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Claremont McKenna College

IN SEARCH OF UNICORNS: AN ANALYSIS OF JAPAN'S STARTUP
ECOSYSTEM

Submitted to
Professor Hilary Appel

by
Kaito Komoriya
For
Senior Thesis
Fall 2021 - Spring 2022
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ABSTRACT

While Japan previously dominated global consumer markets in innovative electronic products, the economy has failed to live up to this performance since the burst of the asset price bubble in 1992 and the subsequent lost decades. In the modern economy, startup companies have become synonymous with innovation. Most of these companies have emerged from Silicon Valley, as well as other startup hubs around the globe. However, critics have criticized Japan for the limited number of notable startup companies from the country.

My thesis seeks to answer the two following questions: First, what is the current state of Japan's startup ecosystem? Second, what factors contribute to the current startup scene?

I seek to answer the two questions by analyzing the six main factors that make up Japan's startup ecosystem: financial markets, state capital allocation, culture, global expansion, and human capital. In order to avoid any generalizations, my thesis attempts to use data, statistics, and surveys in order to back up most of the claims made throughout the thesis.

CHAPTER I: INTRODUCTION

In the late 1900s, Japan was synonymous with innovation, advanced technology, and rapid economic growth. However, looking at Japan today, it is without question the country has had difficulties replicating the same success since the asset price bubble in 1992 and the subsequent lost decades. Many of the most iconic companies of today from Apple, Microsoft, Facebook, Tesla, Amazon, and a host of others are all American creations. Most, if not all, of these companies are relatively new, having been founded as small startups just a few years or decades prior. Japanese startups and companies have largely failed to break into this list.

Startups are a necessary ingredient for a thriving, growing economy. Economists have long established that overall economic productivity is driven by technological progress.¹ According to a report by the Center for Economic Studies at the U.S Census Bureau, “High growth output firms are disproportionately young and make outsized contributions to output and productivity growth.”² The same study also found that younger companies have greater median growth than their mature counterparts, thereby having a higher rate of production of goods and services. On a micro level, the study found economic productivity, measured by output per employee, is disproportionally higher in startups. Productivity growth in economies is driven by employees transferring from less productive to more productive firms with small companies contributing disproportionately to this economic phenomenon. Given Japan’s sluggish economy due to its shrinking population and a host of other factors, the necessity of having a thriving

¹ Ritchie, Bryan, and Nick Swisher. “The Big Small: The Economic Benefits of Startups.” IDEA Center - University of Notre Dame, July 15, 2018. <https://ideacenter.nd.edu/news-events/news/the-big-small-the-economic-benefits-of-startups/>.

² Haltiwanger, John, Ron S Jarmin, Robert Kulick, and Javier Miranda. “High Growth Young Firms: Contribution to Job, Output and Productivity Growth.” *Center for Economic Studies, U.S. Census Bureau*, n.d., 75.

economy catering to infant businesses is required. “The presence of start-ups which create new innovation and value is necessary to break economic stagnation,” said Fukuoka Mayor Soichiro Takashima, who has taken a leading role in promoting Japanese startups. “With that in mind, I positioned start up support as our city’s growth strategy.”³

Pundits, investors, media, and observers have questioned Japan’s position, or lack thereof, in the startup world. One key statistic that they point to is the low number of “unicorns” in the country. Unicorn startups are defined as private startup companies with a valuation of over \$1 billion. As of March 2022, there were only five unicorn startups in Japan. In comparison, there were 562 in the U.S., 173 in China, 43 in the United Kingdom, and 26 in Germany, all of which are comparable economies.⁴ However, as will be studied in much greater detail in this thesis, these arguments are often misleading due to structural differences of the Japanese economy.

Japan is currently experiencing profound economic changes in its economy. Data from recent years suggest this economic transformation with promising statistics on startup creation and capital allocated into the sector.

In this paper, two main questions will be addressed. First, what is the current state of Japan’s startup ecosystem? Next, what factors contribute to the current state of the startup scene?

In order to answer these questions, I will study six factors that make up the Japanese startup ecosystem: financial markets, state capital allocation, education, culture, human capital,

³ Gent, Edd. “Why Fukuoka Is Japan’s Most Innovative City.” Accessed April 17, 2022.
<https://www.bbc.com/future/article/20190508-why-fukuoka-is-japans-most-innovative-city>.

⁴ CB Insights. “The Complete List Of Unicorn Companies.” Accessed April 17, 2022.
<https://www.cbinsights.com/research-unicorn-companies>.

and globalization. In most of these factors, evidence point to Japan's economy transforming dynamically in the coming years, thus better supporting the startup industry.

CHAPTER II: THE ROLE OF FINANCIAL MARKETS IN JAPAN'S STARTUP ECOSYSTEM

STOCK MARKET

Before analyzing Japan's capital market structure, it is important to consider the overall economic context of the country. The U.S. has a stock market-driven economy in which public companies and their managers are driven by the value of their shares. By contrast, Japanese managers place less importance on the performance of their stock price. Japanese individual investors themselves are also much less active in the stock market. The asset bubble crash of 1992 erased billions of dollars of investment, and ever since, Japanese households have participated less in stock market investing than their American counterparts. As of 2021, Japanese households held only 10 percent of their financial assets in equities, while the same figure was 37.9 percent for American households.⁵ Nevertheless, the stock market remains an important source of fundraising and capital gains in the Japanese economy. In the context of startups, many in the U.S. are driven by the prospect of having a lucrative initial public offering (IPO) and making the founders and early employees rich. However, Japanese business culture tends to prioritize stability and long-term growth. Therefore, startups view the stock market, not as a vehicle for quick riches but more as a means to raise capital to further expand in the long term.

⁵ "Flow of Funds - Overview of Japan, the United States, and the Euro Area." Research and Statistics Department Bank of Japan, August 20, 2021. <https://www.boj.or.jp/en/statistics/sj/sjihq.pdf>.

Japan's unique capital market structure has important influences and provides greater context for the startup ecosystem. The Japanese economy, specifically the capital market, is unique. Hence, using the same analysis for studying the American and Japanese startup ecosystems can be misleading. The bond market is also not relevant for startups, as they are a financial tool used mostly by larger corporate companies to raise capital. Pundits and outside observers often note the absence of Japan in the global startup scene by pointing to the lackluster number of unicorns, private companies valued at over \$1 billion. There are 173 such companies in China and 562 in the United States, both comparable economies to Japan in terms of scale. Meanwhile, Japan currently only has five.⁶ However, arguments using the presence of unicorns are largely definitional and do not account for differences in Japanese capital markets, specifically the low listing requirements for companies to go public.

For startups globally, the end goal is often to become a public company. The scale of IPO size in Japan is fundamentally different from that in the U.S. The average Japanese IPO *market capitalization* in 2020 was \$200 million. In the U.S. the average *capital raised*, not valuation, through an IPO was \$300 million.⁷ In the U.S., startups traditionally go through steps of venture capital (VC) funding. Once companies obtain pre-seed and seed funding, they go through Series A, Series B, and Series C funding. These stages are the conventional steps that startups go through when raising early capital from private equity and VC investors. If a company is looking for a large public offering, it may continue through to Series D. By going through multiple stages

⁶ "CB Insights. "The Complete List Of Unicorn Companies." Accessed April 17, 2022.
<https://www.cbinsights.com/research-unicorn-companies>.

⁷ "Japan's Start-up and Venture Capital Market Begins Lift-off | McKinsey." Accessed November 7, 2021.
<https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/can-japan-finally-become-a-start-up-power>.

of private funding, successful American startups easily reach private valuations of over a billion dollars before going public.

In Japan, companies do not go through the same multistep process as American startups due to several factors, most notably the requirements for listing. One of the Tokyo Stock Exchange's sections, the Growth Market, formerly known as the Mothers Market, has low listing standards. It requires companies to have ¥500 million (\$4.5 million in 2021) or more in market capitalization of tradeable shares.⁸ In fact, American startup companies that would usually be in their Series B funding in valuation, between \$30 million and \$60 million, would be able to go public.⁹ Moreover, 2019 marked a watershed year as the Tokyo Stock Exchange allowed for loss-making companies with high future growth potential to be listed in the Mothers section. One such example of an unprofitable company that took advantage of this new policy and went public was CRM Sansan, a centralized business card software that raised \$1.2 billion.¹⁰

There are many recent examples that prove the Japanese startup scene is in fact thriving, albeit under different conditions. Raksul, a B2B platform builder, went public in 2018 at \$374 million and is now valued more than \$1.4 billion. Freee, an online accounting software, IPOd in 2019 at \$845 million and is now worth more than \$4.5 billion. Wealthnavi, a robo-advisor software company, went public in 2020 at \$535 million and is now valued at \$1.8 billion.¹¹

Lastly, Plaid, an e-commerce analytics startup, went public the same year at \$535 million and

⁸ 株式会社日本取引所グループ [Japan Exchange Group.] "Criteria for Listing." Accessed November 7, 2021. <https://www.jpx.co.jp/english/equities/listing/criteria/listing/01.html>.

⁹ Riney, James. "What People Miss About 'Unicorns' In Japan | Coral Capital," June 18, 2021. <https://coralcap.co/2021/06/what-people-miss-about-unicorns-in-japan/?lang=en>.

¹⁰ "Japan Business Card App Operator Sansan Prices IPO at Top of Range, Raises \$360 Million." *Reuters*, June 7, 2019, sec. Technology News. <https://www.reuters.com/article/sansan-ipo-idINKCN1T80ID>.

¹¹ *Ibid.*

was acquired by PayPal for \$2.7 billion in 2021.¹² Among them are many other non-unicorn startups that went public in recent years with billion-dollar valuations today. These recent IPOs of highly successful and innovative companies dispel the narrative that Japan rarely produces noteworthy startups. The low listing requirement and the lack of private capital funding mean that startups in Japan go public early before hitting the billion-dollar valuation to be considered a unicorn.

If going public early is not in the best long-term interest of these startups, why do Japanese companies pursue this approach? The main reason can be attributed to the financial landscape with little means to get private capital funding. Japan's total VC investment in 2019 was valued at \$2.5 billion. American VC funding was much larger at \$135.6 billion.¹³ With few options for VC funding and strict requirements by big banks, startups have limited options but to go public. The lack of VC funding and its outlook will be discussed later in this chapter.

Cultural factors also contribute to the high number of IPOs. According to Masako Ueda, professor of economics at Northwestern University, many Japanese people believe in dedicating their entire careers to one workplace. Thus, startup founders do not believe in handing over the business they started to others. Instead, they start out with the intent of going public.¹⁴ This cultural factor is most noticeable when looking at the rates of mergers and acquisitions (M&A) in the country. In 2014, Japan recorded 116 startup IPOs and only 36 acquisitions by large

¹² PayPal Newsroom. "PayPal To Acquire Paidy." Accessed April 24, 2022. <https://newsroom.paypal-corp.com/2021-09-07-PayPal-To-Acquire-Paidy>.

¹³ "Venture Capital Investments." Accessed November 7, 2021. https://stats.oecd.org/Index.aspx?DataSetCode=VC_INVEST.

¹⁴ Medill Reports Chicago. "Japanese Startups Face Hurdles in Exit Opportunities," March 16, 2017. <https://news.medill.northwestern.edu/chicago/japanese-startups-face-hurdles-in-exit-opportunities/>.

companies. The U.S. on the other hand reported 122 startup IPOs and 918 corporate acquisitions in the same year.¹⁵

However, the IPOs of startups at such early stages of their growth do have downsides. Being a public company means management must be concerned with profitability rather than early growth given shareholder demands. Moreover, once startups go public and raise funds from the market, fundraising becomes dependent on broader market cycles and dynamics. For example, if a company tries raising capital when its share prices are in decline, shareholders will oppose issuing new stocks since it will dilute ownership.¹⁶ According to Ulrike Schaeede of University of California, San Diego, “Corporate acquisitions are the lifeblood of any innovation ecosystem, as they provide fast, often lucrative exits and encourage serial entrepreneurship. Selling a startup company to a large corporation is by far the main fuel for innovation in Silicon Valley.”¹⁷ Moreover, being a public company requires greater infrastructure and legal support to deal with shareholder and regulatory demands, increasing the overall costs of running a public company.¹⁸

The IPO of Mercari, Japan’s first unicorn company, in 2018 marked a turning point for Japan’s startup scene. Mercari operates a successful app for its users to trade used items online. When the startup went public in 2018, its valuation soared to \$6.5 billion, even doubling at one

¹⁵ 経済産業省 [Ministry of Economy, Trade, and Industry] (2019a).

¹⁶ Asakura, Yusuke. “A Brief Overview of the Current Startup Ecosystem in Japan,” n.d., 14.

¹⁷ Schaeede, Ulrike. *The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters*. 1st Edition. Stanford Business Books, 2020.

¹⁸ HBS Working Knowledge. “IPO or M&A? How Venture Capital Shapes a Startup’s Future,” April 27, 2021. <http://hbswk.hbs.edu/item/ipo-or-ma-how-venture-capital-shapes-a-startups-future>.

point.¹⁹ The large gains by Mercari encouraged institutional investors to look to domestic startups and other early-stage firms as viable, yet risky, investment options given the low marginal returns on other investments such as domestic bonds. According to Soichi Kariyazono, chairman of the Japan Venture Capital Association (JVCA), “When many institutional investors have a target annual return of 4 percent or so, Mercari’s late-stage investors had their funds more than double in just 1-2 years.”²⁰ While recent trends in Japan’s VC scene will be discussed in later sections, this listing served as a symbol of the success that entrepreneurs and startups in Japan are capable of achieving. James Riney, CEO of VC firm Coral Capital explains, “They [Mercari founders] have shown potential entrepreneurs that scaling to over a billion dollars isn’t just something that happens in Silicon Valley – it can also happen right here in Tokyo.”²¹ Moreover, Mercari broke Japanese company norms by providing generous stock options to its employees, a common practice in American startups. Normally, Japanese startup exits only make the founders and investors rich. Mercari’s successful IPO will give birth to new angel investors in Japan, who will become a source of private capital funding themselves for other burgeoning startups. One of the most famous examples of this in Silicon Valley is PayPal, whose former employees, known as the “PayPal Mafia” went on to create LinkedIn, YouTube, Airbnb, Yelp, Tesla, SpaceX, and other innovative startups.²²

¹⁹ Mochizuki, Mayumi Negishi and Takashi. “Flea-Market App Mercari Jumps More Than 70% in Tokyo Debut.” *Wall Street Journal*, June 19, 2018, sec. Tech. <https://www.wsj.com/articles/flea-market-app-mercari-soars-in-tokyo-debut-1529389761>.

²⁰ “After Mercari: Japanese Asset Managers See New Era in Venture Capital Investing.” *Reuters*, August 9, 2018, sec. Financial Services & Real Estate. <https://www.reuters.com/article/us-japan-venturecapital-idUSKBN1KU0EA>.

²¹ Riney, James. “Mercari’s IPO, and Mercari’s Mafia.” *James Riney* (blog), June 19, 2018. <https://www.jamesriney.com/mercari-mafia/>.

²² VentureBeat. “A Look at the PayPal Mafia’s Continued Impact on Silicon Valley,” January 13, 2019. <https://venturebeat.com/2019/01/13/a-look-at-the-paypal-mafias-continued-impact-on-silicon-valley/>.

In April of 2022, the Tokyo Stock Exchange (TSE) restructured its previous segments into three markets. The exchange, which merged with the Osaka Securities Exchange (OSE) in 2013, was previously divided into five sections: First Section (large companies), Second Section (mid-sized companies), Mothers (high growth and emerging stocks), JASDAQ Standard (smaller emerging companies), and JASDAQ Growth (smaller growth companies). The restructuring consolidated the market into three new segments: Prime Market, Standard Market, and Growth Market. The restructuring will also set thresholds for market capitalization in tradable shares with their proportion to outstanding shares set at 35 percent or more. This policy will make the Japanese market more liquid and allow for greater participation of retail and international investors. However, more importantly for startups, the consolidation of the three small-cap markets into one ‘Growth Market’ will make it simpler for backers to invest in listed startups.²³

All things considered, it is evident that the differences in capital markets have led to misinformed statements about Japan’s shortage in startups, specifically in identifying unicorns. In reality, Japan does have a number of successful startups that went public early before reaching the billion-dollar valuation to be considered a unicorn. The overall trend of Japanese startups listing early, as a result of market constraints and cultural factors, stunts the growth potential of companies. The early growth and expansion phases of startups come to fruition best while the company is still held privately given it is not constrained by market fluctuations and shareholder demands. However, the future in capital markets is promising, as proven by the success of Mercari. In order to foster a more conducive startup ecosystem, Japan must strengthen other venues of financial funding, specifically in the VC market.

²³ 株式会社日本取引所グループ [Japan Exchange Group.] “Overview of Market Restructuring.” Accessed November 23, 2021. <https://www.jpx.co.jp/english/equities/market-restructure/market-segments/index.html>.

VENTURE CAPITAL AND ANGEL INVESTORS

As highlighted in the previous section, the VC market in Japan is lagging relative to its economic counterparts. In 2020, total capital invested in Japanese VC companies was \$4.3 billion, while the same figure was \$164 billion in the U.S. The same year, Japanese VC firms invested in a total of 1,900 new startups. Their American counterparts on the other hand invested in 12,000 startups.²⁴

VC firms are a vital part of a healthy startup ecosystem. A 2015 study found that VC-backed companies made up 41 percent of total market capitalization in the U.S. Between 1965 and 2015, the study also found that VC-backed companies accounted for more than 92 percent of R&D spending and patent value. In fact, the industry is attributed to the existence of 20 percent of the largest 300 U.S. public companies.²⁵

Historically, Japanese VC firms were subsidiaries of large financial institutions, such as insurance companies and banks. Corporate VC firms did not contribute much to supporting startups, as they mostly supported their parent companies' lending and brokerage businesses. For example, JACFO, Japan's largest VC firm, did not become fully independent from its parent company Nomura Holdings until 2017. Other examples of such corporate venture funds include Alliance Ventures of Nissan, Mitsubishi, and Renault, as well as Presidio Ventures of Sumimoto Corporation. Most of these funds are classified as "corporate venture capital funds" or CVC funds. CVC funds are different from VC funds found elsewhere in the U.S. and Europe in that

²⁴ Asia Society. "Startup Nation Japan 2021: Venture Capital, Entrepreneurship and Japan's New Growth Dynamics (Recap)." Accessed November 24, 2021. <https://asiasociety.org/japan/startup-nation-japan-2021-venture-capital-entrepreneurship-and-japans-new-growth-dynamics>.

