

Schüler, Diana; Suhalitca, Mihaela; Pascha, Werner; Oh, Keun-yeob

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Government policies for start-ups in Korea and its regions: Motives, mechanisms and major obstacles

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INSTITUTE OF
EAST ASIAN STUDIES

**DIANA SCHÜLER
MIHAELA SUHALITCA
WERNER PASCHA
KEUNYEOP OH**

**Government Policies for Start-ups
in Korea and its Regions:
Motives, Mechanisms and Major Obstacles**

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DIANA SCHÜLER

Research Associate at the Chair of East Asian Economic Studies – Japan and Korea at the Mercator School of Management and the Institute of East Asian Studies at the University of Duisburg-Essen

W https://www.uni-due.de/in-east/people/schueler_diana.php

E diana.schueler@uni-due.de

MIHAELA SUHALITCA

Research Associate at the Chair of East Asian Economic Studies – Japan and Korea at the Mercator School of Management and the Institute of East Asian Studies at the University of Duisburg-Essen

W https://www.uni-due.de/in-east/people/suhalitca_mihaela.php

E mihaela.suhalitca@uni-due.de

WERNER PASCHA

Professor of East Asian Economic Studies – Japan and Korea at the Mercator School of Management and the Institute of East Asian Studies at the University of Duisburg-Essen

W https://www.uni-due.de/in-east/people/pascha_werner.php

E werner.pascha@uni-due.de

KEUNYEOB OH

Professor of International Economics at the Department of International Trade, College of Economics and Management, Chungnam National University, Daejeon, Republic of Korea

W <https://cem.cnu.ac.kr/trade/professor/professor.do>

E kyoh@cnu.ac.kr

Gefördert vom DAAD aus Mitteln des Auswärtigen Amtes (AA)

Institute of East Asian Studies / Institut für Ostasienwissenschaften

University of Duisburg-Essen

Duisburg Campus, Forsthausweg

47057 Duisburg, Germany

T +49(0) 203 37-94191

F +49(0) 203 37-94157

E in-east@uni-due.de

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Government Policies for Start-ups in Korea and its Regions: Motives, Mechanisms and Major Obstacles

WORKING PAPERS ON EAST ASIAN STUDIES, NO. 127, DUISBURG 2020

Abstract

The paper discusses the role of government policies and related support services in the formation of start-up businesses in South Korea. Start-ups can infuse an economy with renewed vigor, but it is questionable how Korea, an economy that has been dependent on a few large conglomerates in the past, can successfully encourage such start-up dynamism. The paper traces the economic history of start-ups and venture businesses in Korea and highlights its current situation. The analysis then focusses on explaining the start-up support policies, both on the level of central government and of the regions, paying attention to the intertwined role of the venture capital industry. A number of major obstacles are identified, in particular the ambiguous effects of social networks, the widespread risk aversion among potential entrepreneurs, the shortage of exit opportunities and the pronounced regional imbalances. The authors conclude that financial support measures should be streamlined, that the state should focus on creating appropriate framework conditions and that the regions should be given more independence from central government to choose their own path of development.

Keywords

South Korea, start-ups, start-up government policy, regional economic policy, venture capital industry

JEL Classification

M13, L26, L53, O38, R11

* Dr. Diana Schüler (corresponding author, diana.schueler@uni-due.de), Mihaela Suhaltica, M.A., and Prof. Dr. Werner Pascha work at the Institute of East Asian Studies and the Mercator School of Management, Duisburg-Essen University, Germany, Prof. Keunyeob Oh, Ph.D., at the College of Economics and Management, Chungnam National University, Daejeon, Republic of Korea. The authors gratefully acknowledge financial support for this research from the German Academic Exchange Service (DAAD) and from the National Research Foundation (NRF) of Korea under the GEnKO program. They would also like to thank the other members of the research team and staff members of Chungnam National University and Duisburg-Essen University for their generous input and support.

1 INTRODUCTION

South Korea is one of the most remarkable success stories of global economic development. It has overcome several severe challenges, including the Asian and the Global Financial Crises, with impressive vigor. Currently, the country finds itself at yet another crossroads. As global protectionism is rising, the traditional export-oriented growth model has reached its limits. This not only impairs export performance and economic growth, but also the labor market, the quantity and quality of jobs, and income inequality. One of the major options to help overcome this quagmire of challenges is the creation and the growth of start-up businesses: They can infuse an economy with renewed vigor and innovation, and they can also create jobs, even high-quality jobs, with potentially satisfying working conditions for young people in particular. However, it is questionable how a country like South Korea, the economy of which has been dependent on a few large conglomerates in the past, can encourage the creation of start-ups, especially technology-oriented start-ups, which can be expected to have a higher growth potential than conventional businesses.

Through an exploratory approach, based on available literature, collected data and evidence from qualitative interviews, the following paper discusses the role of government policies and related support services in the formation of start-ups. In Section 2, the need for some new

growth momentum for the South Korean economy is taken up in more detail, against the backdrop of the policy challenges facing the current government under President Moon Jae-in. Section 3 traces the historical background of start-up business formation in Korea, as they cannot be adequately understood without reference to Korea's hugely powerful family-led enterprise groups, the so-called *chaebol*. In this context, we will also discuss the differences between various classes of enterprises. The following Section 4 takes stock of start-ups in Korea in more detail. One important feature is that in absolute numbers, they are highly concentrated in and around Seoul. Sections 5 and 6 discuss two of the major influences of start-up development, namely the role of the government in providing support (Section 5) and socio-economic conditions surrounding the foundation of new start-ups (Section 6). Both factors may be problematic in the Korean case. The social environment for starting a new business is not particularly inviting: Parents are often skeptical and there are few role models. The state tries to compensate for such deficiencies by providing ample support. With these offsetting forces, it remains not only questionable whether the number of start-ups is below potential, but also whether the growth potential of start-ups can fully unfold. Finally, Section 7 draws the discussion to a close by summarizing the main points and drawing some tentative conclusions.

