

High-Growth Entrepreneurship in Mexico

ABSTRACT

Research from the US finds a small percentage of firms are responsible for the great majority of net new job creation. We now have a fairly precise set of stylized facts regarding the characteristics of these high-growth firms (HGFs). However, we have little understanding of HGFs in Latin America. To address this gap, we explore the characteristics of HGFs in Mexico selected by Endeavor, a global business accelerator. We find Mexican HGFs are present in a wide range of industries, including information technology and consumer segments. Several are pursuing strategies targeting base of the pyramid consumers and/or expanding internationally. We conclude with suggestions for future research and policy implications.

Keywords: Gazelles, high-growth firms, Mexico, Endeavor Research consistently shows that a small percentage of firms are responsible for the majority of jobs created in the United States (US) and Europe. These rapidly growing firms are commonly referred to as gazelles, high-growth, and/or high-impact firms. Birch and Medoff (1994) define a gazelle as “A business establishment which has achieved a minimum of 20 percent sales growth each year over the interval, starting from a base-year revenue of at least \$100,000.” The Organization for Economic Cooperation and Development (OECD) defines high-growth companies as firms having an average employment growth rate exceeding 20 percent over a three year period and with ten or more employees at the beginning of the period (Audretsch, 2012). Acs, Parsons, and Tracy (2008) define high-impact firms as “enterprises whose sales have at least doubled over a four-year period and which have an employment growth quantifier (the product of a firm’s absolute change and percent change of employment) of two or more over that same period.” Whatever definition used, high-growth firms (HGFs) are key drivers of job and wealth creation in the US and other developed economies.

We know relatively little about the dynamics associated with small and medium size HGFs outside of the US and Europe. A recent meta-analysis examining the relationship between gazelles and job creation did not include a single study from the developing world (Henrekson and Johansson, 2010). In this paper we investigate the characteristics of small and medium size HGFs in Mexico. We examine questions such as the distribution of Mexican HGFs across industry sectors, the number of HGFs competing in technology intensive industries, the strategies adopted by HGFs that lead to growth, the income level of consumers served by HGFs, and whether or not Mexican HGFs are actively pursuing opportunities in international markets.

One of the primary difficulties limiting HGF research in emerging economies is the challenge of first identifying and then collecting information on these enterprises and the people that run them. In this paper we address this challenge by limiting our sample to entrepreneurs and firms selected by the business accelerator Endeavor. Endeavor is a nongovernmental organization founded in 1997 by Linda Rottenberg and Peter Kellner whose mission is to increase the number and impact of high-impact entrepreneurs in emerging economies. Endeavor established country offices in Argentina and Chile in 1998, Brazil and Uruguay in 2000, Mexico in 2002, Colombia in 2006, and Peru in 2014. Outside of Latin America Endeavor operates in South Africa, Turkey, Jordan, Egypt, Lebanon, Greece, Indonesia, Saudi Arabia, Morocco, Malaysia, Miami, the United Arab Emirates, and Spain. As of October, 2013 Endeavor supports 844 entrepreneurs in 538 companies in 19 countries. The organization's 2013 impact report states these entrepreneurs are responsible for the creation of 225,000 jobs and generate over six billion dollars in annual revenue (Endeavor Impact Report, 2013).

Endeavor utilizes a launch, select, support, multiply, and give back business model. When entering a new country (i.e. the launch phase), Endeavor works with private sector business leaders to form a local board of directors, obtain financial support, and identify mentors. In the selection phase Endeavor's goal is to identify entrepreneurs that have the potential to "transform industries, communities, and even countries." This phase generally includes the screening of hundreds of entrepreneurs at local, regional, national, and international selection panels. Endeavor claims to be "industry agnostic" and to search for and select high impact entrepreneurs without regard to sector. In the support phase those selected gain access to mentors, networks, strategic advice, and other services from Endeavor, country board members,

and their associates. Endeavor actively publicizes the efforts of its high-impact entrepreneurs as part of the multiplier phase. The goal is for these individuals to serve as role models for the next generation of business leaders in their respective countries. Finally, successful entrepreneurs are asked to give back a portion of the incremental revenue they earned as a result of the services provided by Endeavor in order to fund operations and provide opportunities for the next generation.

Endeavor provides considerable information regarding their member firms. This includes background information on the founder(s) and his or her company as well as selective employment data. Endeavor also utilizes other means, such as YouTube, Facebook, Linked-In, Instagram, events, conferences, books, and research reports to provide information on their entrepreneurs. The target audience is generally local communities and is often provided in the native language of the host country. Given the Endeavor mission and model, we believe the individuals and firms selected by this organization can provide a valuable window into the characteristics of HGFs in Latin America's second largest country.

