,394	40,657	9,758	16,263
Asia and Oceania	Efficiency	Indonesia	148	1,106	369	553	369		14,750	1,291	2,581	443	3,688
Asia and Oceania	Efficiency	Lebanon	9,956	24,891	15,764	21,904	11,948	14,934	99,563	22,402	24,891	7,965	19,913
Asia and Oceania	Efficiency	Malaysia	7,966	4,514	10,622	7,170	2,655		2,655	186	2,151	4,381	
Asia and Oceania	Efficiency	Thailand	1,464	14,644	2,489	8,054	1,464		58,575	2,929	8,786	1,611	1,172
Asia and Oceania	Innovation	Australia	474,709	22,786	10,633	113,930	37,977	7,595	113,930	22,786	7,595	18,988	14,051
Asia and Oceania	Innovation	Israel	261,888	65,472	13,094	130,944	39,283	117,849	1,309	13,094	3,928	13,094	

Table 6: Entrepreneur funding - amount raised, by industry

Region	Type of economy	Economy	Agriculture (median - US$)	Mining (median - US$)	Manufacturing (median - US$)	Transportation (median - US$)	Wholesale/retail (median - US$)	Information/communication technology (median - US$)	Finance (median - US$	Professional services (median - US$)	Administrative services (median - US$)	Health, education, government and social services (median - US$)	Personal/ consumer services (median - US$)
Asia and Oceania	Innovation	Korea	88,500	177,000	132,750	88,500	88,500	88,500	53,100	177,000	3,995,775	88,500	442,500
Asia and Oceania	Innovation	Taiwan	64,683	16,171	32,341	1,293,650	16,171		970,238	32,341	121,280	21,022	
Europe	Efficiency	Bulgaria	5,676	11,352	19,866	8,514	3,973	17,028			2,270	1,987	17,028
Europe	Efficiency	Croatia	10,269	10,709	14,669	3,887	11,075	5,134	39,607	8,802	8,802	13,202	12,469
Europe	Efficiency	Estonia	709	567	709	1,418	709	1,135	355	177	213	355	266
Europe	Efficiency	Hungary	14,330	7,165	8,956	22,391	10 748		364	717	35,825	5,374	555,288
Europe	Efficiency	Kazakhstan	16,073	6,697	21,430	661,651	11,117	5,358	16,073	4,018	3,750	10,715	14,197
Europe	Efficiency	Latvia	11,102	11,102	5,551	49,960	11,102	555	10,547	4,441	3,331	8,327	13,323
Europe	Efficiency	Macedonia	19,836	8,205	11,721	18,033	8,656	18,033		3,246	30,204	5,410	13,200
Europe	Efficiency	Poland	53,623	12,065	4,022	53,623	13,406	4,022	12,065	12,065	13,406	6,703	4,022
Europe	Efficiency	Romania	12,498	24,996	9,998	8,749	17,497	16,872	4,999	2,500	9,998	18,747	17,497
Europe	Innovation	Belgium	249,801	27,756	22,205	44,409	33,307	16,653	222,046	4,441	22,205	24,980	6,661
Europe	Innovation	Finland	152,656	22,205	55,511		33,307	41,634	12,768	5,551	6,661	6,106	6,661
Europe	Innovation	Germany	166,534	249,801	8,327	22,205	22,205	27,756	27,756	16,653	30,531	13,878	5,551
Europe	Innovation	Greece	33,307	33,307	52,736		27,756	55,511	6,661	19,429	33,307	11,102	55,511
Europe	Innovation	Ireland	47,185	9,992	9,992	38,858	17,209	22,205	111,023	11,102	11,102	11 102	12,213
Europe	Innovation	Italy	61,063	2,831,080	1,110,228		55,511	55,511		5,551	22,205	61,063	16,653
Europe	Innovation	Luxembourg	333,068	167	14	75	13,878	16,653	16,653	10,270	22,205	16,653	122,125
Europe	Innovation	Netherlands	555,114	13,878	5,562,240	888,182	27,756	34,417	33,307	22,205	19,429	13,878	11,102

Table 6: Entrepreneur funding - amount raised, by industry

Region	Type of economy	Economy	Agriculture (median - US$)	Mining (median - US$)	Manufacturing (median - US$)	Transportation (median - US$)	Wholesale/retail (median - US$)	Information/communication technology (median - US$)	Finance (median - US$	Professional services (median - US$)	Administrative services (median - US$)	Health, education, government and social services (median - US$)	Personal/ consumer services (median - US$)
Europe	Innovation	Norway	163,053	11,060	37,919	101,118	47,399	12,640	12,640	25 280	47,399	16,116	6,320
Europe	Innovation	Portugal	49,960	13 878	38,858	71,055	22,205	299,761	3,331	8,882	28,866	11,102	13,878
Europe	Innovation	Slovakia	22,205	11,102	36,082	7,772	8,882	11,102	8,327	11,102	28,866	5,551	
Europe	Innovation	Slovenia	27,756	44,409	44 409	24,980	11,102	11,102	5,829	11,102	222,046	6,939	11,102
Europe	Innovation	Spain	55,511	16,653	24 425	44,409	16,653	22,205	10,547	11,102	6,661	11,102	44,409
Europe	Innovation	Sweden	130,372	14,815	17 778	361,486	11,852	5,926	891,863	5,926	26,667	6,519	9,482
Europe	Innovation	Switzerland	211,070	527,675	395,756	105,535	54,351	42,214	1,055,350	52,768	89,705	36,937	
Europe	Innovation	United Kingdom	62,161	15,540	31,081	20,979	16,317	7,770	15,540	15,540	7,770	6,216	10,101
Latin America and Caribbean	Efficiency	Argentina	5,502	4,952	2,751	27,510	4,402	16,506	11,004	3,301	9,463	2,311	5,502
Latin America and Caribbean	Efficiency	Barbados	1,625	4,500	2,500	18,750	2,500	3,050	35,000	1,875	3,000	3,000	5,000
Latin America and Caribbean	Efficiency	Brazil		781	546	8,898	781		624	687	1,015	624	7,337
Latin America and Caribbean	Efficiency	Chile	9,360	10,920	2,340	25,350	3,120	7,800	17,160	5,070	9,360	4,680	3,900
Latin America and Caribbean	Efficiency	Colombia	15,100	15,100	5,663	27,935	5,663	9,438	14,156	7,550	6,606	5,663	7,550
Latin America and Caribbean	Efficiency	Ecuador	1,000	30,000	2,000	4,500	2,000	10,000	1,000	3,000	3,000	2,500	11,500

