Journal of Economics, Finance and Accounting Studies
ISSN: 2709-0809
DOI: 10.32996/jefas
Journal Homepage: www.al-kindipublisher.com/index.php/jefas

JEFAS
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

Competition and Innovation: The Rise of Startups and Its Effects Towards the Philippines Economy

Shotaro Paul Akehira[1], Emmanuel Alcantara[2] ✉ and Augusto Laforga Jr, MBA[3]
[123]Department of Economics, Faculty of Arts and Letters, University of Santo Tomas, Manila, Philippines
Corresponding Author: Emmanuel Alcantara, **E-mail**: emmanuel.alcantara.ab@ust.edu.ph

| ABSTRACT
The Philippines has a growing startup scene in Southeast Asia and is currently the prime target of many investors like Tencent Holdings, Voyager's Innovation, and more. Despite this opportunity, in 2018, the Philippines made 31.8million dollars in deals, which is only a 10th of Indonesia's deals and a 3rd of both Vietnam and Thailand. This study aims to empirically prove the economic benefits of startups to the Philippines economy and positively impact the country's currency exchange rate. The data was collected from online and publicly accessible websites like the Worldbank and Openstat. Statistical tools used were Eviews 11 and Microsoft Excel. The result shows that the 3 independent variables have a moderate relationship with the dependent variable given the r2 value 77.0365%. Although the results showed that FDI does not affect the currency value of the Philippines and the growth of startups, mainly since the majority of the FDIs are invested in agriculture and income inequality efforts, also the factor that the Philippines is not famous for its tech industry. The results showed that Taxes on income, profits, and capital gains (%), considering the factors that the government is providing tax incentives to new businesses, can ease the burden off entrepreneurs in establishing startups, importing computers, communications, and other services (%). Additionally, since tech startups mostly rely on computers, communication goods and services to fully utilize their business, it shows that these two variables had a significant effect on the currency value of the Philippines. Start-ups are gaining traction in becoming one of the rising industries around the world. This industry challenges traditional business models with its complex utilization of technology. Moreover, the Philippines also has a growing startup scene, although it doesn't have a strong and established tech industry yet. For this reason, foreign investors can possibly be attracted, given the fact that they can take advantage of the lack of competition that exists within the startup scene.

| KEYWORDS

Startups, Entrepreneurship, Foreign Direct Investments, Currency Exchange Rates

| ARTICLE DOI: 10.32996/jefas.2022.4.1.24

1. Introduction

1.1 Background of the study

The rapid digitalization of our world has shifted our way of life and how we approach different challenges. Technology and businesses are one of the largest sectors affected by the world's digitalisation. According to Bejnaru (2019), due to the accelerated pace with which information and communications technology developments are taking place, digital society and the digital economy have become real and, in turn, are generating specific challenges. In this environment, digital skills and competencies are essential in order to achieve professional success and the personal development of any individual. A number of conglomerates have adopted the digitalized framework and have evolved their transaction methods online to ensure efficiency and to be able to tap into new markets. However, this has also allowed emerging businesses called startups to be able to capitalize on the rising trend and attempt to surpass these conglomerates and become a rival in the field of business and commerce.

According to Steve Blank, startups are "a temporary organization designed to look for a business model that is repeatable and scalable". Unlike traditional business models, startups require to build an appealing business model to the public because they're

tapping into a new market that hasn't been explored by traditional business models. Examples of startups include but are not limited to Grab, Airbnb, and Whatsapp. A prevalent trend among most startups is that it challenges traditional business models and utilizes technology as a means to evolve these structures and become appealing to the consumers. According to Semenova (2021), in the early stages of firm creation, the entrepreneur acts as the representative of the entire company. They are expected to interact with the broader community to enable venture capital and credibility within the field competitive space of the startups. Moreover, García Sáez (2020) recommends that startups openly communicate about the company's goals, culture, and value to attract new talents to their company and the startup ecosystem.

According to research conducted by PricewaterCoopers Australia, the startup tech industry had the potential of contributing 109 billion dollars to the Australian economy, which is 4% of their GDP and can contribute 540,00 new jobs to the country back in 2013. Similar to most countries within Southeast Asia, Australia doesn't have a developed tech sector, which gives it a big opportunity to develop and impact the economy on a greater scale through government investments for tech startups and education for people who want to enter the industry. With the Philippines suffering an 8.7% unemployment rate, the job opportunities that a government-supported startup economy may contribute to a positive outcome to the economy.

The Philippines being part of the growing startup scene, which is Southeast Asia, alongside Singapore and Indonesia, has one of the world's unicorns; it is currently the prime target of many investors like Tencent Holdings, Voyager's Innovation, and more. Similar to the situation of Australia, the Philippines doesn't have a strong, established tech industry, which makes it attractive for foreign investors to come in and attempt to take advantage of the lack of competition within the market. Moreover, because the Philippines is part of ASEAN, it allows these investors to have access to other markets within the economic block.

1.2 Statement of the Problem

Although the Philippines is in a strategic location and external investors are willing to invest, they still lag from their fellow Southeast Asian countries. In 2018, the Philippines made 31.8million dollars in deals, which is only a 10th of Indonesia's deals and a 3rd of both Vietnam and Thailand. One of the reasons behind the lag is Filipino people's skill sets. It has become popular to argue that information technology-business process outsourcing and tourism can serve as the principal drivers to achieving sustainable and inclusive economic growth for the Philippines and other developing countries (Ghani 2010, Pasadilla 2006). Moreover, a report by the Asia-Pacific Economic Cooperation states that in 2010-2014 the Philippines economic growth relied on manufacturing, imports and exports, and the service sectors. This trend shows a lack of development within the country's entrepreneurial sector and the technological sector.

Another issue the country faces is the underdeveloped culture of startups within the country. According to Natasha Bautista, in a news article by Lopez (2019), "some founders may seek mentorship from entrepreneurs who may not have had experience in the start-up scene, and so they get traditional advice, which isn't always applicable to a start-up seeking scale early on". The assumption of most entrepreneurs and investors in the Philippines is that start-ups are the same as any other entrepreneur venture. This leads to inefficient approaches when establishing their businesses and decreases the number of investors within the country due to a negative confidence rate. According to Rivera, the CEO of Kalibrr, a skill-matching job marketplace start-up, they garnered 9 million dollars in funding, but the majority of them came from foreign investors. This shows that local start-ups have a larger opportunity to grow if local investors and the government get involved in their projects which is currently not present within the country.

The study aims to empirically prove the significance of startup companies to the Philippines' currency exchange rate globally to determine its financial attractiveness to both investors and consumers abroad.

1.3 Formulation of the Hypothesis

This study considers the following hypotheses:

Hypothesis 1:

H_o: There is no significant relationship between taxes on income, profits, capital gains and Philippines Currency Value.

H_a: An increase in the amount of collected income, profits, and capital gains mean that startups have already developed enough to contribute large amounts of tax revenue. These tax revenues can be used for government expenditures to increase foreign investments and increase the Philippines' currency value.

Hypothesis 2:

H_o: There is no significant relationship between Foreign Direct Investment and Philippines Currency Value.

H_a: An increase in Foreign Direct Investment will lead to an increase in starting capital for startups that will help in the scalability of these companies. As the startup company scales, they will export their goods and services, leading to greater desires for the Philippines currency and increasing its value.

Hypothesis 3:

H_o: There is no significant relationship between the increase in computers, communications, and other services and the Philippines currency value.

H_a: An increase in computers, communications, and other services will increase the Philippines startups' access to technology and information to improve on their innovative ideas. This will help in the scalability of the company and lead to export in goods and services, leading to greater desires for the Philippines currency and increasing its value.

The corresponding p-values for each variable's coefficient dictate whether the mentioned variables have statistically significant relationships with each other. The p-values are tested at the 0.01, 0.05, and 0.1 levels of significance.

1.4 Scope and Limitations

This study will not specify who will provide funding towards possible start-ups, nor the kind of start-ups that can flourish in the country. The paper will assume the states and existing investors will invest in potential startups. Moreover, it will solely focus on the trend of the Philippines and the cultural obstacles that make it difficult for start-ups to succeed, how to overcome it, and the potential economic growth the country may experience.

This paper will not take into account competitions, including larger, more established traditional businesses, current sectors investors already invest in, and the sectors that public subsidies are allocated to. This is because there's a lack of data on the distinction between where Foreign Direct Investments (FDIs) are allocated between startups and traditional business models.

Finally, it will not take into account the willingness of the citizens to engage in the startup economy. The researchers lack academic knowledge on behavioral economic theories that can be applied in this study; therefore, the researchers choose to not include this specific field of economics.