This article continues as follows. In section two we review the research focused on small and medium sized HGFs in the US and Europe, and the small body of literature examining these firms in Latin America. In section three we discuss the research methodology used for this study. In section four we present information on the individuals that have been named Endeavor Entrepreneurs in Mexico over the 2002 – 2013 period. We pay particular attention to the subsample of Endeavor firms that have already achieved substantial growth. We conclude with suggestions for future research as well as a discussion of the current status and future prospects for HGFs in Mexico and other Latin American countries.

High-Growth Firms in the United States and Europe

For much of the 20th century there was little interest in the relationship between small and medium sized enterprises (SMEs) and job creation. The great majority of firms in this size class were stereotyped as low wage, low productivity entities that made marginal contributions to job and wealth creation. At the same time, studies by Chandler (1977) and others documented the scale and scope advantages enjoyed by large firms and the emergence of global oligopolies (Nightingale and Coad, 2014). It was not until 1979 and the publication of “The Job Creation Process” by David Birch that scholars and policy makers began to recognize and acknowledge the contributions made by SMEs. As part of his work at MIT’s Center for the Study of Neighborhood and Regional Change, Birch used Dun and Bradstreet data to track the birth, growth, contraction, and death of US companies. Birch (1979) found companies with fewer than 100 employees were responsible for 82 percent of all net new jobs created from 1969 to 1976.

Research from the 1980s and 1990s designed to replicate and extend Birch’s findings were not uniformly supportive. Armington and Odle (1982) found small firms accounted for only 40 percent of new jobs created from 1978 to 1980. Davis, Haltiwanger, and Schuh (1996) reported “large firms and plants dominate the creation and destruction of jobs in the US manufacturing sector.” They argued the misinterpretation of data and/or the use of data that was not suited for the study of the relationship between firm size and job creation was responsible for the inconsistencies in the literature. Another set of researchers came to conclusions that were broadly supportive of Birch’s 1979 findings (Kirchhoff and Phillips, 1989; Birch, 1987). A study utilizing a dataset which included Canadian firms by Picot, Baldwin, and Dupuy (1994) directly addressed the concerns discussed by Davis, Haltiwanger, and Schuh (1993). These

authors found that regardless of the measurement method used, small firms were responsible for a disproportionate share of job gains, job losses, and net employment increase. A study by Birch, Haggerty, and Parsons (1995) found three percent of US business generated all net new jobs over the 1990-1994 period. Only 3.5 percent of these firms employed more than 100 employees.

In 1994 David Birch and James Medoff, one of main critics of the small firm job creation hypothesis, joined together in an attempt to address the differences between the two groups. These authors found that four percent of companies accounted for 70 percent of new jobs during the 1988 – 1992 period (Birch and Medoff, 1994). These HGFs, which they referred to as gazelles, employed on average 61 individuals and were found in a near equal share across a range of industries. Subsequent research tends to arrive at similar findings. Put slightly differently, in the US a small percentage of rapidly growing firms account for almost all of the net new jobs added. In addition, these firms come in a variety of sizes and industries.

Our knowledge of HGFs in the US continues to improve, often due to the refinement of datasets which measure the birth, growth, contraction, and death of firms. Acs, Parson, and Tracy (2008) utilized a dataset which combined firm level information from the Dun & Bradstreet DUNS Market Identifier file, the Bureau of Labor Statistics Industry Occupation Mix, the Census Bureau's Public Use Microdata Sample file, and other sources. These authors identified companies that qualified as high-impact firms (HIFs) during the 1998 – 2002 period. They also analyzed these firms during the four years immediately before and after the 1998 – 2002 period. Major findings include:

- Only two to three percent of all firms qualify as HIFs. These firms were responsible for almost all private sector employment and revenue growth during the study period.
- During the 1994 – 2006 period companies with fewer than 20 employees represented 93.8 percent of HIFs and were responsible for 33.5 percent of job growth in the full HIF population. Companies with 20 to 499 employees represented 5.9 percent of firms and 24.1 percent of job growth. Even though they represented only a very small percentage of all HIFs (.3 percent), companies with 500 or more employees accounted for 43.4 percent of job creation.
- The average small HIF grew from 3 employees at the start of the study period to 16 at the end; medium and large sized HIFs grew from 65 to 209 and from 3,648 to 8,041 respectively.
- The average age of HIFs is 25 years and they are younger than low impact firms.
- HIFs exist in almost all industries and in almost all regions, states, metropolitan statistical areas, and counties. While some sectors have a higher percentage of HIFs, they are not limited to technology intensive industries. Also, the share of HIFs by industry varies considerably over the three time periods examined.
- Nearly all job losses during each of the three four year periods is attributable to low-impact firms with more than 500 employees.
- Most HIFs from the 1998 – 2002 period remain in business and exhibit at least some growth during the 2002 – 2006 period.