2 KOREA'S CURRENT ECONOMIC SITUATION: THE NEED FOR NEW GROWTH MOMENTUM

While South Korea's impressive economic development since the 1960s has admirably been called the 'Miracle of the Han River', since the 2000s the economic growth rates have followed a declining trend (Figure 1). While Korea's growth rate in the 1990s was more than 6 %, and thus

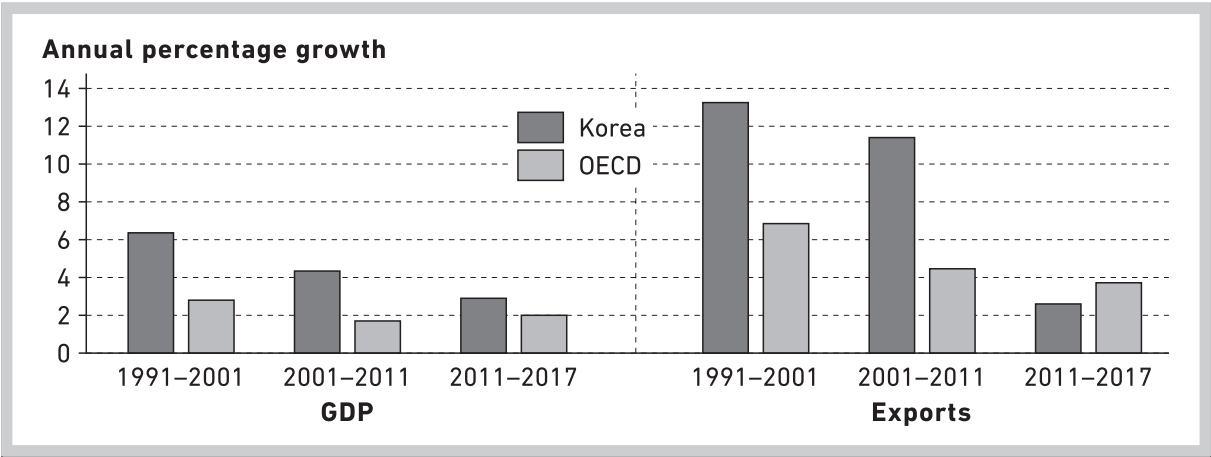
more than twice the OECD average rate, in 2011 to 2017 it was less than 1 percentage points lower than the average, at less than 3 %. Since the current President Moon Jae-in took up office in May 2017, this trend has not been reversed. While in mid-2018 the growth forecast for 2019 stood

at some 3 %, by mid-2019 the Bank of Korea only expected 2.5 % for the current year, but even that figure seemed overly optimistic (Moss 2019).

One reason behind this development is the cooling of the global economy in recent years. For

an export-oriented economy like Korea, this trend has particularly noticeable consequences. In recent years, Korea's export performance has been weaker than that of the OECD average (right hand side of Figure 1).

Figure 1: Korea's output and export growth

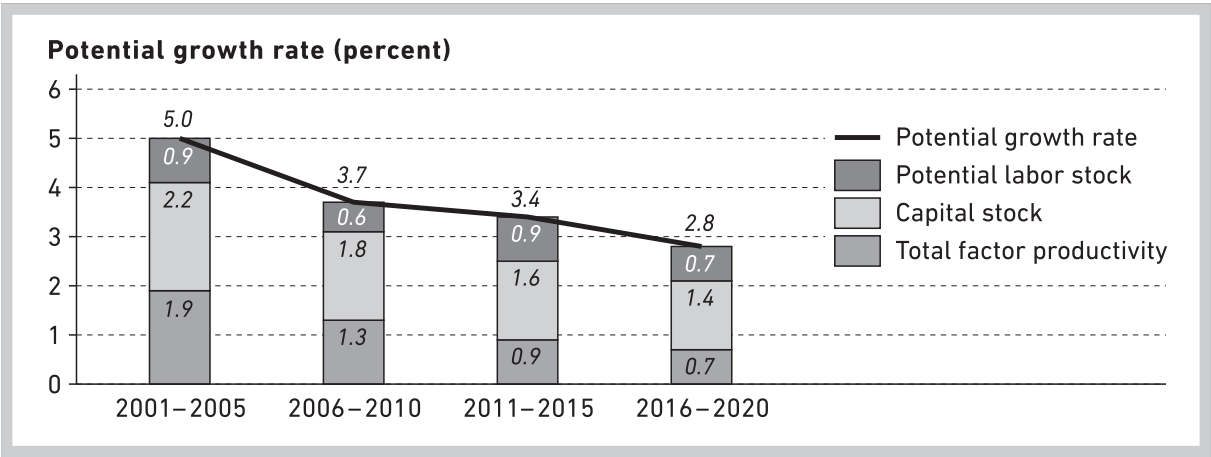


Source: Based on OECD (2018: 13).

At the same time, problems cannot be simply attributed to the demand side. Many observers agree that “Korea's traditional model of growth, led by exports produced by large business groups, known as *chaebols*, is losing steam”

(OECD 2018: 13). This becomes apparent when taking a supply-side-based look at the growth potential of the economy, which has also tanked from more than 8 % in the 1980s to less than 3 % for 2016 to 2020 (Figure 2).

Figure 2: Factors contributing to declining potential growth rate



Source: Ahn (2018: 5) based on a 2017 Bank of Korea study.

Long-term-oriented government measures thus have to take various perspectives into consideration: creating and tapping into new demand as well as supply-side considerations like foster-

ing productivity and innovativeness, while also observing distributional issues like job creation and income disparities.

With some simplification, a number of strategies can be distinguished, all of them featuring peculiar strengths and weaknesses:

- Income-related measures like creating new public-sector jobs, a pro-active minimum wage policy, etc. This is the income-led growth approach of the Moon Jae-in government in its early years. While it promised a quick fix of distributional concerns, it had indirect negative effects on efficiency (such as in the case of public-sector jobs) and competitiveness (wage increases), so the Moon government had to modify its earlier aggressive income-related strategy.
- Demand-side measures like an expansionary fiscal policy. Deficit spending is highly unpopular in Korea. For many outside observers, a public gross debt to GDP of some 37 % (in 2018) offers considerable leverage, so the IMF suggests an expansionary fiscal path (IMF 2019). But given the dominance of large business groups, more on which below, the distributional impact is another concern that cannot be disregarded.
- New fields of demand growth. The strong growth of content industries like K-pop or on-line games has led to hopes that they might become a new growth engine, with private businesses receiving favorable government support. While the success of the content industry since the 1990s is certainly remarkable (Pascha/Schüler 2020), they still only make up some 2.6 % of value added and 1.6 % of exports in 2017, so their direct relevance to the economy as a whole may be somewhat exaggerated. However, there is some evidence of positive externalities on other sectors, especially consumer goods (Park 2014; Park 2015; Huh/Wu 2017) and tourism (Bae et al. 2017; Lim/Giouvris 2020).
- Supply-side measures to create more efficient markets. This approach is taken by the IMF, recommending structural reforms, 'flexicurity' on the labor market and the reduction of market barriers (IMF 2019). While they are clear-

ly relevant, they are difficult to implement against incumbent interests and their hopefully beneficial effect on the paths of income and distribution is somewhat ambiguous.