Table 6: Entrepreneur funding - amount raised, by industry

Region	Type of economy	Economy	Agriculture (median - US$)	Mining (median - US$)	Manufacturing (median - US$)	Transportation (median - US$)	Wholesale/retail (median - US$)	Information/communication technology (median - US$)	Finance (median - US$	Professional services (median - US$)	Administrative services (median - US$)	Health, education, government and social services (median - US$)	Personal/ consumer services (median - US$)
Latin America and Caribbean	Efficiency	Guatemala	9,791	3,916	587	4,896	1,305	6,527	1,501	2,611	3,916	1,958	1,305
Latin America and Caribbean	Efficiency	Mexico	2,131	2,227	2,227	2,227	1,591	1,909	1,909	4,136	4,931	1,527	2,863
Latin America and Caribbean	Efficiency	Panama	800	5,000	5,000	5,000	500	6,000	24,500	2,000	2,750	1,100	20000
Latin America and Caribbean	Efficiency	Peru	1,261	2,523	1,104	5,991	1,261	94,601		3,153	3,784	1,577	631
Latin America and Caribbean	Efficiency	Puerto Rico	5,000	10,000	6,000	5,000	5,000	6,000		2,700	2,750	6,000	13,000
Latin America and Caribbean	Efficiency	Uruguay	330	458	183	1 283	220	495	1,503	128	1,649	257	257
NA	Innovation	Canada	79,386	15,877	39,693	19,846	39,693	11,908	31,754	7,939	55,570	7,939	39,693
NA	Innovation	USA	240,000	30,000	5,000	75,000	20,000	50,000	100,000	8,000	15,000	10,000	13,000

Table 7: Average amount of entrepreneur funding required, by entrepreneurial impact category

Region	Type of economy	Economy	Average amount of funding required by entrepreneurs projecting 6+ jobs (median - US$)	Average amount of funding required by entrepreneurs projecting 0-5 jobs (median - US$)	Average amount of funding required by innovative entrepreneurs (median - US$)	Average amount of funding required by non-innovative entrepreneurs (median - US$)	Average amount of funding required by entrepreneurs with 25% + international revenue (median - US$)	Average amount of funding required by entrepreneurs with less than 25% international revenue (median - US$)
Africa	Factor	Botswana	8,026	1,003	3,010	1,806	10,032	1,505
Africa	Factor	Burkina Faso	931	339	846	339	339	423
Africa	Factor	Cameroon	4,231	677	1,693	846	4,231	846
Africa	Factor	Egypt	12,950	5,180	6,475	5,827	6,475	5,827
Africa	Factor	Senegal	1,693	508	2 962	846	1,016	846
Africa	Factor	Tunisia	33,330	15,383	23,075	20,511	44 611	17 947
Africa	Efficiency	Morocco	30,741	7,173	3,074	10,247	87,100	7,173
Africa	Efficiency	South Africa	4,049	486	810	813	1,620	810
Asia and Oceania	Factor	India	783	1,253	1,097	1,567	783	1,253
Asia and Oceania	Factor	Iran	9,750	6 500	8,125	6,500	9,750	6,500
Asia and Oceania	Factor	Philippines	1,106	221	332	221	443	221
Asia and Oceania	Factor	Vietnam	4,875	2,438	4,875	2,438	4,875	2,438
Asia and Oceania	Efficiency	China	32,526	13,010	16,263	16 263	28,460	16,263
Asia and Oceania	Efficiency	Indonesia	738	369	350	369	627	369
Asia and Oceania	Efficiency	Lebanon	37,336	9,956	13,275	11,948	11,948	11,948
Asia and Oceania	Efficiency	Malaysia	5,842	2,655	1,328	2,655	5,311	2,655
Asia and Oceania	Efficiency	Thailand	13,179	1,464	1,464	1 464	5,858	1,464
Asia and Oceania	Innovation	Australia	51,269	15,191	37,977	22,786	37,977	22,786
Asia and Oceania	Innovation	Israel	52,378	14,404	78,566	26,189	65,472	26,189

Table 7: Average amount of entrepreneur funding required, by entrepreneurial impact category