1.5 Significance of the Study

Start-ups are a fast-growing industry with successful track records and could be a potential economic opportunity for the Philippines. **This can help innovators within the country** because of start-ups' nature to make products that don't exist in the market that can have a large impact on the consumer base and new job opportunities that will fill in the slots for the industry.

External investors are also interested in the startup scene of the Philippines; therefore, investing in this sector may allow these sectors to grow exponentially. Our country's proximity towards countries like Singapore and Indonesia with a booming startup scene will also aid us in developing startup networks and improving business relations with these countries beyond manufacturing and service.

This will help entrepreneurs interested in start-ups know what to do and the incentive for them to continue their venture and break out from the current trend of Filipinos choosing either to go abroad or working for other companies domestically. Moreover, the minimization of bureaucracy This will also address misconceptions regarding the differences between traditional business structures and startups to filter advice received and apply them appropriately.

2. Review of Related Literature

2.1 Public Finance

This paper will be adapting a similar framework Lerner (1999) utilized in his paper regarding the government as a venture capitalist. The paper seeks to analyze the motivation on why states have an incentive to invest in private companies and if there are any returns of investments that occur. According to Lener (1999), subsidies are an appropriate response for positive externalities that can benefit the country's tangibles and intangibles. The Philippines is in a unique position where international investors are willing to invest in and develop its tech startups that can innovate and change the data center infrastructure. It is impossible to create a new Facebook or Airbnb, especially with how established these companies are, but what newly growing startups can do now is co-create new technology that can promote innovation and be a starting point for these companies, as pointed out by Ester (2017).

A counterfactual study by Leleux and Surlemont (2003) states that the success of funding through venture capital is through understanding specific local contexts. An example of this is in Poland, where venture capitalists had common law than in civil law environments, and this is due to minority shareholders having greater power under common law. The success of Poland cannot

be ignored because venture capitalists had lesser success in Europe, as opposed to the United States (Hege et al., 2003; Bottazi and Da Rin 2004).

However, venture capitalists also take into consideration non-tangibles like personality and experience as a determinant before investing (Morawczyński 2020). Venture capitalists look for individuals who can calculate risks and have the capacity to do research (Mishra 2004), as well as have a compatible personality to work with the same venture capitalists (Mishra 2004; Petty and Gruber 2011). At the end of any venture capitalists' investment, they aim for the startup to gain an IPO as an exit tool. This ensures maintained capital inflow for the venture capitalists and the scalability of these startups (Schäfer 2002).

This paper wants to analyze what type of investments and support the Philippines government can provide for aspiring startups and whether these investments can come with a positive return for the economy and innovation in the country. The type of investments government funding can provide to startups are coaching from startup hubs that exist in Silicon Valley, tax breaks, starting capital to start their research and development, and others. This section of the paper will focus on how Public Finance Theory can be applied to the 3 areas and how it can create positive returns to the country's economy and overall innovative inventions made by startups.

2.2 Coaching and Mentoring

Presently, the Philippines doesn't have a startup economy nor a startup network that will allow aspiring entrepreneurs to be able to succeed in the field. Additionally, startups don't have the capital to hire mentors nor travel to areas like Silicon Valley to be able to have access to the knowledge and opportunities these areas offer. The main reason why most startups in the Philippines currently fail is because of the outdated business model, lack of mentorship, and investment strategies that local investors adopt that are unsustainable for the field.

Mentorship is key to a startup succeeding because you not only acquire the knowledge that the mentor provides for the business to succeed, but it allows the entrepreneur to acquire connections that didn't exist before. Most startups are co-founded by individuals who share a similar passion and want to innovate (e.g. BootUP, The Hive, Powerhouse, etc.). Most co-founded startups happen when entrepreneurs meet in mentorship seminars or in Silicon Valley, where they exchange ideas and negotiate to develop a business model together. Applying the Public Finance Theory, we can examine the positive externalities that subsidizing aspiring entrepreneurs in the startup scene of the Philippines can provide for the country. Following the same principle under Lener (1999), governments don't need to subsidize all startups due to the finite resources they possess. Instead, they can fund a few that they determine as more likely to succeed, whether the definition is for profit or for non-profit Ester (2017).

According to Song, D. -G et al. (2018), college students' entrepreneurship positively affects starting a business. Since not every college student has an entrepreneurship course, some may not be willing to engage in startups. Further research by Reypens, Delanote, & Rückert (2020) indicates that the majority of US startups accelerate further due to private investments and an increase in venture capitalists. Larger participation from the public decreases the chances of a company going into default and allows it to grow even further. Continued contrast in ideas amongst startup entrepreneurs with their mentors and investors made Hegde and Tumilso (2014) believe that co-ethnic-led companies yield higher returns if invested and mentored.

Beyond the business model, entrepreneurial characteristics and the ability to work in a team environment amongst other entrepreneurs and venture capitalists are crucial to the success of a startup. A number of European literature have adapted the term "team of entrepreneur" or general management (Franke et al. 2008; Streletzki and Schlute 2013), which indicates a group of individuals that opposes the commonly western interpretation of entrepreneur as a singular entity (Hsu et al. 2014; Warnick et al. 2018). The reason for this is to show that the success of a startup is based on collaboration rather than just individual innovative ideas. However, a counterfactual study states that collaboration is unimportant if you are unable to access these circles due to negative perceptions and distrust when the entrepreneur has low social status, according to Młokosiewicz and Misiak-Kwit (2017).

The positive externality provided here is that we now have a small startup ecosystem within our country that can jumpstart other aspiring entrepreneurs who want to enter the accelerator field. The pioneers of the future Philippines startup scene now can act as mentors to the aspiring candidates and now no longer have to travel all the way to Silicon Valley if they want to succeed and receive advice from non-startup entrepreneurs. The spread of knowledge that this project provides promotes a positive externality to new individuals entering the field and beneficiaries of the technology these startups will provide for the country.

2.3 Tax Breaks and Other State Reforms

Taxes act as a deterrence for individuals to spend because it removes money from your income or capital flow. The same principle applies towards traditional businesses and startups and their capacity to establish an office or create their product because of corporate tax, capital gains tax, property tax, etc. This is amplified because, in the Philippines, individuals don't engage in

entrepreneurship due to the risks that come with it, let alone engage in the startup scene that's currently nonexistent in the country. The government needs to make an incentive for people to see that startups are a legitimate business career to take, and tax breaks can be the initiator for this.

The main principle for tax breaks is to increase the productivity of the economy but also provide deficits for the federal government, as stated by Yang (2018). Governments are willing to take these risks if they're assured a positive return once the action is taken. Unlike providing tax breaks to ordinary citizens, we are providing this to startups that are assumed to grow and be backbones of the economy, both tangible and intangible. Governments are assured that this incentive provides more opportunities for aspiring entrepreneurs to be able to enter the market and help promote the productivity of the economy. We've seen this happen in Singapore, where there are 3,800 startups within the country and over 150 venture capitalists Loh (2020).

Tax breaks aren't only the reasons why startups are sustainable and attractive in Singapore and other countries with a startup ecosystem. In a study by Cheah (2016), Singapore is among the fastest in bankruptcy proceedings allowing bankrupt entrepreneurs to start up afresh in liquidation. They reduced the 29-month duration to 10 days on average to increase the productive capacity of entrepreneurs who want to bounce back. Numerous entrepreneurs in Singapore fear failure once entering the entrepreneurial scene, especially in startups, because it's not traditionally seen as attractive compared to stable paying jobs like being a doctor, lawyer, engineer, etc., according to research conducted by PricewaterhouseCoopers (2015). Providing an assurance that even if your business fails, the government will be there to assist you in bouncing back ensures a sustainable ecosystem continues to grow. This is especially important in the Philippines, which doesn't have an established ecosystem which likely causes some levels of volatility in growth during the early stages of development. Ensuring that the government will provide these benefits will make the scene more attractive for aspiring entrepreneurs and ensure entrepreneurs within the ecosystem will retain.

Further studies, according to Cheah (2016), states that Singapore relaxed bankruptcy laws when promoting the startup culture to allow more businesses to enter the market and bounce back, even if it fails. It also attempts to provide tax breaks for these types of businesses so more people will enter the startup ecosystem. The minimization of bureaucracy through digital banking and minimized paperwork requirements has been seen to have great effects in Singapore, with over 4300 tech startups in 2016. The issue currently of governments, according to Delanote, Reypens, & Rückert (2020), is that they act as conveners, funders and facilitators in the startup ecosystem but only rarely engage directly with startups. This results in less access by the public towards the digitalized innovation that startups want to encourage, which doesn't promote a positive spillover towards other businesses and the citizens.