- Support of start-ups to create new vigor. Such a strategy seems attractive because it might hopefully support productivity growth and even innovativeness through new market entrants, creating jobs for young people at the same time. However, given some experience with the support for young enterprises and start-ups, it is noticeable that Korea is still not one of the major start-up nations when compared internationally.¹ Thus one would need to take a closer look at the reasons.
- Finally, support could focus on somewhat more mature, medium-size companies (for such a recommendation, see for instance Ahn (2018)). While there are some strong medium-size enterprises in Korea, many SMEs are quite weak, so it is difficult to nurture them without producing too many inefficiencies. For instance, Kim (2018) shows that the long-term effect of public R&D subsidies on firm survival is rather negative.

Summing up, it is obvious that there is no silver bullet among the strategies outlined above. Here, we focus on the start-up strategy, as it promises to offer new economic dynamism for an economy whose *chaebol*-focused economic success model seems to have reached its limits. To accomplish such an analysis, it is first of all helpful to get a better view of the differences between the various types of enterprises in Korea and their respective historical paths.

1 For instance, with approximately 600 start-ups with VC funding created between 2001 and 2016 and still existing in 2016, South Korea ranks second to last among the 19 countries analyzed by the OECD with data derived from Crunchbase.com (OECD 2018: 19). While the US has the most start-ups (with and without VC funding) (approximately 100,000) way ahead of Great Britain (15,000), India (13,200) and Canada (7,400), Korea had merely 2,000 start-ups.

3 SHORT HISTORY OF START-UPS AND VENTURE BUSINESSES

The Korean economy has relied on a few large and well-diversified business groups during its rapid industrialization under President Park Chung-hee (1961–1979) (Amsden 1989; Jones/SaKong 1985). During these decades of manufacturing upgrading and catch-up, South Korea's economic system was based and placed great importance on family businesses, the so-called *chaebol*, while its support for smaller firms was meaningless in comparison (Kang/Mah 2015). The *chaebol* were granted preferred access to subsidies, as well as tax and credit incentives in order to enter infant industries like steel, machinery and chemical, and later the automobile industry. Through policy tools like the Five Year Economic Development Plans, the government played a substantial role in assisting *chaebols* in “acquiring, importing and absorbing foreign technologies” (Sohn/Kenney 2007: 993). Thus, during the 1960s and the 1970s, it was not the *chaebol* themselves, but rather the partnership between the Korean central government and the *chaebol* that success-

fully orchestrated the move into new industries. This allowed the country to establish a solid industrial infrastructure and swiftly transform its domestic economy.

The export and growth targets of the two decades of catch-up policy, however, did little to allow Korean companies to focus on developing and commercializing new technology through local entrepreneurship. In fact, innovation and technological upgrading were “mainly enabled by indirect instruments, such as import-substitution, the protection of infant industry, and the acquisition of foreign technologies” (Debanes 2017: 10). What's more, the imbalance of an industrial structure controlled by a few large companies stifled the creation of innovative start-ups and the development of research capacity among existing small and medium enterprises (SMEs) (Keenan 2012). Due to their lack of access to policy loans and government support, most SMEs remained small and subsistence-driven, and therefore less profitable (Choi 2010).

Table 1: Stages of economic growth, industrial policy and businesses targeted in South Korea

Industrial policy	1960s	1970s	1980s
	Manufacturing upgrading stage		Global value chains
	Support Export Development	Promote Heavy and Chemical Industries	Shift from Industry Targeting to R&D Support
Sector	Labor-intensive manufacturing in textiles, garments and footwear	Steel, Machinery, Shipbuilding, Electronics and Chemical engineering	Semiconductors, Telecommunication, Automobiles
Science & Technology Policy	Creation MOST/KIST, 5-Year Economic Plan, S&T Promotion Act, Export Promotion Program, Control of foreign ownership	Government research institutes, R&D Promotion Act, Technical and Vocational Schools, Daedeok Science Town	National R&D Plan, Private Sector Initiatives in R&D
Main instruments	Subsidies, tax and credit incentives, tariff rebates	Long-term loans at preferential rates, public investment in human capital and infrastructure	R&D-based subsidies and tax incentives, restriction of foreign actors, choice of technology standards, direct investment, joint-ventures
Businesses targeted by policies	<i>Chaebol</i>	<i>Chaebol</i>	<i>Chaebol</i> SMEs

Source: Authors, based on Debanes (2017: 15) and Kim (2012: 68).

* Note: GRI: government research institute; NIS: national innovation system; RIS: regional innovation system.

Korea's innovation system can be clearly divided into two periods: before and after 1980 (see Table 1, also Park 2002). In the decades before 1980, innovation was neglected in favor of industrial development that was based on imported technology. After 1980, the central government started supporting innovation undertaken by private firms, and the necessity of in-house R&D in order to remain competitive on the global market was being recognized. The majority of companies that retained competitiveness through increasingly allocating resources to internal R&D were, once again, the large conglomerates. This is because *chaebol* had the capacity to invest and engage in risky and expensive R&D projects that was unimaginable for smaller companies (Chung 2011). "Contributions from start-ups, clusters, and technology transfer from URIs" (Sohn/Kennedy 2007: 993) remained minimal, despite government intervention and some policy support.

A major policy shift towards small, innovation-driven and technology-oriented venture businesses came in the 1990s, when the Korean economy lost some of its competitiveness, related, among other factors, to the weakening of

the Yen and rising wages in the country. In 1997, the Act on Special Measures for the Promotion of Venture Businesses was passed which facilitated the establishment and the business operation of venture businesses.

The promotion of venture businesses appeared almost at the same time as the Asian Financial Crisis hit the Korean economy in late 1997. The latter had a dramatic impact on the economy, leading to a significant rise in bankruptcies, increased unemployment and the beginning of labor market dualism in Korea. Because the labor market could not absorb the high number of unemployed and the faith in the *chaebol* as Korea's growth engine and preferred employer was disrupted, an increasing number of South Koreans became interested in establishing their own technology-driven start-up or venture business (Song 2007). This led to the first venture boom in South Korea, resulting in the establishment of successful companies in the ICT and Gaming sector, among others.