Tracy (2011) conducted a follow up study to Acs, Parson, and Tracy (2008). Utilizing the same dataset but adding two additional years of data (2007 - 2008), Tracy (2011) expanded the analysis to include firms level variables such as the gender of the owner and credit worthiness. Tracy (2011) found:

- HIFs created about 10.7 million jobs in each of the time periods. In contrast, all other companies shed about 4.1 million jobs per four year period.

- HIFs capacity to create jobs appears “immune from the expansions and contractions of the business cycle.”
- HIFs generate more revenue per employee than non-HIFs in each of the employee size segments.
- Status as a HIF is not a significant predictor of credit risk or credit worthiness.
- During the 2004 – 2008 period 11.7 percent of HIFs were owned by women. The percentage of female owned firms in the full sample was 12.8 percent.

Research utilizing Europe samples is consistent with the findings of US based studies. In addition, European scholars have made significant contributions through studies that systematically compare high and low growth firms. For example, Holzl (2009) compared the innovation and R&D inputs made by fast and non-fast growing small and medium sized enterprises (SMEs) in 16 European countries. Holzl divided countries into three groups with Austria, Germany, Belgium, Sweden, and Finland classified as closest to the technology frontier, Italy, Portugal, Greece, and Spain at an intermediate level, and several countries that had recently joined the EU furthest away from the technology frontier. He found “high-growth SMEs are only more innovative than other SMEs in countries close to the technological frontier.” Lopez-Garcia and Puente (2012) conducted a multivariate analysis of a large sample of Spanish firms. They found paying a wage premium had a positive and significant effect on the probability of a firm qualifying as a gazelle. This finding suggests SMEs that take steps to attract and retain a highly skilled workforce have an above average probability of qualifying as a gazelle. However, Coad et al. (2014) found HGFs in Swedish knowledge-intensive sectors are more likely to employ young people, poorly educated workers, immigrants, and individuals who had experienced longer periods of unemployment compared to non-high growth firms.

There has been very few studies focused on HGFs in Latin America (for a notable exception, see Katis, Angelli, and Koenig, 2004; for important contributions to the literature on small firm growth in developing countries see Fajnzylber, Maloney, and Rojas, 2006; Nichter and Goldmark, 2009). However, research appearing in the Global Entrepreneurship Monitor (GEM) (Autio, 2005, 2007) provides useful findings on closely related phenomena. The GEM teams conduct surveys of randomly selected adults in order to determine the prevalence and type of entrepreneurial activity in developed and developing countries. Along with other information, GEM collects data on the numbers of nascent and new entrepreneurs that expect to employ at least 20 employees within five years' time (referred to as high expectation entrepreneurs) as well as the number of established entrepreneurs leading HGFs (defined as firms with 20 or more employees). Nascent entrepreneurs are adult age individuals that during the last 12 months have taken tangible action to start a new business. New entrepreneurs are defined as adult age individuals that are actively managing a firm which he or she personally owns all or a part of and that is not more than 42 months old.

The GEM 2007 report utilized survey data covering the 2000 to 2006 period from 32 countries. Overall, 6.3 percent of the individuals surveyed were involved in nascent or new startups that expected to employ at least one person in five years. However, only .9 percent expected to create 20 or more jobs. These high expectation entrepreneurs represented 7.4 percent of all nascent and new ventures yet accounted for 73 percent of all expected job creation. The prevalence of high-expectation entrepreneurship varied significantly across world regions, countries, and national incomes. Over one percent of the adult population in the US, New Zealand, Iceland, and Canada qualified as high-expectation entrepreneurs while this percentage

fell to a low of 0.1 percent in Greece. China had the highest level of high-expectation entrepreneurship of any GEM country at 1.7 percent. In Latin America the percentage stood at 1.1 percent in Argentina, .65 percent in Brazil, .35 percent in Mexico, and .30 percent in Jamaica.

As mentioned the GEM data includes information on established entrepreneurs with 20 or more employees. New Zealand had the highest score on this measure with .76 percent of those surveyed leading this class of business. This percentage fell to .60 percent for China, .40 percent for the US, .28 percent for Argentina, and .17 percent for Brazil. Jamaica and Mexico scored at the bottom of the 32 countries surveyed with a mere .02 percent of the sample indicating they were owner/managers of firms employing 20 or more people.

To summarize this section, research conducted over the last 30 plus years has produced a set of stylized facts regarding HGFs in the US and Europe and their contribution to job and wealth creation. There is little evidence to suggest that the findings from the US and Europe generalize to Latin America. In the rest of this paper we explore the generalizability of these findings in the Mexican context.