²⁵ Gornall, Will, and Ilya A. Strebulaev. "The Economic Impact of Venture Capital: Evidence from Public Companies." SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, June 1, 2021. <https://doi.org/10.2139/ssrn.2681841>.

they primarily invest in startups with the long-term mission of the company in mind. Thus, they invest strategically in technologies to help them gain better insight into the industry and/or a company they want to collaborate with or acquire.²⁶

Moreover, the relationship between venture companies and their portfolio businesses is generally distant and hands-off. Japanese venture capitalists rarely sit on the board of their portfolio company because of Japan's business culture in which companies fear disclosed information will be leaked to their competitors, known as *kyoosoo ishiki*.²⁷ Japanese entrepreneurs also fear that venture capitalists seek short-term profit at the cost of long-term financial health and may ultimately take over the company.²⁸ Lastly, investments into portfolio companies are also small and scattered in order to minimize risk. This contrasts with the concentrated investments made in American startups.²⁹

Despite the current VC scene, there are reasons to be optimistic about the future outlook of the industry. In recent years, the number of domestic and foreign VC funds has dramatically increased. Many venture funds are arms of private equity companies. In 2017, there were 175 domestic private equity funds in Japan with the number increasing to 235 the following year.³⁰ This figure represent the creation of one new private equity fund a week in 2017. Foreign private

²⁶ Romero, Tim, Podcast, Tim on Japanese Startups, and Uncategorized. "The Ultimate Guide to Raising Money in Japan - Disrupting Japan." *Disrupting Japan: Startups and Innovation in Japan* (blog), January 6, 2020. <https://www.disruptingjapan.com/the-ultimate-guide-to-raising-money-in-japan/>.

²⁷ Borton, James. *Venture Japan: How Growing Companies Worldwide Can Tap into the Japanese Venture Capital Markets*. Probus Professional Pub, n.d.

²⁸ Ibid.

²⁹ Rowen, Henry S, and A Maria Toyoda. "From Keiretsu to Startups: Japan's Push for High Tech Entrepreneurship," October 2002, 29.

³⁰ "Japan Only Private Equity/Debt." HC Asset Management, October 4, 2019. https://investmentinjapan.com/ijj/wp-content/uploads/2019/10/E1909_JP-PE-PD_2Map.pdf.

equity players have also flooded the Japanese market for startups. In 2019, after holding its annual partners meeting in Tokyo for the first time, KKR, one of America's largest private equity firms, declared Japan to be their "highest priority market" in the world outside the U.S.³¹

The group plans to invest in two "growth stage" startups per year with investments ranging between \$27 million and \$47 million per deal, said partner Eiji Yatagawa in an interview.³²

Besides KKR's strategic repositioning to Japan, rival Bain Capital invested \$64 million in Hey, an e-commerce and financial services startup in 2020, and Soros Capital Management invested in a \$120 million stake in financial technology (fintech) startup Paidy as part of a group of investors.³³

Another important source of capital for startups is from angel investors, high-net-worth individuals that provide capital for business startups in exchange for ownership equity. While venture capitalists invest in the growth stage of startups, angel investors are focused on the early stages of a business, taking the first step rather than in profit generation. Besides the initial funding generated, angel investors provide important mentorship and advice for founders of startups looking to grow their businesses.³⁴

Like the VC industry in Japan, the presence of angel investors is lacking compared to the U.S. and China. Although angel investors do exist in Japan's startup community, they are more low profile compared to those in other startup hubs due to public sentiments and the social

³¹ Barber, Lionel, Leo Lewis, and Kana Inagaki. "KKR Founders Set Sights on Japan Conglomerates." *Financial Times*, April 14, 2019. <https://www.ft.com/content/0806a34c-5e7c-11e9-b285-3acd5d43599e>.

³² Nikkei Asia. "KKR to Make More Bets on Japan's Cloud Software Startups." Accessed November 24, 2021. <https://asia.nikkei.com/Business/Startups/KKR-to-make-more-bets-on-Japan-s-cloud-software-startups>.

³³ Ibid.

³⁴ Tech in Asia. "Japan Is in Dire Need of More Angels, Investors Say," February 21, 2016. <https://www.techinasia.com/secret-angel-investing-japan>.

tendency of maintaining a low profile and retaining privacy. Thus, the traditional way of finding investors is often through personal introductions. Angel investors in Japan are commonly doctors, lawyers, and wealthy executives rather than successful entrepreneurs. This means that Japanese angel investors are very hands-off and provide little mentorship or guidance.³⁵

Despite the lagging presence of angel investors, Japan has great potential in increasing the number of such investors. With low interest rates, wealthy Japanese are eager for new investment opportunities. Japan has the third-largest millionaire population in the world with 3.67 million millionaires as of 2020.³⁶ As more Japanese startups successfully grow and go public, new wealth will also be generated among the founders and employees of the companies. They can be expected to become angel investors and mentors to future entrepreneurs, akin to the “PayPal Mafia” case previously mentioned.

In analyzing Japan’s VC and angel investing landscape, it is clear there is much room for improvement. The most powerful policy solutions would be to incentivize VC funds to invest in domestic rather than overseas startups, as well as to increase the size of investment by Japanese institutional investors.

When the Softbank Vision Fund, the world’s largest technology-focused investment fund with over \$100 billion in capital, was created in 2017, Japanese startups received zero funding. Investments primarily went to American, Chinese, Indian, and Israeli startup companies despite Softbank and its founder, Masayoshi Son, hailing from Japan. Only recently in October of 2021

³⁵ Startups, FinTech, Japan Startup Podcasts, Japan Venture Capital, and Podcast. “This Is Why Japanese Startups Can’t Pivot - Disrupting Japan [Podcast].” *Disrupting Japan: Startups and Innovation in Japan* (blog), July 31, 2017. <https://www.disruptingjapan.com/why-japanese-startups-cant-pivot/>.

³⁶ Credit Suisse. “Global Wealth Report.” Accessed November 24, 2021. <https://www.credit-suisse.com/about-us/en/reports-research/global-wealth-report.html>.

did the Vision Fund invest in a local company with its \$59.7 million investment in Aculyss Pharma.³⁷ Further highlighting the changing role of Japanese players, Gen Tsuchikawa, CEO and chief investment officer at Sony's Innovation Growth Ventures, said when the company's corporate venture arm was launched a decade ago, he did not anticipate the fund would invest in its home economy. However, since then the group has invested in over 20 homegrown companies.³⁸ In order to support the Japanese startup ecosystem, local players with sizable VC war chests must be willing to support homegrown startups.

The second way to increase VC funding in Japan would be to increase the capital flows from institutional investors. In 2016, 53 percent of private equity investments were sourced from corporations and banks, with only 8 percent coming from insurance companies and 11 percent from pension funds. In the U.S. 13 percent of private equity funding was sourced from insurance companies and 43 percent from pension funds.³⁹ Japan is home to the world's largest pension fund, the Government Pension Investment Fund, with \$1.6 trillion under management.⁴⁰ Japanese pension funds invest conservatively with massive holdings in Japanese government bonds. Currently, only 0.92 percent of assets are allocated to alternative investments.⁴¹ If these sources of domestic savings navigated their capital to higher yield assets in private equity and

³⁷ Nikkei Asia. "SoftBank Vision Fund Makes 1st Japan Investment with Biotech Firm." Accessed November 24, 2021. <https://asia.nikkei.com/Business/SoftBank2/SoftBank-Vision-Fund-makes-1st-Japan-investment-with-biotech-firm>.

³⁸ Szkutak, Rebecca. "Japan's Blossoming Venture Landscape." Content. *Private Equity International* (blog), April 1, 2021. <https://www.privateequityinternational.com/japif-blossoming-venture-landscape/>.

³⁹ "Japan-Based Investors in Alternative Assets." Prequin, n.d. <https://docs.prequin.com/reports/Prequin-Japan-Based-Investors-November-2016.pdf>.

⁴⁰ "Japan's GPIF Posts Record Annual Return on Equity Rally | Reuters." Accessed November 24, 2021. <https://www.reuters.com/world/asia-pacific/japans-gpif-posts-record-annual-return-equity-rally-2021-07-02/>.

⁴¹ Reynolds, Isabel, and Yasutaka Tamura. "Japan Premier Seeks to Direct Public Pension Funds to Startups." *Bloomberg.Com*, April 12, 2022. <https://www.bloomberg.com/news/articles/2022-04-13/japan-premier-seeks-to-direct-public-pension-funds-to-startups>.

VC, the Japanese startup ecosystem would benefit from the huge inflow of domestic capital. In April 2022, Prime Minister Kishida announced that his administration would create a path for the Government Pension Investment Fund to increase its holdings and investments into startups and venture capital.⁴²

TRADITIONAL BANK FINANCING

The previous two sections on the stock market and VC funding focused on the equity financing of startups. However, the other side of the capital structure through debt financing will now be examined. One of the most traditional and common sources of capital for Japanese small and medium sizes enterprises (SMEs) and startups is traditional bank loans. This is in stark contrast to other global ecosystems where the majority of startups are funded through equity financing.⁴³ However, debt financing does have several benefits, most notably that founders are able to maintain their stake in their company rather than having investors take a large percentage of it.

Despite the importance of bank financing, studies find that firms that rely on intangible assets like intellectual property, as is the case with many high-tech startups, are hindered by bank biases. Traditional, large Japanese banks prefer companies that have more employees, need loans for fixed assets, and have an existing main bank relationship. Bank loans are also not appropriate

⁴² Ibid.

⁴³ Honjo, Yuji. "Capital Structure of Start-up Firms: An International Comparison*." *Center for Research on Startup Finance*, n.d., 45.

for startups as they require collateral and immediate payments of the principal and interest. Startups must first rapidly expand before entering the profitability phase.⁴⁴

The Japanese corporate system is unique in that it is dominated by three megabanks: Mitsubishi UFJ Financial Group (MUFG), Sumitomo Mitsui Banking Corporation Group (SMBC Group), and Mizuho Financial Group. Many regional banks do exist, but most have strong ties to the megabanks through the keiretsu network and the linkages of personnel and capital, often in the form of joint ventures.⁴⁵ Japanese companies usually have one main bank with which they have a loyal relationship. This main bank acts traditionally as both a lender and shareholder, giving the bank a vested interest in the long-term stability and performance of client companies. This system of cross-shareholding makes up the intricate system of Japanese keiretsu networks, created to prevent hostile takeovers.⁴⁶ With underregulated interest rates, the key to growth for Japanese banks was to furnish more loans, while avoiding costly bailout events. Thus, banks incentivized their client companies to grow and diversify. The unrelated diversification allowed for stabilization through multiple uncorrelated income streams from a variety of businesses. This meant that a disruption or decline of one portfolio company or business would not risk the entire firm as a whole. As long as the client borrowers generated enough cash flow to pay the interest due on loans provided, the banks were unconcerned with the efficiency of the

⁴⁴ Kutsuna, Kenji, Hideo Okamura, and Marc Cowling. "Ownership Structure Pre- and Post-IPOs and the Operating Performance of JASDAQ Companies." *Pacific-Basin Finance Journal* 10, no. 2 (April 1, 2002): 163–81. [https://doi.org/10.1016/S0927-538X\(01\)00041-5](https://doi.org/10.1016/S0927-538X(01)00041-5).

⁴⁵ Nikkei Asia. "Japan's Mizuho Breaks Tradition in Link with Rival's Regional Ally." Accessed January 9, 2022. <https://asia.nikkei.com/Business/Business-deals/Japan-s-Mizuho-breaks-tradition-in-link-with-rival-s-regional-ally>.

⁴⁶ Yamane, Linus. "Keiretsu and Main Banks - Japanese Economy (ECON142 PZ)." Pitzer College, November 3, 2021.

business in terms of profitability, margins, stock prices, and other financial metrics.⁴⁷ The *keiretsu* structure also gave a significant advantage to companies that were aligned with and a part of the vast network. This model created an unequal system of capital allocation in the economy by giving *keiretsu*-affiliated firms a significant advantage in securing loans.⁴⁸

According to Ryoichi Mikitani, renowned economist and father of Rakuten founder Hiroshi Mikitani, Japanese banks are very responsive to the Bank of Japan and the Ministry of Finance when investing in companies and are encouraged not to invest in risky businesses. This attitude creates a safety-focused environment among banks and securities firms and serves as an obstacle to the financial liberalization of the Japanese debt capital market. This banking model is also in conflict with promoting high-growth infant companies in the economy.⁴⁹

Besides the unwillingness of banks to furnish loans to startups, the biggest obstacle for debt financing through bank loans is the risk of default and bankruptcy. Founders of Japanese companies must personally guarantee bank loans, putting them at risk of personal bankruptcy. In the Japanese legal system, debt is transferable. If a startup fails or the founder even dies, the founder's guarantor or family would be responsible for the unpaid debt.⁵⁰ In the U.S., it is difficult to seize one's property or car if a startup defaults. However, in Japan, only the most

⁴⁷ Schaede, Ulrike. *The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters*, Stanford Business Books, Stanford, 2020, p. 51.

⁴⁸ "Corporate Financing and Governance in Japan : The Road to the Future." Accessed January 11, 2022. <https://web-p-ebshost-com.ccl.idm.oclc.org/ehost/ebookviewer/ebook?sid=1436b94c-37fd-4775-b61b-c6ad1ade1b78%40redis&vid=0&format=EB>.

⁴⁹ Mikitani, Hiroshi, and Ryoichi Mikitani. "The Power to Compete: An Economist and an Entrepreneur on Revitalizing Japan in the Global Economy," 1st Edition., 240. 54: Wiley, 2014.

⁵⁰ Burkosky, Evan. "Angel Financing in Asia Pacific : A Guidebook for Investors and Entrepreneurs." Accessed November 25, 2021. <https://web-p-ebshost-com.ccl.idm.oclc.org/ehost/ebookviewer/ebook/ZTAwMHhuYV9fMTQwNzI0OV9fQU41?sid=ba3c3613-0f84-4b88-ad0b-4f5b960b528f@redis&vid=6&format=EB&rid=1>.

basic items like clothing and household goods of small value are protected from seizure.⁵¹ This system discourages serial entrepreneurs who create business after business like in the U.S.

The reliance on bank loans and the burgeoning Japanese startup ecosystem are clearly in conflict. Traditional debt financing stunts the creation of startups given the structure of its financing and the high risks involved with default. Thus, Japan must pursue policies that provide startups with alternative forms of fundraising through equity financing in the stock market and venture capital, as was previously discussed in the first two sections.

However, there are also reasons to be optimistic about the future landscape of debt financing in Japan. The megabanks themselves have increasingly turned to higher-risk loans to startups for greater returns. MUFG, Japan's largest bank, recently launched a \$300 million debt venture fund to offer debt financing to late-stage tech startups in Asia-Pacific. The fund was launched amid a "fundraising frenzy" in Asia with the rapid rise of billion-dollar unicorn startups.⁵² Advances in fintech can be expected to be used by large Japanese banks to incentivize them to finance riskier loans with higher returns. Liquidity Capital, an Israeli AI-driven credit scoring model, will be used to forecast future earnings and cash flows of potential startups utilizing past financial and accounting data.⁵³ Similarly in 2017, Bank of Tokyo-Mitsubishi UFJ (BTMU) acquired a stake in Xenodata Lab, a Japanese AI-based data analysis startup. BTMU hopes to use the AI technology to navigate future returns and risks of small and midsize enterprises. Mizuho has also collaborated with Softbank Group in using AI technology to better

⁵¹ Imai, Ken'ichi, Yoshihisa Akiyama, eds.1998. *Benchaazu infura* (The Infrastructure of Venture Companies).

⁵² Yamazaki, Makiko, and Yuki Nitta. "Japan's Largest Bank MUFG to Launch New \$300 Mln Debt Venture Fund." *Reuters*, December 23, 2021, sec. Funds. <https://www.reuters.com/markets/funds/japans-largest-bank-mufg-launch-new-300-mln-debt-venture-fund-2021-12-23/>.

⁵³ Ueda, Shiko. "MUFG Taps Israeli AI to Hunt for Asian Unicorns." *Nikkei Asia*. Accessed January 10, 2022. <https://asia.nikkei.com/Business/Technology/MUFG-taps-Israeli-AI-to-hunt-for-Asian-unicorns>.

screen loan applications.⁵⁴ Fintech is expected to shake up the traditional Japanese banking industry and create a more conducive environment for startups. The expansion into financing higher-performing startups will also benefit the banks themselves, as they face a combination of a shrinking customer base and low to negative interest rates.⁵⁵ This trend has already been taking place as reported by a study by the Bank of Japan. The study also concluded that the increase in lending to higher-risk borrowers does not pose a threat to the economy's financial stability.⁵⁶

CROWDFUNDING

Another form of capital that has risen in prominence and influence in recent years is crowdfunding. This type of fundraising is when a large number of individual investors pool their capital into a startup. Platforms such as Kickstarter, Indiegogo, and SeedInvest make providing capital to an innovative idea or startup easier and more accessible.

Although this form of capital raising is relatively new, several successful startups were launched and grew initially through crowdfunding. One example is Oculus, a division of Meta (formerly Facebook), which manufactures virtual reality (VR) headsets. The startup launched its Kickstarter campaign in 2012, raising over \$2.4 million (ten times the goal of \$250,000) from 9,522 backers.⁵⁷ Since then, the company used the capital to rapidly expand and develop more

⁵⁴ Nikkei Asia. "Japanese Megabanks Raise Bets on Fintech." Accessed January 10, 2022. <https://asia.nikkei.com/Business/Finance/Japanese-megabanks-raise-bets-on-fintech>.

⁵⁵ Refinitiv Perspectives. "The Forces Challenging Japan's Mega Banks," November 13, 2019. <https://www.refinitiv.com/perspectives/market-insights/the-forces-challenging-japans-mega-banks/>.