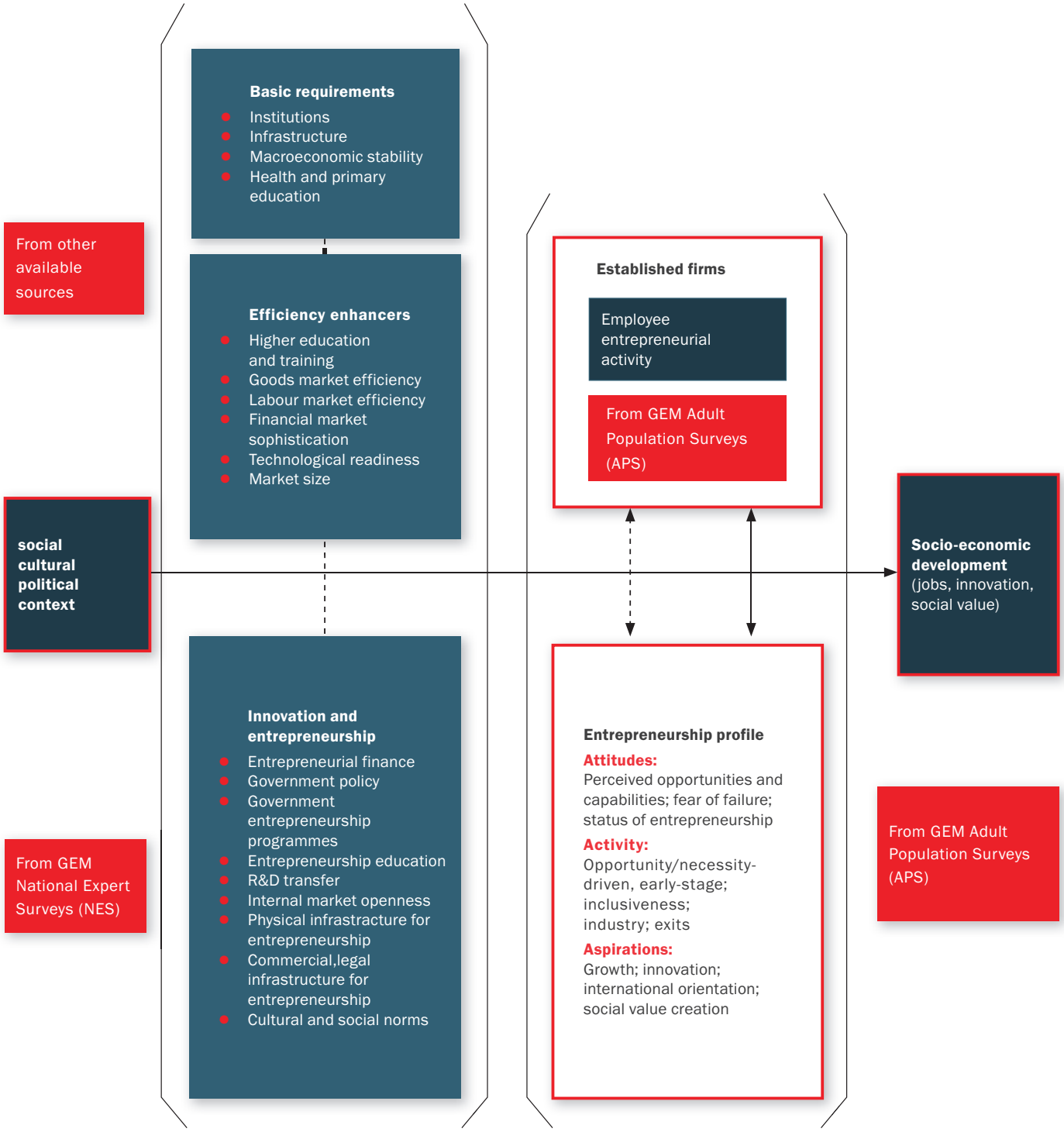
Region	Type of economy	Economy	Average amount of funding required by entrepreneurs projecting 6+ jobs (median - US$)	Average amount of funding required by entrepreneurs projecting 0-5 jobs (median - US$)	Average amount of funding required by innovative entrepreneurs (median - US$)	Average amount of funding required by non-innovative entrepreneurs (median - US$)	Average amount of funding required by entrepreneurs with 25% + international revenue (median - US$)	Average amount of funding required by entrepreneurs with less than 25% international revenue (median - US$)
Asia and Oceania	Innovation	Korea	265,500	88,500	88,500	88,500	88,500	88,500
Asia and Oceania	Innovation	Taiwan	38,810	16 171	56,597	32,341	64,683	21,022
Europe	Efficiency	Bulgaria	28,380	4,257	2,838	5,676	28,380	4,541
Europe	Efficiency	Croatia	14,669	9,535	14,669	10,269	14,669	10,269
Europe	Efficiency	Estonia	709	355	709	567	1,418	355
Europe	Efficiency	Hungary	10,748	10,748	4,478	10,748	10,748	7,165
Europe	Efficiency	Kazakhstan	16,073	6,697	18,751	10,715	16,073	10,715
Europe	Efficiency	Latvia	11,102	6,328	3,886	11 102	11,102	8,604
Europe	Efficiency	Macedonia	22,180	10,820	17,131	11 000	21,639	11,000
Europe	Efficiency	Poland	21,449	6,703	8,043	12,065	10,725	11,395
Europe	Efficiency	Romania	17,497	11,873	21,246	12,498	11,248	12,498
Europe	Innovation	Belgium	55,511	22,205	22,205	27,756	55,511	18,874
Europe	Innovation	Finland	55,511	8,882	83,267	11,102	111,023	11,102
Europe	Innovation	Germany	222,046	11,102	33,307	16,653	27,756	22,205
Europe	Innovation	Greece	55,511	30,531	49,960	30,531	72,165	27,756
Europe	Innovation	Ireland	22,205	11,102	22,205	11,102	22,205	11,102
Europe	Innovation	Italy	222,046	55,511	22,205	55,511	111,023	55,511
Europe	Innovation	Luxembourg	24,980	13,600	16,653	13,878	11,102	16,653
Europe	Innovation	Netherlands	111,023	16,653	38,858	19,429	44,409	22,205
Europe	Innovation	Norway	63,199	12 640	12,640	25,280	94,798	12,640
Europe	Innovation	Portugal	45,519	16,653	22,205	16,653	24,425	16,653

Table 7: Average amount of entrepreneur funding required, by entrepreneurial impact category

Region	Type of economy	Economy	Average amount of funding required by entrepreneurs projecting 6+ jobs (median - US$)	Average amount of funding required by entrepreneurs projecting 0-5 jobs (median - US$)	Average amount of funding required by innovative entrepreneurs (median - US$)	Average amount of funding required by non-innovative entrepreneurs (median - US$)	Average amount of funding required by entrepreneurs with 25% + international revenue (median - US$)	Average amount of funding required by entrepreneurs with less than 25% international revenue (median - US$)
Europe	Innovation	Slovakia	24,980	7,772	7,772	11,102	22,205	8,882
Europe	Innovation	Slovenia	16 653	11,102	11,102	11,102	16,653	11,102
Europe	Innovation	Spain	33 307	16,653	14,988	16,653	16,653	16,653
Europe	Innovation	Sweden	59 260	11,852	17 778	11,852	11,852	11,852
Europe	Innovation	Switzerland	105 535	52,768	105,535	52,768	105,535	52 768
Europe	Innovation	United Kingdom	38,851	7,770	7,770	13,986	15,540	7,770
Latin America and Caribbean	Efficiency	Argentina	5,502	3,301	4,402	3,576	24,759	3,301
Latin America and Caribbean	Efficiency	Barbados	5,000	2,500	2,500	2,500	12,500	2,500
Latin America and Caribbean	Efficiency	Brazil	3,122	624	2,342	624		624
Latin America and Caribbean	Efficiency	Chile	7,800	3,120	4,680	4,680	7,800	4,680
Latin America and Caribbean	Efficiency	Colombia	7,550	3,775	7,550	5,851	6,418	7,173
Latin America and Caribbean	Efficiency	Ecuador	5,000	2,000	1,250	2,000	5,000	2,000
Latin America and Caribbean	Efficiency	Guatemala	1,958	1,305	1,958	1,305	3,916	1,305
Latin America and Caribbean	Efficiency	Mexico	3,181	1,591	1,272	1,591	3,181	1,591
Latin America and Caribbean	Efficiency	Panama	2,000	1,000	1,000	1,000	1,750	1,000
Latin America and Caribbean	Efficiency	Peru	3,153	1,104	3,153	1,577	2,365	1,577
Latin America and Caribbean	Efficiency	Puerto Rico	20,000	5,000	6,000	5,500	10,000	5,250
Latin America and Caribbean	Efficiency	Uruguay	421	183	916	220	367	220
NA	Innovation	Canada	79,386	7,939	35,723	19,846	39,693	15,877
NA	Innovation	USA	50,000	10,000	20,000	15,000	15,000	20,000