However, this Korean venture boom did not last very long, ending soon after the dot.com bubble

1990s	2000s	2010s
upgrading stage	R&D upgrading stage	
Provide Information Infrastructure and R&D Support	Promote New Engine of Growth and Upgrade R&D	Promote New Engine of Growth and Upgrade R&D
ICT-related sectors	Next-generation Internet, Fiber-optic technology, Software, ICT start-ups	Deep tech, Green energy, Biotech, Nanotech, ICT start-ups
Enhancing University research capabilities, GRI* restructuring, Science and high-tech parks in regional areas, Cyber Korea 21 (1998)	Universities' leading role, Efficient NIS*, RIS* and Innovation Clusters Industrial Policy, Green Growth National Strategy (2008)	Foster start-up ecosystem, Reinforce linkages in the NIS, Increase impact of R&D on commercialization and jobs
PPPs, public procurements, technology transfer services (bridging institutes), joint investments	FDI, free economic zone, high-tech parks and business incubators, R&D PPPs	Financial incentives for the venture capital market, tax incentives, regulation of financial innovations and use of fund-of-funds
<i>Chaebol</i> SMEs Venture businesses (1998) Start-ups	SMEs Venture businesses Other types of innovative businesses (Inno-biz, Main-biz) Start-ups	SMEs Venture businesses Green-biz Start-ups

burst in the US in early 2000. In addition, extensive government support for venture businesses and start-ups led to moral hazard and fraud risks among entrepreneurs, resulting in a general public mistrust toward entrepreneurial activities (Kim/Cho 2009). The Korean government under Roh Moo-hyun (2003–2008) thus shifted its policy focus to an approach more compatible with market principles, for instance by reducing direct support measures for venture businesses and start-ups. The focus was placed on building an infrastructure that would allow start-ups to perform their activities without hindrances. After the sudden drop in the early 2000s, the number of venture businesses and the amount of venture capital available in the country slowly recovered. Nevertheless, fears about job security, risk averse financial institutions unwilling to invest in emerging businesses and the traumatizing effects of the first boom stalled the emergence of a second venture boom in Korea (Sohn/Kenney 2007). It took another decade and more aggressive policies under the Creative Economy Paradigm by President Park Geun-hye (2013–2017) (see Cha (2015) for details) for a new rise in venture capital, venture businesses and innovative start-ups to become noticeable.

After the current Moon Jae-in government took over from Park Geun-hye's presidency, it announced a plan in November 2017 to create an ecosystem to nurture innovative start-ups (Ministry of Economy and Finance 02.11.2017; see also Jones/Lee 2018). The original plan covered a number of instruments that aimed to achieve three overarching goals: 1. Creating a start-up-friendly environment to foster entrepreneurship, 2. Expanding financing opportunities and tax incentives, 3. Establishing a virtuous cycle between start-ups and investment. A key concern in reaching these goals was the intention to limit the risks taken by entrepreneurs when starting a business. A 'start-up-leave' system, which would allow entrepreneurs to return to employment in case of business failure, and the phasing out of the joint guarantee system were therefore proposed as measures. Additionally, the plan proposed to increase financing opportunities and expand existing tax incentives for venture businesses. Lastly, the government aimed to encourage large corporations to engage in M&A, which is still at a very low level in Korea. Section 5 will describe the current policies of the government authorities evolving from these policy ideas in more detail.

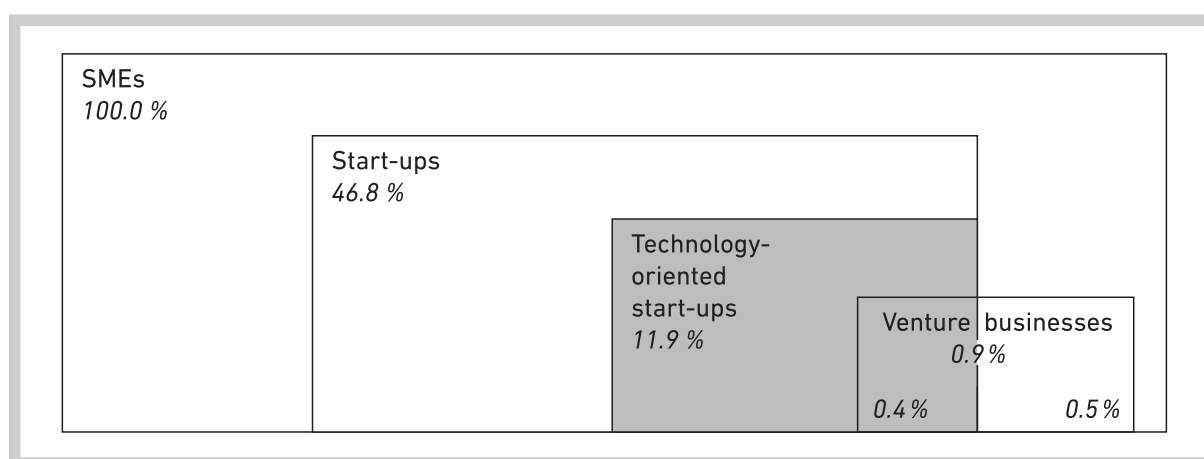
4 CURRENT STATUS

In order to provide a review of the current status of start-ups, the terminology involved should first be clarified. The government publishes various statistics based on different classificatory concepts, which sometimes makes it difficult to interpret available data in a meaningful way. Sometimes, analysts and even government authorities use available statistics in a somewhat ambiguous way. For instance, using figures on venture businesses only provides a very rough guide to the number of start-ups, let alone technology-oriented start-ups.

Figure 3 distinguishes various terms and offers a simplification of South Korea's legal classi-

fication of small and medium enterprises. The Ministry of SMEs and Startups defines SMEs as those enterprises that have an annual sales revenue below 150 billion Korean Won². Among SMEs, start-ups are all entities that have been granted the legal status of a company, aged

2 The threshold varies between different industries. Manufacturing companies that produce clothing, metal and electrical equipment, for example, should have a revenue of below 150 billion Korean Won to be considered SMEs. Agricultural, mining and automobile manufacturing companies have a threshold of 100 billion Won, whereas real estate and insurance businesses have the lowest threshold of 40 billion Won or less.

Figure 3: Simplified classification of South Korean SMEs

Source: Authors, based on MSS website, data from 2017, except for the share of venture businesses among SMEs (0.9 %), which is from 2016.

Note: The areas of the rectangles are not drawn to scale.

from one month to no later than 7 years after their establishment, regardless of the industry they operate in. These businesses include anything from coffee shops and small restaurants to nanotechnology and service providers.

Arguably, in order to achieve the Korean government's objective of sustained economic growth (Jones/Lee 2018), the above definition of start-ups under the Korean legal framework is almost too broad. High-tech start-ups that focus on innovation, particularly in the STEM fields, have a higher growth potential and tend to create more jobs, on average, than conventional businesses. As a consequence, of interest here are those Korean start-ups that are focused on innovation, in other words technology-oriented start-ups.