Moreover, governments being riskavers also affects the scalability of these innovative startups due to their nature of taking risks. This leads to a slowdown in the development of their products and less access to funding that could help sustain these businesses. According to Kim et al. 's (2010), Singapore's sustainable startup economy was able to promote green movements, attract more investors, and promote a mutual relationship with South Korea's tech scene. This has resulted in an influx in economic productivity and increased innovation within South Korea. The Philippines may also suffer similar issues that European countries do when it comes to their startup ecosystem. According to a study by Delanote, Reypens, & Rückert (2020), poor startup ecosystems within the region have caused the scaling of their business to slow down, as opposed to their US counterparts. This is caused by a lack of private and crowdfunding, as well as a lack of staff to ensure the sustainability of these businesses. This shows interconnectivity amongst startup businesses towards one another and to the public, helps in accelerating its growth and contributes to the larger economy.

Bejinaru (2019) also states that a digital and modernized society unlocks and interconnects the public to greater access to education and business opportunities. Governments play a vital role in providing this access and allow the citizens to be aware of the advantages this provides. The researchers predict that government support to both the startup economy and its own citizens through reforming policies and giving access to technological literacy will greatly increase the survival and acceleration of startups.

2.4 Starting Capital

The biggest struggle for most entrepreneurs when starting a startup business is obtaining startup capital and early investors. Kulkarni (2017) stated that it's difficult to explain to investors how your business will gain profits and how dividends will be distributed to the investors. The startup scene being a new business model makes it difficult for investors to understand how it will develop because it doesn't fall under traditional archetypes. These issues lead startups to fund their businesses during the early stages and disable their capacity to accelerate their growth.

As stated by Evers (2003), a common issue emerging startups face is that with minimal investments, they end up failing due to the volatility of the business model. Startups take greater risks, compared to traditional business models, in order to be innovative; hence, they require safety measures and investments in order to flourish. A continued negative outlook towards startups will lead

to a negative confidence rate amongst investors, hence, stagnating or killing off the economic sector. In a report by PricewaterhouseCoopers, in the years 2016-2019, over 47% of startup businesses had no external funders in equity and debt.

Focal companies have seen the greatest success when it comes to investments from venture capitalists due to the large returns they will receive if the company succeeds (Gulati and Higgins 2003; Pahnke et al. 2014). The capacity for companies to be able to pivot is also crucial in the success of acquiring venture capitalists. This covid-19 pandemic has seen 52% of startup portfolios positively affected or unaffected while 38% were negatively affected but still ok, according to Gomper, Gornall, Kaplan, & Strebulaev (2020). This is due to the business structure of startups that allows remote work to be easier, as opposed to most traditional business models (Ding, Levine, Lin, and Xie 2020). This shows the opportunity startups have, as opposed to traditional business models, that may attract future venture capitalists after the situation of the covid-19 pandemic.

2.5 Taxation

Taxes are an important indicator of the sustainability of businesses and how their structure will look like. High-income taxes amongst entrepreneurs have a negative impact and statistical significance on the entry of businesses and employment within the area (Ferede 2021). The same paper states that for every one percentage point, expect to have 405 fewer employer business entries in the economy. Further studies that support this are by Edwards and Todtenhaupt (2018); they state that tax reduction is an incentive for investors to come in, and their study indicates 12% increase in startup investments as a result.

Counterfactual studies also indicate the importance of Tax Havens or Special Economic Zones as a means of attracting future investors to a country. Tax exemptions were one of the greatest successes in Poland, with Special Economic Zones being built in the poorest areas of the region experiencing decreased unemployment rates (Amroziak 2015). The goal of these forms of economic policies isn't aimed to only solve regional economic crises but to efficiently promote utility at a national level (Parr 2014). In the Philippines, however, according to the Republic Act No. 7916, Subic as a Special Economic Zone mostly attracted tourism and agro-industrial development that isn't heavily focused on technology. Since Subic wasn't an underdeveloped region, the case study of Poland may not arrive at the same conclusion.

The researchers predict that an increased tax collection in income, profit, and capital gains doesn’t mean an income in tax rates rather an increase in the amount of startups that allowed a greater number of tax collections.

2.6 Foreign Direct Investments

FDIs played an important role in the rise of startups within countries of Africa. It states that new firms per capita increased within the region sparking entrepreneurial interest amongst aspiring entrepreneurs (Munemo 2015). The rise of FDIs has also contributed to crowding in effect amongst Multinational Corporations and created a diffusion effect of technology that helped in the acceleration amongst businesses (e Keller, 2004; Ayyagari and Kosova, 2010; and Danakol et al. 2013). Aside from technological diffusion and spillovers, FDIs also provide new skill sets as another positive spillover to improve the labor force of the demographic (Acs et al., 2008). Similar to Cheah (2016), Munemo (2015) argues that the success of FDI investments towards startups is dependent on relaxed business regulations. Increasing the bureaucratic process will deter the ability of entrepreneurs to build a business and result in crowding off the economic opportunities that could have existed.

Counterfactual studies claim that developing countries are unable to disperse the potential crowding in a process that FDIs may bring due to primary demographic factors. Research by Danakol, Estrin Reynolds, & Weitzel (2014) states that FDIs had a negative spillover effect towards the observed country from years 2000-2009. It did not increase the competition between new firms and already established industries within the region. In conjunction with the Philippines, we have invested FDIs in agriculture and income inequality efforts (Reyes 2017; Montes and Cruz 2019). These factors may affect the significant impacts on FDIs towards the currency value and impacts towards startups in the Philippines.

2.7 Imports on computers and communication services

Developing countries are unable to produce manufacturing machines as efficiently as developed countries and require spillover effects through imports Acharya and Keller (2009). Findings show that importing technology has led to greater productivity amongst firms with the efficiency that they bring (Halpern et al. 2013, 2015). Other forms of spillover effects include other emerging entrepreneurs seeking the same technology and importing from the same exporter (Békés and Harasztosi 2019). This can, in turn, be accelerated with the existence of startup ecosystems that constantly exchange ideas and help in the progress of each company. Challenges that exporters fear when providing these technologies to less developed countries are skills required to use and operate these computers and other advanced machines (Eaton and Kortum 2001; Bas and Berthou 2012).

2.8 Synthesis and Gaps

The related literature shows the limited information the Philippines currently possess on the state of startup businesses within the country. However, we see a number of investors seeing the Philippines as a potential market and the geographical location of the Philippines being praised as a potential economic attraction for venture capitalists that seek to expand their options. The limited access to public data makes it difficult for the researchers to accurately determine the amount of investments that are specifically allocated towards businesses that model themselves under startup entrepreneurship. Furthermore, most economic theories utilize GDP growth as the determinant of economic growth, unlike this research that utilizes the country's currency exchange rate. GDP growth tackles a number of issues that don't have direct relations with FDIs, exports, and imports, hence, the researchers' decision to use currency exchange rate instead.

The studies have also shown that the success of startups in countries like Poland and Singapore require government support and the establishment of startup ecosystems. The importance of ecosystems is to have a free-range in exchange of ideas and investments amongst entrepreneurs and venture capitalists, similar to Silicon Valley. At the moment, while this research is being conducted, The Philippines does not have the same infrastructure and systems that these established startup ecosystems have; therefore, it hinders their scalability and sustainability. This is important because the study predicts that startups currently have a positive impact on the Philippines' economic growth. The trend should continue to be upward as the years' progress.

Growing public knowledge and support towards startups are also necessary for sustainability and scalability. The reason for this is that they'll be the future investors when these businesses release IPOs and future consumers to the kinds of products these businesses will be selling. If consumers continue to have a negative outlook towards startups as they currently do in the Philippines, it will hinder all these benefits from occurring. Startups need to collaborate in ensuring these negative stigmas are addressed to ensure that all the opportunities they'll provide for the country will occur.

3. Methodology

3. 1 Research Design

The researchers used the correlational method to see the relationship between the variables and a descriptive method to be able to describe the conditions between the variables. The correlational method will tackle whether the theory behind externalities does have a significant impact on the sustainability and success of the startup businesses within the country. The research will also analyze if the trends found in the literature review regarding case studies in other countries have similar trends as they do in the Philippines. Moreover, the descriptive approach will help the researchers assess if a random sample of individuals also agrees with the trend, is consistent with the case studies of other countries, and is consistent with the theory regarding the hypothesis of an increase in demand.

