

[研究ノート]

HIGH GROWTH INNOVATIVE ENTERPRISES

A Research Note on Japan

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Abstract

In recent years, research has widely substantiated the importance of high-growth new enterprises (HGIEs) for job creation. The conventional wisdom is that the number and share of HGIEs in all enterprises is small, but the number and share of jobs they create is disproportionately large. As part of a larger project examining HGIEs in the United States and the European Union, we surveyed 450 potential Japanese HGIE, of which only 35 met the criteria of 10 percent employment growth over three consecutive years since 2008. It turns out the HGIEs not meeting these criteria, however, provide an interesting twist to the Japan case. These quasi-HGIEs were growing through networking—that is, tapping human resources in other companies. One approach is to network the product development process across firms rather than within a firm: alliances in R&D, outsourcing design and engineering, contracting for manufacturing, and collaboration in marketing and sales. Another approach is to position a HGIE in one segment of this product development process but work with different networks. When the product development network is the unit of analysis, then, there is inter-firm but not intra-firm employment growth. Early indications suggest Japan's new locus of innovation and job creation may revolve around network ecosystems consisting of smaller firms.

Keywords: high growth innovative enterprises, Gazelle, job creation, SME policy, business eco-systems

I. HGIE and JOB CREATION

Research has widely substantiated the importance of high growth innovative enterprises (HGIE) in contributing to a country's economy (see Delmar et al. 2003). HGIE are enterprises that exhibit rapid growth in employment, sales, physical output, and/or profits. Birch (1979) uses the metaphor of a "Gazelle" to capture this dynamic type of enterprise. He further highlights the dynamic role of HGIEs by comparing them to "Elephants,"—large companies that have a large employment share but create few new jobs—and "Mice"—small companies that grow very little and create few new jobs. While HGIEs are a small proportion of all enterprises, in contrast, their share in creating new jobs is disproportionately large (Praag and Versloot 2008).

The job creation potential of HGIEs could play an important role in ameliorating the unemployment as well as the under-employment rate in Japan. Studies have documented 10 to 30 per annum job creation among HGIEs (Birch and Medoff 1994). In the post-war era, the companies in the horizontal and vertical *keiretsu* (corporate groupings) were the main drivers of job creation, and could easily accommodate job

seekers, especially from the upper tier high schools and universities (Gerlach 1992). Since the bursting of the asset bubble in the 1990s and the ensuing “lost decade” of economic growth, however, these companies have acted more like “elephants.” The Information Technology Revolution emerging from the late 1990s showed some promise to jump start the stagnant Japanese economy; but, by the turn of the century many of these venture businesses turned out to be “mice” when facing global competition (Tachiki 2006). Indeed, despite a declining population, the rate of unemployment in Japan has risen to post-war highs over the past two decades forcing many fortunate to find employment into jobs they are either over-qualified and/or irregular employment (*hiseiki rodo*) (Keizer 2008). Where market forces have failed to create jobs in the Japanese economy, we could ask what new role should the government play to prevent further market failure?

Although Japan does not have government policies specifically for HGIEs, those pertaining to small and medium-sized enterprises (SME) are the most relevant. The key concept guiding Japan’s SME policies through most of the post-war era has been to “rectify the gap between SMEs and large enterprises in terms of productivity.” (経済産業省 2009). In 1999, the government revised the SME Basic Law in recognition of the growing importance of “new forms of business” –knowledge intensive—outside the traditional closed networks of the *keiretsu* and national research institutes in stimulating innovation. The new concept guiding SME policies is to “develop and support a wide range of independent SMEs for greater economic vitality.” (経済産業省 2010)

Under this conceptual rubric the new policy broadly targets three areas: (1) supporting self-help efforts for business innovation and start-up, (2) strengthening of management base and (3) facilitating apt responses by companies to abrupt environmental change. Two policy target areas were carried over from the previous law: (4) finance and taxation and (5) consideration for small-scale companies. These five new policy systems have shifted public discussion from protection to promotion of SME business activities. In addition, the government announced that the top-down administrative guidance (*gyosei shido*) policy approach used during the post-war “income doubling” economy, would be transferred to the prefectural governments, and more recently municipal governments, by allowing them the flexibility to use fiscal resources to facilitate the R&D capacity building within SMEs as well as cluster them into regional support networks. With the devolution of the central government’s policy implementation role, the new message is that innovation should be open and market-driven (bottom-up) in order to stimulate local economic development as well as to promote the international competitiveness of SMEs (経済産業省 2010).

Some of these broad policies are stimulating innovation among companies however this has not translated into a significant creation of new jobs. The job hunting season (*shushoku katsudo*) seems to start earlier and end later than in past decades, and the share of *hiseiki rodo* (i. e., part-time, dispatched workers, other short time employment arrangements) has steady grown to include nearly one-third of the working population. Could government policies specifically promoting HGIEs in Japan, then, play a role in job creation? Under the current broad SME policy regime, the number of job creating Japanese HGIEs, in comparison with other OECD developed counties with more targeted SME policies, is fewer (empirica 2013). This paper is an exploratory study to examine which institutional factors hinder and would stimulate the growth of HGIEs in Japan to fine tune Japan’s SME policies that would stimulate the creation of better paying new jobs.