To get an idea of the proportions involved, Figure 3 includes quantitative data on the various segments of SMEs to be considered. It turns out that only 11.9 % of all SMEs can be considered technology-oriented start-ups in 2017.

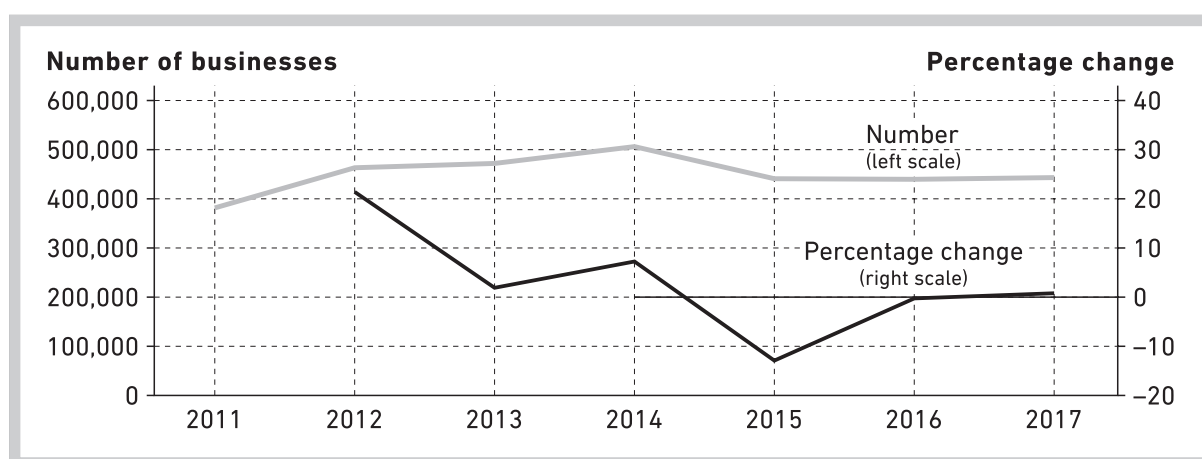
Another way to look at the evidence provided by the government is through data on the so-called venture businesses. According to Article 2-2 of the Act on Special Measures for the Promotion of Venture Businesses, already mentioned above, a venture business has to satisfy the legal definition

of a small and medium enterprise and in addition any of a number of additional criteria, among them a minimum amount of capital investment, a minimum level of annual research and development expenses or a guarantee by the Korea Technology Finance Corporation (KIBO). This also implies that the enterprise satisfies the strict criteria of KIBO's technology appraisal system.

Almost half of these venture businesses (VB) are younger than 7 years and therefore belong to the start-up category (early stage innovative SMEs granted their title under Article 2-2 of the 1997 Act). However, it turns out that those VBs that are at the same time technology-oriented start-ups, make up only 0.4 % of all SMEs. This implies that, for the purpose of this paper, a complete segment of SMEs to be considered here includes all technology-oriented start-ups including those venture businesses that have not yet matured beyond 7 years (highlighted section of Figure 3).

Based on data from KISED, Figure 4 below shows the trend of technology-oriented start-ups established in South Korea since 2011. The number increased until 2014, but it has been stagnating since 2015, despite positive growth rates in 2016 and 2017. The drop by -13 % in 2015 could be explained by a relatively low GDP growth rate of 2.8 % in that year.

Figure 4: Trend of technology-oriented businesses younger than 7 years



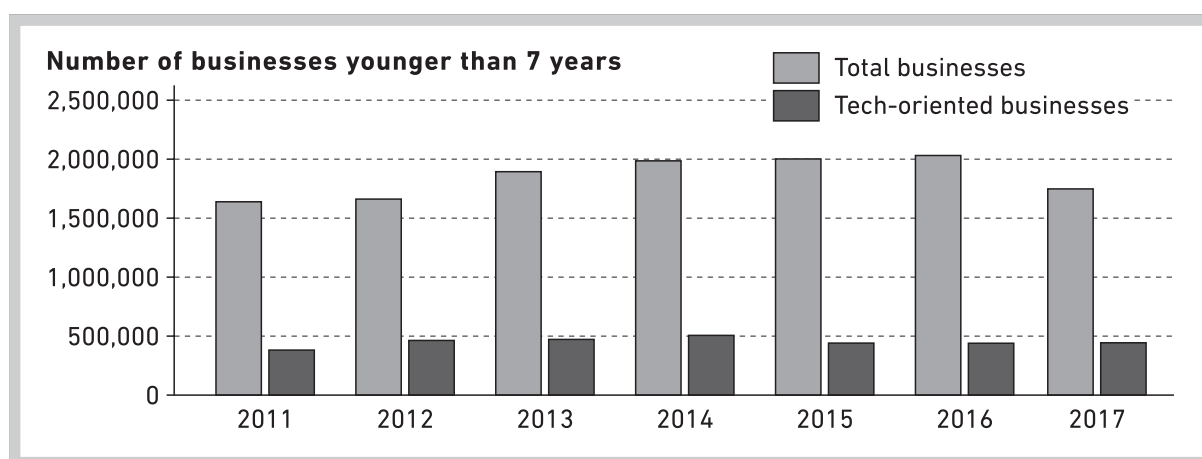
Source: Authors, based on KISED.

Note: There were small changes in the classification of business sectors between the KISED reports of 2018 and 2019, which are not expected to have led to major changes in businesses sectors considered as technology-oriented and with respect to the number of technology-oriented start-ups.

The total number of start-ups, which includes all companies regardless of their focus, and that of technology-oriented start-ups established in Korea between 2011 and 2017 can be seen in Figure 5 below. Since a significant number of institutions and programs for SMEs and start-ups rely on government funds (see Section 5 for details), the drop in the number of all start-ups

between 2016 and 2017 could be explained by the change in the central government in that year and the uncertainty of what the subsequent Moon government's policies for start-ups would entail. The technology-oriented start-ups, however, seemed to not be affected much as the number increased slightly.