3.2 Data Selection

The researchers believe that in a globalized economy, currency value should be the determinant to evaluate economic growth, as opposed to GDP, because it affects the desire investors have towards your currency and whether returns will happen (Omari, Mwita, and Waititu 2017). The researchers will be setting the currency conversions as the Philippines Peso to US Dollars because of the paper focuses on the Philippines Startup Economy, while most developing countries utilize dollar reserves as the most stable currency exchange (Castillo and Medina 2021). Furthermore, currency exchange rates are a reliable indicator for economic growth for its consideration of both imports and exports because the inability to balance both would increase a country's foreign debt and result in a decline in currency evaluation (Engel and Park 2018).

In line with this, the researchers aim to estimate the currency value's fluctuations based on variables that are homogenous to startup ecosystems. The researchers will first be using the independent variable Taxes on income, profits, and capital gains (TIP). There was no accurate list of the number of startups in the Philippines, and that list was not usable for the researchers due to the limited observations it had. TIP is an effective alternative to the number of startups because we can estimate the amount private entrepreneurs contribute to the economy in taxes and or are noted through stocks and dividend shares that are reported to the BIR. The amount of contribution they provide is more important than the number of startups that exist because the researchers aim to analyze the contribution startups have to the economy.

The following variable that the researchers will be utilized is the use of Foreign Direct Investments (FDI) has an impact on the currency value of the country. There is no existing data regarding the amount of money venture capitalists invest in the Philippines because this is a new phenomenon. The importance of FDI as an independent variable is that it provides not only capital inflow but also knowledge and skill through workers or imports (Caves, 1996; Markusen and Venables, 1999; Javorcik, 2004). The researchers believe that it's an effective and accurate instrumental variable to the number of investments made by venture capitalists.

The last independent variable that the researchers will be utilizing is the import of computers, communications, and other services (CI). In a report by PricewaterhouseCoopers, 47% of investors invested in Fintech; 29% invested in Medical, healthcare, and Enterprise services; and 24% invested in E-commerce, Real estate and household, Online-to-offline commerce, Education, Transportation, and Automotive. These are all sectors that require imports from foreign countries to be able to utilize that knowledge and technology to develop the innovative ideas they have in the region. The researchers also believe that these imports help in the scalability of startups to be able to create revolutionary ideas that can attract more investors in the future.

3.3 Data Collection

The researchers used primary data and secondary data to be able to know the relationship between Startups and Currency Value. The data for (1) Taxes on income, profits, and capital gains, (2) Foreign DIrect Investments, and (3) Imports of computer, communication, and other services will be acquired through the world bank, while the interpretation of Economic Growth through currency value will be gathered through openstat.

3.4 Statistical Tools

The researchers used statistical tools like eviews, and Microsoft Excel. The data will be tested via Multiple Regression.

3.5 Econometric Model

$$CV = \beta 0 + \beta 1(TIP) + \beta 2(FDI) + \beta 3(CI) + ui$$

Wherein:

CV= Currency Value

TIP=Taxes on income, profits, and capital gains(%)

FDI=Foreign Direct Investment

CI=Import of computer, communications, and other services (%)

3.6 Statistical Tests

A. Multiple Regression

Multiple Regression is a statistical technique that predicts the relationship between many explanatory variables.
Using the model:

$$CV = \beta 0 + \beta 1(TIP) + \beta 2(FDI) + \beta 3(CI) + ui$$

Wherein:

CV= Currency Value

TIP=Taxes on income, profits, and capital gains(%)

FDI=Foreign Direct Investment

CI=Import of computer, communications, and other services (%)

B. Variance Inflation Factor

Variance Inflation Factor Test is a statistical tool that is used when there are two or more independent or dependent variables that are strongly correlated with each other; using multicollinearity tests; the researchers will see if there is a positive or negative relationship between the independent variable and dependent variable.

C. Breusch-Pagan-Godfrey Test

Breusch-Pagan-Godfrey Test is used to determine how errors increase as the dependent variable increases.

4. Results and Discussions

To empirically prove the significant correlation between independent variables and dependent variables, the researchers applied descriptive statistics to identify information of each variable then applied regression analysis afterwards. This is to identify if there are any direct, indirect, inverse, or no correlation between variables to help support the researchers' claim on the study.

To remedy any potential biases in the study, the researchers also conducted a few tests to ensure heteroscedasticity and multicollinearity. For the heteroscedasticity test, the researchers utilized the Breusch-Pagan Godfrey Test. The justification for utilizing the Breusch-Godfrey test over Durbin-Watson is the flexibility of going beyond lag 1. The use of residuals also provides further analysis and credibility for the study to have no forms of homoscedasticity and autocorrelation. The use of the Variance Inflation Factor to resolve multicollinearity in the research is due to the limited knowledge of the researchers on other models used for multicollinearity tests. Despite this limitation, the researchers believe that the test's ability to check how much the variables are contributing to the standard error in the regression is sufficient for the findings and results of this research.

4.1. Descriptive Statistics

4.1.1 Independent Variable:

	TIP	FDI	CI
Mean	0.422487	2.89E+09	0.313839
Median	0.444610	1.72E+09	0.258975
Maximum	0.475810	1.03E+10	0.664750
Minimum	0.324960	2.28E+08	0.148170
Std. Dev.	0.049814	2.88E+09	0.158246
Skewness	-0.948222	1.500925	1.176363
Kurtosis	2.383023	3.988197	3019437
Jarque – Bera Test	4.971446	12.48455	6.91962
Probability	0.083265	0.001945	0.031436

Sum	12.67460	8.68E+10	9.415160
Sum Sq. Dev.	0.071962	2.41E+20	0.726213
Observations	30	30	30

Table 1.1.1 Descriptive Statistics of the Independent Variables

The mean, median, minimum, and maximum are shown in the table above. All the independent variables have a total of 30 observations which is from 1990 to 2019. FDI and CI show a positive kurtosis meaning it will show a higher peak of frequency within the curve. While in TIP, the kurtosis value is 2.3830, which is known as platykurtic.

4.1.2 Dependent Variable

	CV
Mean	41.97180
Median	44.35922
Maximum	56.03992
Minimum	24.31050
Std. Dev.	10.36862
Skewness	-0.554201
Kurtosis	1.919733
Jarque – Bera Test	2.994415
Probability	0.223754

Sum	1259.154
Sum Sq. Dev.	3117.740
Observations	30

Table 1.1.2 Descriptive Statistics of the Dependent Variables

The dependent variable also has 30 observations from 1990-2019, and its mean, median, minimum, and maximum are shown in the table above. The kurtosis value of the dependent variable is 1.9197; it is known as platykurtic.

4.2. Regression analysis

Dependent Variable: CV
Method: Least Squares
Date: 11/15/21 Time 23:43
Sample: 1990 - 2019
Included Observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	**-0.541269**	**12.77956**	**-0.042354**	**0.9665**
TIP	**113.0249**	**26.40488**	**4.280454**	**0.0002**
FDI	**6.50E-10**	**3.53E-10**	**1.842027**	**0.0769**

CI	**-22.68765**	**8.084524**	**-2.806307**	**0.0094**
R-Squared	**0.770365**	**Mean dependent var**		**41.97180**
Adjusted R-Squared	**0.743868**	**S.D. dependent var**		**10.36862**
S.E. of Regression	**5.247501**	**Akaike info criterion**		**6.276947**
Sum squared resid	**715.9430**	**Schwarz criterion**		**6.463773**
Log likelihood	**-90.15420**	**Hannah-Quinn criterion**		**6.336714**
F-statistic	**29.07434**	**Durbin-Watson stat**		**0.528127**
Prob(F-statistic)	**0.000000**			

Table 1.2 Regression Analysis

CV= (-.5413) +β1(113.0249) + β2(6.50E-10) +β3(-22.6877) +ui

The test included the dependent variable, which is Currency Value, and 3 independent variables Taxes on income, profits, and capital gains (%), Foreign Direct Investment, and Import of computer, communications, and other services (%). The value of the R-squared is .7704 or 77.04% which showed there is a moderate relationship between the variables. The F-stat results show that two of the independent variables, namely Taxes on income, profits, and capital gains (%) and, Imports of computer, communications, and other services(%), will reject the null hypothesis because the probability is less than .05, while the other variable FDi will accept it a null hypothesis,

The results showed that if there is a unit increase in Taxes on income, profits and capital gains(%), there will be a 113.0249 increase in currency value also if there is a unit increase in Foreign Direct Investment, there will be a 6.50E-10 increase in Currency Value, and lastly, when there is a unit increase in Imports of computer, communications, and other services(%) there will be a -22.6876 decrease to the current value. The Durbin-Watson stat value is .5281; it is below the standards, which is 1.5-2.5; therefore, there is a positive correlation between the variables.