II. PAST RESEARCH and METHODOLOGY

An OECD (2007) benchmark study finds HGIEs exist in most industrial categories. Given the wide variety of possible industries, we decided to sample companies across at least 36 three-digit NACE categories (*Nomenclature statistique des activités économiques dans la Communauté Européenne*), as listed in the notes to Table 1, where innovative companies have been active. To define the population, we used company data derived from the Toyo Keizai (東洋経済2013a), Nikkei Shimbun (日経新聞2013) and Teikoku Databank (帝国データバンク2013). There is a bias toward large and medium-sized companies listed on the stock exchanges in these sources. Thus we supplemented this population with the Toyo Keizai (東洋経済2013b) data on unlisted companies and we tried to include smaller venture businesses as identified by various websites (中小企業基盤整備機構 2013, ベンチャー通信 On-line 2013, Bakumatsu. Presents 2013; 経済産業省 2013).

Among this population, we identified our target HGIEs. Prior definitions of a HGIE focus on growth in employment (OECD 2007, Ahmad 2006), sales (Birch et al. 1995), and fastest growing companies—for example, market share, physical output, profits (Delmar et al. 2003). Since our particular focus is on job creation, we narrow the definition to firms achieving 33% employment growth over three consecutive years within a five year period (empirica 2013). Since it is easier for small companies to achieve this employment growth in their start-up phase than existing larger companies, we set a minimum of 15 employees at the beginning of the job creation take-off for inclusion in the study. In addition, the growth should be “organic”—that is, through hiring new employees—rather than through mergers and acquisitions (M&A). Organic job growth means the creation of a new job that did not exist previously; whereas M&A is just a reorganization of existing jobs into a larger company. Although Klepper (2002) provides examples of “Gazelles” (HGIEs) in mature industries (e. g., automobiles, electronics) growing through acquisition of less efficient competitors, we are interested in the “net job creation” HGIEs contribute to the larger labor market. Moreover, the establishment is our unit of analysis in order to reveal HGIEs that might be a part of a larger corporate grouping. Based on these parameters and the short time frame to conduct the survey, this process yielded a block sample of 450 quasi-randomly selected HGIE.

Between April and July 2013, we conducted a Computer Assisted Telephone Interviews (CATI). In this connection, among 450 potential HGIE Japanese companies, very early in the CATI process, we realized that many of the HGIEs had grown absolutely; however, many of the employees were part-time or dispatched workers (i. e., irregular employment). When these employees’ working hours were re-calculated to the full time equivalent (FTE) of a full-time job, we found that job creation had occurred but not as rapidly for inclusion in this study. Consequently we only obtained 35 responses that meet our study criterions. Nevertheless, we also began to realize that many of the firms that did not qualify for this study had benefited from the government schemes under the auspices of the Ministry of Economy, Trade and Industry (METI) and the Ministry of Education, Sports and Technology (MEXT). Moreover, we also realized that many possible HGIEs did not fall within the range of the study’s industries, such as stem cell research, biotechnology and nano-materials. We try to include these cases in our analysis, however, where it highlights characteristics of Japanese HGIEs that are different from past research.

The limitations of this study reduces our statistical analysis options, and so we decided to use an inductive approach in this paper to understand the growth strategy of as many HGIEs as possible—that is, also

including those not meeting the job creation criteria or our quasi-HGIEs—in order to better understand the situation in Japan. Consequently, although this will be a descriptive study, primary research was conducted using a formal questionnaire for the CATI in our quasi-randomly selected HGIEs in Japan. The questionnaires were used to collect quantitative data and the interviews to provide qualitative insights into the data collected.