⁵⁶ Kawamoto, Takuji, Taichi Matsuda, Koji Takahashi, and Yoichiro Tamanyu. "Bank Risk Taking and Financial Stability: Evidence from Japan's Loan Market," n.d., 35.

⁵⁷ Kickstarter. "A Brief History of Oculus, from Day Zero to Day One." *Kickstarter Magazine* (blog), May 9, 2018. <https://medium.com/kickstarter/a-brief-history-of-oculus-from-day-zero-to-day-one-8878aae002f8>.

innovative VR headsets. Meta acquired the startup in 2014 for \$2.3 billion in cash and stock,⁵⁸ and the company is expected to play a critical role in the development of the metaverse. Other examples of companies launching through crowdfunding include Allbirds, one of the fastest-growing footwear companies, now publicly valued at \$2.17 billion,⁵⁹ and Tile, a Bluetooth tracking company for personal belongings, recently acquired for \$205 million.⁶⁰

Although the crowdfunding scene is much smaller in Japan in terms of scale, it has been growing recently. Earlier, these platforms were viewed by the Japanese people as a means to raise money for charitable causes, specifically the 2011 Tohoku earthquake and tsunami. Large Japanese corporations have also been using crowdfunding to get opinions from users and consumers, especially given Japanese consumers are famously hard to please and have high demands for quality. For example, Sony has been using Manuake and other platforms frequently to test release certain products such as Mesh Smart DIY kit and the FES e-ink watch. Sony viewed this strategy as so important that it even launched its own platform called First Flight to promote new business ideas and creativity for the company.⁶¹ Japanese crowdfunding platforms such as Manuake, Green Funding, and Campfire have also developed in the past few years. All have experienced a surge in revenue and fundraising, especially during the COVID-19

⁵⁸ Meta. "Facebook to Acquire Oculus," March 25, 2014. <https://about.fb.com/news/2014/03/facebook-to-acquire-oculus/>.

⁵⁹ WSJ. "BIRD | Allbirds Inc. Stock Price & News." Accessed January 13, 2022. <https://www.wsj.com/market-data/quotes/BIRD>.

⁶⁰ "Tile Company Profile: Acquisition & Investors | PitchBook." Accessed January 13, 2022. <https://pitchbook.com/profiles/company/61319-89#funding>.

⁶¹ McCormick, Rich. "Sony Launches Crowdfunding Platform for Its Own New Products." The Verge, July 1, 2015. <https://www.theverge.com/2015/7/1/8874943/sony-crowdfunding-platform-first-flight-launch>.

pandemic.⁶² This new form of capital raising was made possible by the Japanese government amending a law in 2014 to allow for companies to directly raise capital through crowdfunding.⁶³

It can be expected that in Japan, and globally, crowdfunding will have a significant impact on the future of fundraising for startups. It provides a more democratic approach for startups to be able to both gauge the customer landscape for their products and raise capital directly from a variety of different sources and investors.

CHAPTER III: THE ROLE OF CAPITAL ALLOCATION AND INDUSTRIAL POLICY

IMPORTANCE OF THE STATE

Although startup ecosystems are conventionally viewed as being laissez-faire with little government interference, this view is misleading. The government plays a very important role in the promotion of a startup ecosystem. Michael Lind explains, “the most innovative entrepreneur in the 20th century was the U.S. government. The federal government invented or developed nuclear energy, computers, the internet and the jet engine (...) Few private venture capitalists can match the remarkable record of Uncle Sam.”⁶⁴

Silicon Valley grew and developed during the space race of the Cold War. The U.S. wanted to launch a spaceship to reach the moon. In order to accomplish such a feat, it needed

⁶² “Japan’s Crowdfunding Firms Report Surge in Business during Pandemic | Reuters.” Accessed January 13, 2022. <https://www.reuters.com/article/us-japan-fintech-crowdfunding-idUSKCN24N0QT>.

⁶³ O’Melveny. “Japan Adopts New Legislation to Facilitate Equity Crowdfunding for Start-up Companies,” March 1, 2014. <https://www.omm.com/resources/alerts-and-publications/publications/japan-adopts-new-legislation-to-facilitate-equity-crowdfunding-for-start-u/>.

⁶⁴ Lind, Michael. “Who’s Afraid of Industrial Policy?” Salon, January 31, 2012. https://www.salon.com/2012/01/31/whos_afraid_of_industrial_policy/.

several advanced technologies that were still yet to be developed. The government invested great sums into the semiconductor industry. The Apollo Space Program was the largest mobilization of federal resources and capital in American history with Congress approving investment totaling \$146.5 billion (2019 dollars), seven times NASA's budget in 2019.⁶⁵

The MIT Instrumentation Laboratory created the world's first integrated circuit, or silicon chip, working closely with Fairchild Semiconductor, a small startup based out of San Jose. This led to the area in which these chips were developed in Santa Clara County to be known as "Silicon Valley."⁶⁶ Texas Instruments followed soon after in developing computer chips, a necessary component of almost all electronic devices that we use today. These firms, that previously specialized in selling to the government, expanded their operation and broadened to the commercial sector as federal budgets decreased.⁶⁷ In later decades, the digital revolution would take place with young entrepreneurs such as Bill Gates of Microsoft and Steve Jobs of Apple building off computer technology NASA helped develop during the Apollo Mission.⁶⁸

Even today, the U.S. government plays a pivotal role in keeping Silicon Valley competitive through research and development (R&D) funding, which observers refer to as a "de facto" industrial policy. Government funding, through federal agencies and institutes, is channeled through universities where researchers play a critical role in transforming government

⁶⁵ Marketplace. "How the Moon Landing Helped Launch Silicon Valley," July 19, 2019. <https://www.marketplace.org/2019/07/19/how-the-moon-landing-helped-launch-silicon-valley/>.

⁶⁶ "Apollo Guidance Computer and the First Silicon Chips." Accessed January 16, 2022. <https://airandspace.si.edu/stories/editorial/apollo-guidance-computer-and-first-silicon-chips>.

⁶⁷ Dasher, Richard, Nobuyuki Harada, Takeo Hoshi, Kenji Kushida, and Tetsuji Okazaki. "Institutional Foundations for Innovation-Based Economic Growth." National Institute for Research Advancement (NIRA), July 7, 2015. https://www.nira.or.jp/pdf/e_1503report.pdf.

⁶⁸ "How NASA's Apollo Program Kicked off Silicon Valley's Tech Revolution - CNN." Accessed January 17, 2022. <https://edition.cnn.com/2019/08/04/tech/nasa-management-apollo-silicon-valley-scn/index.html>.

investment into scientific knowledge that can be used commercially. For example, the National Institute of Health (NIH) invests more than \$32 billion a year in life sciences research alone.⁶⁹ Economist William Lazonick explains, “Without NIH funding of the indispensable knowledge base, VC and public equity funds would not have flowed into biotech.”⁷⁰

In sum, Ulrike Schaede of UC San Diego explains, “the whole Silicon Valley venture ecosystem started with the government creating demand. The market then created a system around that demand.”⁷¹ Other economies have similarly created startup hubs and ecosystems around government demand in specific fields. For example, the Israeli startup ecosystem developed around the government’s demand for cybersecurity and intelligence.

HISTORICAL UNDERPINNINGS

Historically, the Japanese government has played a tremendous role in guiding the economy. During the rapid economic growth period from the 1960s to the 1980s, the Ministry of International Trade and Industry (MITI), one of the most powerful government agencies, was credited with the nation’s success in several sectors and industries. The agency implemented policies to protect target industries from foreign competition and promoted exports as a key part of the country’s industrial policy.⁷² After Japan’s economic bubble burst, MITI lost significant

⁶⁹ National Institutes of Health (NIH). “Grants & Funding.” Accessed January 18, 2022. <https://www.nih.gov/grants-funding>.

⁷⁰ Lazonick, William. “The Innovative Enterprise and the Developmental State: Toward an Economics of ‘Organizational Success.’” Institute for New Economic Thinking Annual 2011 conference Crisis and Renewal: International Political Economy at the Crossroads Mount Washington Hotel, April 8, 2011. https://www.ineteconomics.org/uploads/papers/BWpaper_LAZONICK_040811.pdf.

⁷¹ Komoriya, Kaito. “Ulrike Schaede on Japanese Startups and Her Book ‘The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters.’” *Asia Experts Forum* (blog), December 27, 2021. <http://asiaexpertsforum.org/ulrike-schaede-japanese-startups-book-business-reinvention-japan-make-sense-new-japan-matters/>.

⁷² Nishijima, Shoji. “Japanese Industrial Policy.” *The Perspective of the World Review*, 2012. http://repositorio.ipea.gov.br/bitstream/11058/6422/1/PWR_v4_n3_Japanese.pdf.

influence and merged with other agencies, effectively being disbanded. The Ministry of Economy, Trade, and Industry (METI) was formed in 2001 and now has jurisdiction and influence over broad policy areas from industrial and trade policies, energy security, and other programs to promote the country's economy and trade. Given industrial policy has historically had a large impact on the growth of Japanese industries, the government has a tremendous opportunity in developing the startup ecosystem to promote greater innovation and economic prosperity to the nation.

MODERN INDUSTRIAL POLICY

Since 2000, the government has enacted several programs to fund an innovative startup ecosystem. Japan is the third biggest spender on R&D behind U.S. and China, having spent \$172.6 billion in 2019. R&D spending makes up 3.2 percent of its GDP, the fourth highest in the world.⁷³ Clearly, the Japanese government is investing sufficient sums in R&D. However, why are more startups not emerging with such funding? A Brookings Institution report analyzed the lack of innovation and startups in Japan despite the country having high levels of R&D funding and patents: “While Japan spends more resources on R&D and files more patent applications than the U.S. and Germany, the quality of Japanese innovation severely lags behind that of the U.S. and Germany. We posit that this underperformance may be driven by differences in the nature of government incentives for private sector R&D and in the public-private composition of R&D expenditures in the three countries.”⁷⁴

⁷³ OECD. “Research and Development (R&D) - Gross Domestic Spending on R&D - OECD Data.” Accessed January 18, 2022. <http://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>.

⁷⁴ Strauss, Dany Bahar and Sebastian. “Innovation and the Transatlantic Productivity Slowdown: A Comparative Analysis of R&D and Patenting Trends in Japan, Germany, and the United States.” *Brookings* (blog), January 27, 2020.

In recent years, several new programs have been created to promote the creation of startups through industrial policy. One of these programs created under METI is the New Startup Loan Program. The loans provide unsecured, unguaranteed loans to founders starting a new business from the National Life Finance Corporation or the Okinawa Development Finance Corporation. These loans are appealing for startups given their low interest and generous loan period of up to five years for working capital and seven years for equipment funding.⁷⁵

The Innovation Network Corporation of Japan (INNCJ) is a government-led fund to boost investment in Japan's startup ecosystem. The \$2.5 billion fund was established in 2009 with 300 billion yen with most of the capital provided by the government. The rest of the capital was contributed by 26 major Japanese corporations, including Toyota, Canon, as well as Sumimoto and Mitsubishi Group companies.⁷⁶

Another industrial policy the government has pursued to support startups is the Fiscal Investment and Loan Program (FILP). This program uses capital raised through the issuance of FILP bonds to provide long-term, fixed, and low-interest loans and risk money to fields in the private sector, especially in startups and SMEs.⁷⁷

The most significant program launched by the government is the J-Startup Program, a joint project of METI and Japan External Trade Organization (JETRO). The initiative was

<https://www.brookings.edu/research/innovation-and-the-transatlantic-productivity-slowdown-a-comparative-analysis-of-rd-trends-in-japan-germany-and-the-united-states/>.

⁷⁵ Small and Medium Enterprises Agency. "Start-up Loan Program." Accessed January 18, 2022.
https://www.chusho.meti.go.jp/sme_english/bestpractice/04/outline.htm.

⁷⁶ Kushida, Kenji. "Innovation and Entrepreneurship in Japan: Why Japan (Still) Matters for Global Competition." Stanford Silicon Valley New Japan Project, n.d.
<https://static1.squarespace.com/static/54b4afe7e4b096f7dca62bef/t/58fa9425414fb58ffd3ae4fe/1492816951138/SV+NJ+WP+2017-2+Kushida+-+Innov+and+Ent+in+Japan.pdf>.

⁷⁷ 財務省. [Ministry of Finance] "What Is FILP?," September 2018.
https://www.mof.go.jp/english/policy/filp/filp_report/zaito2018/pdf/filp2018_eng-0-1.pdf.

launched in 2018 with the goal of incubating “internationally competitive and winning startups and [to] encourage them to provide new value to the rest of the world through their innovative technologies and business models.”⁷⁸ The industrial policy is a form of “picking winners” in which METI will select several promising startups nominated by experts in the public and private sectors. With the nomination, METI will specifically help them expand their operations overseas. METI will also create a support system termed “J-Startup Supporters,” made up of large companies, venture capital companies, and accelerators. The government set the goal of creating 20 unicorn startups with a private market valuation of over \$1 billion by 2023.⁷⁹ Since its inception, it has partnered with and supported 157 domestic startups.

There are several ways for governments to support startups through industrial policies, many of which have already been enacted recently. The government should continue supporting the initiatives and can expect a more thriving ecosystem in the coming years.

POSSIBLE POLICY PROPOSALS

The first way the Japanese government can further support the startup ecosystem is by creating the demand in certain industries that could spur the creation of startups centered around the field, as was the case with the Apollo mission. As Japan faces a host of future challenges, from its shrinking population, energy dependence, and climate change, the government could spur the demand around these problems. METI has already been doing this for the past decade with its support of hydrogen energy in an effort to help Japan become more energy independent and reduce its reliance on imported greenhouse gases. The government has been “lavishing

⁷⁸ 経済産業省. [Ministry of Economy, Trade, and Industry] “METI Launches New Initiative, ‘J-Startup’ Program.” Accessed January 18, 2022. https://www.meti.go.jp/english/press/2018/0611_003.html.

⁷⁹ Ibid.

billions of dollars to the industry” but is primarily supporting large conglomerates, such as Toyota, Mitsubishi Heavy Industries, and Kawasaki Heavy Industries.⁸⁰ In future target industries, METI should instead disperse its investments across a wide array of smaller firms and startups to support creative innovation and a thriving startup ecosystem.

Another impactful change that the government could enact is to increase capital flow to new, innovative startups indirectly through its pension fund. As previously mentioned, Japan is home to the world’s largest pension fund, the Government Pension Investment Fund, with \$1.6 trillion under management.⁸¹ In the U.S., pension fund investment into private equity and VC has dramatically increased in recent years as they seek higher returns and growth. American pension fund investment in private equity rose to an average of 8.9 percent of holdings in 2021 with capital in the sector rising from \$300 billion in 2018 to \$480 billion in 2021.⁸² The Government Pension Investment Fund plans to allocate only 1.6 percent of its portfolio to alternative investments which include private equity and VC.⁸³ Clearly, there is enormous potential for increased capital flow to the Japanese ecosystem if the Government Pension Investment Fund and other institutional investors direct their funds toward VC. This would have the dual benefit of providing higher returns than traditional fixed-income bonds to beneficiaries and supporting a more capital-rich startup ecosystem in the long run.

⁸⁰ The Economist. “Japan Inc Wants to Become a Hydrogen Superpower,” July 24, 2021. <https://www.economist.com/business/2021/07/24/japan-inc-wants-to-become-a-hydrogen-superpower>.

⁸¹ Umekawa, Takashi. “Japan’s GPIF Posts Record Annual Return on Equity Rally | Reuters.” Accessed November 24, 2021. <https://www.reuters.com/world/asia-pacific/japans-gpif-posts-record-annual-return-equity-rally-2021-07-02/>.

⁸² Gillers, Heather. “Retirement Funds Bet Bigger on Private Equity.” *Wall Street Journal*, January 10, 2022, sec. Markets. <https://www.wsj.com/articles/retirement-funds-bet-bigger-on-private-equity-11641810604>.

⁸³ “Japan’s Biggest Pension Fund Eyes More Alternative Assets after Record Return.” Accessed January 18, 2022. <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/japan-s-biggest-pension-fund-eyes-more-alternative-assets-after-record-return-65293956>.

CHAPTER III: CULTURAL DETERMINANTS TO START UPS

The Japanese startup ecosystem cannot be analyzed without looking at the country's unique culture that shapes its economy. It is hard to deny that culture has a significant impact on the many factors that make up a thriving startup ecosystem. Specific cultural factors that impact the Japanese startup ecosystem include, but are not limited to, risk aversion, longevity, the lifetime employment system, and aversion to prominent entrepreneurs. These factors mostly impact the ecosystem on a micro-scale by negatively impacting individuals' desires to become an entrepreneur in the first place.

Individual desire to become an entrepreneur and start a company among the Japanese population is weak. In a global survey in which participants were asked the question "is entrepreneurship a good career choice?" Japan ranked second to last with 24.6 percent of respondents answering favorably. Comparable economies ranked much higher in the survey with 67.9 percent of respondents in the U.S and 53.6 percent of respondents in Germany answering favorably.⁸⁴

However, with successful startups burgeoning in recent years, entrepreneurship as a career choice is beginning to become less stigmatized. In an interview with the Asia Experts Forum, Ulrike Schaede of UC San Diego explained, "Working for a startup is no longer a bad thing at all. It's now hip, at least in Tokyo. Twenty years ago, if you said you work for a startup, people would have said, 'Did you fail in the *shukatsu*? You didn't get a job, so you work for a startup?' But now it's a real and viable career path."⁸⁵

⁸⁴ World Bank. "TCdata360 - Open Trade and Competitiveness Data." Accessed April 23, 2022. <https://tcdata360.worldbank.org/>.

⁸⁵ Komoriya, Kaito. "Ulrike Schaede on Japanese Startups and Her Book 'The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters.'" *Asia Experts Forum* (blog), December 27, 2021.