4.3 Breusch-Pagan Godfrey Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null Hypothesis: Homoskedasticity			
F-statistic	2.350585	Prob. (3,26)	0.0956
Obs*R-squared	6.400648	Prob. Chi-square(3)	0.0937
Scaled explained SS	2.650819	Prob. Chi-square(3)	0.4486

Test Equation
Dependent Variable: RESID^2
Method: Least Squares
Date: 11/15/21 Time 23:45
Sample: 1990 - 2019
Included Observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.36153	58.14668	-0.178196	0.8599
TIP	118.9320	120.1415	0.989932	0.3313

FDI	-5.06E-10	1.61E-09	-0.315053	0.7552
CI	-46.38183	36.78438	-1.260911	0.2185
R-Squared	0.213355	Mean dependent var		23.86477
Adjusted R-Squared	0.122588	S.D. dependent var		25.48941
S.E. of Regression	23.87600	Akaike info criterion		9.307190
Sum squared resid	14821.65	Schwarz criterion		9.494017
Log likelihood	-135.6079	Hannah-Quinn criterion		9.366958
F-statistic	2.350585	Durbin-Watson stat		1.007046
Prob(F-statistic)	0.095554			

Table 1.3 Breusch-Pagan Godfrey Test

This test was used to see if there is a presence of heteroscedasticity. If this problem was met, the researchers need to use the logarithmic form to the observations. The result of the test showed .0956; since the value is greater than .05, there is no heteroscedasticity in the model.

4.4 Variance Inflation Factor

Variance Inflation Factors
Date: 11/15/21 Time 23:44
Sample: 1990 - 2019

Included Observations: 30			
Variable	**Coefficient Variance**	**Uncentered VIF**	**Centered VIF**
C	**163.3172**	**177.9295**	**NA**
TIP	**697.2175**	**137.4067**	**1.822088**
FDI	**1.25E-19**	**2.228959**	**1.091897**
CI	**65.35952**	**8.737275**	**1.723725**

Table 1.4 Variance Inflation Factors

The researchers used the Variance Inflation Factor to determine if multicollinearity exists between the independent variables. The result of the test showed that there are 1.8221(TIP), 1.0919(FDI), and 1.7237(CI). Since the values did not exceed 10, it shows that there is no multicollinearity in the model.

4.5 Summary of Findings

The researchers found that the variable Foreign Direct Investment is not affecting the currency value of the Philippines and the growth of the startup; research supports the result, according to Kulkami in 2017, it is difficult to explain to investors how your business will gain profits and how dividends will be distributed to the investors. While an increase in the amount of Taxes on income, profits, and capital gains (%) will reflect that their startups have already developed enough to contribute to tax revenues, thus the government will use it to increase foreign investments and increase the Philippines currency value this can be backed-up by the research of PricewaterhouseCoppers in 2015. Lastly is that the result in imports of computers, communications, and other services (%) shows that an increase in computers, communication, and other services will increase Philippines startups' access to technology and information to improve their innovative ideas. This will help in the sealability of the company and lead to export in goods and services, leading to greater desires for the Philippines currency and increasing value. This mirrors the report of PricewaterhouseCoopers that 24% invested in E-commerce, Real estate, and household.

5. Conclusion and Recommendations

5.1 Conclusion

Start-ups are gaining traction in becoming one of the rising industries around the world. This industry challenges traditional business models with its complex utilization of technology. Moreover, the Philippines also has a growing startup scene, although it doesn't have a strong and established tech industry yet. For this reason, foreign investors can possibly be attracted, given the fact that they can take advantage of the lack of competition that exists within the startup scene.

The result of the regression analysis shows that the 3 independent variables have a moderate relationship with the dependent variable given the r2 value 77.0365%. Although the results showed that FDI does not affect the currency value of the Philippines and the growth of startups, mainly since the majority of the FDIs are invested in agriculture and income inequality efforts, also the factor that the Philippines is not famous for its tech industry. The results showed that Taxes on income, profits, and capital gains (%), considering the factors that the government is providing tax incentives to new businesses, can ease the burden off of entrepreneurs in establishing startups, Import computers, communications, and other services(%).

Additionally, since tech startups mostly rely on computers, communication goods and services to fully utilize its business, it shows that these two variables had a significant effect on the currency value of the Philippines. This can be attributed to the rise and that these factors affect the sustainability and success of startups in the Philippines.

5.2 Recommendations

This study focused on the empirical aspect of startups and analyzed their impacts on globalization utilizing currency value as the metric. Problem the researchers faced was the lack of data that has at least 30 observations, hence utilizing several instrumental variables as substitutes. Although outcomes are still accurate with the current trajectory of startups in the Philippines, it wasn't the optimal approach that the researchers desired. Better compilation of data by local governments through understanding the differences between normal private businesses and startup entrepreneurs will be helpful in distinguishing the nuance between the two business models.

Moreover, greater accuracy on where private investment is funnelled into to be able to compile the sectors the country's currently investing in and being able to estimate company balance sheets more accurately (e.g. liquid and non-liquid assets) to be able to track the tax revenue acquired will help in accuracy for future similar studies.

A behavioral economic approach can address the social and political aspects of this research. Investments aren't only based on the return value but also on economic and political ties the national government has with certain local government units. The establishment of Special Economic Zones and simulating the success of Poland (Ambroziak 2015) can greatly help the economy of the country, and understanding why this is inefficiently done can be tackled through a sociological and political approach. Looking into government officials' backgrounds, the political and economic climate of the Philippines, international allies, and socioeconomic conditions of citizens in different regions are some variables that future researchers can investigate to address gaps within this paper.

Interviewing and talking to board members of startup companies both in the Philippines and the United States of America (USA) can also address gaps within the research. Utilizing a randomly selected survey between people working under startups, people aware of start-ups, and people who don't know what startups are can help in understanding the epistemic access between each subgroup.

In addition, interviewing CEOs of startups can help in understanding if the findings found in the paper accurately represents the upbringing and challenges that they've faced and add on nuances that their company experienced.

Funding: This research received no external funding.

Conflicts of Interest: The author declares no conflict of interest.

References

[1] Acharya, R. C., & Keller, W**.** (2009). Technology transfer through imports. *Canadian Journal of Economics, 42*(4), 1411–1448.
[2] Acs, Z., Desai, S. and Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31* (3), 219-234.
[3] Ambroziak, A, A. (2015): Income tax exemption as regional state aid in special economic zones and its impact upon the development of Polish districts, Institute of Economic Research Working Papers, No. 38/2015, Institute of Economic Research (IER), Toruń
[4] Arntz, M., Gregory, T., & Zierahn, U. (in press). Digitalization and the future of work: Macroeconomic consequences PDF Logo. Digitalization and the Future of Work: Macroeconomic Consequences PDF Logo.
[5] Auerbach (2019). Measuring the Effects of Corporate Tax Cuts *The Journal of Economic Perspectives, 32,*4 (Fall 2018), 97-120
[6] Ayyagari, M and R. Kosova (2010) Does FDI facilitate Domestic Entry? Evidence from the Czech Republic Review of International Economics 18, 14-29.
[7] Baksa, M., Fazekas, N., & Harmat, V**.** (2021). NEW HORIZONS IN BUSINESS AND MANAGEMENT STUDIES. Corvinus University of Budapest. https://doi.org/10.14267/978-963-503-867-1
[8] Bas, M., & Berthou, A. (2012). The decision to import capital goods in India: Firms' financial factors matter. *World Bank Economic Review, 26(*3), 486–513.
[9] Bejinaru, R. (2019). Impact of digitalization on education in the knowledge economy PDF Logo. Impact of Digitalization on Education in the Knowledge Economy PDF Logo. Published. https://www.econbiz.de/ppn/168979657X
[10] Békés, G., and Harasztosi, P. (2020). Machine imports, technology adoption, and local spillovers. *Rev World Econ* 156, 343–375 (2020). https://doi.org/10.1007/s10290-019-00365-y
[11] Bottazzi, L, and Marco Da R. (2004). Venture Capital and the Growth of Innovative Companies. Economic Policy 17: 229–70.
[12] Castillo, P., & Medina, J. P. (2021). Foreign Exchange Intervention, Capital Flows, and Liability Dollarization. Retrieved 2021.
[13] Caves, R.E. (1974). Multinational firms, competition and productivity in host-country markets. *Economica, 41* (162), 176-193.

[14] Cheah, S & Ho, YP & Lim, P. (2016). Role of Public Science in Fostering the Innovation and Startup Ecosystem in Singapore. Asian Research Policy. 7. 78-93.