Study Methodology

A traditional challenge for entrepreneurship researchers is gaining access to data from SMEs that are not publically traded and hence do not as a general rule disclose firm level data. Endeavor provides a valuable service in that they disclose substantial information about their entrepreneurs in the form of web profiles, YouTube interviews, book chapters, and other sources. However, there are clear limitations to this data. For example, in 2013 Endeavor Mexico published the number of employees at each Endeavor firm on its webpage. This information was

removed in 2014 yet employment data for Mexico firms is still disclosed on the US Endeavor website. It is unclear if this information is accurate and regularly updated. We contacted the Endeavor offices in both Mexico City and in New York with the goal of obtaining updated employment information and other data. An Endeavor representative stated they do not release this information or other potentially sensitive data to academic researchers. Given this limitation, in addition to the Endeavor data we conducted extensive secondary data searches on each of the companies in the Endeavor sample. In several cases there were multiple information sources available. For example, several Endeavor entrepreneurs have been recognized by other entities that promote business and leadership development. Patrick Struebi from Fairtrasa is an Ashoka fellow, a Yale World Fellow, and a Schwab Foundation Entrepreneur of the Year. Each of these programs both screens and discloses at least some information about their awardees. Through these and other sources, we believe we have a fairly accurate picture of the entrepreneurs and companies discussed in the next section. Also, we have no revenue information from our sample firms and hence rely upon job creation as our primary measure to identify HGFs.

HGFs and Mexico's Endeavor Entrepreneurs

Endeavor has identified four entrepreneurial profile types; 1) Diamonds in the rough - These are raw, talented individuals who have great potential but also face great challenges to grow their businesses; 2) Fast learners - These entrepreneurs are running young businesses and have great visions for their companies but often lack the managerial skills and focus necessary to scale; 3) Local stars - Individuals that have built brand recognition locally but need assistance to expand to national and international markets; and finally 4) Surefire successes - These

entrepreneurs have created very successful businesses and have experienced or are on the path to rapid growth.

The Endeavor Mexico population includes 130 individuals from 71 companies. In Table One we present summary information on companies that in our best judgment fit the “local stars” and “surefire success” categories. These companies have experienced and/or are currently experiencing rapid employment growth. We have not included companies we classify as diamonds in the rough or fast learners given these firms are generally in the pre-growth stage. We organize the presentation of our results starting with the industry sector with the most HGFs and end with the sector with the fewest. We have included a limited number of firms that are planning to expand rapidly and appear to have very high potential business models. We have included these firms given their considerable potential to rapidly generate jobs and wealth in the near and/or medium term. These pre-growth companies are clearly indicated in Table One. In the pages that follow we provide short profiles of several sample firms that we believe provide considerable insight into the opportunities available to and capabilities of HGFs in Mexico. As part of each profile we include the name of the entrepreneur(s), date the business was founded, and number of employees, and the city where the company has its headquarters.

The Consumer/Consumer Goods Sector

This industry category has the greatest number of firms in the full Endeavor sample (32) and the greatest number that clearly qualify as HGFs (10). There is great diversity within this category with the products offered, distribution methods, and target customers. Vicky Form sells lingerie through direct sales methods similar to Avon as well as through retail stores that resemble Victoria Secrets. Mascota sells expensive pure breed puppies to wealthy customers in

upscale malls as well as other pet supplies. Daniel Espinosa Studios sells jewelry sourced from workshops in Taxco, Guerrero through retail stores in Beverly Hills, Madrid, and Barcelona as well as a through Sam's Club wholesale stores in Mexico and on QVC. Cinemagic builds and operates movie theaters in small municipalities where there is little direct competition. In the rest of this subsection we provide more detailed profiles of three HGFs in this category:

Vicky Form - (José Zaga, 1964, manufacturer and retailer of lingerie, 2,012 employees) - For its first three plus decades this company focused on undergarment manufacturing. When he was 17 years old, the son of the founder convinced his father to adopt a direct sales model similar to Avon rather than continue to distribute their products through traditional channels. The company now has over 200 distribution centers and 120,000 independent sales agents. The company also operates boutique stores similar to Victoria's Secrets. In late 2012 Triumph International, a large Swiss multinational, purchased a 51 percent ownership interest in Vicky Form.

Mascota - (Isaac and Murry Tawil, pet shops, 1979, 1,700 employees) - This company started in 1979 when two of the Tawil brothers began selling fish, fish supplies, and aquariums. The business was re-launched in 1994 as a high end pet shop in prestigious shopping malls. The company has grown to 300 retail outlets with 1,700 direct and 2,300 indirect employees including 100 veterinarians. The company has both company owned and franchise stores and purchases goods and services from 100 suppliers with roughly 50 percent sourced from Mexico.

Fairtrasa - (Patrick Struebi, fair trade organic fruit and vegetable exporter/distributor, 2005, 42 employees) - A Swiss national, Patrick gained valuable international trade expertise working for Deloitte and Glencore. Patrick started Fairtrasa after coming to the realization during a trip to Peru that his work as a commodities trader was making the rich richer and the poor poorer.