APPENDIX 2:

THE GEM MODEL AND METHODOLOGY



The GEM Conceptual Framework used in GEM surveys up to 2014

Academics and policy-makers agree that entrepreneurs, and the new businesses they establish, play a critical role in the development and well-being of their societies. As such, there is increased appreciation for and acknowledgement of the role played by new and small businesses in an economy. GEM contributes to this recognition with longitudinal studies and comprehensive analyses of entrepreneurial attitudes and activity across the globe. Since its inception in 1997 by scholars at Babson College and London Business School, GEM has developed into one of the world's leading research consortia concerned with improving our understanding of the relationships between entrepreneurship and national development.

GEM is a worldwide study on entrepreneurship that was first conceptualised in 1997 by two academics, one from London Business School (Michael Hay) and the other from Babson College (Bill Bygrave) in the United States. In the late 1900s, there was no recognised international research that focused on entrepreneurship and the word was not a household name as it is today. The first published reports came out in 1999 and involved just 10 countries, eight from the OECD, Japan and the United States. Since then, the consortium of GEM countries has grown substantially and more than 100 economies participate from all levels of economic development and in almost all geographic regions. The GEM study now represents between 70% and 75% of the world's population and approximately 90% of the world's GDP. It can now claim to be truly global and to be the most authoritative and informative study on entrepreneurship in the world today. Only a few areas of the globe are not represented such as certain countries in mid/central Asia, a few countries in South East Asia and some from West and Central Africa.

THE GEM CONCEPTUAL FRAMEWORK

Since its inception, the GEM survey was conceptualised to explore the interdependency between entrepreneurship and economic development. During the last 17 years, this conceptual framework and the basic definitions have evolved gradually without compromising the comparability of the collected information, but bringing more clarity to assumed relationships. This process was supported by the work of a number of researchers who, using GEM data, contributed to building an entrepreneurship paradigm (Alvarez et al., 2014, Bosma, 2013, Levie and Autio, 2008, Reynolds et al, 2015).

The starting definition for entrepreneurship still remains valid, being:

"any attempt at new business or new venture creation, such as self-employment, a new business organisation, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (Reynolds, P. et al, 1999, p. 3).

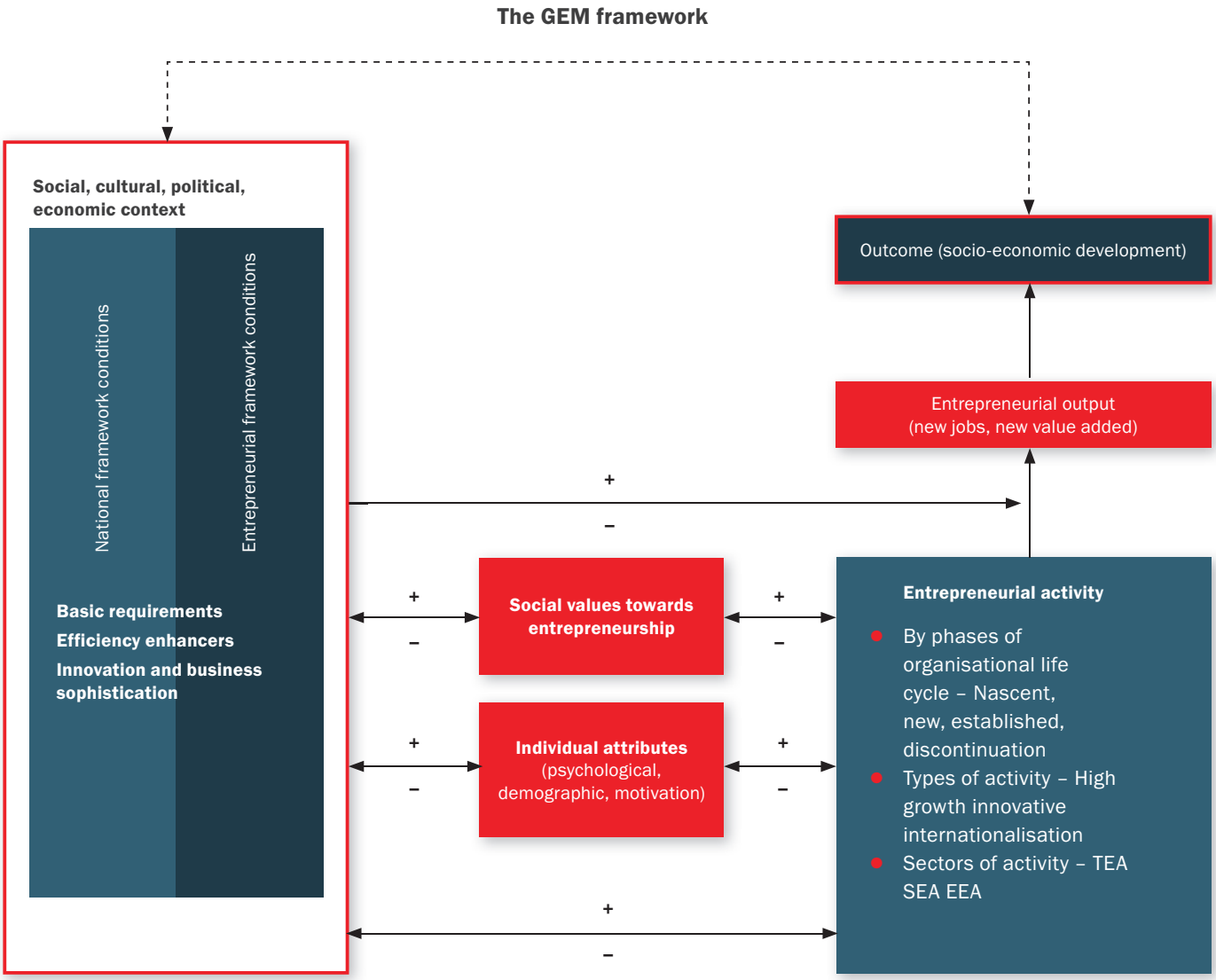
The three questions that originally opened the way to the GEM survey (Reynolds, P. et al, 1999, p. 3) were formulated as follows:

- Does the level of entrepreneurship activity vary between countries, and if so, to what extent?
- Does the level of entrepreneurship activity affect a country's rate of economic growth and prosperity?
- What makes a country entrepreneurial and what factors inf uence entrepreneurship activity?