Figure 1 Analytical Framework

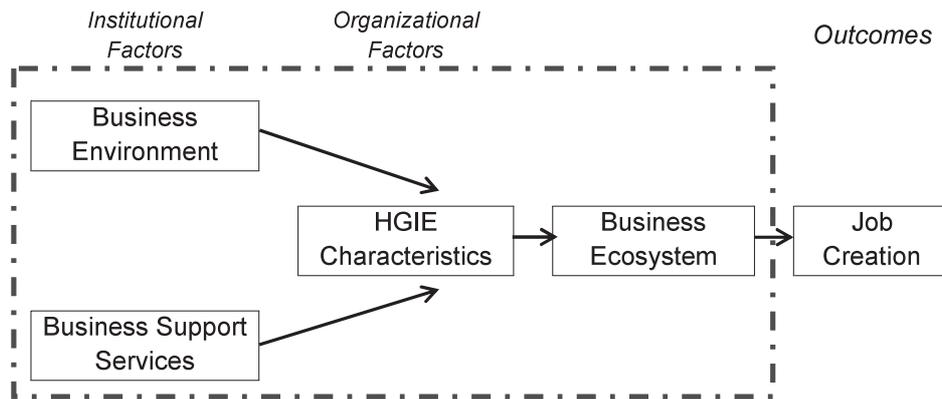


Figure 1 illustrates our methodological approach to data collection and analysis. The first part of our research is to document the characteristics of HGIEs, with an emphasis on industry, size and age. There is a growing body of research on HGIEs identifying their organizational characteristics and impact on job creation (Henrekson and Johansson 2009). HGIEs have been found across most industries in growing markets; however, a majority of studies suggest they tend to be located in trade and services industries (Autio et al. 2000; Deschryvere 2008; Davidsson and Delmar 2003, 2006), especially high performing ones (Schreyer 2000). On the firm size dimension, initially HGIEs employ less than 19 employees; however, Birch et al (1995) found that those growing to around 100 employees within 3 – 5 years go on to become the greatest creators of new jobs in subsequent years. This suggests minimizing risks associated with innovation on the demand side and mobilizing a high skilled workforce on the supply side become important factors for corporate growth. Finally, the age of HGIEs tends to be young venture business and less likely to be large companies (Haltiwanger 2006) suggesting that easy market entry is another important factor. In this paper we do not compare HGIEs with non-HGIEs; however, we do compare Japan with other countries, such as the United States and European Union, in a study conducted by empirica (2013) for the European Commission (henceforth referred to as the 2013 HGIE Study). This larger database consists of 580 HGIEs in eight countries—Germany, France, the United Kingdom, Poland, Switzerland, the United States, and South Korea—to shed better light on the range of key organizational characteristics constituting HGIEs.

While there is good empirical evidence HGIEs contribute to job creation, there is less knowledge about the appropriate institutional factors promoting such companies (Henrekson and Johansson 2009; empirica 2013). In this connection, market forces play a significant role. Studies such as Porter’s (1990) diamond model, illustrate important factors such as firm strategy, structure and rivalry, related and supporting industries, and etc. Our assumption, however, is that even the best HGIEs falter when there is market failure(s) in a dynamic innovative environment. Thus the second part of this paper emphasizes the supply-side of the equation where Porter talks about factor conditions and the role of government. Markets can fail when,

for example, companies cannot efficiently procure labor, capital, and other organizational resources as well as misplaced government policies. Thus we begin with the *business environment* promoting and hindering innovative companies. This would include areas such as finance, human resources, and science and technology; roughly analogous to Whitney's (1992) institutional contextual factors shaping different business systems. A second line of research examines the *business support services* delivered under government policies. Given this institutional environment, we close out our descriptive analysis to examine how HGIEs organize their innovative business activities, with a particular focus on the *business ecosystem*—that is, the value chain of successful companies. This final analysis is a prelude to a future study examining the HGIEs actual job creation outcomes

III. CHARACTERISTICS of HGIE in JAPAN

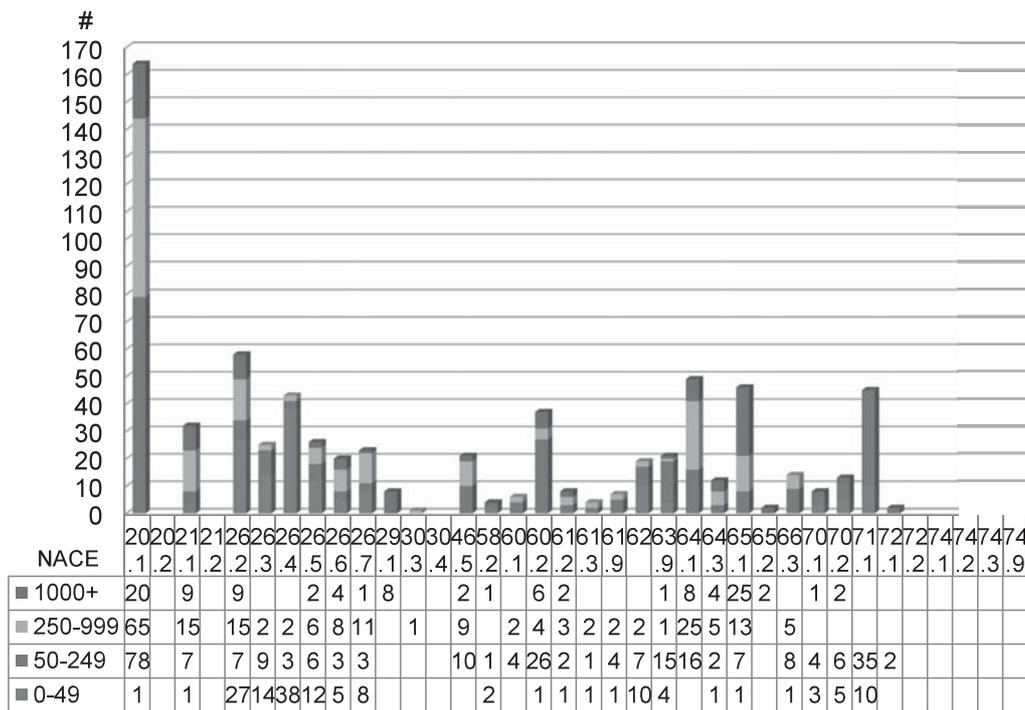
Where can we expect HGIE in Japan? Our preliminary identification of possible HGIEs summarized in Table 1 (see next page) indicates the industries with the most HGIEs are in manufacturing—primary form chemicals (NACE 20.1) and computers and peripherals (NACE 26.2)—and services, especially monetary intermediation (NACE 64.1), architecture and engineering services (NACE 71.1) and insurance (NACE 65.1). This pattern is similar to the overall 2013 HGIE Study (including US and EU) where computer programming, management consulting, and architectural and engineering activities are the largest categories (empirica 2013). A significant difference in Japan is that HGIEs are fairly represented in the manufacturing sector too. Basic chemicals, pharmaceutical products, and computer and peripheral equipment suggest the government targeted science and technology policies of promoting information technology, bio-technology and nano-technology are stimulating “new forms of business.”