Figure 5: Technology-oriented start-ups from total number of start-ups



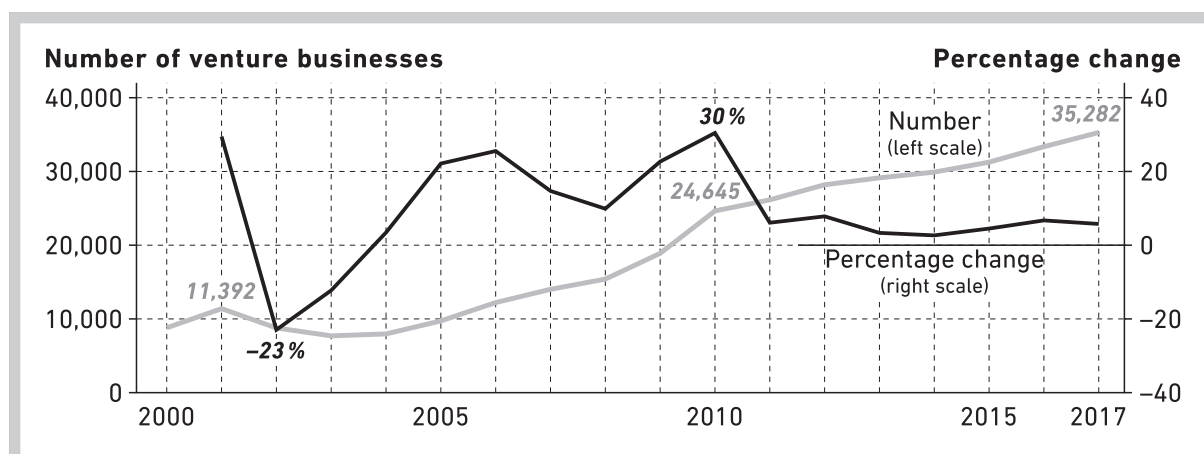
Source: Authors, based on KISED.

Note: There were small changes in the classification of business sectors between the KISED reports of 2018 and 2019, which are not expected to have led to major changes in businesses sectors considered as technology-oriented and with respect to the number of technology-oriented start-ups.

Turning to VB-related figures (Figure 6), and keeping in mind that these do not just encompass start-ups, one notices a rather steady increase since the 2000s. On closer scrutiny, the end of the venture boom around 2002 and

2003 can be indicated by the slight decrease in VBs during those years. From 2010 onwards, the number of venture businesses continued to increase, albeit at a slower pace.

Figure 6: Number of venture businesses in South Korea, 2000–2017



Source: Authors, based on KIBO annual reports 2008–2017.

An interesting aspect to consider is to what extent VBs are related to industrial change. When looking at venture business data by industry between 2008 and 2017, the KIBO annual reports show that the share of venture businesses in Manufacturing was still 76 % in 2008, reflecting Korea's competitive strength in the manufacturing industry, while it had decreased by seven percentage points to 69 % in 2017. In contrast, according to data from KOSIS, the number of established companies in the Manufacturing industries in 2017 showed an increase of 18.8 % compared to 2008. This implies that VBs could be an agent of change in the industrial struc-

ture of South Korea. Indeed, the share of venture businesses in the IT Processing and Software industry increased by two percentage points in 2017, and venture businesses in other industries increased by three percentage points. The share of venture businesses in the R&D and Service sector remained unchanged at 1 %.

Summing up, there has been some increase in the number of start-ups and related types of businesses in recent years, while this is not a very dramatic sea change. Turning to the factors behind this trend, we now shift the attention to the policies that have supported this development.

5 START-UP SUPPORT MECHANISMS

5.1 CENTRAL GOVERNMENT POLICIES

Government Support by the Ministry of SMEs and Startups

The policy support for SMEs in general, innovative businesses and (technology-driven) start-

ups, in particular, has its legal foundation in a total number of 21 laws. There are at least five acts concerning the promotion and support of technology-driven businesses: the Act on Special Measures for the Promotion of Venture

Businesses, the Act on the Promotion of Technology Innovation of Small and Medium Enterprises, the Act on Support for Protection of Technologies of Small and Medium Enterprises, the Act on Special Cases Concerning Support for Technoparks, and the Korea Technology Finance Corporation Act. The result is a complex interplay of various schemes. For instance, the Act on Special Measures for the Promotion of Venture Businesses, which was enacted in 1998, has the purpose to convert existing businesses into venture businesses and help the establishment of new venture businesses. This act was also supposed to mitigate structural economic imbalances in Korea by facilitating the creation and support the activities of technology-oriented SMEs (Jang/Lee 2017: 90). The purpose of the Act on the Promotion of Technology Innovation of Small and Medium Enterprises, enacted in 2001, is to support innovations in SMEs in general, which led to the certification system of Inno-biz (Jang/Lee 2017: 90).

These laws find expression through the central government's 'Policy of the Year', a policy package which comprises of four policy directions that all focus on supporting the capacity for innovation of start-ups and SMEs (see Table 2, also MSS n.d.; Kim 08.01.2018). The first policy line addresses the support of innovative manufacturing in order to enhance the competitiveness of SMEs and start-ups, including the support of private-led R&D and expanded policy financing. The second policy direction addresses the promotion of technology-driven start-ups to accelerate the start-up boom and turn Korea, as it is phrased, into a 'start-up-driven country'. This also comprises regulatory improvements for new industries and the facilitation of starting a business after failure. The third policy line explicitly addresses the economic viability of micro-enterprises and the self-employed by enhancing their innovative capacity. The fourth policy direction focuses on a fair relationship and cooperation between large enterprises and SMEs in order to correct the biased busi-

Table 2: Policy direction of Ministry of SMEs and Startups

1. Innovative manufacturing to enhance competitiveness of SMEs and start-ups
<ul style="list-style-type: none"> • Expand support for smart factories • Private-led R&D, Expand markets for innovative products • Improve living conditions for employees • Policy financing that values potential
2. Accelerate start-up boom to become innovation and start-up-driven country
<ul style="list-style-type: none"> • Prepare for the 2nd start-up boom • Promote technology start-up • Allow second chance • Improve regulation of new industry
3. Support innovation by micro-enterprises and self-employment as separate policy targets
<ul style="list-style-type: none"> • Increase sales and reduce costs of micro-enterprises • Lay foundation for innovation in micro-enterprises and self-employment • Support well-prepared start-ups and revival of failed start-ups • Revitalize local commercial districts and traditional markets
4. Lay foundation for fair economy and drive open innovation beyond win-win cooperation
<ul style="list-style-type: none"> • Create conditions for fair trade • Eliminate technology theft from SMEs • Nudge in the interest of win-win cooperation • Create and maintain an open innovation ecosystem

Source: Authors, based on Ministry of SMEs and Startups website (as of March 2020) and Kim (08.01.2018).

ness structure in Korea. Policy areas 1 and 2 are thus directly related to competitive start-ups, whereas area 3 relates to necessity-driven self-employed occupations, more or less a social support-related policy field. Area 4 ('fairness' between SMEs and large enterprises) lies at the crossroads between competition policy and distributional, social policy-related concerns.