In order to answer these questions, GEM had to depart from the conventional approach of thinking about national economic growth. This led to the development of a new conceptual framework, which has been through a series of adjustments since its inception in 1999. The GEM conceptual framework, as identified in 1999**,** in contrast to conventional model of national economic growth, depicted the basic assumption that national economic growth is the result of the personal capabilities of individuals, wherever they are located (regardless of the size of businesses or if they are self-employed), to identify and seize opportunities, and that this process takes place in interaction with the environment (social, cultural and political) in which these individuals are located.

This starting framework subsequently incorporated the findings and insights derived from numerous GEM surveys and years of GEM research, evolving into the GEM Conceptual Framework as presented in the figure below**.**

The most recent revision of the GEM conceptual framework entailed opening the 'black box' entitled 'Entrepreneurship Profile' (as presented below)**.** From the beginning of conducting GEM surveys, the implicit assumption of mutual relationships between attitudes, aspirations and activities was built into the conceptual framework, but without spelling out the nature of these relationships. In the revised GEM conceptual framework this 'black box' has been opened to allow for testing of the characteristics of the assumed relationships between social values, personal attributes and various forms of entrepreneurship activity. This work was carried out by members of the GEM Research and Innovation Advisory Committee (RIAC).



THE GEM CONCEPTUAL FRAMEWORK

The components of the revised GEM Conceptual Framework are:

Social, cultural, political and economic context

As in the previous GEM model, this is defined according to the 12 pillars of competitiveness derived from the World Economic Forum's *Global Competitiveness Index*, and the nine components of GEM's Entrepreneurship Framework Conditions. These will affect countries differently, depending on the stage of economic development at which the countries are, i.e. although all of the pillars will be important to each economy, the pillars of competitiveness which are of most importance to a factor-driven economy will differ from those that will be most important in an efficiency-driven economy.

Social, cultural, political and economic context and economic development phases

	From other available sources	*From GEM National Expert Surveys (NES)*
Economic development phases	National framework conditions, based on World Economic Forum pillars for profiling economic development phases	**Entrepreneurship framework conditions**
Basic requirements – key to **resource-driven economies**	Institutions Infrastructure Macroeconomic stability Health and primary education	
Efficiency enhancers – key to **efficiency-driven economies**	Higher education and training Goods market efficiency Labour market efficiency Financial market sophistication Technological readiness Market size	
Innovation and sophistication factors – key for **innovation-driven economies**	Business sophistication Innovation	Entrepreneurial finance Government policy Government entrepreneurship programmes Research and development transfer Internal market openness Physical infrastructure for entrepreneurship Commercial and legal infrastructure for entrepreneurship Cultural and social norms

It is important to note that all components of the environment in which women and men act entrepreneurially (or cannot act proactively and innovatively) are mutually dependent. This dependency demands a holistic approach, not only in research but also in designing appropriate policies for building a supportive environment in which entrepreneurial behaviour can flourish.

Social values toward entrepreneurship

This includes aspects such as the extent to which society values entrepreneurship as a good career choice; whether entrepreneurs have high societal status; and the extent to which media attention to entrepreneurship is contributing to the development of a positive entrepreneurial culture.

Individual attributes

This includes different demographic factors (such as gender, age, geographic location); psychological factors (including perceived capabilities, perceived opportunities, fear of failure); and motivational aspects (necessity versus opportunity based ventures, improvement-driven ventures).

Entrepreneurship activity

This is defined according to the phases of the life cycle of entrepreneurial ventures (nascent, new business, established business, discontinuation); according to type of activity (high growth, innovation, internationalisation); and sector of activity (Total Early-stage Entrepreneurship Activity – TEA, Social Entrepreneurship Activity - SEA, Employee Entrepreneurship Activity – EEA). In all the conceptual frameworks, the basic assumption has remained unchanged – namely, that entrepreneurship activity is an output of the interaction of an individual's perception of an opportunity and capacity (motivation and skills) to act upon this opportunity, AND the distinct conditions of the environment in which the individual is located. The GEM survey of entrepreneurship (based on individuals) complements other major business creation surveys by providing unique information on individuals (attributes, values, activities) and their interaction with the environment in practicing entrepreneurship behaviour (pro-activeness, innovativeness and responsible choices).

It is clear, therefore, that GEM continues to focus on contributing to global economic development through surveying/researching entrepreneurship, which helps to improve research-based education and research-based formulation of public policies in the field of entrepreneurship. In order to achieve this, GEM has three key objectives:

- To determine the extent to which entrepreneurship activity inf uences economic growth within individual economies.;
- To identify factors that encourage and/or hinder entrepreneurship activity (especially the relationships between national entrepreneurship conditions, social values, personal attributes and entrepreneurship activity).; and
- To guide the formulation of effective and targeted policies aimed at enhancing entrepreneurship capacity within individual countries.

Over the years, GEM surveys have confirmed that the level of entrepreneurship activity varies among countries at a fairly constant rate.

A crucial point confirmed by GEM research is that it takes time and consistency in policy interventions in order to enhance and develop the factors that contribute to entrepreneurship activity. Surveys also confirmed that entrepreneurship activity, in different forms (nascent, start-up, employee entrepreneurship), is positively correlated with economic growth, but that this relationship differs according to phases of economic development (Acs and Amorós, 2008; Van Stel et al., 2005; Wennekers et al., 2010).