Among the HGIEs in these industries, job creation is the highest among those with a firm size of between either 50 and 249 employees and 250 and 999 employees. We did not find evidence that HGIEs are necessarily high technology micro-enterprises (10 – 50 employees) in Japan. Instead, many of the HGIEs are in sales oriented businesses (e. g., employment agencies, on-line gaming companies, computer consulting services, etc.). This accounts for the 50–249 employee range from among these service HGIEs, with a significant irregularly employed sales staff. The larger firm size range of 250–999 employees is more common among manufacturers, especially in the chemical and computer industries, where continuous flow and assembly processes require a large number of factory employees.

In international comparison, the 2013 HGIE Study found that 58 % of the HGIEs were small—that is, employing between 10 and 49 workers, suggesting the active establishment of venture businesses. Nevertheless, the 2013 HGIE Study also found, in terms of the volume of new job creation, the medium and large-sized firms created the greatest number of new jobs. This suggests reaching a threshold of 100 employees is the take-off point for new job creation. Japanese HGIEs, in contrast, seems less active on the establishment of venture businesses; but, when they do reach the threshold of 100 employees, they too significantly contribute to new job creation.

For the HGIEs that qualified for our telephone interview, many of them were established between 2006 and 2008 (data not shown). This coincides with the implementation of the New Business Law of 2006, which eased regulations for start-ups to incorporate and then list on the stock market. The most important points of the New Business Law are (1) establishment of the limited liability company (LLC) and limited li-

Table 1 Characteristics of HGIEs in Japan



SOURCE: CATI Japan 2013

NOTES: NACE Rev. 2 Classification (Eurostat 2008); **20.1** Mfg. of basic chem., fertilisers & nitrogen comp., plastics & synthetic rubber in primary forms; **20.2** Manufacture of pesticides and other agrochemical products; **21.1** Manufacture of basic pharmaceutical products; **21.2** Manufacture of pharmaceutical preparations; **26.2** Manufacture of computers and peripheral equipment; **26.3** Manufacture of communication equipment; **26.4** Manufacture of consumer electronics; **26.5** Mfg. of instruments & appliances for measuring, testing & navigation; watches & clocks; **26.6** Mfg. of irradiation, electro-medical & electrotherapeutic equipment; **26.7** Manufacture of optical instruments and photographic equipment; **29.1** Manufacture of motor vehicles; **30.3** Manufacture of air & spacecraft and related machinery; **30.4** Manufacture of military fighting vehicles; **46.5** Wholesale of information and communication equipment; **58.2** Software publishing; **60.1** Radio broadcasting; **60.2** Television programming & broadcasting activities; **61.2** Wireless telecommunications activities; **61.3** Satellite telecommunications activities; **61.9** Other telecommunications activities; **62** Computer programming, consultancy & related activities; **63.9** Other information service activities; **64.1** Monetary intermediation; **64.3** Trust funds & similar financial entities; **65.1** Insurance; **65.2** Reinsurance; **66.3** Fund management activities; **70.1** Activities of head offices; **70.2** Management consultancy activities; **71.1** Architectural & engineering activities & related technical consultancy; **72.1** R&D on natural sciences & engineering; **74.1** Specialised design activities; **74.2** Photographic activities; **74.3** Translation & interpretation activities; **74.9** Other professional, scientific and technical activities

ability partnership (LLP) corporate form; (2) reduce the number of required company representatives from three to one, and (3) eliminate the minimum capitalization requirement. These measures meant an individual could quickly establish a business that would shield them from personal liability and significantly reduce the capital burdens. This seems to have lifted the heavy regulatory burden entrepreneurs must overcome early in the founding of a company. Indeed the impact of this policy change is clearly evident in the establishment of SMEs and less evident for the large companies (300+ employees).

In contrast, 59% of the US and EU HGIEs were established between 1988 and 2003, and another 24% before 1988. In retrospect, there is a similar pattern in Japan; however, during this period of time, Japan

experienced regional (Asian Financial Crisis) and domestic (bursting of the asset bubble and later the dot com crash) turmoil leading to the disqualification of many potential Japanese HGIEs in our study because of downsizing and cautious hiring of new employees. The re-emergence of HGIEs in Japan after implementation of the New Business Law in 2006, however, suggests government policies can ameliorate market failure—that is, policy does matter when addressing business needs.

IV. INSTITUTIONAL IMPACTS ON HGIEs

Although the organizational characteristics of Japanese HGIEs are roughly similar to their international counterparts in the European Union and the United States, they tend to be younger and larger as well as represented in the manufacturing sector. Because there are some few HGIEs in Japan, their collective impact on job creation remains muted. Given their potential for creating jobs, we next ask what institutional environment promotes and hinders HGIEs in Japan? To address this question we now turn to an examination of the (1) business environment and (2) business support services (policies). This provides us some basis to later discuss the (3) business ecosystem of HGIEs.