RISK AVERSION

One of the most important factors needed for an entrepreneurial culture is risk-taking. Leaving one's job and creating a company from scratch requires great sacrifice and risk. However, risk aversion permeates Japanese society from its politics, economy, businesses, and individuals. Pernille Rudlin, who has several decades working for major Japanese corporations explained, "I have spent more than 45 years now living in or visiting Japan and working with or for more than 200 Japanese companies, and one generalization I feel I can make, even though I am well aware of the dangers of stereotyping, is that Japan as a nation – as well as Japanese companies – are highly risk-averse."⁸⁶

Looking back at Japan's history, the economic bubble collapse in 1992, characterized by increased risk-taking for greater returns and growth, led to today's business culture in which individuals and companies deliberately go through due process before deciding on important matters. Schaede explains, "Japan's go-go years were marked by heavy fluctuations in annual growth rates and were often a wild ride. The highly leveraged growth machine was inherently risky, and CEOs were looking for stabilizers."⁸⁷

One method to analyze the risk aversion in Japanese culture is to look at the economy's savings rate, which is well-known to be higher than in comparable economies. Between 2000 and 2020, Japan's average gross domestic savings, as a percentage of GDP, was 29.28 percent.

<http://asiaexpertsforum.org/ulrike-schaede-japanese-startups-book-business-reinvention-japan-make-sense-new-japan-matters/>.

⁸⁶ Rudlin, Pernille. "How Japanese Risk Aversion Explains Reactions to Brexit and Whether UK Should Join the CPTPP." *Rudlin Consulting* (blog), September 25, 2018. <https://rudlinconsulting.com/how-japanese-risk-aversion-explains-reactions-to-brexite-and-whether-uk-should-join-the-cptpp/>.

⁸⁷ Schaede, Ulrike. *The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters*, Stanford Business Books, Stanford, 2020, p. 50.

During the same period, the rate was 19.13 percent in the U.S. and 22.43 percent in OECD member countries.⁸⁸ During the COVID-19 pandemic, Japanese household savings reached a 20-year high with the savings rate climbing to 35.2 percent.⁸⁹ The sharp rise in household savings during COVID-19 explain how during times of uncertainty, Japanese people minimize their risk at a much higher rate than in other countries.

Out of household savings, the composition in which assets are held also paints a picture of the risk aversion that characterizes Japanese culture. In the average household, over 50 percent of savings were held in cash, the safest form of investment. The same figure was only 14 percent in the U.S. and 33 percent in the Euro Area.⁹⁰ Household financial assets held in equity and investment funds were only 15 percent in Japan, while the same figure was 31 percent in the U.S. and 28 percent in the Euro Area.⁹¹ Besides skepticism towards the stock market due to sluggish equity growth since the economic bubble collapse, this data again is reflective of the overall Japanese attitude towards risk.

Risk aversion in the modern Japanese economy explains why individuals and businesses have been slow to create and sell innovative ideas and products over the past two decades. Japan scholar Ulrike Schaede explains:

⁸⁸ World Bank. "Gross Domestic Savings (% of GDP) | Data." Accessed April 23, 2022. <https://data.worldbank.org/indicator/NY.GDS.TOTL.ZS>.

⁸⁹ Matsuo, Yohei. "Japan Stimulus Payments Went to Savings, Not Spending." Nikkei Asia. Accessed February 14, 2022. <https://asia.nikkei.com/Economy/Japan-stimulus-payments-went-to-savings-not-spending>.

⁹⁰ Altman, Alexandra. "Why Do Japanese Households Hold So Much Cash?" Federal Reserve Bank of San Francisco. Accessed February 14, 2022. <https://www.frbsf.org/banking/asia-program/pacific-exchange-blog/why-do-japanese-households-hold-so-much-cash/>.

⁹¹ Ibid.

The fear of causing an inconvenience makes people cautious and focused on preventing mistakes. This can translate into high levels of risk aversion, and a strong preference for *anzen dai-ichi* (safety first) options. In companies, it may result in a decision not to make a bold investment, and in resistance to change. For individuals, it creates obstacles to unorthodox career moves such as quitting a company and becoming an entrepreneur.⁹²

However, it is also important to acknowledge that the red tape and the slowness of the system do have their benefits. For example, the Japanese financial sector was relatively unimpacted by the 2008 financial crisis because Japanese banks and financial institutions had limited exposure to collateralized debt obligations (CDOs) given the high-risk nature of the instrument. The government's lengthy due diligence in the approval process and the skepticism of the banks minimized the economy's exposure to the risky financial instrument.⁹³ According to Schaede,

Stability and safety first – *anzen dai-chi* – are bound to remain a core value. In a country with 1,500 earthquakes per year, there is just no other way. As a result, decision-making will probably always remain slow – a word that, in Japan, often carries the positive connotation of being careful and thorough. Due process is important, and uncertainty creates anxiety. By necessity, slow means that Japanese companies may miss out on windows of opportunity, but many in Japan prefer losing out over losing big. The slow

⁹² Schaede, Ulrike. *The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters*, Stanford Business Books, Stanford, 2020, p. 34.

⁹³ Sato, Takafumi. "Global Financial Crisis: Japan's Experience and Policy Response." *Federal Reserve Bank of San Francisco*, n.d., 5.

approach reflects a societal preference, and in many ways, reflects, it is also proving economical in terms of preserving the country's social fabric, education, infrastructure, and global status in times of crisis.⁹⁴

For the Japanese economy to become more innovative and support a dynamic startup ecosystem, corporations and banks must be willing to increase their risk exposure for greater returns whether it be in investing in new areas or acquiring strategic startups. For individuals, Japanese society must change its perspective on failure and support those willing to take the risk of venturing out and creating their own company.

LONGEVITY AND RESILIENCE

Related to Japan's cultural aversion to risk is its emphasis on longevity. Japanese companies are well known for their long-term stability and continuous operations throughout war, economic crises, and pandemics. However, the country's emphasis on long-term stability comes into conflict with the dynamic economic model conducive to startups with high levels of company creation and turnover.

This claim can be validated by simply looking at data on some of the world's oldest, longest-continuously running companies, the majority of which are Japanese. In 2019, Japan had over 33,000 businesses that were over a century old. Out of these businesses, three were over two centuries old, 140 were over five centuries old, and 19 had been continuously running since

⁹⁴ Schaede, Ulrike. *The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters*, Stanford Business Books, Stanford, 2020, p. 50.

the first millennium.⁹⁵ Out of the 5,586 companies older than two centuries across 41 countries, 56 percent of them were in Japan.⁹⁶ Yoshinori Hara, a professor at Kyoto University with extensive Silicon Valley experience, explains that the Japanese cultural emphasis on sustainability over quick profits is the major reason why Japanese businesses have such “staying power.”⁹⁷ Many of these businesses are small and medium family-owned enterprises in the hospitality and food industry. However, many globally known Japanese brands were founded over a century ago. For example, Nintendo, the innovative video gaming company, was founded as a playing cards company in 1889.⁹⁸ Other acclaimed companies from Suzuki to Yamaha to branches of the Mitsubishi *keiretsu* were also founded in the late 1800s or early 1900s.

The quick turnover and lifecycle of American startups are in sharp contrast to the stability that characterizes Japanese companies. On average, only 10 percent of startups actually succeed, and the average lifespan of companies is 20 months.⁹⁹ The lenient bankruptcy laws and legal codes allow for increased risk taking and for serial entrepreneurs to pursue a career of continuously starting new business ventures. This model is characterized by high employee turnover, layoffs, and employment insecurity. Given this business model conflicts with Japanese

⁹⁵ Dooley, Ben, and Hisako Ueno. “This Japanese Shop Is 1,020 Years Old. It Knows a Bit About Surviving Crises.” *The New York Times*, December 2, 2020, sec. Business. <https://www.nytimes.com/2020/12/02/business/japan-old-companies.html>.

⁹⁶ “日本企業の長壽要因を提示” [Longevity of Japanese Companies] Accessed February 14, 2022. https://www.bok.or.kr/viewer/skin/doc.html?fn=FILE_201803300723135521.pdf&rs=/webview/result/P0000537/200805.

⁹⁷ Lufkin, Bryan. “Why so Many of the World’s Oldest Companies Are in Japan.” Accessed February 14, 2022. <https://www.bbc.com/worklife/article/20200211-why-are-so-many-old-companies-in-japan>.

⁹⁸ “Corporate Information : Company History.” Accessed February 14, 2022. <https://www.nintendo.co.jp/corporate/en/history/index.html>.

⁹⁹ Salesforce Canada Blog. “What to Do Immediately After Your Startup Launches.” Accessed February 14, 2022. <https://www.salesforce.com/ca/blog/2018/06/what-to-do-after-startup-launches.html>.

ideals of longevity, the business model cannot simply be replicated in Japan. Instead, the two models must coexist. Japanese legal codes and financial markets should encourage the cycle of startup creation and bankruptcy by creating more lenient bankruptcy laws and increasing support during downturns. For those startups that are successful, Japanese managers will lead companies with their long-term vision in mind and have them serve the Japanese economy for decades and even centuries to come.

LIFETIME EMPLOYMENT

Traditionally, the Japanese employment system is highly structured with the brightest talent working for one company for the majority, if not all, of their career.

In the *shukatsu* recruiting system, university students go through a structured selection process to secure a full-time job in the April of their penultimate year. The system was created by Keidanren, Japan's biggest business lobby of 1,300 of the country's largest companies, to hunt for talent during Japan's period of rapid economic growth. In return, the system provided lifetime employment to its new hires.¹⁰⁰ Ulrike Schaede describes how the system became an important part of Japanese society:

In Japan's postwar social contract, the government pushed large companies toward rapid growth by offering subsidies and other support. And in exchange for this support, large companies were tasked with providing corporate welfare, including not only pension but also in-company healthcare, along with insurance, training, housing, and of course long-term employment" (...) The responsibility of employees in this system was to work hard

¹⁰⁰ Shibata, Mari. "Why Japan's 'Shūkatsu' Job-Seeking System Is Changing." Accessed February 14, 2022. <https://www.bbc.com/worklife/article/20190731-why-japans-shkatsu-is-disappearing-for-japanese-youth>.

and allow the company to have complete control over their career paths, pay, promotion, and retirement.¹⁰¹

Due to this system, the most talented and skilled Japanese employees seek work at large conglomerates that provide the greatest security and benefits rather than venturing and creating their own companies. For those who do not commit to working at one company their entire lives, their tenure rate is still much longer than that in the U.S. In Japan, by the age of 34, the average Japanese employee had 3.1 jobs. The same figure was 7.4 in the U.S.¹⁰²

This system has made labor a fixed, not variable, cost. During economic and market downturns, companies are unable to lay off workers and cut costs. Moreover, this system excludes foreign talent whose university graduation does not fall during the spring *shukatsu* period.

Although the brightest talent seeks lifetime employment in large, stable companies, the overall number of “non-regular” employees has steadily risen from 12.5 percent of the workforce in 1988 to 59.1 percent of the labor force in 2019.¹⁰³ Non-regular employees do not derive the full benefits that come with full-time employment and women make up the majority of this group. These workers may be the key to attracting talent and employees in the startup industry.

Despite lifetime employment and the highly structured process of recruitment, there are reasons to be hopeful for the future. The Keidanren has announced plans to abolish the job-hunting schedule and the existing guidelines on how firms are to recruit graduates. These are in

¹⁰¹ Schaede, Ulrike. *The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters*, Stanford Business Books, Stanford, 2020, p. 50.

¹⁰² Yamane, Linus. “Salariman- Japanese Economy (ECON142 PZ).” Pitzer College, October 13, 2021.

¹⁰³ 総務省. [Ministry of Internal Affairs and Communications] “Data: Survey of Labor Force,” 2019.

response to foreign firms providing more competitive salaries and faster career progression, as well as changing preferences among Japanese youth on their future employment. These changes will hopefully make the labor market more flexible and allow for the flow of talent to smaller, startup companies rather than having established conglomerates retain them for the entirety of their careers.

AVERSION TO PROMINENT ENTREPRENEUR

A famous Japanese proverb says, “the nail that sticks out gets hammered down.” Although this may be an oversimplification, it can explain the relatively hostile climate towards successful entrepreneurs and businesspeople who are ostentatious about their success and achievements. While western societies place a high value on individuality, eastern societies, including Japan, place a higher priority and value on conformity and harmony, known as “*wa*.” Historically, with Japan’s mountainous and hostile terrain, early Japanese inhabitants had to rely on each other to survive. In its agricultural past, farmers had to cooperate with each other to maintain the shared irrigation system needed to grow rice and other products. Through subsequent periods with the infusion of Confucianism, Buddhism, and feudalism, the concept of *wa* was ingrained into Japanese society. Naturally, this has become an inherent part of Japanese business culture from consensus-based decision-making, promotions, and even elevator etiquette.¹⁰⁴ Although this consensus-based system was recognized as one of the drivers of Japan’s rapid economic growth, it has also created a hostile environment for successful

¹⁰⁴ Robert, Whiting. “The Concept of Wa.” *POV / American Documentary Inc.* (blog), January 17, 2006. <http://archive.pov.org/kokoyakyu/the-concept-of-war>.

entrepreneurs. Indeed, several prominent entrepreneurs faced their downfall amid public outcry and political interference.¹⁰⁵

The first example of this is Hiromasa Ezo, founder of Recruit Holdings (then Recruit Cosmos). Ezo founded the human resources company as a job-hunting magazine publication for university students. He sought to democratize the job market for graduates by disclosing recruitment information. Since then, the company has expanded to several industries and is most well known in the U.S. for its acquisition of job search engine “Indeed” and employer review site “Glassdoor.”¹⁰⁶

Ezo was seen as a maverick in Japan’s close-knit society. With Recruit Cosmos’s financial success, the “playboy billionaire” was recognized as a “young zakai,” a young business leader with political clout.¹⁰⁷ With this new fame and money, he led an extravagant lifestyle, much to the dismay of the Japanese public. In order to fully be accepted in Japan’s “tight inner circle of high-ranking government and business decision-makers,” Ezo bribed political leaders by gifting them low-priced shares in a Recruit subsidiary shortly before it went public. After the company went public its share price skyrocketed, lining the pockets of several politicians.¹⁰⁸ According to seasoned Japan journalist Ian Buruma, “The problem was not so much the corruption itself, which was hardly unprecedented, but the fact that an outsider had attempted to crack the establishment by throwing around too much money, too brazenly. Mr. Ezo had

¹⁰⁵ Fukuyama, Francis. *Trust: The Social Virtues and The Creation of Prosperity*. First Paperback Edition. New York: Free Press, 1996.

¹⁰⁶ Recruit Holdings. “History | About.” Accessed February 18, 2022. <https://recruit-holdings.com/en/about/history/>.

¹⁰⁷ Ries, Ivor. “EZOE: FROM RAGS TO RICHES TO RUIN.” *Australian Financial Review*, December 19, 1988. <https://www.afr.com/politics/ezoe-from-rags-to-riches-to-ruin-19881219-jl1et>.

¹⁰⁸ Sing, Bill. “Aftermath of a Scandal : Japanese Company’s Story Reflects Ties Between Business, Political Practices.” *Los Angeles Times*, April 26, 1989. <https://www.latimes.com/archives/la-xpm-1989-04-26-fi-1846-story.html>.

become too big for his boots.”¹⁰⁹ In his memoir, *Where is the Justice? Media Attacks, Prosecutorial Abuse, and My 13 Years in Japanese Court*, Ezoë states that there was no concrete evidence against him and that “the sensational reports in the newspapers, TV news programs, and weekly magazines fanned the public's fury and encouraged the prosecutors to pressure a confession out of him.” Mentally and physically exhausted from the trial, Ezoë signed the interrogation records and was found guilty by the Tokyo District Court.¹¹⁰ Clearly, Ezoë, an outsider, had shaken up Japanese business, political, and public society too much for his own good. This experience would serve as a cautionary tale for future Japanese entrepreneurs.

Two decades later, entrepreneur Takafumi Horie would find himself in a similar situation under the pressure of Japan’s conformist society. The “American-style internet tycoon” founded Livedoor shortly after dropping out of the prestigious Tokyo University. The internet service provider company started by merging a portal site with several internet services from news, travel, to banking. He expanded his startup through hostile takeovers, unconventional and controversial in Japan, to a \$6.3 billion valuation.¹¹¹

Breaking Japanese norms, he was known for wearing T-shirts rather than suits, driving around Tokyo in his silver-blue Ferrari, and flying off to Pacific Islands with models on weekends.¹¹² However, in 2007 Horie was sentenced to two-and-a-half years in jail for security

¹⁰⁹ Buruma, Ian. “Opinion | Carlos Ghosn Was Too Big Not to Fail in Japan.” *The New York Times*, February 5, 2020, sec. Opinion. <https://www.nytimes.com/2020/02/05/opinion/carlos-ghosn-japan.html>.

¹¹⁰ Ezoë, Hiromasa. *Where Is the Justice?: Media Attacks, Prosecutorial Abuse, and My 13 Years in Japanese Court*, n.d.

¹¹¹ Rampe, David. “A University Dropout Turned Internet Tycoon.” *The New York Times*, January 18, 2006, sec. Business. <https://www.nytimes.com/2006/01/18/business/worldbusiness/a-university-dropout-turned-internet-tycoon.html>.

¹¹² McLannahan, Ben. “Takafumi Horie – Return of Japan’s Enfant Terrible.” *Financial Times*, May 18, 2014. <https://www.ft.com/content/6c099ae4-dab4-11e3-9a27-00144feabdc0>.

fraud. He was found guilty of manipulating the earnings and stock price of Livedoor through stock splits and the buy up of shares via “dummy companies.”¹¹³ White collar crimes like the ones committed by Horie are not unusual in Japan, and executives often receive suspended sentences after pleading guilty and apologizing to the public. In 2013, a group of executives at camera-maker Olympus committed a much larger financial fraud scheme but received suspended prison sentences.¹¹⁴ However, given Horie’s insistence on his innocence, the very public nature of the case, and new regulator goals of cracking down on corporate misdeeds, Horie’s sentence was unusually long.¹¹⁵ “If he had just sort of shut up and taken his knocks like a ‘good Japanese’, I don’t think he would have been punished as much,” said Keith Henry, founder and managing director of Asia Strategy, a public policy advisory firm.¹¹⁶ A *Financial Times* report echoes similar views on the prosecution: “Prosecutors were building a case that “Horiemon” – so called for his likeness to Doraemon, a catlike cartoon robot – was the embodiment of an aggressive and unwelcome western-style market capitalism (...) He didn't know how to deal with the establishment.”¹¹⁷

Since being released from prison in 2013, Horie has expanded into a wide variety of ventures from a chocolate tofu business, a celebrity eavesdropping app, and most notably Interstellar Technologies, a “NewSpace” startup with the goal of reducing the cost of access to

¹¹³ Morse, Andrew. “Former Livedoor Chief Is Sentenced.” *Wall Street Journal*, March 16, 2007, sec. News. <https://www.wsj.com/articles/SB117400944838938879>.