In line with these policy directions, the MSS specified 11 policy domains addressing different types and aspects of SMEs as of 2020: 1. Removing Barriers, 2. Business Environment, 3. Start-ups, 4. Venture Businesses, 5. Technology Innovation, 6. Human Resources, 7. Micro-Enterprises, 8. Traditional Market, 9. Shared Growth, 10. Local Business, 11. Export. Among those domains, the third (Start-ups) and the fifth (Technology Innovation) relate to the support of innovation-driven start-ups. The start-up policy aims to discover promising start-ups and support their growth through measures including educational institutions such as the 'Start-up Leader Universities' and 'Smart Venture Start-up Schools'. Another focus is the creation of a better start-up environment and a stronger foundation through lower taxes, fewer regulations and more maker-spaces.

The policy for Technology Innovation targets the development commercialization of new technologies through an R&D support system. This system targets products developed by researchers and invested businesses and facilitates R&D cooperation between companies with limited R&D capacities, universities, research centers and other business. Moreover, the MSS has reinforced sanctions against technology infringements to protect the technology and intellectual property of SMEs. In this context, the MSS operates a 'SME Technical Dispute Mediation/Arbitration Committee' that supports SMEs to develop their own technology protection systems through material assistance and consulting services.

Looking even closer at the specific policy programs, the MSS offers abundant support for various types of SMEs. A total number of 203 programs differentiated by business type is listed by the MSS (see Table 3, upper part). Among those, 39 policy programs (equaling 19 % of all programs) are dedicated to start-ups and venture businesses. The remaining programs address all SMEs (77 or 38 %) and small shopkeeper businesses (53 or 26 %). 34 programs (17 %) are general programs. Although tech-oriented start-ups constitute merely 11.9 % of all SMEs in 2017, the relative number of programs is disproportionately high, reflecting the government's strong interest to foster this type of SME.

Of the 39 policy programs for start-ups and venture businesses, the Mutual Private Investment Technology Startup Support (TIPS) is particularly well-known. Modelled after the Israel Technology Incubator, the TIPS program aims to combine mentoring, technological development and financial support for venture businesses. The program is meant to be a solution for the lack of business sector expertise in Korea's incubators,

Table 3: Policy programs by the MSS

Number of programs by business type	absolute	relative
SMEs	77	38 %
Start-ups and venture businesses	39	19 %
Small businesses	53	26 %
General programs	34	17 %
Total	203	
Number of programs by support domain		
Finance	29	14 %
Start-ups (for all types of businesses)	48	24 %
Technology	27	13 %
HR	14	7 %
Export	9	4 %
Domestic (no-export businesses)	52	26 %
Other	24	12 %
Total	203	

Source: Authors, based on the MSS webpage, accessed March 2020.

of which around 80 % are located in universities and research centers (OECD 2018). Through the program, promising ventures will receive mentoring from private angel investors and support for R&D from the government. In addition, eventually unsuccessful companies do not have to reimburse the support received, which potentially allows for a more open attitude toward failure and risk taking.

With respect to a specific support domain (Table 3, lower part), most programs address businesses targeting the domestic market (52 or 26 %). A similar number of programs focus on the establishment of new businesses (48 or 24 %). However, this concerns all types of SMEs, not just technology-oriented start-ups. Nevertheless, it can be concluded that the central government is strongly supporting the founding stage of SMEs. Further policy foci are technology (27 or 13 %) and financing (29 or 14 %), again reflecting the importance of technology-oriented SMEs to the central government.

Other Governmental Organizations

While the MSS reflects the national strategy to develop SMEs, establishes the support policy and arranges the budget for the support of SMEs, the affiliated Korea SMEs and Startups Agency (KOSME) executes the established MSS policies. Moreover, at least three of the other eight organizations affiliated to the MSS explicitly promote technology-driven businesses, i.e., the Korea Technology and Information Promotion Agency for SMEs, the Korea Technology Finance Corporation and the Korea Venture Investment Corporation (KVIC).

Beside the MSS, the Ministry of Science and ICT (MSIT) plays a role in supporting ICT-related start-ups and venture businesses through 29 programs executed by different organizations affiliated to the MSIT (such as the National IT Industry Promotion Agency, the Korea Internet and Security Agency, the Electronics and Telecommunications Research Institute, etc.) under one unique brand called 'K-Global Project'.

These support programs addressing special aspects of ICT businesses, including software, fintech, big data, block chain, IoT, cloud technology, information security etc., and the total budget for these programs is 83.6 billion KRW (68.8 million USD) in 2019 (MSIT 2019: 1). Almost one third of this budget (27 billion KRW) is allocated to the program 'K-Global Information and Communications Application Technology Development Support', executed by the Institute for Information Communication Technology Planning and Evaluation. In addition, the K-ICT Born2Global Center is a government agency under the MSIT with the task of helping start-ups to enter the global market through consulting services. Born2Global also helps to contribute to and keep track of the development of Korea's start-up ecosystem.

The various programs by the MSS and the MSIT listed above have an impact on the central government's budget, particular as attributed to the support of general start-ups (Table 4). Policy funds make up the majority of the budget with 72 % and an equivalent of 1.9 trillion KRW (approx. 1.7 billion USD). Beside policy funds, emphasis is put on commercialization (13 %) and R&D (9 %). Again, this reflects the government's attempt to strengthen innovative and technology-oriented SMEs.

Table 4: Central departments budget for supporting start-ups 2017

Budget by type of support	Bn KRW	Percentage
Start-up Education	30.9	1 %
Facilities, Space	77	3 %
Mentoring, Consulting	48.4	2 %
Commercialization	351.6	13 %
R&D	238.3	9 %
Marketization, Entering Foreign Markets	16.3	1 %
Events, Networking	3.3	0 %
Policy Funds	1,936	72 %
Total	2,701.8	

Source: Authors, based on KISTEP (2018: 8), Table 2.