Initially based in Mexico, Fairtrasa provides small scale farmers training in organic farming, capital, and access to international markets. Now headquartered in Zurich, the company has supply offices in five Latin American countries and Turkey, and sales offices in England, the Netherlands, Germany, and California, and markets itself as the largest fair trade fruit exporter from Latin America.

The Technology Sector

There are 16 Endeavor Mexico firms in the technology sector of which 5 clearly qualify as HGFs with 190 or more employees. All of these firms compete in the IT sector. Another notable characteristic of these firms is their extensive international operations with Intellego, HDS, and Naranya all having offices in multiple Latin American countries. These three companies are profiled in this subsection:

Intellego - (Eduardo Graniello, Felipe Labbé, IT services, 1999, 1,600 employees) - Intellego is an IT company specializing in information management, management consulting, and technology services. After receiving his undergraduate degree from Monterrey Tec, the founder worked in Monterrey at a software company specializing in business intelligence and taught classes at his alma mater. The company can trace its beginnings to a presentation Eduardo gave at the Tec. After the talk, a person from the audience approached Eduardo and asked for help implementing the topics covered at his business. Another Tec professor helped start the company and the venture's first 50 employees were Tec graduates. The company has offices in Mexico, Guatemala, Colombia, Chile, Peru, Brazil, and the US. Intellego has been particularly successful in attracting senior managers from the Latin American operations of companies such as HP, Oracle, and Deloitte to join its top management team. In 2014 Intellego was named by

the World Economic Forum as a Global Growth Company and listed as one of the 500 most important companies in Mexico by the business publication Expansión.

Health Digital Systems (HDS) - (Jaime Cater, electronic medical records, 2003, 510 employees) - This company's main product is a web based software platform that allows doctors to input, monitor, and share medical information with entities such as healthcare providers, insurance agencies, and state run healthcare systems. HDS was cofounded by a serial entrepreneur with no prior background in healthcare that started the first of 45 companies when he was 18. The company's primary clients are public sector health systems in Mexico, Colombia, Venezuela, Ecuador, Peru, Bolivia and Chile. In 2010, WAMEX, a US based private equity company, made a significant investment in HDS and in 2014 another US based private equity firm obtained a minority interest in the company for \$25 million.

Naranya - (Arturo Galvan, mobile content for phones, 2002, 300 employees) - The founder of Naranya served for 16 years at the chief technology officer for the publisher of three of Mexico's best know newspapers. He also was a cofounder in the 1980s of the first internet service company in Mexico and in the 1990s the first online financial information service. Naranya develops products for use on mobile phones with divisions focusing on consumers, developers, content providers, and companies launching mobile advertising campaigns. The company has offices in Mexico, seven other Latin American countries, the US, and China. Naranya recently launched a startup accelerator that provides entrepreneurs funding, a place to work in the Naranya offices, and access to experienced mentors. In September, 2014, Naranya Ventures, the company's venture capital arm, announced the launch of a \$50 million fund targeting the mobile communication and internet space.

The Professional Services Sector

There are 11 Endeavor Mexico firms in the professional services category, including 3 where employment has surpassed 150. In this subsection we profile Enova and IPETH, two rapidly growing firms providing educational services.

Enova - (Mois Cherem, Jorge Camil, Raúl Maldonado, education centers focused on E-learning, 2007, 600 employees) - Approximately 73 million Mexicans do not have access to the internet and 75 percent of the students that start 1st grade do not complete high school. Enova's mission is to address the digital divide and improve educational outcomes. The company designs, builds, and operates small education centers in poor neighborhoods where students of all ages have access to computers, the internet, and online courses in subjects such as Spanish, English, computer science, and mathematics. In early 2014 Enova operated 95 centers with plans to open an additional 84 by the end of the year. Founding team members have received numerous awards, including the Schwab Foundation Social Entrepreneur of the Year Award for Latin America, and the Harvard Rising Star Award.

IPETH - (Alejandro Cuervo, Arturo Macip, private university offering four year bachelors degrees in physical and occupational therapy, 2007, 38 professors, 1,300 students). The father of one of the founders opened the first physical therapy clinic in Puebla and he and his colleagues often complained of the poor preparation and high turnover of their entry level therapists. The two founders launched IPETH in Puebla with the goal of addressing this need. The university estimates there are 3,000 certified physical therapists in Mexico while there is a need for 500,000 to work with the 5.7 million Mexican citizens that have some kind of physical disability. In 2013 IPETH added campuses in Mexico City and Guatemala. In the next five years the

university's strategic plan includes opening a large number of rehabilitation centers as well as campuses in four additional cities.