GEM's role as one of the world's leading research consortia concerned with improving the understanding of the relationships between entrepreneurship and national development is confirmed by recent policy interventions around the world. These are focused on components of the GEM conceptual framework: environment (entrepreneurship framework conditions), individual capacity for identifying and exploiting opportunities, and society's capacity to develop an entrepreneurial culture. A recent report on entrepreneurial ambition and innovation (WEF-GEM, 2015) highlights the cases of Colombia and Chile, economies that have put in place several public and private initiatives to enhance their entrepreneurship ecosystems (Drexler and Amorós, 2015).

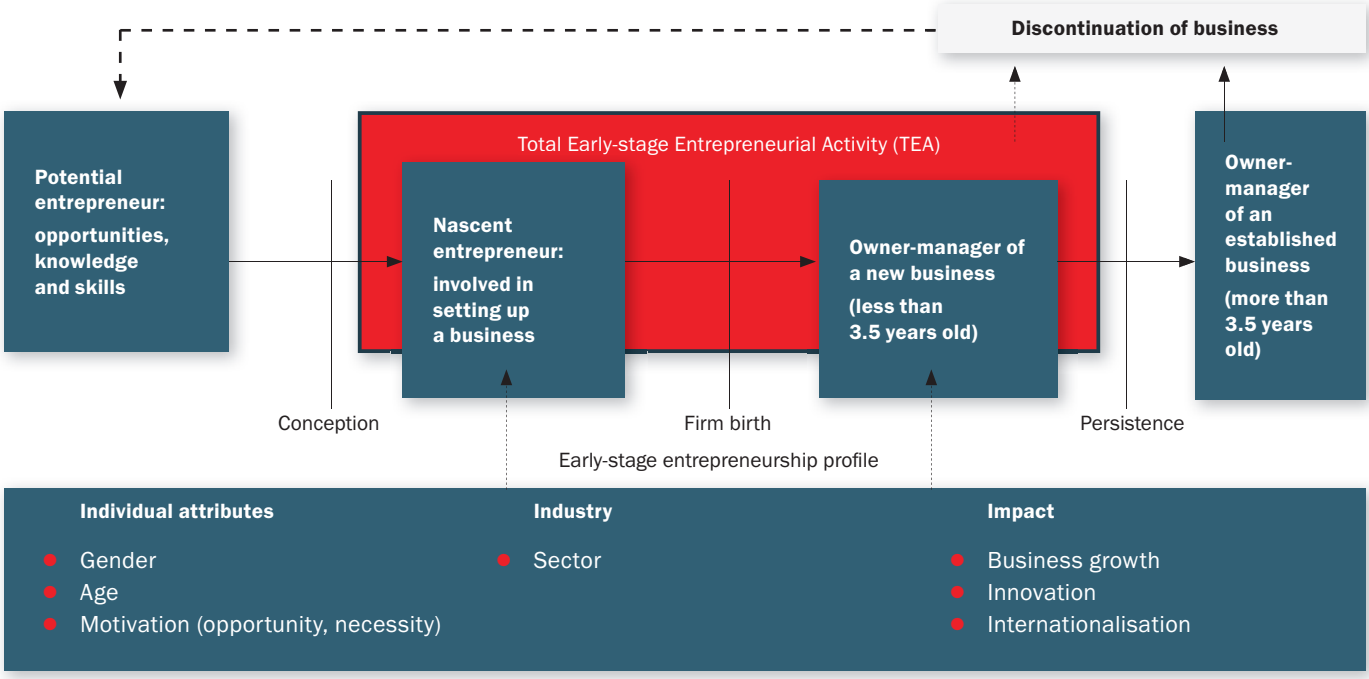
How GEM measures entrepreneurship

GEM measures **individual** participation across multiple phases of the entrepreneurship process, providing insights into the level of engagement in each stage. This is important because societies may have varying levels of participation at different points in this process; however, a healthy entrepreneurial society needs people active in all phases. For example, in order to have start-ups in a society, there must be potential entrepreneurs. Later in the process, people that have started businesses must have the ability and the support to enable them to sustain their businesses into maturity.

GEM's multiphase measures of entrepreneurship are given below:

Potential entrepreneurs – those who see opportunities in their environments, have the capabilities to start businesses and are undeterred by fear of failure.

Intentional entrepreneurs – those who intend to start a business in the future (in the next three years).



The entrepreneurship process and GEM operational definitions
Source: *GEM Global Report 2014*

Nascent entrepreneurs – those who have taken steps to start a new business, but have not yet paid salaries or wages for more than three months.

New entrepreneurs – those who are running new businesses that have been in operation for between three and 42 months.

Established business owners – those who are running a mature business, in operation for more than 42 months.

Discontinued entrepreneurs – those who, for whatever reason, have exited from running a business in the past year.

GEM's individual-level focus enables a more comprehensive account of business activity than firm-level measures of formally registered businesses. In other words, GEM captures both informal and formal activity. This is important because in many societies, the majority of entrepreneurs operate in the informal sphere. In addition, GEM's emphasis on individuals provides an insight into who these entrepreneurs are: for example, their demographic profiles, their motivations for starting ventures, and the ambitions they have for their businesses.

GEM also assesses broader societal attitudes about entrepreneurship, which can indicate the extent to which people are engaged in or willing to participate in entrepreneurship activity, and the level of societal support for their efforts. The GEM database allows for the exploration of individual or business characteristics, as well as the causes and consequences of new business creation.

In order to provide for reliable comparisons across countries, GEM data is obtained using a research design that is harmonised over all participating countries. The data is gathered on an annual basis from two main sources:

1. Adult Population Survey (APS)

The key entrepreneurship indicators are measured in the Adult Population Survey (APS). Academic teams in each participating economy administer and oversee this survey, which is conducted using a random representative sample of at least 2 000 adults between the ages of 18 and 64. The surveys are conducted at the same time every year (between May and July) using a standardised questionnaire provided by the GEM Global Data Team. The questionnaire is translated into local languages, and back-translated for a validity check.

The individual countries only gain access to the data once the raw data has been analysed by experts for quality assurance, checking and uniform statistical calculations. As the GEM research design harmonises the data, it is possible to conduct reliable cross national and intra-country comparisons over time.

2. National Experts Survey (NES)

The National Expert Survey (NES) provides information on the local environment faced by start-up entrepreneurs. Information is gathered about the nine entrepreneurship framework conditions: financing for entrepreneurs, government policies, governmental programmes, entrepreneurship education and training, research and development transfer, commercial and professional infrastructure, internal market openness, physical and services infrastructure and social and cultural norms.