Business environment

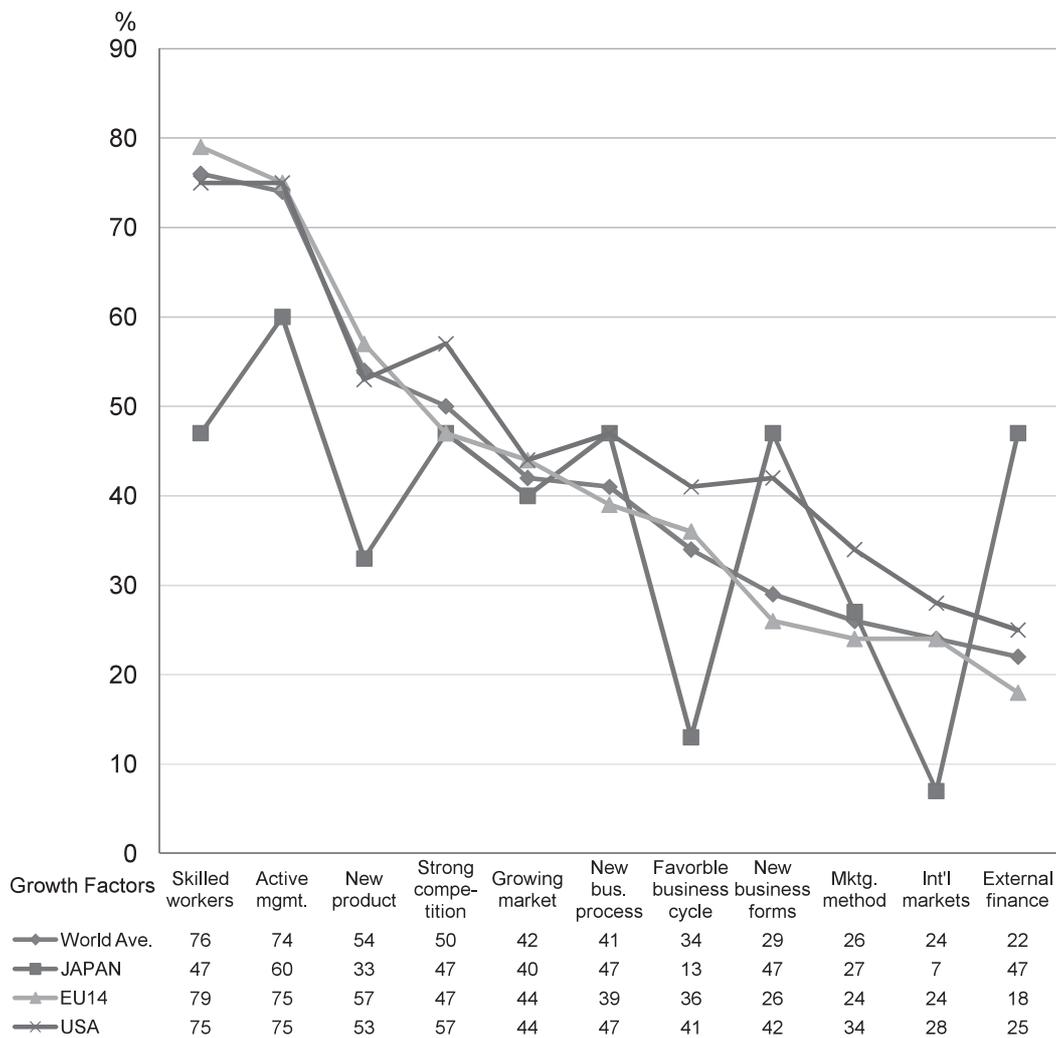
The business environment in Japan is a tale of two cities. On the one hand, Japan was crowned “number one” for its exemplary political economy: excellent education, efficient government, successful companies, etc. (Vogel 1979). But after the bursting of the asset bubble in the 1990s, everything that was right became wrong. Table 2 gives us some purchase in understanding what are the main factors driving and hindering HGIE development in the new Japanese business environment. Given the small sample size for the Japan data, however, caution must be exercised in interpreting the results.

According to Table 2, the main factor driving HGIEs in Japan is (1) “our company’s directors actively target growth.” Since the interviews were with only the top management, in probing why the actions of the directors is so important, we found that successful HGIEs were able to put together a good management team that complemented each other’s strengths and weaknesses. If we step back to look at the entrepreneurial landscape of Japan, we notice that before the collapse of the dot.com bubble, many on-line young entrepreneurs emerged to challenge the analog *keiretsu* model. After the dot.com bubble, these young entrepreneurs learned a company needs not only a charismatic leader, but also a good backup management team. Subsequently, if we scan the leading venture businesses in Japan, many are led by an older generation of managers with roots in *keiretsu* related companies.

Financing: A second factor driving growth, high in international comparison, is (2) “our company has easy access to external financing. Table 3 shows nearly 50% of the Japanese HGIEs prefer the private equity route to financing their business. In follow up questions, we found this answer is related to the first factor: the management team had aggressively developed a business model that attracted capital from private investors.