The Smaller Sectors: Financial Services and Healthcare

Financial services represents a relatively small sector within the Endeavor portfolio with only five firms. Of these, three have been able to scale their operations to the level where they employ 100 or more people. Each of these HGFs focuses on serving the financial needs of Base of the Pyramid (BOP) consumers. Within this segment both Barared and MiMoni have developed very innovative ways to provide services to Mexican consumers that do not have access to the formal banking system.

Barared - (José González, banking kiosks targeting BOP customers, 2006, 200 employees) - Roughly half of Mexico's 110 million people live in poverty and have little access to the formal banking system. Barared serves the financial needs of BOP customers through installing and operating banking kiosks in Mom and Pop type stores in lower class neighborhoods. These kiosks (which include an internet connected I-Pad bolted to a stand) enable customers to access basic banking services, add funds to their cell phone, pay utility bills, make phone calls, send email, etc.. The company plans to have 2,000 kiosks installed and serve 1.5 million monthly clients by the end of 2014.

MiMoni (MiCel, Finestrella) - (Gabriel Manjarrez and Pedro Zayas, financial intermediary targeting the unbanked, 2008, 120 employees) - In Mexico consumers that would like to purchase a post-paid cell phone plan are required to have a credit card. Individuals without credit cards often have little choice but to purchase a phone and expensive pre-paid plan. MiCel purchases wireless service at post-paid rates, and sells handsets and minutes to non-banked BOP

customers at levels between pre and post paid rates. They carefully research the profile and behavior of their clients utilizing big data analytics to reduce credit risk. The company has expanded its services to include internet based micro-lending. MiMoni/MiCel received \$13.75 million in Series B funding in 2011 from US venture capital firms.

Similar to financial services, the healthcare sector represents a small percentage of the Endeavor portfolio with six firms. Of these, two clearly qualify as HGFs while two others fall in the pre-growth category. The leading employer in this segment has established a chain of dentist offices in the Monterrey area. Profiles of the two pre-growth companies are provided below.

Clínicas del Azucar (CDA) - (Javier Lozano, Fernanda Zorrilla, diabetes prevention and treatment clinics, 2010, 40 employees) - The founders do not have backgrounds in medicine; Javier received a undergraduate degree in Engineering Physics from the Tec de Monterrey and developed the initial business model for low cost diabetics clinics while working towards a masters in technology degree from MIT. Dr. Julio Frenk, a former Mexico Minister of Health and Dean of the Harvard School of Public Health, served as an early advisor. Through the redesign of work processes (patients often see multiple specialists on a single one visit), the utilization of the latest technology, and the adoption of a high volume strategy CDA has reduced the annual cost of treatment from \$1,000 to \$200 per year per patient. The founding team has the goal of establishing clinics throughout Mexico to treat the 14 million Mexicans that suffer from diabetes, only 10 percent of which currently have access to comprehensive diabetes care.

Sala Uno (SU) - (Javier Okhuysen, Carlos Orellana, clinics specializing in cataract surgery, 2010, 40 employees) - Similar to CDA, the founders of SU have engineering rather the medical

backgrounds. Javier and Carlos met while employed by the Rothschild Group in Madrid as investment bankers. The initial business model for SA was developed after the founders visited the Aravind Eye Care System facilities in India, an institution that has pioneered low cost, high volume cataract treatment centers for BOP consumers. Through taking the Indian model yet contextualizing it to the Mexican environment, the founders plan to expand from one to ten surgical centers by 2016 to begin to address the estimated backlog of two million individuals in Mexico that could benefit from cataract surgery (Singhal, Moe & Bartlett, 2013).

The Laggard: Industrial/Manufacturing

Mexico's manufacturing exports rose to an all time high of 14.4 percent of all US manufacturing imports in 2012 (Kamil and Zook, 2013). This flow of goods to the US provides significant opportunities for small and medium sized Mexican manufacturers, especially as suppliers to the large MNCs that account for the majority of exports. There are 13 Endeavor firms classified as industrial, yet only one started since 1998 has 150 or more employees. This firm, MexQ, is the only Endeavor firm that focuses on serving as a supplier to MNC exporters. MexQ has over 1,000 employees performing quality inspection, rework, and related functions at factories owned by Nissan, Ford, General Motors, and others in several states in Mexico. The founder of MexQ worked for a Japanese auto parts producer in Aguascalientes after graduating from college. As a production supervisor he noticed some of the inputs supplied by foreign producers had quality defects. The supplier often had to send representatives to Mexico at great expense to address these quality issues. In 1999 the founder and his partners started MexQ with the goal of serving as suppliers' representatives at auto plants in Aguascalientes.

Comparisons of HGFs in the US/Europe and Mexico, Successful Strategies, and Business Models

Our exploration of the characteristics of Endeavor firms do not allow us to make definitive conclusions about the nature of Mexican HGFs. For example, the US based research finds HGFs represent three to four percent of all firms. The evidence presented in this paper provides little insight into how many Mexican HGFs there are during any particular time period or their distribution in small, medium, or large categories. Also, the evidence presented does not allow us to estimate the percentage of job creation accounted for by HGFs. However, we contend the experience of our sample firms does allow us to make a handful of tentative conclusions.