[15] Cukier, D and Kon, F (2018): A maturity model for software startup ecosystems, *Journal of Innovation and Entrepreneurship*, ISSN 2192-5372, Springer, Heidelberg, 7. 1-32, http://dx.doi.org/10.1186/s13731-018-0091-6

[16] da Silva, D**.** (2016). Portuguese Startups: a success prediction model. Portuguese Startups: A Success Prediction Model, 5–23.

[17] Danakol, S, Estrin S, Reynolds P. and Weitzel U. (2013) Foreign Direct investment and Domestic Entrepreneurship: Blessing or Curse? IZA Discussion 7796.

[18] Ding, W., Levine, R., Lin, C., & Xie, W. (2020). Corporate immunity to the COVID-19 pandemic. Working paper, University of Hong Kong.

[19] Eaton, J., & Kortum, S. (2001). Trade-in capital goods. *European Economic Review, 45(*7), 1195–1235.

[20] Edwards, A., & Todtenhaupt, M. (2018). Capital Gains Taxation and Funding for Start-Ups. Retrieved 2018, from https://ftp.zew.de/pub/zew-docs/dp/dp18046.pdf.

[21] Engel, C., & Park, J. (2018). DEBAUCHERY AND ORIGINAL SIN: THE CURRENCY COMPOSITION OF SOVEREIGN DEBT. Retrieved 2018.

[22] Ester (2017) Accelerator Darlings, Challenges, and Future Plans Accelerators in Silicon Valley.

[23] Ester (2017) The Interviewees and their Accelerators. Accelerators in Silicon Valley.

[24] Ester (2017) Unique Selling Points Accelerator Philosophy, Business Model, and Cooperation. Accelerators in Silicon Valley.

[25] Evers, N. (2003) The Process and Problems of Business Start-Ups, *The ITB Journal: (4)13.* doi:10.21427/D7WT8K

[26] Ferede, E. (2021). Entrepreneurship and personal income tax: evidence from Canadian provinces. Small Bus Econ 56, 1765–1781 (2021). https://doi.org/10.1007/s11187-019-00226-w

[27] Franke, N, Marc G, Dietmar H, and Joachim H. (2008). Venture Capitalists' Evaluations of Start-Up Teams: Trade-Offs, Knock-Out Criteria, and the Impact of VC Experience. Entrepreneurship Theory & Practice 3: 802–26.

[28] Gompers, P., Gornall, W., Kaplan, S. N., & Strebulaev, I. A. (2020). VENTURE CAPITALISTS AND COVID-19. Retrieved 2020.

[29] Gulati, R., Higgins M.C.. (2003). Which ties matter when? The contingent effects of inter-organizational partnerships on IPO success. *Strategic Management Journal 24*(2) 127-144.

[30] Halpern, L., Hornok, C., Koren, M., & Szeidl, Á**.** (2013). Technology transfer through capital imports: Firm-level evidence: Manuscript.

[31] Halpern, L., Koren, M., & Szeidl, A. (2015). Imported inputs and productivity. *American Economic Review, 105*(12), 3660–3703.

[32] Hegde, D. Tumlinson J. (2014). Does Social Proximity Enhance Business Partnerships? Theory and Evidence from Ethnicity's Role in US Venture Capital. *Management Science 60*(9) 2355-2380.

[33] Hege, U, Frederic P, and Armin S. (2003). Determinants of Venture Capital Performance: Europe and United States. Working Paper. Paris: Paris HEC School of Management, 1. 1–43.

[34] Hsu, D. K., Michael H, Sharon A. S. and Alexander M. **(**2014). What Matters, Matters Differently: A Conjoint Analysis of the Decision Policies of Angels and Venture Capital Investors. Venture Capital 1: 1–25.

[35] Javorcik, B.S. (2004). Does foreign investment increase the productivity of domestic firms? In search of spillovers through backward linkages. *American Economic Review, 94* (3), 605-627.

[36] Jonathan M, (2015) Foreign Direct Investment, Business Start-up Regulations, and Entrepreneurship in Africa, Economics Bulletin, 35(1) 1-13

[37] Keller, W. (2004) International Technology Diffusion *Journal of Economic Literature XLII,* 752-782

[38] Leleux, B, and Bernard S**.** (2003). Public versus private venture capital: Seeding or crowding out? A pan-European analysis. *Journal of Business Venturing 18*: 81–104.

[39] Manuel F. M. & Jerik C. (2020) The political economy of foreign investment and industrial development: the Philippines, Malaysia and Thailand in comparative perspective, *Journal of the Asia Pacific Economy, 25:*1, 16-39, DOI: 10.1080/13547860.2019.1577207

[40] Markusen, J. R. and Venables, A. J. (1999). Foreign direct investment as a catalyst for industrial development. *European Economic Review, 43* (2), 335-356.

[41] Mishra, A. (2004). Indian Venture Capitalists (Vcs): Investment Evaluation Criteria. *ICFAI Journal of Applied Finance* 10: 71–93.

[42] Młokosiewicz, M, and Sandra M. (2017). The Impact of Trust on Entrepreneurship in Poland. *Journal of Entrepreneurship, Management and Innovation 4:* 79–96.

[43] Morawczyński R. (2020). Venture Capitalists' Investment Criteria in Poland: Entrepreneurial Opportunities, Entrepreneurs, and Founding Teams. Administrative Sciences. 2020; 10(4):77. https://doi.org/10.3390/admsci10040077

[44] Omari, C. O., Mwita, P. N., & Waititu, A. G. (2017). Using Conditional Extreme Value Theory to Estimate Value-at-Risk for Daily Currency Exchange Rates. *Journal of Mathematical Finance, 07*(04), 846–870. https://doi.org/10.4236/jmf.2017.74045

[45] Pahnke, E., McDonald, D. Wang, B. Hallen. B. (2014). Exposed: Venture Capital, Competitor Ties, and Entrepreneurial Innovation. *Academy of Management Journal amj. 2012.*0777.

[46] Parr J B (2014) Neglected aspects of regional policy: a retrospective view, Environment and Planning C: Government and Policy, 32: 1-17.

[47] Petty, Jeffrey S., and Marc G. (2011). In pursuit of the real deal". A longitudinal study of VC decision making. *Journal of Business Venturing 16:* 172–88.

[48] Reyes, A. (2017). Foreign Direct Investment in the Philippines and the Pitfalls of Economic Nationalism, *The Journal of World Investment & Trade, 18*(5-6), 1025-1061. DOI: https://doi.org/10.1163/22119000-12340081

[49] Reypenes, C., Delanote, J., & Rückert, D. (2020). From starting to scaling: How to foster startup growth in Europe. From Starting to Scaling: How to Foster Startup Growth in Europe. Published. https://doi.org/10.2867/42527

[50] Schäfer, D. (2002). How important is the venture capital industry? An assessment based on a comparison of the U.S. and the German financial systems. HOW IMPORTANT IS THE VENTURE CAPITAL INDUSTRY? AN ASSESSMENT BASED ON A COMPARISON OF THE U.S. AND THE GERMAN FINANCIAL SYSTEMS.

[51] Semenova, V. (2021). Entry Dynamics of Startup Companies and the Drivers of Their Growth in the Nascent Blockchain Industry. Entry Dynamics of Startup Companies and the Drivers of Their Growth in the Nascent Blockchain Industry. Published. https://doi.org/10.14267/978-963-503-867-1_13

[52] Sheehan, M. (2018). Silicon Valley's China Paradox. Silicon Valley's China Paradox. Published. https://www.jstor.org/stable/resrep24982

[53] Singapore's tech-enabled start-up ecosystem. (2015). https://www.pwc.com/sg/en/microsite/media/assets/startup-google.pdf
[54] Song, D.-G., Im, J., Lee, J.-H., & Kwon, H. (2018). The Impact of Entrepreneurial Spirit on the Willingness to Start Up via Utilizing Knowledge and Information by College Students: Focused on Self-leadership's Mediating Effect and Regulating Effect of Gender. *International Journal of Knowledge Content Development & Technology, 8*(4), 33–53. https://doi.org/10.5865/IJKCT.2018.8.4.033
[55] Streletzki, J, and Reinhard S**.** (2013). Which venture capital selection criteria distinguish high-flyer investments? Venture Capital 15: 29–52.
[56] Warnick, B. J., Charles Y. M, Jeffrey S. M and Wade T. Brooks. **(**2018). Passion for entrepreneurship or passion for the product? A conjoint analysis of angel and VC decision-making. *Journal of Business Venturing 3:* 315–32.
[57] Yang, J. (2018). Perspectives of Taiwan. Digital Nation, Smart Island, 16–20. http://www.jstor.com/stable/resrep22549.6