¹¹⁴ The Economist. “Up, up and Away,” August 31, 2013. <https://www.economist.com/business/2013/08/31/up-up-and-away>.

¹¹⁵ Soble, Jonathan. “Japan’s Horie Sentenced to Jail in Livedoor Fraud.” *Reuters*, March 16, 2007, sec. Editor’s Picks. <https://www.reuters.com/article/us-japan-horie-idUST35896620070316>.

¹¹⁶ Ibid.

¹¹⁷ McLannahan, Ben. “Takafumi Horie – Return of Japan’s Enfant Terrible.” *Financial Times*, May 18, 2014. <https://www.ft.com/content/6c099ae4-dab4-11e3-9a27-00144feabdc0>.

space.¹¹⁸ However, the public prosecution against Horie has had a deep impact on Japanese societal views towards successful and public entrepreneurs. William Saito, a serial entrepreneur and former advisor to then Prime Minister Abe, has spent the past five years trying to undo the “dispiriting effect” of Horie’s downfall and punishment on the psyche of young Japanese aspiring to create their own startup.¹¹⁹ The arrest, known as the “Horie shock,” has encouraged entrepreneurs to maintain a low profile.¹²⁰

The last and most recent example is Carlos Ghosn, the former chairman and CEO of the Renault-Nissan-Mitsubishi alliance. The Brazilian-born Lebanese businessman achieved great fame and success for turning the then struggling Nissan into one of the world’s most successful automotive companies. Nicknamed “Le Cost Killer,” Ghosn reduced the debt and steered Nissan into profitability through unconventional and controversial means (in Japan) by dismantling the vertical *keiretsu* supply structure, laying off thousands of workers, and prioritizing performance over seniority.¹²¹ Japanese companies usually prefer CEOs and executives who do not take credit for success and maintain a low profile. However, Ghosn did not fit this mold and was a regular at World Economic Forum meetings, threw lavish wedding parties, and lived in luxury houses around the world.¹²² In 2018, Ghosn experienced a swift downfall by Nissan insiders accusing

¹¹⁸ Ibid.

¹¹⁹ The Economist. “Up, up and Away,” August 31, 2013. <https://www.economist.com/business/2013/08/31/up-up-and-away>.

¹²⁰ Oi, Mariko. “Where Are Japan’s Entrepreneurs?” *BBC News*, March 30, 2015, sec. Business. <https://www.bbc.com/news/business-32111959>.

¹²¹ Ghosn, Carlos. “Saving the Business Without Losing the Company.” *Harvard Business Review*, January 2002. <https://hbr.org/2002/01/saving-the-business-without-losing-the-company>.

¹²² Shane, Daniel. “Carlos Ghosn: Japan May Never Hire a Foreign CEO Again - CNN.” Accessed February 20, 2022. <https://edition.cnn.com/2018/11/30/business/japan-foreign-ceos-carlos-ghosn/index.html>.

him of underreporting his earnings and using company funds to finance his lavish lifestyle.¹²³ What made the trial even more interesting was that Ghosn, accusing the Japanese justice system of “guilty until proven innocent” and criticizing the rare granting of bail, escaped Japan in a musical equipment box via private jet to Lebanon, where he now remains a fugitive.¹²⁴ Although Ghosn by no means is innocent, this saga provides a cautionary tale for Japanese CEOs to maintain a low public profile and not ruffle feathers within society. Although Nissan is in no way a startup, Ghosn’s experience shows how Japan may not be ready for serial entrepreneurs and public CEOs that serve as business and societal leaders, as in the U.S. and other countries.

As the three cases show, cultural attitudes in Japan create a rather hostile environment for maverick entrepreneurs and eccentric business executives, considered by some as the backbone of the American startup ecosystems. In many instances, the founders become the face of the company themselves and serve as a powerful marketing tool. For example, Meta (formerly Facebook) is synonymous with Mark Zuckerberg, Tesla and Space X with Elon Musk, Bill Gates with Microsoft, Steve Jobs with Apple, and Jeff Bezos with Amazon. Many other companies have similar ties to their founders.

More importantly, these public figures serve as a source of inspiration and motivation for the next generation of young entrepreneurs. In the U.S. successful startup founders are often glorified whether it be for the product or service created, the wealth generated, or societal problem addressed. Seeing them in this positive and very public light, others (especially the younger generation) are incentivized to pursue a career in entrepreneurship in their future. The

¹²³ McLain, Sean. “Nissan’s Carlos Ghosn Arrested, to Be Ousted as Chairman Amid Financial Misconduct Probe.” *Wall Street Journal*, November 20, 2018, sec. Business. <https://www.wsj.com/articles/nissans-carlos-ghosn-arrested-to-be-ousted-as-chairman-amid-misconduct-probe-1542634696>.

¹²⁴ Jordan, Dearbail, and Simon Jack. “Ex-Nissan Boss Carlos Ghosn: How I Escaped Japan in a Box.” *BBC News*, July 13, 2021, sec. Business. <https://www.bbc.com/news/business-57760993>.

public perception of famous entrepreneurs may be correlated with favorable public attitudes toward pursuing a career in entrepreneurship in the U.S. and less favorable attitudes in Japan.

However, despite Japan's tarnished past in its acceptance of prominent entrepreneurs, several such founders have emerged on the global stage in recent years. Two CEOs that are challenging the status quo of Japanese cultural norms are Masayoshi Son and Hiroshi Mikitani.

Masayoshi Son was born to ethnically Korean parents in 1957. Given the homogeneity and xenophobic attitudes pervasive in Japanese society, he was bullied early in his childhood for being of Korean descent. To this day he is still a target of xenophobic comments on Japanese social media.¹²⁵ After graduating from UC Berkeley, Son returned to Japan and launched a business focused on the distribution of PC software in 1981. Since its humble beginnings, the company has expanded into telecommunications, e-commerce, finance, and more.

However, what he has been most famous for in the past few years is his entrepreneurial ambitions. He has supported startups worldwide through the Softbank Vision Fund, the world's largest technology-focused investment fund with over \$150 billion in capital (as of March 2021).¹²⁶ He is often in media headlines, whether it be his dealings with the struggling WeWork, his close relationship with Saudi Crown Prince Mohammed Bin Salman, or his role as the "Nasdaq whale." His unconventional and "un-Japanese" style of negotiations and dealmaking has also drawn attention. According to a Bloomberg report,

¹²⁵ Nikkei Asia. "SoftBank's Son Stands up to Anti-Korean Bigotry in Japan." Accessed February 20, 2022. <https://asia.nikkei.com/NAR/Articles/SoftBank-s-Son-stands-up-to-anti-Korean-bigotry-in-Japan>.

¹²⁶ Savitz, Eric J. "SoftBank Boosts Size of Vision Fund 2 to \$30 Billion." Accessed February 20, 2022. <https://www.barrons.com/articles/softbank-boosts-size-of-vision-fund-2-to-30-billion-51620848432>.

Son's idiosyncratic dealmaking has confounded admirers and detractors for years. And the latest frenzy has been no exception. In deal after deal, according to people involved, Son pressed to meet founders face to face, encouraged them to take more money than they wanted, and wielded his outsized checkbook as a weapon. Along the way, he rattled rivals with his growing influence and changed the game of startup investing – for better or worse.¹²⁷

He is also famous for his eclectic presentations with pundits claiming “[he] has been defying PowerPoint conventions for years.¹²⁸ From a slide depicting the “Valley of Coronavirus” with unicorns trapped inside to another of golden goose eggs to explain the company, he has become famous for using eclectic images to demonstrate and explain difficult business concepts.

Although he is often criticized for his limited investments in Japanese startup companies through the Vision Fund, he is an active proponent of change within Japanese society and companies to create a more conducive environment for startups. Seeing a globalized education as one way to address the lack of startups, he has set up the Masason Foundation to sponsor the education of 240 young Japanese students studying abroad, mostly in the U.S. Controversial yet well-respected within Japanese society, Son will hopefully serve as a beacon of inspiration to millions of young Japanese looking to pursue a career in entrepreneurship.

The next maverick entrepreneur breaking societal norms and creating a personal brand around his company is Hiroshi Mikitani. After graduating from Harvard Business School in

¹²⁷ Elstrom, Peter, Pavel Alpeyev, and Lulu Yilun Chen. “Inside the Eccentric, Relentless Deal-Making of Masayoshi Son.” *Bloomberg.Com*, January 2, 2018. <https://www.bloomberg.com/news/features/2018-01-02/inside-the-eccentric-unstoppable-deal-making-of-masayoshi-son>.

¹²⁸ Pfanner, Eric, and Alexander Martin. “Rakuten Touts English in Its Growth Push.” *Wall Street Journal*, November 12, 2015, sec. Tech. <https://www.wsj.com/articles/rakuten-puts-english-on-growth-push-1447360200>.

1993, he left his prestigious job at the Industrial Bank of Japan (now Mizuho) and founded Rakuten with the vision of creating an “internet shopping mall.” Donning the jerseys of FC Barcelona and the Golden State Warrior, Rakuten has grown into a global technology company with its primary focus on e-commerce but with businesses in other areas from telecommunications and more importantly VC. Like Son, Mikitani is seen in Japan as an unconventional business leader. He is nicknamed “Mickey” by employees and runs a very casual workplace environment, “a far cry from the typical Japanese corporate office, run by men in black suits (...) who refer to each other using family names and formal titles.”¹²⁹ In 2011 after getting the opinion of his followers on Twitter, Mikitani formally left the Japanese Business Federation (Keidanren) group, criticizing it as being too conservative and resistant to enacting reforms to help Japanese businesses become more competitive.¹³⁰ Criticizing Keidanren’s role as simply protecting conventional Japanese industries, he now acts as the Representative Director of the Japan Association of New Economy (JANE). This new business group is centered on the companies and startups that developed Japan’s e-business and IT industries and calls for reforms in Japan’s industrial structure to encourage innovation.¹³¹ Most controversially, he enacted a policy termed “Englishization” in 2010 where the official workplace language was changed to English overnight in anticipation of Rakuten’s growing overseas businesses and operations. At the time, only 10 percent of the staff could function in English, but Mikitani stated that any

¹²⁹ Ibid.

¹³⁰ Nagata, Kazuaki. “Rakuten Chief Defends Exit from Keidanren.” *The Japan Times*, July 2, 2011. <https://www.japantimes.co.jp/news/2011/07/02/business/rakuten-chief-defends-exit-from-keidanren/>.

¹³¹ Mikitani, Hiorshi, and Ryoichi Mikitani. “The Power to Compete: An Economist and an Entrepreneur on Revitalizing Japan in the Global Economy,” 1st Edition., 240. 4: Wiley, 2014.

employee who did not learn English within two years would be demoted.¹³² Mikitani's policy of Englishization will be studied in greater detail in the chapter on global expansion. Mikitani, like Son, is well-respected within Japan and will likely also serve as a role model to future Japanese entrepreneurs. Recently, Soichiro Minami, an entrepreneur mentored by Mikitani, was minted as a billionaire after the successful IPO of his company, Visonal Inc.¹³³

As Japan undergoes significant changes and develops into a more innovative startup ecosystem, current and future successful entrepreneurs will be pivotal in being mentors, funders, and a source of inspiration for the next generation of startup founders to come.

CHAPTER IV: THE ROLE OF EDUCATION IN PROMOTING ENTREPRENEURSHIP

One of the most important factors and ingredients for any thriving startup ecosystem is a robust education system. From early preschool to the PhD level, education serves as the backbone of human capital, one of the necessary components of startups. Various studies conducted over the past two decades provide compelling evidence that there is a positive correlation between educational attainment and entrepreneurial performance. These studies also indicate that countries with higher rates of education also have higher rates of entrepreneurship as a career choice.¹³⁴

¹³² Neeley, Tsedal. "Language and Globalization: 'Englishization' at Rakuten (A) ^ 412002." Harvard Business Review, August 29, 2011. <https://store.hbr.org/product/language-and-globalization-englishization-at-rakuten-a/412002>.

¹³³ Lee, Yoojung, Min Jeong Lee, and Komaki Ito. "Entrepreneur Mentored by Rakuten Billionaire Becomes One Himself." *Bloomberg.Com*, September 30, 2021. <https://www.bloomberg.com/news/articles/2021-09-30/entrepreneur-mentored-by-rakuten-billionaire-becomes-one-himself>.

¹³⁴ Dickson, Pat H., George T. Solomon, and K. Mark Weaver. "Entrepreneurial Selection and Success: Does Education Matter?" Edited by George Solomon. *Journal of Small Business and Enterprise Development* 15, no. 2 (January 1, 2008): 239–58. <https://doi.org/10.1108/14626000810871655>.

In this chapter, the role of education in promoting entrepreneurial behavior is first analyzed. Next, the role of universities as centers of diffusing knowledge, research, and technology is studied. Finally, the role of universities as venture capitalists themselves is examined.

PROMOTING ENTREPRENEURSHIP AND RISK-TAKING IN EDUCATION

As analyzed in the previous chapter, Japanese culture creates an environment in which entrepreneurial activity is stifled. One of the bedrocks of creating this culture of low risk-taking is education.

Japanese schools are criticized for instilling a conformist mindset in Japanese youth. Hiroshi Mikitani, one of Japan's most successful entrepreneurs, states, "We are no longer in an era in which we need a uniform education system to create blue-collar workers for factories."¹³⁵ In the era of startups, creativity and ingenuity are essential in order to create innovative products and services for consumers.

The Japanese education system was developed and modeled after the British education system during the industrial revolution. Termed as "conveyor-belt education" by critics, pupils are grouped by age into classes where the same content is presented in uniform ways and studied from identical textbooks for each subject.¹³⁶ Although this model was successful in improving Japan's education level during the country's rapid growth years, the system is obsolete and no longer compatible with the dynamic economic model of the world today.

¹³⁵ Mikitani, Hiroshi, and Ryoichi Mikitani. "The Power to Compete: An Economist and an Entrepreneur on Revitalizing Japan in the Global Economy," 1st Edition., 240. 240: Wiley, 2014

¹³⁶ Ittoku, Tomano. "Transforming Japan's Conformist Education System." nippon.com, May 26, 2020. <https://www.nippon.com/en/japan-topics/g00831/>.

The Japanese education system is guided by strict protocols and rules in most schools. Such rules may include the type of pen or pencil allowed in class, note-taking, raising hands, and how to speak when called upon.¹³⁷ In terms of physical appearance, strict rules control dress code, hairstyle, and accessories allowed. Most controversial are rules on hair color in which many schools require students to maintain their “natural” straight, black hair. Perms, braided extensions, and dyed hair are strictly prohibited. For those who are born with naturally brown or lighter color hair, there are many cases in which students are forced to die their hair black.¹³⁸

The class structure and subject matter also leave little room for individuality and creativity. Classes of 40 kids are assigned and remain in the same room throughout the day with subjects by different teachers taught to each cohort. It is common for students to remain in the same class year to year.¹³⁹ All students in the same grade level study the same subject with very few electives available to choose from.¹⁴⁰ This academic structure creates a dynamic in which individuality and creativity are stifled and students are not able to improve upon their social networking skills given the class structure.

Codified educational codes and norms create an environment in which risk-taking is discouraged, individuality is looked down upon, and entrepreneurship is discouraged. All these “soft traits” are desirable in dynamic entrepreneurial environments. According to the “Bracey Reports” by Gerald Bracey, an American education policy researcher, “The educational system

¹³⁷ Ibid.

¹³⁸ May, Tiffany. “Japanese Student Forced to Dye Her Hair Black Wins, and Loses, in Court.” *The New York Times*, February 19, 2021, sec. World. <https://www.nytimes.com/2021/02/19/world/asia/japan-hair-school.html>.

¹³⁹ Cerantola, Alessia. “Why so Many Japanese Children Refuse to Go to School.” *BBC News*, December 23, 2019, sec. Asia. <https://www.bbc.com/news/world-asia-50693777>.

¹⁴⁰ Johnson, Marcia L, and Jeffery R Johnson. “Daily Life in Japanese High Schools.” Freeman Spogli Institute for International Studies, October 1996. https://spice.fsi.stanford.edu/docs/daily_life_in_japanese_high_schools.

is ineffective in developing students' ability to think for themselves. If there is a need for innovation in the economy, science, technology, culture, and other fields, creativity holds the key to Japan's future. In the current system, which focuses on the 'average' student, it is difficult to encourage originality, creativity, and an adventurous spirit."¹⁴¹

Besides the impact on an innovative startup environment, conformist and rigid rules have led to detrimental results among Japanese students with absenteeism, bullying, and suicide rates rising to all-time highs. Termed, *futoko*, the Ministry of Education defines these children as those who did not attend school for more than 30 days for reasons unrelated to health or finance.¹⁴² One of the most common factors reported by students was the rigid set of rules of Japanese schools.¹⁴³ Between 2018 and 2019, absenteeism rates rose 31 percent.¹⁴⁴ In 2019, 332 cases of school-age suicides were reported, the highest in 30 years.¹⁴⁵

Individuality and creativity are also stifled at the higher education level in universities. As was previously described, the Japanese recruiting cycle is known as the *shukatsu* system in which universities hire students in April of their penultimate year. According to Takayuki Matsumoto, an Osaka-based career consultant, "*Shukatsu* is like *Kabuki* theater. It's difficult when you don't fit the template." Given this, he advises his clients not to be too assertive or ask

¹⁴¹ Bracey, Gerald W. "The Japanese Education System Is a Failure, Say Some Japanese." *Phi Delta Kappan* 79, no. 4 (December 1997): 328–30.

¹⁴² Cerantola, Alessia. "Why so Many Japanese Children Refuse to Go to School." *BBC News*, December 23, 2019, sec. Asia. <https://www.bbc.com/news/world-asia-50693777>.