Studies in the US and Europe find HGFs are spread relatively evenly across industries. There are at least three findings in regard to the industry distribution of sample firms we find particularly relevant. First, while clearly a very broad category, consumer firms are very well represented in the Endeavor HGF sample. Second, industrial/manufacturing firms are clearly underrepresented. Third, there are a significant number of Mexican HGFs in technology intensive sectors. There are 16 Endeavor firms in this category of which 5 information technology firms have been able to scale their operations. There are also clearly technology intensive companies in the Endeavor sample which are classified in industries such as industrial, energy, and healthcare rather than technology. For example, Grupo Fagro and AliBio both conduct their own R&D and have develop advanced products for the agriculture and aquaculture markets. Óptima Energia is designing and implementing innovative “green” solutions for large private and public clients while Gresmex developed a commercially viable nanoparticle that

addresses a pressing global health care challenge. However, none of these companies have experienced the explosive employment growth typical of IT companies such as Intellego and HDS.

Another stylized fact regarding HGFs in the US is that they are spread out across states, counties, and metropolitan areas. In contrast, there is a lack of evidence in the Endeavor sample that Mexican HGFs occur on a regular basis outside of Mexico's main metropolitan areas. The majority of Endeavor firms that have experienced rapid growth selected during the 2002 – 2012 period got their start and continue to maintain their headquarters in Mexico City, Monterrey, or locations with easy access to these cities. Companies like Procesa Chiapas in southern Mexico are very much the exception to this general rule. The Endeavor model is based on first establishing an office in the capital city and then spreading out to other areas and this strategy may account for the lack of geographic diversity. Endeavor established its Mexico City office in 2002, and a physical presence in Monterrey, Puebla, Baja California, and Aguascalientes in 2007, Chiapas and Jalisco in 2008, and the Yucatán Peninsula and Sinaloa in 2009. As the Endeavor Mexico network continues to mature an important research question becomes whether entrepreneurs from these regions have the capacity and track record to successfully compete in the Endeavor selection process against entrepreneurs based in Mexico's traditional centers of economic power.

One of the major goals of this study has been to identify the strategies and business models that provide Mexican HGFs an advantage over their competitors and facilitates their ability to create jobs. There is significant diversity in customer focus yet a number of sample firms have developed innovative ways to meet the needs of lower middle and lower class

consumers and producers. This can be through new to the industry distribution methods (Vicky Form), the provision of capital and training to facilitate new product development (Fairtrasa), addressing unmet needs in education (Enova, IPETH), the use of innovate business models (Barared, MiMoni), and focus strategies combined with process efficiencies (Clínicas del Azucar, Sala Uno). Another goal has been to determine the frequency and pattern of the international activities of Mexican HGFs. International expansion has occurred with the greatest frequency in the IT sector with Intellego, HDS, and Naraya all having multiple branches in Latin America. Expansion across borders has largely been limited to Latin America and the US and internationalization strategies have been pursued with much less frequency in other sectors.

There are two additional characteristics of our HGFs that are particularly important. First, the growth of sample firms is having significant spillover effects. For example, while Vicky Form has over 2,000 employees the company also provides income earning opportunities for 200,000 independent sales representatives. Partially as a results of switching from international to local suppliers, Maskota employs more indirect than direct employees. Fairtrasa direct employment is relatively modest (40 plus employees), yet the company provides an estimated 15,000 growers training in organic farming, a fair price for their outputs, and distributes those products in Europe and the US. The company has created opportunities for thousands of previously marginalized farmers. Second, one of the traditional stereotypes of the Latin American entrepreneur is he/she would rather maintain 100 percent ownership rather than seek equity capital and share ownership with outside investors. This stereotype does not seem to apply to many of the Endeavor companies. Vicky Form, Interdeli, Cinemagic, Procesa Chiapas,

HDS, and MiMoni have all received significant equity investments from external firms since 2012.

Suggestions for Future Research and Policy Recommendations

In the prior section we discussed a number of topics that we believe merit additional research attention. These topics include determining the percentage of new job creation accounted for by Mexican HGFs, their distribution across industries, geographic spread, business model, and internationalization strategies, spillover effects, and the use of external equity sources. A key factor that has enabled the study of these and other characteristics of HGFs in the US and Europe is the availability of datasets that track the birth, growth, decline, and death of firms. We are not aware of datasets with similar information covering the private sector in Mexico or in other Latin American countries. Until these resources become available, researchers need to employ innovative approaches to studying HGFs. Multiple case studies, in-depth interviews with company founders and major facilitators, and longitudinal methodologies can be valuable approaches to increase knowledge.