The importance of private financing grows in importance in the Japanese context when we consider what are the alternatives: internal cash flow, bank debt financing and stock equity (Tachiki 2001; 金融庁 2009). Japanese companies prefer to finance new product development and company growth through internal cash flow (profits). This is particularly true for large companies; however, SMEs usually operate on narrow prof-

Table 2 HGIEs' Growth Factors

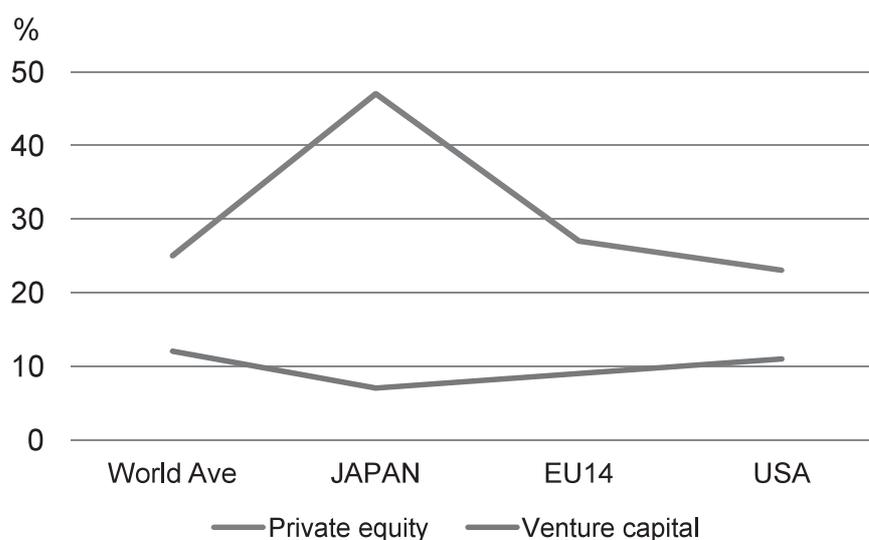


SOURCE: empirica (2013)

NOTES: Multiple answers were possible. Thus percentage does not add to 100. The full question for each growth factor is (1) Our company has particularly highly skilled employees; (2) Our company's directors actively target growth.; (3) Our company successfully introduced new products or services.; (4) Our company has been facing strong competition.; (5) Our company sells to a growing market.; (6) Our company successfully introduced new business processes.; (7) Business cycle has been favourable for our company.; (8) Our company successfully introduced new forms of organizing business.; (9) Our company successfully introduced new marketing methods. (10) Our company successfully entered new international markets.; (11) Our company has had easy access to external financing.

it margins. Alternatively, until the changes in the New Business Law in 2006, listing a company on one of the stock exchanges in Japan was difficult for SMEs. Moreover, the poor performance of the Japanese stock markets, especially the MOTHER Board for start-ups, has not necessarily generated sufficient equity for the SMEs' business activities. Thus, the most common form of financing in Japan is bank loans collateralized with physical assets, especially land, than future cash flows (Mizuho Research Institute. 2009). Although recovered from the "financial asset bubble" of the 1990s, banks in Japan are still reluctant to lend to innovative businesses. In follow-up interviews, quasi-HGIEs state that internal cash flow and debt financing are the norm; however, they further elaborate they would prefer equity and venture capital. The problem is although the private equity market is growing in Japan, it still significantly lags behind those found in

Table 3 Financing of HGIEs



SOURCE: empirica 2013

the US and EU.

Human resources: Unlike their US and EU counterparts, Japanese HGIEs do not support the statement in Table 2 that “our company has particularly high skilled employees.” This result is a bit misleading. The small sample of Japanese HGIEs is mainly in sales and marketing—online gaming, employment agencies, etc.—that does not need high skilled technical workers. However, during interviews with quasi-HGIEs the story completely changes where recruiting and retaining highly skilled workers is one of the biggest factors hindering their growth.

In this connection, companies in the HGIE Study often mention the “mismatch” between the job skills they need and the abilities of young workers graduating from university. Indeed, 27% think the higher education system is rather harmful and another 33% are neutral to it. This means that Japanese HGIEs, in contrast to the other countries in the study, judge the higher education system rather negatively. The science and engineering departments are excellent in educating students in the fundamentals, but the faculty have not evidently kept up with cutting edge fields leading to a “mismatch” of employees and required job skills (Tachiki 2009).

Japan also had a high share of HGIEs saying that labour practices and regulations are very harmful (20%). The practice of lifetime employment (*shin shu koyo*) is disappearing among the *keiretsu* companies; however, there is still a preference to cut wages before they lay off employees. In turn, employees at these companies are reluctant to quit because they would lose their accumulated benefits. This has led to rigidity in the labor market where venture businesses find it difficult to recruit high skilled workers from the larger companies. Labor regulations also add to this labor market rigidity. The Worker Dispatching Act of 1986 and its subsequent revisions in 1999 and 2009 allowed employment agencies to supply temporary workers is a case in point. Meant to introduce more flexibility into the labor market, it has instead trapped a growing share of workers into a series of part-time employment arrangements.

Science and technology: The Japanese government has been active in developing new science and technology policies; however, they have seemed to favour large companies over SMEs. Traditionally, R&D in Japan is conducted in-house, especially among large companies (note that many of the Japanese Nobel Prize

winners are either located with a private company, not university, or at an “overseas” university). The Japanese government implemented “university-industry collaboration” schemes under the 2001 Science and Technology Basic Plan to increase the flow of innovation across public research institutes, universities and the private sector. Although there are a number of success stories, HGIE state the bulk of the universities’ discoveries are many times exclusively controlled by large companies. Indeed, in the 2013 HGIE Survey, assessments from Japanese HGIEs did not indicate particularly strong needs for governmental policies supporting business ecosystems for growth-oriented innovative enterprises. A relative majority (40%) of HGIEs state no need for governmental policy in the field of joint R&D together with a university or other public research organisation.