¹⁴³ Ibid.

¹⁴⁴ Ittoku, Tomano. "Transforming Japan's Conformist Education System." *nippon.com*, May 26, 2020. <https://www.nippon.com/en/japan-topics/g00831/>.

¹⁴⁵ BBC News. "Suicides among Japanese Young People Hit 30-Year High," November 5, 2018, sec. Asia. <https://www.bbc.com/news/world-asia-46096626>.

many questions.¹⁴⁶ Moreover, according to Ulrike Schaede, the *shukatsu* system has become so standardized to the point that any signs of individuality among applicants have been lost. Companies and HR managers choose candidates based on whether they fit the company's culture, not on the candidate's individual knowledge or skill. Schaede describes, "Recruit [Japan's leading HR software company] began to advertise a particular outfit for the *shukatsu* – black suit, blue tie, certain hairstyle – together with advice on how to answer the interview questions. This had resulted in a bizarre annual event when long lines of well-educated 21-year-olds queue up in interview venues, all dressed in the same way, and prepared to give the same answers to the same questions."¹⁴⁷

UNIVERSITY-INDUSTRY LINKAGES

While primary schooling influences the level of entrepreneurial activity and culture in a country, higher education is where much of the innovation and research takes place. According to a report for the National Institute for Research Advancement, two institutional foundations of Silicon Valley are a labor market providing high quality mobile human resources and "industry-university-government interaction that generates streams of innovative ideas, products, and processes."¹⁴⁸

¹⁴⁶ Tabuchi, Hiroko. "Young and Global Need Not Apply in Japan." *The New York Times*, May 29, 2012, sec. Business. <https://www.nytimes.com/2012/05/30/business/global/as-global-rivals-gain-ground-corporate-japan-clings-to-cautious-ways.html>.

¹⁴⁷ Schaede, Ulrike. *The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters*, Stanford Business Books, Stanford, 2020, p. 44.

¹⁴⁸ Dasher, Richard, Nobuyuki Harada, Takeo Hoshi, Kenji Kushida, and Tetsuji Okazaki. "Institutional Foundations for Innovation-Based Economic Growth." National Institute for Research Advancement (NIRA), July 7, 2015. https://www.nira.or.jp/pdf/e_1503report.pdf.

Given the importance of higher education-industry linkages, it is no surprise that the two most entrepreneurial universities in the U.S. are in proximity to Silicon Valley: Stanford University and UC Berkeley. Rankings on entrepreneurship are based on schools that have created the most entrepreneurs and companies that raise the most capita. Both schools significantly outperform other universities across the country in these ranking statistics.¹⁴⁹

One of the most pivotal ways in which universities support a thriving startup ecosystem is by being a center of R&D. Government grants are allocated to universities in hope of research on target areas of innovation. As discussed above, the U.S. government has been an instrumental driver of innovation in the American startup ecosystem through its allocation of capital to various institutions and more importantly universities that have “generated new knowledge as well as (...) developed the capabilities of the future labor force.”¹⁵⁰ In response to rising competition in technology from Japan, the Bayh-Doyle Act was passed in 1980 which permitted universities, businesses, and non-profits that receive federal funds to claim ownership of ideas and products created. Previously, the rights to such products and ideas were forfeited to the federal government.¹⁵¹ Thus, it allowed for the commercialization of government investment in key R&D areas.

¹⁴⁹ “Top 50 - The Top 50 Universities Producing VC-Backed Entrepreneurs.” PitchBook, n.d. https://files.pitchbook.com/website/files/pdf/PitchBook_Universities_2018_2019_Edition.pdf.

¹⁵⁰ Lazonick, William. “The Innovative Enterprise and the Developmental State: Toward an Economics of ‘Organizational Success.’” Institute for New Economic Thinking Annual 2011 conference Crisis and Renewal: International Political Economy at the Crossroads Mount Washington Hotel, April 8, 2011. https://www.ineteconomics.org/uploads/papers/BWpaper_LAZONICK_040811.pdf.

¹⁵¹ Athanasia, Gabrielle. “The Legacy of Bayh-Dole’s Success on U.S. Global Competitiveness Today.” Accessed March 21, 2022. <https://www.csis.org/blogs/perspectives-innovation/legacy-bayh-doles-success-us-global-competitiveness-today>.

Compared to their counterparts in the U.S., Japanese university-industry-government linkages are weaker with top universities having comparably lower startup creation rates. This difference with American higher education is due to several factors but most notably rules not allowing faculty to work outside the university and the universities themselves having little experience licensing technology. Moreover, given the dominance of large *keiretsu* firms in the Japanese economy, much of the R&D was conducted in-house rather than through university collaboration and funding.¹⁵²

However, the Japanese version of the Bayh-Dole Act was passed in 1999, allowing for government-funded intellectual property to be claimed by universities and research institutes, incentivizing researchers to commercialize intellectual property.¹⁵³ At the university level, government measures were enacted to support technology licensing offices (TLOs) that lowered the cost and barriers to commercializing innovations. Moreover, in 2004, national universities became classified as independent organizations, which increased the flexibility of employment constraints and the ability of professors and researchers to work as outside consultants and advisors to companies.¹⁵⁴ After these measures were enacted, a greater number of startup spinoffs from universities emerged.

Besides serving as centers of research and innovation, universities support startup creation directly by providing various services and support through incubators. Startup incubators are collaborative programs for entrepreneurs, usually in a physical workspace, that

¹⁵² Kushida, Kenji. "Japan's Startup Ecosystem: From Brave New World to Part of Syncretic 'New Japan.'" Asian Research Policy, Vol 7. Shorenstein Asia-Pacific Research Center, 2016.

¹⁵³ University Network for Innovation and Technology Transfer. "Bayh-Dole Act and Installation of Technology Transfer Office." Accessed March 21, 2022. <https://unitt.jp/en/tlo/bayhdole/>.

¹⁵⁴ Kushida, Kenji. "Japan's Startup Ecosystem: From Brave New World to Part of Syncretic 'New Japan.'" Asian Research Policy, Vol 7. Shorenstein Asia-Pacific Research Center, 2016.

help early-stage startups succeed through providing offices, seed funding, training, and mentoring.¹⁵⁵ By supporting students in creating startups in universities, incubators allow for greater industry-academia linkages and collaboration, necessary for a thriving startup ecosystem. In the past decade, hundreds of incubators have been created in higher education, not only as a result of industry trends but also because of demands for university curricula with more real-world applications and job training skills.¹⁵⁶ Some notable programs include Start X at Stanford University, Venture Incubation Program (VIP) at Harvard University, Berkeley SkyDeck at UC Berkeley, and Delta-V at MIT. Although the programs differ in their support and resources, all have the same goal of increasing entrepreneurial ambition in their students and startup creations in their universities.

Although still lagging behind the U.S., top Japanese universities have followed this incubator model. The University of Tokyo has led the way with 40% of total university startup exits in 2018.¹⁵⁷ The university has four incubation facilities allowing for students and faculty to commercialize research and findings, the largest being the “Entrepreneur Plaza.”¹⁵⁸ Moreover, the university has a sizeable VC fund to support university startups, which will be discussed in the next section. One of the most dynamic university incubation centers is Kyoto University with its Innovation Hub Kyoto. The center’s mission is to help support biomedical-related

¹⁵⁵ Gensler. “The Rise of Academic Incubators.” Accessed March 23, 2022. <https://www.gensler.com/blog/the-rise-of-academic-incubators>.

¹⁵⁶ “University Incubators Present New Growth Opportunities for Startups | Innovation Center | Emory University.” Accessed March 23, 2022. <https://hatchery.emory.edu/articles/university-incubators.html>.

¹⁵⁷ Ventures, Beyond Next. “上場している大学発ベンチャーまとめ.” [Summary of Listed Ventures from Universities] Medium, May 15, 2018.

¹⁵⁸ “東京大学 産学協創推進本部. [University of Tokyo Industry-Academia Promotion Headquarters.] Incubation facilities.” Accessed March 23, 2022. <http://www.ducr.u-tokyo.ac.jp/en/activity/venture/incubation/index.html>.

startups and turn research conducted at the university into business opportunities. The incubator also benefits from Kyoto University's research facilities at UC San Diego.¹⁵⁹ Despite these resources, the programs are less developed compared to their American counterparts in mentoring and supporting community networking.

UNIVERSITIES AS A SOURCE OF VENTURE CAPITAL

Venture capital is a vital source in any start-up ecosystem, as discussed above. Universities have increasingly become crucial players in the startup world in providing their own funding and endowments toward supporting student ventures. University endowment fund returns have reached record gains in recent years with schools such as Duke University and the Washington University in St. Louis achieving returns of more than 50%.¹⁶⁰ Universities with greater allocations in VC funds outperformed their peers with less exposure. With VC investments leading the performance in endowment funds, it is likely that investments in this sector, specifically in student target funds, will also increase in the coming years.

Many American universities have their own dedicated venture funds to promote greater university-industry linkages and promote startup creation among their students and alumni. One notable fund is the House Fund, which has raised over \$2 billion in capital to invest in startups founded by UC Berkeley students and alumni.¹⁶¹ Other such funds include the Innovation Venture Fund of New York University, The Engine of MIT, and the Penn Wharton Innovation

¹⁵⁹ "Aiming for Success in University Startups by Providing Support Utilizing the " Japanese Strengths "." Accessed March 23, 2022. <https://www.link-j.org/en/interview/post-3612.html>.

¹⁶⁰ Chung, Juliet, and Eliot Brown. "University Endowments Mint Billions in Golden Era of Venture Capital." *Wall Street Journal*, September 29, 2021, sec. Markets. <https://www.wsj.com/articles/university-endowments-mint-billions-in-golden-era-of-venture-capital-11632907802>.

¹⁶¹ The House Fund. "The House Fund - We Invest in Berkeley Alumni, Faculty, Students." Accessed March 23, 2022. <https://www.thehouse.fund/>.

Fund of the University of Pennsylvania. Besides VC funds, many universities also have “angel networks” in which student entrepreneurs can connect with university alumni to secure early-stage funding. From Columbia, University of Virginia, Duke, and Wharton, several networks that support student-driven ventures exist throughout the American startup ecosystem.

Japan has been slower than the U.S. to pursue this new form of capital raising structure. Previously, laws had prevented universities from directly investing in startup companies. However, a legal amendment passed in 2022 now allows for universities to invest directly in startups. This will allow the University of Tokyo, Kyoto University, Tohoku University, and six other research universities to directly support these companies.¹⁶²

With government approval to invest directly in startups, universities have capitalized on this new opportunity and have created their own VC funds. The University of Tokyo has taken advantage on this new amendment and has supported over 310 startups to date through its two funds. The IPC Fund 1 raised \$2.1 billion and has invested in 25 companies. The AOI Fund 1 in 2022 raised another \$2 billion for the UTokyo Innovation Platform Co. to further support student-led ventures.¹⁶³ Another example is Kyoto University Innovation Capital (Kyoto-iCAP) with over \$130 million. The fund focuses on backing startups from research labs in healthcare, biotech, and energy.¹⁶⁴

¹⁶² Hata, Asuka, and Kenjiro Suzuki. “University of Tokyo to Set up \$536m Fund for School-Born Startups.” Nikkei Asia. Accessed March 23, 2022. <https://asia.nikkei.com/Business/Startups/University-of-Tokyo-to-set-up-536m-fund-for-school-born-startups>.

¹⁶³ Ltd, UTokyo IPC-UTokyo Innovation Platform Co. “The Second Fund of UTokyo Innovation Platform Co. Comes to Final Closing with JPY25.6 Billion, Involving 11 Institutional Investors.” Accessed March 23, 2022. <https://www.prnewswire.com/news-releases/the-second-fund-of-utokyo-innovation-platform-co-comes-to-final-closing-with-jpy25-6-billion-involving-11-institutional-investors-301479330.html>.

¹⁶⁴ KYOTO UNIVERSITY INNOVATION CAPITAL Co.,Ltd. “Kyoto University Innovation Capital Co.,Ltd.” Accessed March 23, 2022. <https://www.kyoto-unicap.co.jp/en/>.

Results of the concentrated effort in promoting university-industry linkages have been positive in recent years. Over the past three decades, the number of university-affiliated startups has exponentially increased. In 2017, the number of university startups rose 13 percent and surpassed 2,000 for the first time. Tokyo University led the way with 245, trailed by Kyoto University with 140, and other research universities creating the other newly formed companies.¹⁶⁵ University startup creation remained strong in 2020 with 1,623 startups created across 11 research universities with the University of Tokyo and Kyoto University remaining in the lead.¹⁶⁶

All things considered, the quality of education pertaining to startups and innovation is experiencing profound improvements. These trends will strengthen university-industry linkages, allowing for greater innovative ideas from ambitious students, professors, and researchers to be commercialized. This will contribute to revitalizing Japan's startup ecosystem.

CHAPTER V: GLOBAL EXPANSION OF STARTUPS

In the late 20th century, Japanese companies dominated the electronic consumer market around the world with companies like Sony, Panasonic, Toshiba, Sharp, Hitachi, and other household names. In the modern economy, there has been no equivalent. Instead, American companies with humble beginnings are now used by millions, if not billions, of consumers worldwide from Facebook, Apple, Google, to Microsoft.

¹⁶⁵ Nikkei Asia. "Japan's University Startups Top 2,000 for First Time." Accessed March 23, 2022. <https://asia.nikkei.com/Business/Business-trends/Japan-s-university-startups-top-2-000-for-first-time>.

¹⁶⁶ Statista. "Japan: University-Based Startups by Major University 2020." Accessed March 23, 2022. <https://www.statista.com/statistics/895274/japan-university-based-startup-number-by-major-university/>.

The question of whether Japanese startups must expand overseas to be successful is a contentious debate. With a population of 125 million, some experts argue that Japan itself is already a large enough market for startups to capture sufficient market share and revenue to be “successful.”¹⁶⁷ This is the model that most Chinese startups have pursued.¹⁶⁸ Moreover, given that the quality demands of Japanese customers are so high, if companies can succeed in Japan, they can succeed in any market.¹⁶⁹ However, if Japan were to create truly global companies, Japanese startup founders must have the intention of expanding overseas and catering to international customers.

Another reason why it is in the best interest of startups to expand overseas is the shrinking Japanese population. It is expected to decrease to 116.62 million in 2030, a 6.4 percent decline, and drop lower to 99.62 million by 2054, a 20 percent decline.¹⁷⁰ With this increasingly shrinking population, the market is bound to decline and no longer be as lucrative as before.

It is also important to note that the lacking presence of Japanese companies on the international stage is not limited to startups. It is a nationwide trend. Japanese companies of all sizes have lost their competitiveness and footprint in international markets. In 2000, 107

¹⁶⁷ World Bank. “Population, Total - Japan | Data.” Accessed April 1, 2022. <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=JP>.

¹⁶⁸ Yoon, Saemoon. “The 3 Pillars of China’s Booming Start-up Ecosystem.” World Economic Forum, June 17, 2021. <https://www.weforum.org/agenda/2021/06/china-booming-startup-ecosystem/>.

¹⁶⁹ Komoriya, Kaito. “Ulrike Schaede on Japanese Startups and Her Book ‘The Business Reinvention of Japan: How to Make Sense of the New Japan and Why It Matters.’” *Asia Experts Forum* (blog), December 27, 2021. <http://asiaexpertsforum.org/ulrike-schaede-japanese-startups-book-business-reinvention-japan-make-sense-new-japan-matters/>.

¹⁷⁰ “Population Projection for Japan.” Accessed April 2, 2022. https://www.ipss.go.jp/site-ad/index_english/esuikei/econ2.html.

companies on the Forbes Global 500 list were Japanese.¹⁷¹ In 2021, the figure dropped to 50 companies, a 50 percent decrease.¹⁷²

However, companies are beginning to expand again slowly. International M&A have increased, companies have begun using English as their global corporate language, and efforts are being made to recruit talented non-Japanese executives.¹⁷³

Some Japanese startups have begun expanding outward. The most notable in recent years is Mercari, a Japanese e-commerce company. "We can't be successful globally without success in the U.S." said CEO Shintaro Yamada. "If a service is accepted in the U.S., it tends to become universal."¹⁷⁴ To help grow its market share in the American market, an ambitious expansion strategy was pursued by chief business officer John Laegerling, a former Facebook vice president.¹⁷⁵

In this chapter, corporate policies of "Englishization" will be analyzed before studying the inability of Japanese companies to export innovation, also known as the "Galapagos syndrome."

ENGLISHIZATION

The question of whether English is a necessary component of the Japanese startup ecosystem is a hotly debated topic. In recent years, large, multinational countries across Japan

¹⁷¹ Fortune. "Global 500 2000." Accessed April 2, 2022. <https://fortune.com/global500/2000/>.

¹⁷² Fortune. "Global 500 2021." Accessed April 2, 2022. <https://fortune.com/global500/2021/>.

¹⁷³ Iwatani, Naoyuki, Gordon Orr, and Brian Salsberg. "Japan's Globalization Imperative | McKinsey." Accessed April 2, 2022. <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/japans-globalization-imperative>.

¹⁷⁴ Reuters. "Rare Japanese Unicorn Mercari Targets Rapid U.S. Expansion," April 2, 2018, sec. Retail. <https://www.reuters.com/article/us-mercari-ceo-idUSKCN1H90VZ>.

¹⁷⁵ Mercari, inc. "Mercari Welcomes John Lagerling to the Management Team." Accessed April 2, 2022. https://about.mercari.com/en/press/news/articles/20170621_mercari_welcomes_john/.

have been making English their official corporate language given its importance in global business. From Rakuten, Bridgestone, Honda, and Fast Retailing (parent company of Uniqlo), companies have adopted English as their lingua franca as part of reforms to become more competitive at the global level.¹⁷⁶ For example, as part of this nationwide effort, Softbank offered employees a ¥1,000,000 (approximately \$8,000) bonus for employees who score over 900 on the Test of English for International Communication (TOEIC).¹⁷⁷

The most famous case study of Japanese companies adopting English is Rakuten, Japan's largest e-commerce company and dubbed the "Amazon of Japan." In 2010, CEO Hiroshi Mikitani announced that English would become the official language of the company's 10,000 employees and that any employee who did not become fluent within two years would face demotion.¹⁷⁸ Overnight, cafeteria menus, floor directories, and other office writings were translated into English, stunning employees and corporate executives.¹⁷⁹ At the time, Rakuten was pursuing global expansion, and Mikitani believed that language barriers were slowing down his mission, from the integration of acquisitions, management of its global business units, and general daily work. With this policy, the company has evolved from its humble roots to a true, global e-commerce company with millions of customers across the globe. Moreover, 90 percent

¹⁷⁶ Mikitani, Hiroshi. "Englishnization: Not Just for Rakuten Anymore | LinkedIn." Accessed April 2, 2022. <https://www.linkedin.com/pulse/20140304144111-52782505-englishnization-not-just-for-rakuten-anymore/>.