We believe there are a number of key policy implications that emerge from the study of Mexico's Endeavor companies. First, the efforts of public and private business development entities are achieving at least some of their business development goals. For example, the information available regarding Endeavor Entrepreneurs indicates a number of these individuals benefited not only from Endeavor but also incubator services and other entrepreneurship support programs. The founders of Procesa Chiapas, for example, participated in the incubator at the Monterrey Tec Chiapas campus and received significant government financing. Undoubtedly these programs can be improved, but we believe it is important to recognize that efforts to create

a more robust entrepreneurial ecosystem in Mexico are at least somewhat successful. What we believe is lacking, however, are systematic and credible efforts to publicize to a broad audience the performance of public and private entities designed to grow the entrepreneurial ecosystem. Relatively little can be learned to inform evidence based policy making if the performance of entrepreneur support programs are hidden from public view and not available for academic study and policy debate.

Finally, there exists a general consensus with entrepreneurship scholars that policy support should shift from encouraging startup formation to supporting HGFs (Mason and Brown, 2013). Even in the US and Europe, however, there has been little systematic study of the types of policy interventions that will lead to increasing the number and impact of HGFs. Mason and Brown (2013) emphasize that past efforts to foster the growth of HGFs were based on three incorrect assumptions; 1) technology sectors are the main source of HGFs and that technology based firms have a high propensity to grow; 2) HGFs are typically recent startups; and 3) the manufacturing sector is a significant source of HGFs. Their suggestions for HGF support policies include developing programs to encourage firms to utilize their customers and end-users as sources of innovation, setting up finance mechanisms to encourage management buyouts and therefore allow organizational units that are ‘imprisoned’ in large companies to ‘flourish’ as independent firms, developing specialist support programs in marketing and sales, and encouraging early internationalization. We currently have little empirical evidence that these types of programs are effective in the US and Europe, much less Latin America. Rather than speculate as to what represents effective HGF growth policy (and risk repeating interventions based on false assumptions), policy makers in Mexico and elsewhere should adopt an evidence

based approach and consider funding the development of valid datasets and the systematic study of HGFs in their own national and regional contexts.

Table One: Endeavor Mexico High-Growth Firms

Company	Year Founded	Empl.¹	HQ²	Company Description
Vicky Form	1964	2,012	MC	Manufacturer, distributor, and retailer of lingerie and accessories
Maskota	1994	1,750	MC	Pet shops in upscale malls
Pabisan	1986	880	Puebla	Producer and retailer of specialty breads (low sugar, gluten free, etc.)
Mister Tennis	1987	752	Puebla	Retailer of athletic footwear, clothing, and accessories
Ingenia			MC	
Muebles	2007	730		Manufacturer and retailer of furniture
Procesa			Chiapas	
Chiapas	2006	450		Package and distribute tuna in a pouch
Grupo MTY	2003	412	MTY	Restaurant developer and operator
Daniel Espinosa	1995	300	MC	Producer and retailer of silver jewelry and other fashion items
Cinemagic	2000	300	Puebla	Movie theaters located in small municipalities
InterDeli	2000	300	MC	Producer and distributor of prepared Mediterranean food
Fairtrasa	2005	42	Switz	Exporter/distributor of fair trade organic fruits and vegetables
Intellego	1999	1,600	MTY	IT services
HDS	2003	510	MC	Software company focused on healthcare applications
Naranya	2002	300	MTY	Full range of mobile media applications
Quarksoft	2001	245	MC	Customized software
Pounce			Guad	
Consult.	2001	190		IT services
Enova	2007	600	MC	Design, build, and operate e-learning focused community centers
Docsolutions	2001	570	MC	Document storage/digitization
Advenio	2010	160	MTY	Day care at locations close to work
IPETH ³	2006	50	Puebla	Physical therapy degree programs

FinComún/Kub o	1994	1,400	MC	Microfinance organization
Barared	2006	200	MC	Banking kiosks located in neighborhood stores in low income communities
MiMoni	2008	120	MC	Small loans and cell phone service to middle/lower income consumers
Imagen Dental	1994	390	MTY	Dental, optic, and hearing clinics
Previta	2004	130	MC	Mobile health units and preventive diagnosis care clinics at retail locations
Clinicas de Azucar ³	2010	40	MTY	Clinics specializing in diabetes treatment
Sala Uno ³	2010	40	MC	Cataract clinics
Mex Q	1999	1,200	Aguas.	Supplier representative and other quality control services

1 - Employment estimate

2 - Headquarters location MC = Mexico City, MTY = Monterrey, Switz = Switzerland, Guad = Guadalajara, Aquas = Aquascalientes

3 - Indicates a firm in the pre-growth phase

Partial list of sources: Clavijo and Aguilar (2011, 2012), Flores and Speranza (2011), Suárez and Aguilar (2013)

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