Appendices

Dependent Variable - Currency Value raw data in tabular and graphical form

Year	CV
1990	24.3105
1991	27.47863
1992	25.51249
1993	27.11984
1994	26.41717
1995	25.71447
1996	26.2161
1997	29.47066
1998	40.89305
1999	39.08898
2000	44.19225
2001	50.99265
2002	51.60357

2003	54.20333
2004	56.03992
2005	55.08549
2006	51.31427
2007	46.14839
2008	44.32329
2009	47.67969
2010	45.10966
2011	43.31314
2012	42.22879
2013	42.44618
2014	44.39515
2015	45.50284
2016	47.49246
2017	50.40372
2018	52.66143
2019	51.79578

Figure 2.1

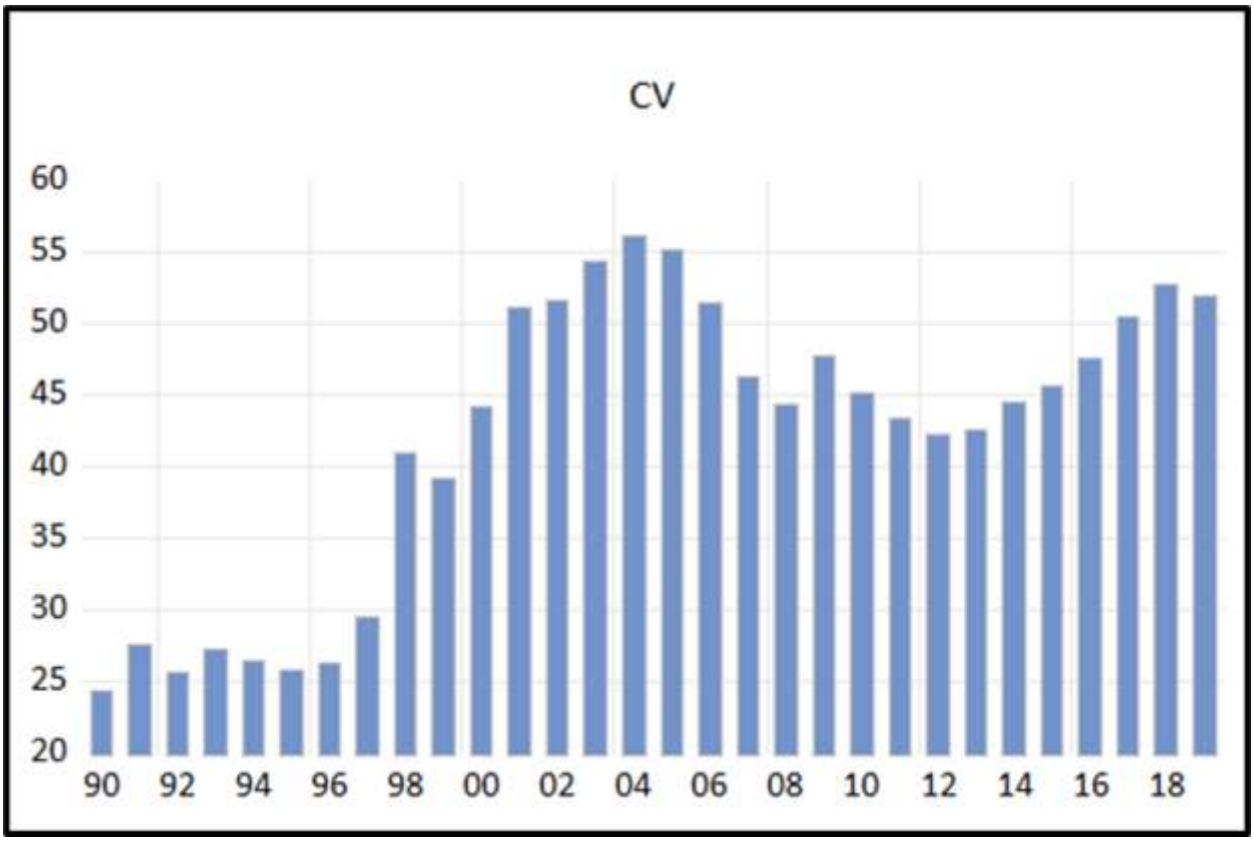

Figure 2.2

Independent Variable - Taxes on incomes, profits, and capital gains(%), Foreign Direct Investment, and Import of computer, technology, and other services(%) raw data and graphical form.

Year	TIP
1990	0.32542
1991	0.33342
1992	0.3353

1993	0.32496
1994	0.33868
1995	0.358
1996	0.37064
1997	0.39831
1998	0.43956
1999	0.42629
2000	0.44052
2001	0.45262
2002	0.44619
2003	0.44568
2004	0.45983
2005	0.45824
2006	0.43842
2007	0.4576
2008	0.45962
2009	0.44354
2010	0.44733

2011	0.47581
2012	0.47205
2013	0.46777
2014	0.4566
2015	0.4661
2016	0.46517
2017	0.45553
2018	0.40353
2019	0.41187

Taxes on incomes, profits, and capital gains(%)

Figure 2.3

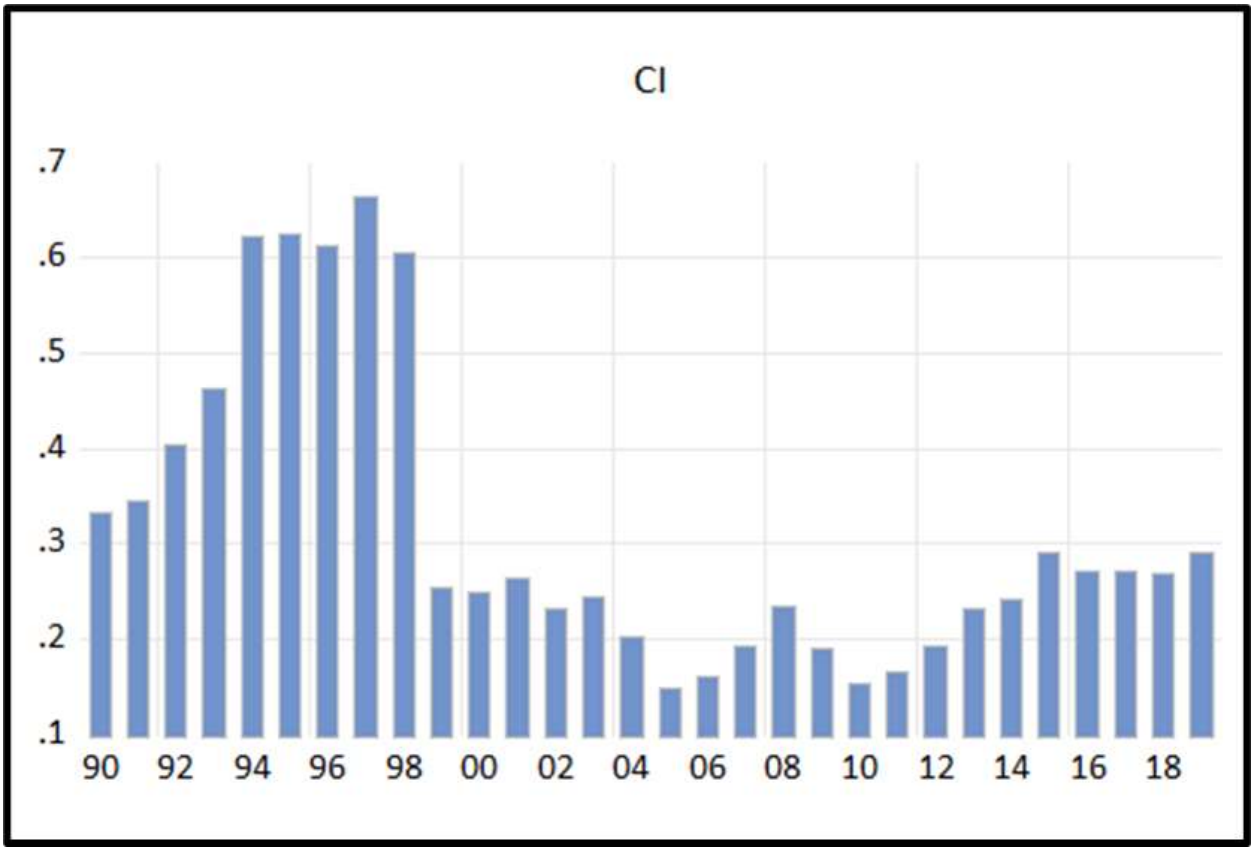

Figure 2.4

Foreign Direct Investment

Year	FDI
1990	530,000,000
1991	544,000,000
1992	228,000,000
1993	1,238,000,000
1994	1,591,000,000
1995	1,478,000,000
1996	1,517,000,000
1997	1,222,000,000
1998	2,287,000,000
1999	1,829,000,000
2000	1,487,000,000
2001	760,000,000
2002	1,769,000,000
2003	492,000,000
2004	592,000,000,
2005	1,664,000,000
2006	2,707,000,000