¹⁷⁷ Prestowitz, Clyde. *Japan Restored: How Japan Can Reinvent Itself and Why This Is Important for America and the World*. Tuttle Publishing, 2015. p. 209.

¹⁷⁸ Neeley, Tsedal. *The Language of Global Success: How a Common Tongue Transforms Multinational Organizations*. Princeton University Press, 2017.

¹⁷⁹ Ibid.

of Rakuten’s employees succeeded in reaching Mikitani’s 2012 deadline to become proficient in English.¹⁸⁰

Besides multinational Japanese companies, the knowledge and use of English are also critical for startups seeking to expand into global markets and capture international consumers. Besides having a better understanding of global consumers, English proficiency will allow for high-skill expatriate workers to help companies grow globally. When asked whether knowing English as a Japanese entrepreneur is necessary, venture capitalist and former Abe advisor, William Saito said: “It is mandatory that you know English, but the global language isn’t English – it’s broken English. Japanese are too stuck on trying to speak it perfectly when that’s not the point. People need to realize that communication is essential and unfortunately they don’t teach you communication in Japanese schools, they just teach you how to pass tests.”¹⁸¹

Although Japan has been making promising gains in other factors that influence startups, such as in education and financial markets, the country still remains inadequate in its adoption of English. In 2021, Japan ranked seventy-eighth in terms of English proficiency, putting it in the “low proficiency” range and below its Asian counterparts of Taiwan, China, Vietnam, and South Korea.¹⁸²

Japanese English speakers must embrace the fact in most cases their English will not be perfect and native. IBM executive Jean-Paul Nerrière coined the term “Globish” in 2004. A

¹⁸⁰ Kinni, Theodore. “When a Japanese Company Adopted English as a First Language.” strategy+business. Accessed April 3, 2022. <https://www.strategy-business.com/article/When-a-Japanese-Company-Adopted-English-as-a-First-Language>.

¹⁸¹ Quigley, J.T. “Japanese-American Entrepreneur William Saito: I Only Bet on Those Who Have Failed.” Tech in Asia, July 16, 2014. <https://www.techinasia.com/japaneseamerican-entrepreneur-william-saito-bet-failed>

¹⁸² “EF English Proficiency Index - A Ranking of 112 Countries and Regions by English Skills.” Education First, 2021. <https://www.ef.com/wwen/epi/>.

combination of the words “global” and “English,” it is the common ground in which non-native English speakers can adapt in international business.¹⁸³ According to Saito, “It’s not what you know or remember or memorize, it is why and how you apply that. That is lacking from Japanese education. The average Japanese person takes seven years of English classes, but I don’t know where that goes. I bring up this issue whenever I speak with the Ministry of Education.” The Japanese education system pays too much attention to the little things like grammar and vocabulary and not to the actual practical, real-life use of English. According to Mikitani, “In Japan, students spend as much as approximately 2,000 hours studying English during their 12 years of primary education. I believe that people could start to speak English even without increasing the number of hours studied if we just changed the way English is taught.”¹⁸⁴

However, years down the road, the concept of a corporate lingua franca may not even be necessary with advancements in artificial intelligence (AI) technology. Google, Microsoft, and IBM are actively working on language translation technology.¹⁸⁵ With this advancement, companies may not need an official corporate language because future technology will allow employees to communicate without barriers or losses in translation.

Nevertheless, given the rapidly evolving world of technology and startups, Japanese startup companies must be able to navigate global markets and hire high-skilled foreign employees. In order to do this, it is mandatory that English be adopted by Japanese startups.

¹⁸³ Mikitani, Hiorshi, and Ryoichi Mikitani. “The Power to Compete: An Economist and an Entrepreneur on Revitalizing Japan in the Global Economy,” 1st Edition., 240. 54: Wiley, 2014. p. 48.

¹⁸⁴ Mikitani, Hiorshi, and Ryoichi Mikitani. “The Power to Compete: An Economist and an Entrepreneur on Revitalizing Japan in the Global Economy,” 1st Edition., 240. 54: Wiley, 2014. p. 148.

¹⁸⁵ Kinni, Theodore. “When a Japanese Company Adopted English as a First Language.” strategy+business. Accessed April 3, 2022. <https://www.strategy-business.com/article/When-a-Japanese-Company-Adopted-English-as-a-First-Language>.

Compared to the other factors studied, English is still lacking and is holding back the Japanese startup ecosystem from fully evolving and reaching its true potential.

GALAPAGOS SYNDROME

Named after the remote South American island chain, Galapagos syndrome describes Japan's increasing isolation from the rest of the world, and it is also associated with negative sentiments of a country seeing itself in decline.¹⁸⁶ It can be used to describe several worrying trends such as the inability of the Japanese people to speak English well or to explain why high-potential Japanese employees do not want to work abroad. However, in this case, it will be used to describe how Japan innovates independently within its domestic market and fails to export its technological innovation to foreign markets and consumers. Because of this, it is also described as "leading without followers" given Japan has led in many innovations, well before its American competitors, but fails to attract widespread adoption globally.¹⁸⁷ "The IT revolution has created structural shifts that are bringing the world together as if it were one continent," said Mikitani. "And yet, in Japan, people continue to prefer conventional frameworks, believing that we should enjoy a separate, isolated kind of Galapagos Island. People here do not even try to consider the global reality."¹⁸⁸ To analyze this phenomenon, the telecommunications and television industries will be analyzed.

¹⁸⁶ Wakabayashi, Daisuke. "'Galapagos,' Japan (and Sharp's) Buzzword." *Wall Street Journal*, September 27, 2010, sec. Japan Real Time. <https://www.wsj.com/articles/BL-JRTB-5116>.

¹⁸⁷ Kushida, Kenji E. "Leading without Followers: How Politics and Market Dynamics Trapped Innovations in Japan's Domestic 'Galapagos' Telecommunications Sector." *Journal of Industry, Competition and Trade* 11, no. 3 (September 2011): 279–307. <https://doi.org/10.1007/s10842-011-0104-7>.

¹⁸⁸ Mikitani, Hiorshi, and Ryoichi Mikitani. "The Power to Compete: An Economist and an Entrepreneur on Revitalizing Japan in the Global Economy," 1st Edition., 240. 54: Wiley, 2014. p. ix.

The term is most commonly used to describe Japan's innovation in telecommunication technology. In the mid-1990s, Japanese technology companies develop highly advanced mobile handsets, pioneering several high-end features seen in smartphones today.¹⁸⁹ However, these technological advances were largely confined to Japan. Instead, it was Apple's iPhone that led the smartphone revolution in worldwide markets, followed by Samsung's Galaxy smartphones shortly after. An example of a feature pioneered by Japan is the Internet platform services developed commercially in the late 1990s. Launched more than a decade earlier than Apple's App Store and Google's Android store, the content ecosystem grew to revenues of over \$16 billion in 2009.¹⁹⁰ The content ecosystem allowed for the creation of several Japanese technological firms in e-commerce, gaming, and social networking services. However, consistent with the Galapagos syndrome, Japan was not able to capitalize on this technological revolution and capture global markets. In recent years, the Apple Watch gained attention for its wireless payment system, using near-field communications chips. However, Japan has had this wireless payment technology on phones and cards for over a decade but only domestically.¹⁹¹

There are many other case studies that demonstrate Japan's increasing isolation in global markets and how it largely caters to its own domestic customers. In the television industry, Japan has catered to its own market with the influence of large electronic companies. Japan used to dominate the global flat-screen television market but has fallen behind Chinese and South

¹⁸⁹ Kushida, Kenji E. "Leading without Followers: How Politics and Market Dynamics Trapped Innovations in Japan's Domestic 'Galapagos' Telecommunications Sector." *Journal of Industry, Competition and Trade* 11, no. 3 (September 2011): 279–307. <https://doi.org/10.1007/s10842-011-0104-7>.

¹⁹⁰ Kushida, Kenji E. "Entrepreneurship in Japan's ICT Sector: Opportunities and Protection from Japan's Telecommunications Regulatory Regime Shift." *Social Science Japan Journal* 15 (January 1, 2012). https://aparc.fsi.stanford.edu/publications/entrepreneurship_in_japans_ict_sector_opportunities_and_protection_from_japans_telecommunications_regulatory_regime_shift.

¹⁹¹ Nikkei Asia. "Kushida, Kenney: Repositioning 'Galapagos Japan' in the Global Cloud Era." Accessed April 3, 2022. <https://asia.nikkei.com/Business/Kushida-Kenney-Repositioning-Galapagos-Japan-in-the-global-cloud-era>.

Korean competitors in recent years. Consumers across the world have been demanding “smart TVs” in which content platforms such as Netflix, HBO, and YouTube are integrated. However, Japanese manufacturers have been actively preventing smart TVs from coming to Japan so that they can focus on high-definition displays and sell 4k and 8k TVs. Besides this, there are many other examples of how Japanese companies have been unable to export their innovation to international markets despite being early leaders in those technologies and innovations.

Japan’s Galapagos syndrome is a major roadblock for startups seeking to expand globally and create novel products and services for international customers. Japan in the past decades has increasingly become more isolated from international markets, despite the advent of the internet and infrastructure allowing for a more globalized world. Although the other factors analyzed in this study show promising signs for the future of Japan’s startup ecosystem, the country must focus on improving its competitiveness on the international stage by becoming more adept in English and overcoming the Galapagos syndrome.

CHAPTER VI: INCREASING IMMIGRATION AND FEMALE PARTICIPATION

In startup ecosystems, human capital is of paramount importance. In past industries such as manufacturing, there was less importance placed on the value of investing in human capital and education given the physical nature of much of the work. However, the cutting-edge technology of modern industries that define startups demands significant technical skill and education. Thus, Japan must have the most highly skilled and trained labor force to develop a burgeoning startup ecosystem. Moreover, Given Japan’s shrinking population and the accompanying decline in its labor force and customer base, human capital productivity must also improve.

Like many of the other factors studied, Japan is in a transition phase in its acceptance of immigrants and its support for the female labor force. Although COVID-19 has been a roadblock, Japan will likely open up and slowly become more accommodating to foreign workers in the coming years.¹⁹²

IMMIGRANTS

In Silicon Valley, immigrants have played a paramount role in developing its startup ecosystem. Many famous entrepreneurs have international roots. Elon Musk, the founder of Tesla and Space X, was born in South Africa. Adam Neumann of WeWork immigrated from Israel. Noubar Afeyan, the founder of Moderna Therapeutics, was born to Armenian parents in Lebanon and immigrated to Canada, before studying at MIT. Besides these famous startup founders, the CEOs of major technology companies such as Microsoft, Alphabet, and Twitter are all Indian-born immigrants.

In accordance with these highly prominent entrepreneurs, a trove of data paints a picture of the importance of the trans-national infusion of human capital in Silicon Valley. With a population made up of residents that are 38 percent foreign-born, industries in Silicon Valley have benefited from international entrepreneurs. The 2017 census study found the same figure to be lower at 27 percent in California and 14 percent in the U.S.¹⁹³ In fact, a study between 2007 and 2012 found that first-generation immigrants create approximately 25 percent of new business

¹⁹² Komoriya, Kaito. “The Impact of Japans COVID-19 Immigration Measures on the Inflow of Foreign Labor into the Country - Asia Experts Forum.” Asia Experts Forum, April 11, 2022. <http://asiaexpertsforum.org/impact-japans-covid-19-immigration-measures-inflow-foreign-labor-country/>.

¹⁹³ Massaro, Rachel. “2019 Silicon Valley Index.” *Joint Venture Silicon Valley Institute for Regional Studies*, 2019. <https://jointventure.org/images/stories/pdf/index2019.pdf>.

ventures in the U.S. with the number exceeding 40 percent in some states.¹⁹⁴ Moreover, a 2016 study found that in 51 percent of total \$1 billion unicorns startups, at least one cofounder was an immigrant.¹⁹⁵ Not only do immigrants play an instrumental role in the creation of startups, but they also play a paramount role in helping them expand. According to the same study, at least 81 percent of the companies analyzed had at least one immigrant helping the startups expand and innovate through roles in key management or product development positions.¹⁹⁶ This trend of immigrants playing an outsized role in creating and expanding startups is not only an American phenomenon. A 2012 report found that immigrants were more likely to start a business than the native population in more than 69 countries surveyed and analyzed.¹⁹⁷

The reason why immigrants are more likely to create a business of their own has been widely studied and analyzed. Conventional explanations attribute host-country effects, such as selective immigration policies, labor market discrimination, and availability of opportunities within ethnic groups with high rates of immigration.¹⁹⁸ Another study suggests the hidden driver of immigrant entrepreneurship, coined personality-based self-selection. The study finds that those who decide to emigrate voluntarily and start a company are both associated with a high risk

¹⁹⁴ Kerr, Sari Pekkala, and William R Kerr. “Immigrant Entrepreneurship in America: Evidence from the Survey of Business Owners 2007 & 2012.” *National Bureau of Economic Research*, n.d., 83.

¹⁹⁵ Anderson, Stuart. “Immigrants and Billion Dollar Startups.” National Foundation for American Policy, March 2016. <https://nfap.com/wp-content/uploads/2016/03/Immigrants-and-Billion-Dollar-Startups.NFAP-Policy-Brief.March-2016.pdf>.

¹⁹⁶ Ibid.

¹⁹⁷ Xavier, Siri Roland, Donna Kelley, Jacqui Kew, Mike Herrington, and Arne Voderwülbecke. “Global Entrepreneurship Monitor 2021 Global Report.” GEM Consortium, 2012. <https://www.gemconsortium.org/file/open?fileId=48545>.

¹⁹⁸ Vandor, Peter. “Research: Why Immigrants Are More Likely to Become Entrepreneurs.” *Harvard Business Review*, August 4, 2021. <https://hbr.org/2021/08/research-why-immigrants-are-more-likely-to-become-entrepreneurs>.

for tolerance.¹⁹⁹ This personality trait is essential for entrepreneurs given the high levels of risk with starting a business and its threats of failure. Finally, an influential study by AnnaLee Saxenian, current dean of UC Berkeley School of Information, argues that Silicon Valley benefits from the economic bridges created with its home countries. It cites Silicon Valley's strong ties to countries such as Israel, allowing for strong software and intellectual property creation. Silicon Valley also benefits from cross-national production networks with Taiwan and the flow of immigrants from India that enables business process outsourcing.²⁰⁰

While the U.S. and Silicon Valley have largely embraced immigrants and their entrepreneurial ambitions, Japan has largely remained closed off. Japan is well-known for its stringent policies against immigrants and foreigners. Among OECD nations, the country consistently ranks near the bottom in terms of inflows of foreigners and immigrants.²⁰¹ With COVID-19, Japan has enacted strict measures that have largely prevented all foreigners, despite visa status, from entering the country for work, study, and tourism. Critics have been comparing this policy to Japan's centuries of isolation from the 1600s to the 1850s.²⁰² While these policies banning foreigners during the pandemic have been popular among the broad public based on opinion polls, business leaders have been lobbying the Japanese government to ease its travel curbs given that Japan's attractiveness for international business may wane.²⁰³ These policies

¹⁹⁹ Vador, Peter. "Are Voluntary International Migrants Self-Selected for Entrepreneurship? An Analysis of Entrepreneurial Personality Traits." *Journal of World Business* 56, no. 2 (February 1, 2021): 101142. <https://doi.org/10.1016/j.jwb.2020.101142>.

²⁰⁰ Saxenian, AnnaLee. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Harvard University Press, 1996.

²⁰¹ "OECD Databases on Migration - OECD." Accessed April 12, 2022. <https://www.oecd.org/migration/mig/oecdmigrationdatabases.htm>.

²⁰² Inada, Miho. "Japan Lifts Covid-19 Ban on Foreigners' Entry, but Scars Remain." WSJ. Accessed April 12, 2022. <https://www.wsj.com/articles/japan-lifts-covid-19-ban-on-foreigners-entry-but-scars-remain-11645093890>.

²⁰³ Ibid.

have impacted the ability of startups and technology companies to hire software engineers and other critical positions from overseas.

To mitigate the economic damages of Japan's shrinking population and labor force, former Prime Minister Shinzo Abe, as part of his Abenomics policy, introduced reforms to increase the flow of foreign laborers into the country, although most were temporary blue-collar workers. After the legislation was passed, the Ministry of Labor data indicated how Japan had reached record levels of foreign workers with the majority coming from China and Vietnam. Many workers under this new policy are under temporary training schemes and will return to their respective home countries with the skills acquired.²⁰⁴ However, in relation to Japan's startup ecosystem, these policies have been targeting the manufacturing sector, and greater effort must be put into attracting highly skilled and educated workers to help strengthen the startup environment.

The support of foreign high-tech workers is paramount. According to Mikitani of Rakuten, Japan is behind the rest of the world when it comes to IT education. According to the entrepreneur, only 20,000 Japanese students graduate with degrees related to computer science or programming. The same figure is much higher at 60,000 graduates in the U.S. and even more in India and China.²⁰⁵ To compensate for the lack of local talent, Japanese tech companies have relied on foreign software engineers. Mercari founder and CEO Shintaro Yamada said that foreigners make up 50 percent of the software engineering team in Tokyo and 70 percent of new hires. "The decision to recruit more overseas engineers came naturally," explained Yamada.

²⁰⁴ Nikkei Asia. "Five Things to Know about Japan's Revised Immigration Law." Accessed April 12, 2022. <https://asia.nikkei.com/Spotlight/Japan-immigration/Five-things-to-know-about-Japan-s-revised-immigration-law>.