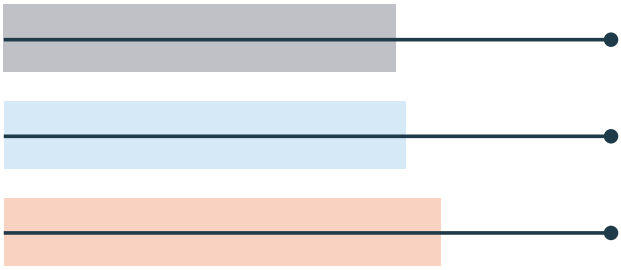
The GEM global data set is open source after three years and it can be may be be accessed at (www.gemconsortium.org.).

Besides the annual surveys based on collecting data through Adult Population Survey and National Expert Survey instruments, GEM conducts in-depth surveys on special topics, by adding specific questions to the standard APS questionnaire. This rich seam of GEM data has been analysed and presented in a number of separate publications (www.gemconsortium.org):

- On financing, in 2004 and 2006
- On women and entrepreneurship, in 2005, 2006, 2007, 2009, 2010, 2012, 2015
- On high expectation entrepreneurship, on high-growth entrepreneurship, on high impact entrepreneurship, in 2005, 2007, 2011
- On the innovation confidence index – European Union funded project, in 2007, 2008, 2009
- On social entrepreneurship, in 2009 and 2016
- On education and training, in 2010
- On youth, in 2013, 2015
- On entrepreneurial employee activity, in 2013
- On sub-Saharan Africa, in 2013, 2014 (on youth)
- On entrepreneurship, competitiveness and development, 2015
- On South East Asia, 2015

THE EVOLUTION OF **ENTREPRENEURIAL FINANCING** 2004-2015

PROVIDING OWN FINANCE:



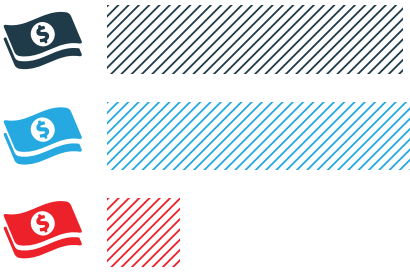
64% 2004

66% 2006

72%* 2015

- indicating greater self reliance in current economic climate

AMOUNT NEEDED TO START OWN BUSINESS:



$54,000 2004

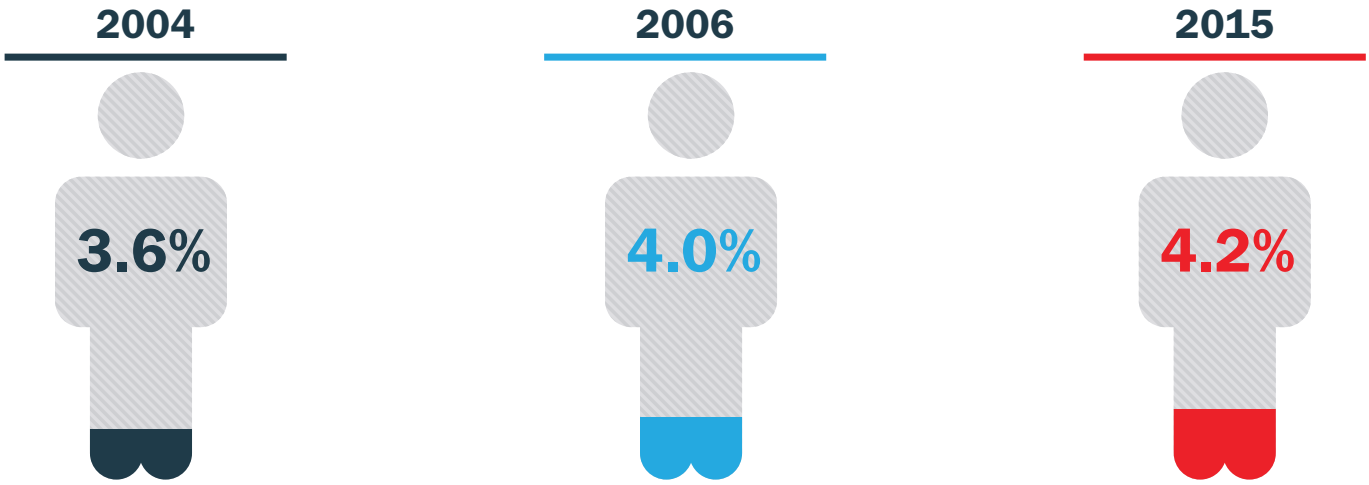
$65,000 2006

$13,000* 2015

- indicating a willingness to start a business with fewer resources and the capability to do so thanks to the inf uence of the internet.

**Median value used for 2015 data as opposed to average values in 2004 and 2006.*

PREVALENCE RATE OF INFORMAL INVESTORS AMONG THE ADULT POPULATION:



OVER **1 TRILLION** INFORMAL INVESTMENT INTO ENTREPRENEURSHIP WORLDWIDE OVER THE PERIOD 2012 TO 2015

ENTREPRENEURIAL FINANCE - BY ECONOMY

AVERAGE* AMOUNT OF MONEY REQUIRED TO START A BUSINESS (USD), BY PHASE OF ECONOMIC DEVELOPMENT, GEM 2015

INNOVATION

EFFICIENCY

FACTOR

$134,978

$109,192

$985,623

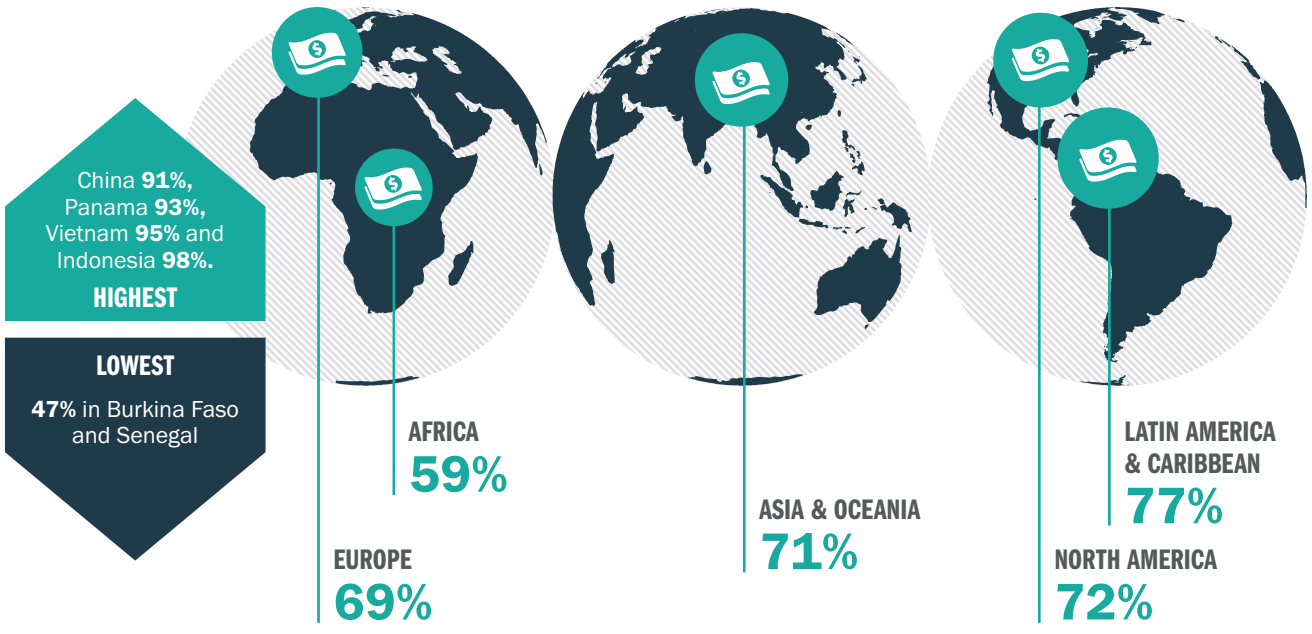
**Average of median amount of money needed, for all economies in the relevant category*

SOURCES OF FUNDING
EARLY-STAGE ENTREPRENEURS

ACCESS TO FINANCE WAS THE **4th** MOST PRESSING CONCERN IN ADVANCED ECONOMIES (THE GLOBAL COMPETITIVENESS REPORT 2015)

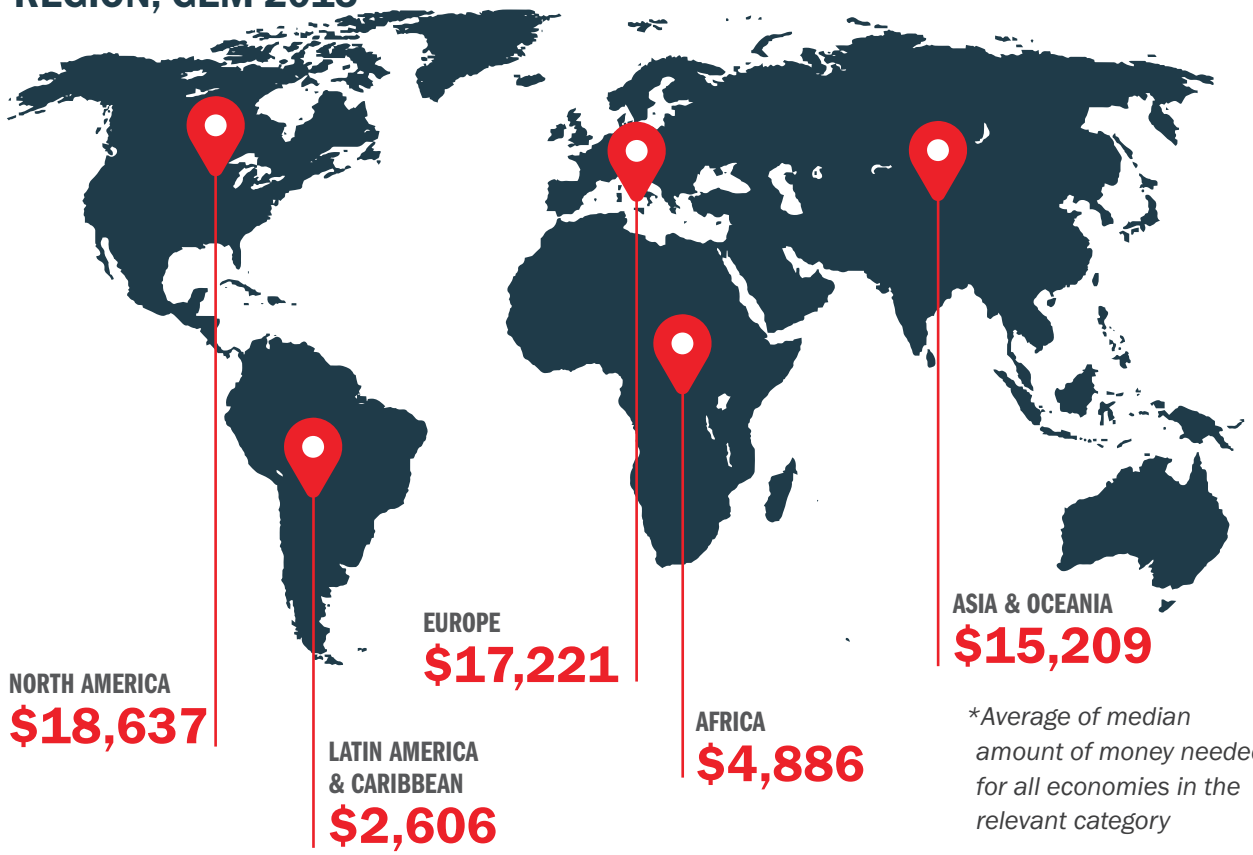
95% OF ENTREPRENEURS USE THEIR OWN FUNDS TO FUND OR PART FUND THEIR BUSINESS

AVERAGE PERCENTAGE OF ENTREPRENEURS USING OWN MONEY TO FUND THEIR VENTURES, BY REGION, GEM 2015



ENTREPRENEURIAL FINANCE - BY REGION

AVERAGE* AMOUNT OF MONEY REQUIRED TO START A BUSINESS (USD), BY REGION, GEM 2015



*Average of median amount of money needed, for all economies in the relevant category

NOTE: Low start-up costs in Africa and Latin Ameriaca&Caribbean are probably a reflection of the type of ventures started by entrepreneurs. Many of these entrepreneurs are likely to be in the retail/wholesale and services sectors. Barriers to entry into these sectors, in terms of both skills and capital required, are low.