Business support services:

Market forces seem to be driving the creation of the HGIEs in Japan: however, where a market fails, government policies have played an important role in promoting start-ups and R&D. The primary organization intermediating between the public policy and HGIEs is the SMRJ (Organization for Small and Medium Enterprises and Regional Innovation), an independent administrative agency (i. e., quasi-government agency). Its main activities are to offer SMEs solutions and support in funding, business support, start-up, and technical development. In addition to the government financial institutions mentioned above, they collaborate and coordinate activities of the (1) Venture Business Support Centers, (2) Regional and Prefecture Support Centers and (3) Incubation Plaza illustrate how the SMRJ targets and carries out its e-business initiatives for SMEs (中小企業基盤整備機構. 2013)

The menu of programs promoting SMEs is quite extensive.

- **Fostering IT take-up:** From 2010 the SME Agency’s main policy tools to encourage the adoption of IT platform systems are subsidies and tax breaks.
- **Fostering employment of high-tech employees in SMEs:** the SME Agency introduced for the first time in 2010 a subsidy programme for SMEs employing next-generation high-tech human resources.
- **Fostering business transfer:** To facilitate the transfer of business to next generation entrepreneurs, the government provides special provisions, financial assistance, and inheritance tax deferrals.
- **Fostering external partnerships:** The SME Agency promotes two channels. (1) Low interest loans to SMEs engaging in trial manufacture and development of new products; (2) “hands-on support offices” facilitate and subsidise the creation of new business partnerships among local SMEs.
- **Fostering marketing of Japanese products:** Japan’s SME initiatives primarily focus on the domestic market more than the overseas markets. In the overseas market, the METI and Ministry of Foreign Affairs are taking a soft diplomacy approach to promote creative industries products.
- **The 2006 Act on Enhancement of Small and Medium-sized Enterprises’ Core Manufacturing Technology** supplemented the 1999 SBIR programme to enhance the technological capacity of SMEs through technical assistance, subsidies and taxation schemes.

Around 40% of the Japanese HGIEs said they had received support from one or more of these policy schemes, which is equal to the US and EU 2013 HGIE Study average. Among these recipients, 83% state it was beneficial; however, 17% said it was harmful.

What are the main concerns of HGIEs among the different government policies? Company taxation was assessed as rather harmful (47%) or very harmful (27%). This issue is much higher than the other countries in the 2013 HGIE Study. According to an expert consulted for this study, Japanese business commonly assesses the corporate tax rate as too high and there are concerns about a potentially negative impact of the scheduled consumer tax increase to 8% and later 10% will have a negative impact on the current economic recovery.

On broader issues concerning the business environment, the HGIEs see some need for developing regional business clusters (60% “some need”) and for enhancing skills of companies’ employees (67% “some need”). In this connection, however, science and research parks as well as incubators and accelerators do not play a role in Japan, which was also confirmed by an expert statement for this study. Only one company said they were located in a science and research park; this company found it helpful. Instead, since 2002 the Ministry of Economy, Trade and Industry (METI) under the “New Strategy and Promotion of Technological Innovation” plan established industrial clusters to stimulate local industries and employment. This was followed by the Ministry of Education, Culture, Sports, Science and Technology’s (2003) “knowledge cluster creation scheme to stimulate business in targeted areas such as information technology, biological technology, and nano-technology among others.

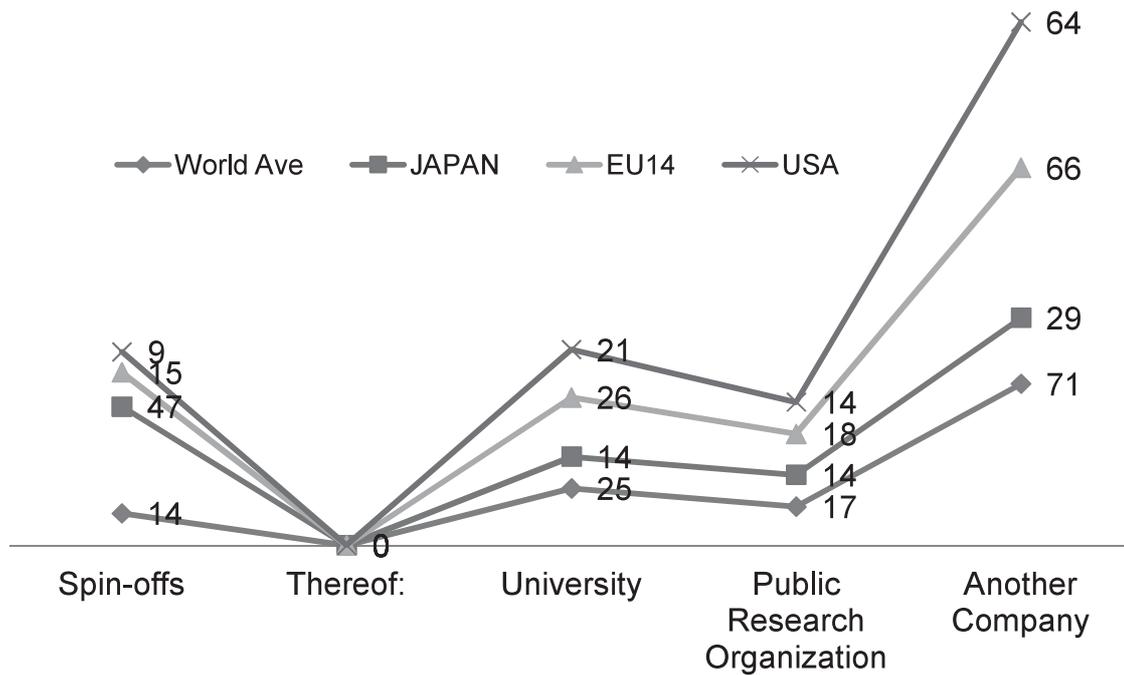
Business ecosystems:

In follow-up interviews, an interesting business ecosystem seems to be emerging among innovative venture businesses in Japan. On the one hand, Table 4 suggest some large companies, but not many compared to the US or EU, are spinning-off companies that have become HGIEs. On the other hand, public research organizations and universities are not necessarily the hotbed for promoting HGIEs. Thus, early indications suggest Japan’s *keiretsu* (large corporate groupings) are gradually re-inventing themselves into innovative network ecosystems consisting of smaller firms. New product development, collaboration with domestic and foreign universities minimizes the need for in-house R&D capacity. Where proprietary R&D is required, universities open their laboratory facilities for private entrepreneurs to use as needed like a “coin laundry system.” Design and engineering are also outsourced but not at arms-length, but in mutual alliances with firms specializing in engineering and/or prototyping. Manufacturing is done in “smart factories” in a batch rather than mass production mode. This flexible network ecosystem is one unexpected outcome from the METI and MEXT business clustering policies

One approach is to network the product development process across firms rather than within a firm: alliances in R&D, outsourcing design and engineering, contracting for manufacturing, and collaboration in marketing and sales. Another approach is to position a HGIE in one segment of this product development process but work with different networks. In follow-up interviews, an interesting business ecosystem seems to be emerging among innovative venture businesses in Japan. In new product development, collaboration with domestic and foreign universities minimizes the need for in-house R&D capacity. Where proprietary R&D is required, universities open their laboratory facilities for private entrepreneurs to use as needed like a “coin laundry system.” Design and engineering are also outsourced but not at arms-length, but in mutual alliances with firms specializing in engineering and/or prototyping. Manufacturing is done in “smart factories” in a batch rather than mass production mode.

In short, early indications suggest Japan’s new locus of innovation may revolve around network eco-

Table 4 Spin-offs in the HGIEs



SOURCE: Empirica 2013

NOTES: Spin-off data is the actual number

systems consisting of smaller firms. When the product development network is the unit of analysis, then, there is inter-firm but not intra-firm employment growth.

V. CONCLUSION—WITHER JOB CREATION

High Growth Innovative Enterprises create new jobs; however, the relatively small number of such firms in Japan has not increased the number of new jobs in the labor market. Potential HGIEs in Japan are handicapped by government labor and taxation regulations and access to financing. To overcome these barriers, venture businesses are using information technology to create new forms of business networks. While we do not want to downplay the role of HGIEs in job creation, a more interesting finding of this study is that an alternative organization of work is developing across product develop networks. When the product development network is the unit of analysis, there is inter-firm rather than intra-firm employment growth. Early indications suggest Japan’s new locus of innovation and job creation may revolve around network ecosystems consisting of smaller HGIEs.

The business community is expecting Prime Minister Abe to become more aggressive in implementing the third leg of his so-called “Abenomics” –structural reform (the other two legs being fiscal and monetary policies—facilitating a greater shift from traditional manufacturing industries to high tech sectors, especially in information technology, bio-technology, and nano technology. Consequently, the potential for HGIE in Japan in the future is high, but the current realities have curbed innovation and employment.

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(たちき デニス)

日本の高成長革新的企業に関する研究ノート

立木 デニス

〈要 約〉

最近の研究では、高成長革新的企業の雇用創出に果たす役割の重要性が広く実証されてきた。従来の考え方では、高成長革新的企業数は少なく、全企業に占める割合においても低い、雇用創出に関してはその数は大きく割合においても高いとされてきた。米国およびEU諸国の高成長革新的企業の比較プロジェクトの一環として、われわれは450社の日本の高成長革新的企業となり得る候補企業を調査した。その結果、2008年以降3年連続して10%の雇用伸び率を保つという高成長革新的企業の要件を満たす会社はわずか35社であることがわかった。しかしながら、この要件を満たさないもののこれらの企業が日本では興味深い結果を生み出していることがわかった。これらの成長企業は、他社の人材を発掘しながらネットワークを通じて成長していることがわかった。例えば、製品開発のネットワークが分析対象の場合、企業内ではなく企業外の雇用の伸びがあることがわかった。このことから日本の革新と雇用創出は、小企業からなる新製品開発のネットワークによって生み出されるであろうことが予想される。

キーワード：高成長革新的企業、ガゼル、雇用創出、中小企業政策、ビジネス・エコシステム