²⁰⁵ Mikitani, Hiorshi, and Ryoichi Mikitani. "The Power to Compete: An Economist and an Entrepreneur on Revitalizing Japan in the Global Economy," 1st Edition., 240. 54: Wiley, 2014. p. 150.

“When we made a plan for increasing the number of engineers, it was impossible to hire that many people in Japan. We had to hire overseas people.”²⁰⁶ However, past recruiting activities, such as holding hackathons in Europe and inviting the best performers for internships in Tokyo, have become impossible with the government’s ban on most foreigners due to COVID-19.²⁰⁷ Other startups have been taking advantage of the pandemic by hiring increasing numbers of foreign workers given their ability to work virtually from overseas. AI Inside, a Tokyo-based startup that uses artificial intelligence to convert physical documents into electronic form, has utilized online recruitment, interviews, and work to attract high-skill foreigners to the company. 20 percent of the startup’s employees are foreign nationals from 11 countries, and the company has stated that despite the border situation, it will continue hiring overseas talent to help expand its business both locally and globally.²⁰⁸

Recognizing the importance of foreign high-tech workers in the creation and growth of startups, Japanese localities have implemented specific programs to support their move and business. Picked as one of Japan’s National Strategic Special Zones, the city of Fukuoka has made great efforts to become a thriving startup hub, as discussed in more detail in the final chapter. Most notable was the issuance of short-term Business Manager Visas, also known as Startup Visas in 2014.²⁰⁹ The visa allows foreigners to stay in Japan for up to a year while they

²⁰⁶ Suzuki, Wataru. “Japan’s Mercari to Boost Overseas Recruiting as Border Reopens.” Nikkei Asia. Accessed April 13, 2022. <https://asia.nikkei.com/Spotlight/Global-Management-Forum/Global-Management-Forum-2021/Japan-s-Mercari-to-boost-overseas-recruiting-as-border-reopens>.

²⁰⁷ Ibid.

²⁰⁸ Nagumo, Jada, and Rurika Imahashi. “Japan Inc. Rushes to Hire Overseas Talent as Border Reopens.” Nikkei Asia. Accessed April 13, 2022. <https://asia.nikkei.com/Spotlight/Japan-immigration/Japan-Inc.-rushes-to-hire-overseas-talent-as-border-reopens>.

²⁰⁹ Forbes. “Why Both Japanese And Foreign Entrepreneurs Are Choosing Fukuoka.” Accessed April 13, 2022. <https://www.forbes.com/sites/japan/2019/03/04/why-both-japanese-and-foreign-entrepreneurs-are-choosing-fukuoka/>.

prepare to start their business before specific requirements in capital and employment are met. The program has since spread to 13 other municipalities across Japan.²¹⁰ The program seeks to promote entrepreneurship and the creation of new startups and is likely to lead to fruitful results. However, Japan must also create programs to incentivize foreigners in software engineering and supporting technical roles to help Japanese startups grow.

While it is clear that increased immigration would be a boon to the Japanese economy, it is important to note how politicized the subject is in society. The topic is taboo, and the government tends to avoid discussions of it for fear of losing support among voters.²¹¹ The Japanese government and the Liberal Democratic Party (LDP) have long struggled to balance the need for workers from overseas and its conservative views on immigration. However, public opinion surveys indicate the willingness of the general public to embrace and become more open to immigration, despite longstanding perceptions of the Japanese people being xenophobic.²¹² In a 2018 Pew survey, 59 percent of Japanese believed that immigration would strengthen both the country and the economy.²¹³ Given politics is guided by cycles of reformers and reactionists in the LDP party based on popularity ratings, a future reformer prime minister may hopefully enact drastic reforms to overhaul Japan's immigration laws. These reforms will allow high-skill

²¹⁰ 経済産業省 [Ministry of Economy, Trade, and Industry] "Startup Visa." Accessed April 13, 2022. https://www.meti.go.jp/english/policy/economy/startup_nbp/startup_visa.html.

²¹¹ Komoriya, Kaito. "The Impact of Japans COVID-19 Immigration Measures on the Inflow of Foreign Labor into the Country." Asia Experts Forum, April 11, 2022. <http://asiaexpertsforum.org/impact-japans-covid-19-immigration-measures-inflow-foreign-labor-country/>.

²¹² Jozuka, Emiko. "Japan Needs Immigrants, but Do Immigrants Need Japan?" CNN, December 7, 2018. <https://www.cnn.com/2018/12/06/asia/japan-immigration-bill-foreign-workers/index.html>.

²¹³ Stokes, Bruce, and Kat Devlin. "Despite Rising Economic Confidence, Japanese See Best Days Behind Them and Say Children Face a Bleak Future." *Pew Research Center's Global Attitudes Project* (blog), November 12, 2018. <https://www.pewresearch.org/global/2018/11/12/despite-rising-economic-confidence-japanese-see-best-days-behind-them-and-say-children-face-a-bleak-future/>.

foreign workers to support Japan’s burgeoning startup ecosystem.²¹⁴ In order to do this, however, other factors must also be considered, most importantly by making Japan more livable to foreigners by improving English fluency levels.

WOMEN

Another solution that the Japanese government has looked at to address Japan’s shrinking population is women. Japan is far behind its OECD counterparts in terms of gender equality in the workforce. In 2021, the World Economic Forum’s Global Gender Gap Index ranked Japan 121st, wedged between Angola and Sierra Leone.²¹⁵ The low ranking was a result of the lack of female leaders in business and politics. A 2017 government report found women to make up only 13 percent of managerial positions with the same figure found to be 44 percent in the U.S.²¹⁶

While the U.S. has better statistics in gender equality, female leaders continue to be left out of key roles in Silicon Valley and the startup world. According to the 2020 Women in U.S. Technology Leadership Report, published by Silicon Valley Bank (SVB), the gender gap still exists with 42 percent of startups having at least one woman in an executive position and 40 percent having at least one woman on its board of directors.²¹⁷ Based on trends in other industries and sectors, the representation of women in Japanese startups is even more

²¹⁴ Kushida, Kenji, Interview with Kaito Komoriya, April 8, 2022.

²¹⁵ “Global Gender Gap Report 2021 Insight Report.” World Economic Forum, March 2021. https://www3.weforum.org/docs/WEF_GGGR_2021.pdf.

²¹⁶ Larmer, Brook. “Why Does Japan Make It So Hard for Working Women to Succeed?” *The New York Times*, October 17, 2018, sec. Magazine. <https://www.nytimes.com/2018/10/17/magazine/why-does-japan-make-it-so-hard-for-working-women-to-succeed.html>.

²¹⁷ “2020 Women in US Technology Leadership Report.” Silicon Valley Bank, 2020. https://www.svb.com/globalassets/library/uploadedfiles/content/trends_and_insights/reports/women-in-us-technology-leadership-2020-silicon-valley-bank.pdf.

concerning. While the gender wage gap is well documented, a Boston Consulting Group (BCG) report found that a significant discrepancy also exists in the capital raised by female and male startup founders. In analyzing investment and revenue data across a period of five years, the report found that the average capital raised by female-founded companies was \$935,000, while the same figure was \$2.12 million for males.²¹⁸ Interestingly, despite the disparity averaging over \$1 million, female-founded companies were found to have better financial outcomes. Startups founded and cofounded by women had average revenues of \$730,000 compared to the \$662,000 generated by male-founded startups.²¹⁹ The success of female-founded companies seems to also be relevant to the Japanese case. According to William Saito, “We also lose 16 percent of the GDP by not utilizing women. Out of the 19 investments I have, 15 are run by women. IRR-wise [internal rate of return], they do about 20 percent better than the men. When companies ask me for help finding country managers, I almost always recommend women.”²²⁰

One champion for female equality in the workplace who has a prominent role in the VC world is Kathy Matsui. In her past roles as Chief Japan Strategist at Goldman Sachs and economic adviser to former Prime Minister Shinzo Abe, Matsui coined the term “Womenomics,” which later became a part of Abenomics. This strategy sought to eliminate the obstacles to greater female participation in the workforce to help mitigate Japan’s demographic pressures and stimulate the economy.²²¹ After stepping down from her role at Goldman Sachs and the Abe

²¹⁸ Boston Consulting Group. “Why Women-Owned Startups Are a Better Bet,” July 30, 2020. <https://www.bcg.com/en-us/publications/2018/why-women-owned-startups-are-better-bet>.

²¹⁹ Ibid.

²²⁰ Quigley, J.T. “Japanese-American Entrepreneur William Saito: I Only Bet on Those Who Have Failed.” Tech in Asia, July 16, 2014. <https://www.techinasia.com/japanese-american-entrepreneur-william-saito-bet-failed>.

²²¹ Matsui, Kathy. “Womenomics: Japan’s Hidden Asset.” Japan SPOTLIGHT: Japan Economic Foundation (JEF), December 2007. <https://www.jef.or.jp/journal/pdf/156cover04.pdf>.

administration, Matsui co-founded M Power Partners with an all-female team of three financial veterans with experience from Morgan Stanley, UBS, Credit Suisse, and Goldman Sachs. M Power Partners seeks to invest the fund's \$150 million in startups that prioritize environmental, social, and governance (ESG) values. The fund has a special focus on increasing female representation in the startup space and seeks to empower them by increasing representation in management and boards of portfolio companies.²²² It is hopeful that the fund creates a model that motivates other VC funds and investors to recognize the power and profitability of female-founded and female-run startups.

CHAPTER VIII: CONCLUSION

Up until recent years, Silicon Valley dominated the global startup scene with the great majority of unicorns and innovative companies coming from the area. However, its dominance has faded in recent years with startup hubs burgeoning across the world. Tech clusters have been fueled by structural developments such as high-speed internet and smartphones.²²³ In the 19th century, Alfred Marshall coined the term “agglomeration economies,” explaining the powerful force of clustering.²²⁴ The same applies to startup ecosystems today. When cities gain a foothold, activity is fostered around the area with increasing returns to scale. Suppliers move nearby,

²²² Reynolds, Isabel, and Yoshiaki Nohara. “‘Womonomics’ Author Matsui Seeks to Bring ESG to Japan Startups.” *Bloomberg.Com*, May 31, 2021. <https://www.bloomberg.com/news/articles/2021-05-31/-womonomics-author-matsui-seeks-to-bring-esg-to-japan-startups>.

²²³ The Economist. “Can Silicon Valley Still Dominate Global Innovation?,” April 16, 2022. <https://www.economist.com/business/can-silicon-valley-still-dominate-global-innovation/21808708>.

²²⁴ Alcácer, Juan, and Wilbur Chung. “Location Strategies for Agglomeration Economies,” 2010, 38.

making business easier. Nearby talent pools make recruiting easier. Just as importantly, clustering allows for ideas to flow easily among entrepreneurs and employees from rival firms.

Based on this model, startup hubs have emerged across the world. Some examples include Shenzhen in China, Lagos in Nigeria, Bengaluru in India, and Tel Aviv in Israel.

Japan has several contenders for cities that have the possibility of becoming the next global tech hub. The Kishida government has embarked on its mission, “Beyond Limits. Unlock Our Potential,” in which it seeks to build a startup ecosystem to compete against the world’s leading hubs. As part of this overarching strategy is the Startup City Project Japan which looks at eight cities across the country with the government cooperating with local government, universities, and the private sector.²²⁵ The strategy outlines four cities as potential contenders to become global startup cities: Tokyo, Nagoya, Osaka, and Fukuoka. While all are notable contenders and have their own strengths and weaknesses, two of the most compelling will be studied in the conclusion of this thesis: Tokyo and Fukuoka.

TOKYO

The most obvious choice to contend as Japan’s Silicon Valley is Tokyo. James Riney of Coral Capital explains, “If you can take Tokyo, you can take Japan. For better or for worse, Tokyo is not only the Silicon Valley of Japan, but also the Washington D.C. of Japan, the Hollywood of Japan, and the New York of Japan.”²²⁶ Moreover, essentially every large

²²⁵ “Beyond Limits. Unlock Our Potential: Strategies for Creation of Startup Ecosystem to Compete with the World Top Ecosystems.” 内閣府 [Cabinet Office], June 2019.
https://www8.cao.go.jp/cstp/openinnovation/ecosystem/beyondlimits_en.pdf.

²²⁶ Riney, James. “Why Tokyo Is a Great Place to Startup | Coral Capital,” September 9, 2019.
<https://coralcap.co/2019/09/why-tokyo-is-a-great-place-to-startup/?lang=en>.

corporation or investor has an office in Tokyo, allowing startups to reach almost any industry and making it an easier prospect for corporation acquisition. The high-density population that leads a relatively similar lifestyle is a huge structural advantage for reaching customers. Given startups are operating on limited time, the strong transportation infrastructure and network allow for the maximum number of meetings in a day.²²⁷ Lastly, Tokyo is home to some of the country's leading universities including Tokyo University, Keio University, Waseda University, and Tokyo Institute of Technology.

FUKUOKA

Another lesser-known city that has become a serious contender as Japan's next startup hub is Fukuoka. The seaside city is located in southeastern part of Japan on the island of Kyushu. Soichiro Takashima was elected as Fukuoka's youngest mayor in 2010 at 37 years of age. After visiting Seattle and observing many similarities with his city, he embarked on a mission to turn Fukuoka into an innovative startup hub.²²⁸ He believes that the city can replicate the early successes of Japan in the 20th century and help revive the Japanese economy.

The first advantage that Fukuoka possesses is its geography. Its location makes it a gateway to its Asian neighbors like Hong Kong, Singapore, and Taiwan with the international

²²⁷ Ibid.

²²⁸ Springer, Kate. "Japan's Fukuoka Poised to Be the Country's Silicon Valley." Accessed April 16, 2022. <https://money.cnn.com/2016/11/16/technology/fukuoka-startup-city/index.html>.

airport only a 15-minute train ride from the center of the city.²²⁹ Some startups in Japan have relocated from Tokyo to Fukuoka in anticipation of expanding into the Chinese market.²³⁰

Another significant advantage that Fukuoka has over the other potential hubs is its demographics. While most Japanese cities suffer from a shrinking population and workforce, Fukuoka is the fastest-growing major city in Japan outside of Tokyo. While the capital has been draining talent and workers from the rest of the country, Fukuoka has resisted this trend.²³¹ Moreover, the Fukuoka populace is highly educated with Kyushu University serving as the backbone for Fukuoka's expansion into high-tech industries. The university is one of the most famous in the country and has been selected by the government as one of 13 institutions to be a gateway for international students. In 2016, Kyushu University had over 2,000 international students with most studying areas in medical sciences, engineering, and information technology.²³²

Fukuoka has also been very successful in attracting foreign entrepreneurs. The city was the first to create the Startup Visa that was previously discussed. The visa allows foreign entrepreneurs to stay in the country while they establish their business. The program also provides significant support and guidance. Moreover, the rent is 60 percent cheaper than that in

²²⁹ Nohara, Yoshiaki. "Startups Are Flocking to This Seaside City in Japan." *Bloomberg.Com*, March 28, 2017. <https://www.bloomberg.com/news/features/2017-03-28/forget-tokyo-japanese-startup-founders-are-flocking-to-fukuoka>.

²³⁰ Gent, Edd. "Why Fukuoka Is Japan's Most Innovative City." Accessed April 16, 2022. <https://www.bbc.com/future/article/20190508-why-fukuoka-is-japans-most-innovative-city>.

²³¹ Nohara, Yoshiaki. "Startups Are Flocking to This Seaside City in Japan." *Bloomberg.Com*, March 28, 2017. <https://www.bloomberg.com/news/features/2017-03-28/forget-tokyo-japanese-startup-founders-are-flocking-to-fukuoka>.

²³² Ibid.

Tokyo, and the surrounding mountains and beaches make it an especially attractive place for foreign entrepreneurs.²³³

Fukuoka's efforts to rebrand itself as a startup hub have so far been relatively successful. The city has had the highest business opening rate out of all cities in Japan for the past three years in a row at 7.2 percent.²³⁴ While the city is still lagging behind Tokyo in key statistics, it has set ambitious goals for years to come, such as creating one hundred startups worth over a billion yen (or \$8 million) by 2024.²³⁵

CLOSING REMARKS

As Japan continues to face sluggish economic growth, a shrinking population, and a host of other problems, drastic solutions are required. The promotion and creation of startups are a solution to these ills given their outsized contribution to economic growth.

Yet the mainstream media and observers continue to criticize Japan for its lack of notable startups. However, as this thesis argues, statistics and evidence suggest that much of these arguments are largely definitional and inaccurate.

Although the country's startup scene is behind that of other comparable economies, specifically the U.S., there are reasons to be optimistic. The ecosystem is made up of several different factors that are all interconnected. For example, it is likely that the country's harsh bankruptcy laws are what contributes to the risk averseness of its citizens. Given this, it is necessary that holistic policies be put in place that takes the interconnectedness of the ecosystem

²³³ Gent, Edd. "Why Fukuoka Is Japan's Most Innovative City." Accessed April 16, 2022.
<https://www.bbc.com/future/article/20190508-why-fukuoka-is-japans-most-innovative-city>.

²³⁴ "Fukuoka Facts | Data about the Best of Fukuoka." Accessed April 16, 2022.
<http://facts.city.fukuoka.lg.jp/en/data/business-opening/>.

²³⁵ Gent, Edd. "Why Fukuoka Is Japan's Most Innovative City." Accessed April 16, 2022.
<https://www.bbc.com/future/article/20190508-why-fukuoka-is-japans-most-innovative-city>.

in consideration. Many of the factors analyzed in this thesis are currently experiencing profound changes through both domestic and foreign actors. Most notable of these factors are the country's financial markets, state capital allocation, culture, and labor force. However, greater efforts must be put into the country's education and global expansion. The government, companies, investors, and citizens themselves all have a pivotal role in shaping these factors.

In the near future, we can expect Japan to create a thriving startup ecosystem, likely in the cities of Tokyo and/or Fukuoka. Both Japanese and foreigners will hopefully be collaborating on innovative ideas. Large, traditional *keiretsu* companies will likely coexist with more nimble startups in helping them drive collaboration. All stakeholders will contribute to building creative solutions to tackle some of Japan's most pressing issues from its elderly population, climate change, natural disaster prevention, and more.

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