2007	2,919,000,000
2008	1,340,000,000
2009	2,065,000,000
2010	1,070,000,000
2011	2,007,000,000
2012	3,215,000,000
2013	3,737,000,000
2014	5,740,000,000
2015	5,639,000,000
2016	8,280,000,000
2017	10,256,000,000
2018	9,949,000,000
2019	8,671,000,000

Figure 2.5

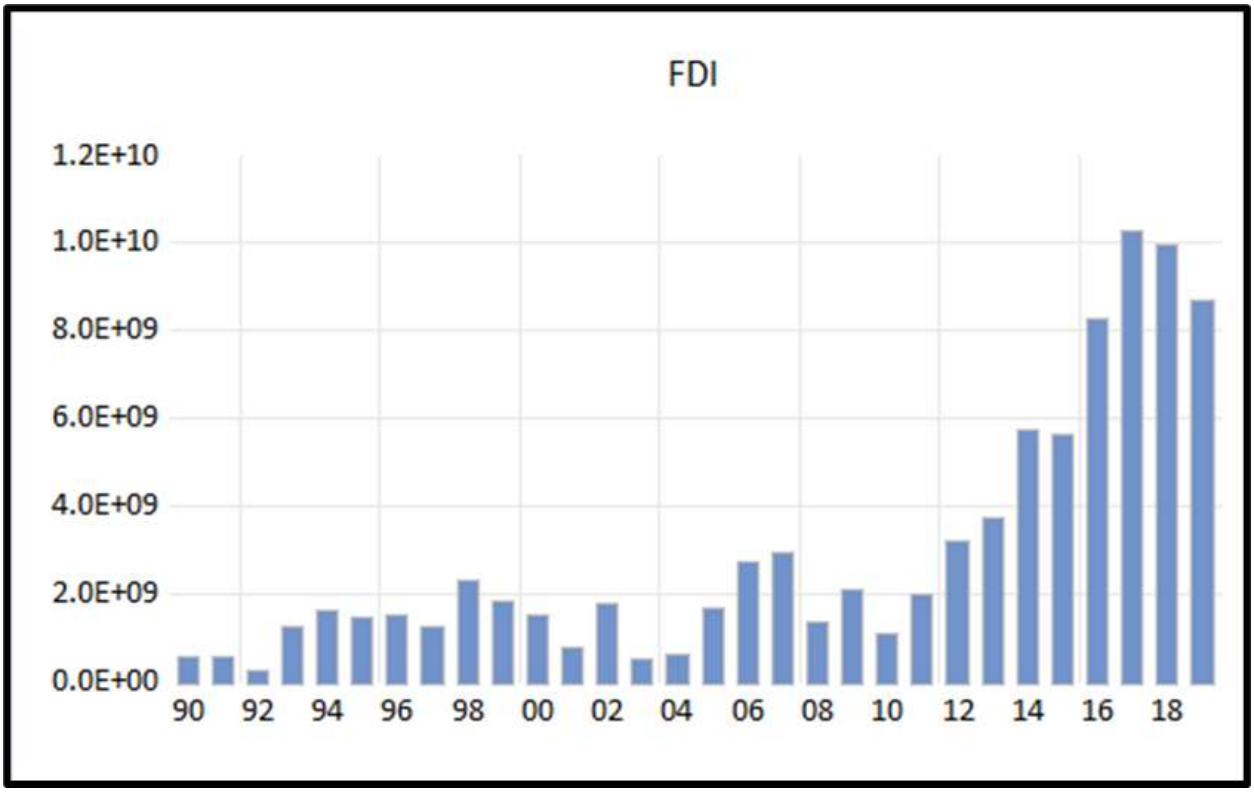
FDI
1.2E+10
1.0E+10
8.0E+09
6.0E+09
4.0E+09
2.0E+09
0.0E+00
90
92
94
96
98
00
02
04
06
08
10
12
14
16
18

Figure 2.6

\

Import of computer, communications, and other services(%)

Year	CI
1990	0.33178
1991	0.3438
1992	0.40347
1993	0.46354
1994	0.6219
1995	0.62612
1996	0.61318
1997	0.66475
1998	0.60583
1999	0.25355
2000	0.24986
2001	0.2644
2002	0.23258
2003	0.24344
2004	0.20089
2005	0.14817

2006	0.16054
2007	0.19216
2008	0.23437
2009	0.19062
2010	0.15354
2011	0.1646
2012	0.19115
2013	0.23041
2014	0.2406
2015	0.29155
2016	0.26999
2017	0.26969
2018	0.26724
2019	0.29144

Figure 2.7

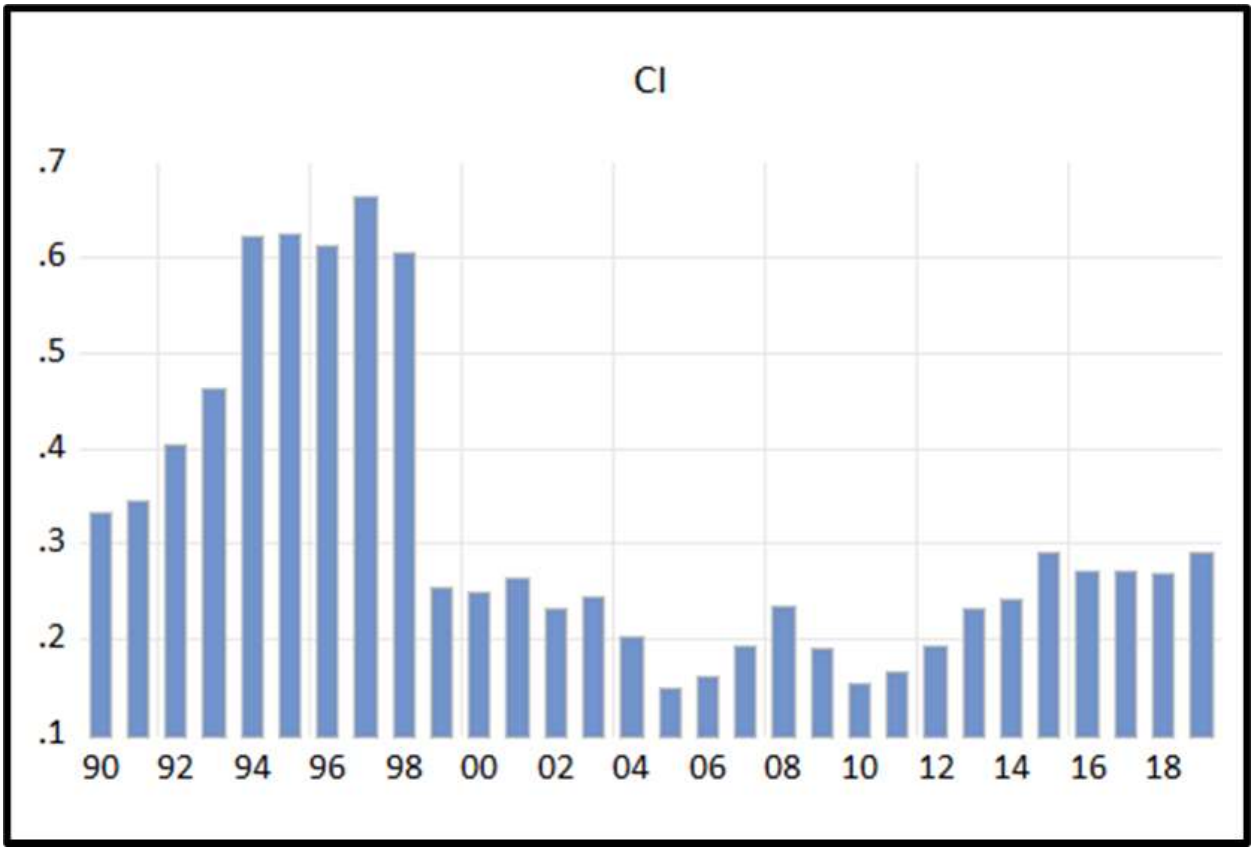

Figure 2.8