Private Actors

In addition to the support for technology-oriented start-ups by the government, the number of private actors such as investors, incubators, accelerators, co-working spaces etc. is steadily increasing. This includes D.Camp (or Banks Foundation for Young Entrepreneurs), the Asan Nanum Foundation, Google Campus, Start-up Alliance, 500 Kimchi and many more (Zollmann 2017: 26). For illustration, the Asan Nanum Foundation (ANF) is a non-profit organization established in 2011 to commemorate the 10th anniversary of the passing of Chung Ju-yung, the founder of Hyundai. The foundation created educational programs, such as the 'Asan Youth-Preneur' program for teenagers to experience the start-up process, the 'Asan Teacher-Preneur' program to help teachers develop curricula for entrepreneurship education and the special lecture series 'Entrepreneurship Let's Go' for the wider public.³ Besides this, the ANF offers more direct support for start-ups through the Chung Ju-yung Start-up Competition, the 100 billion KRW Chung Ju-yung Angel Investment Fund and Maru180, a co-working space located in Gangnam, Seoul. It is a place where start-up founders, accelerators like SparkLabs and Future Play, venture capital companies like Capstone Partners and DSC Investment as well as mentors, often former or serial entrepreneurs themselves, can meet and cooperate (Zollmann 2017: 26). In addition, the ANF supports social innovators and non-profit organizations, for instance, through the 'Asan Frontier Academy', a training program that aims to develop special skills for non-profit managers. The Asan Nanum Foundation is just one of many private actors within the start-up ecosystem that complement the many government policies promoting entrepreneurship.

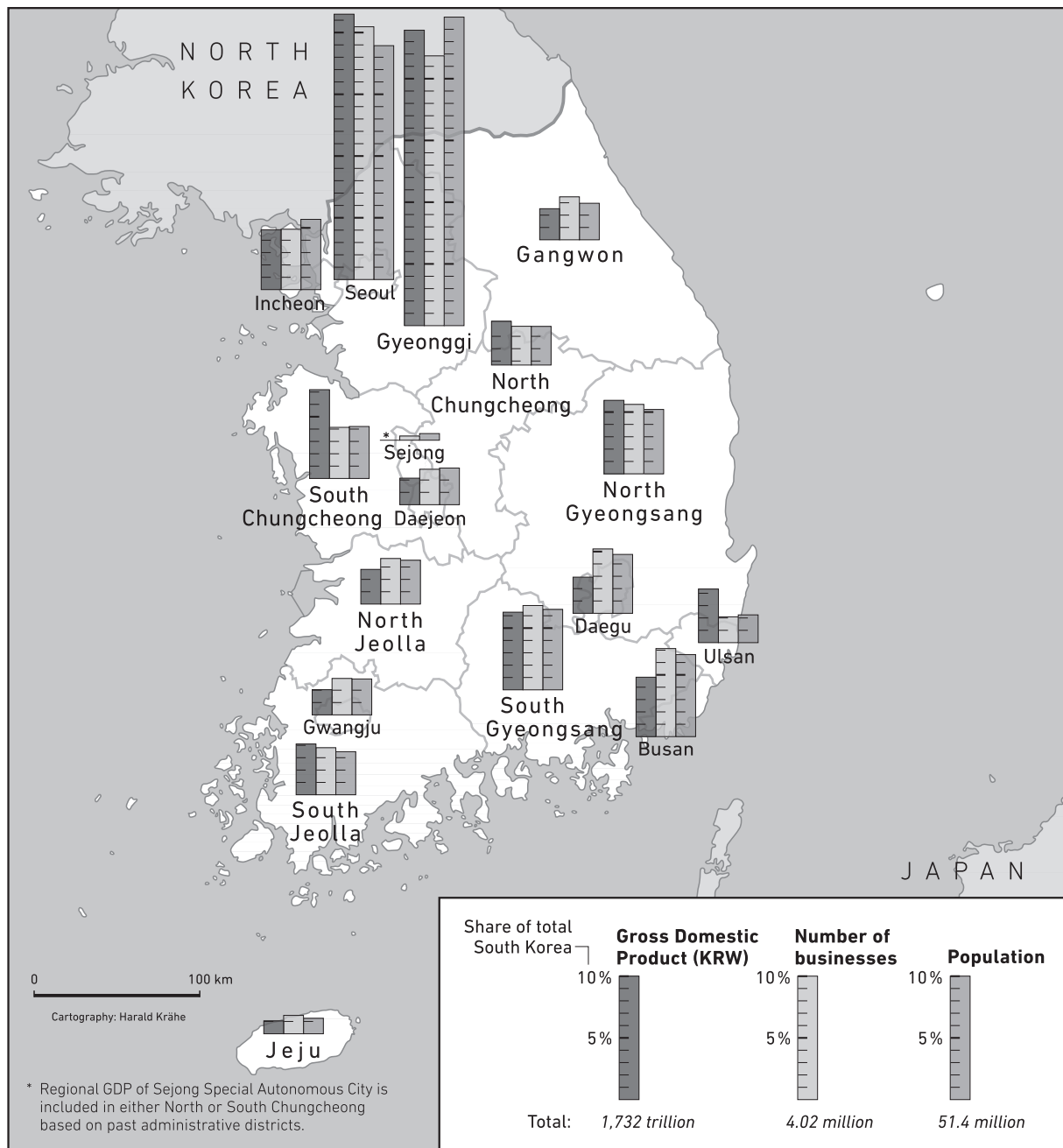
3 Asan Nanum homepage:
<https://asan-nanum.org/eng/>

5.2 THE REGIONAL LEVEL

So far, the support programs for start-ups were considered on a national basis. In the following, some regional differences will be highlighted. Figure 7 shows that the regional gross domestic product (RGDP), the number of businesses and Korea's population are highly concentrated in the capital region, i.e., Seoul, Gyeonggi Province and Incheon. Even Busan, the second-largest city in South Korea, has a conspicuously low economic size compared to the central business districts of the Northwest and Seoul in particular. Some areas have a relatively high RDGP despite a rather low number of businesses (South Chungcheong, Ulsan), as is visualized by the respective size of the columns in Figure 7. As for some of the more rural areas like Gangwon, the economic size is comparatively small, despite a relatively large number of (smaller) companies. Such a relationship also holds for several of the metropolitan cities.

Obviously, this distribution is a concern for the government and also for regional authorities. Regional support is thus a major additional facet of governmental activities, with the central government in Korea always being in a particularly strong position, but with additional activities from regional and local authorities.

With respect to start-ups, data on certain input factors, in particular start-up support programs by metropolitan and local governments, incubation centers operated by the MSS, private organizations and universities as well as the number of businesses receiving venture capital, are available for Korea's nine provinces and six metropolitan cities Busan, Daegu, Incheon, Gwangju, Daejeon and Ulsan, as well as the special city of Seoul. These input factors can be put in perspective through comparison with the output factors, in particular, the number of start-ups (meaning newly established corporations), the number of venture businesses and the number of Inno-biz in 2017. Because there are regional variations in economic performance (Figure 7), inputs and outputs are calculated as a share of RGDP and then compared to the national level.

Figure 7: Regional differences in South Korea

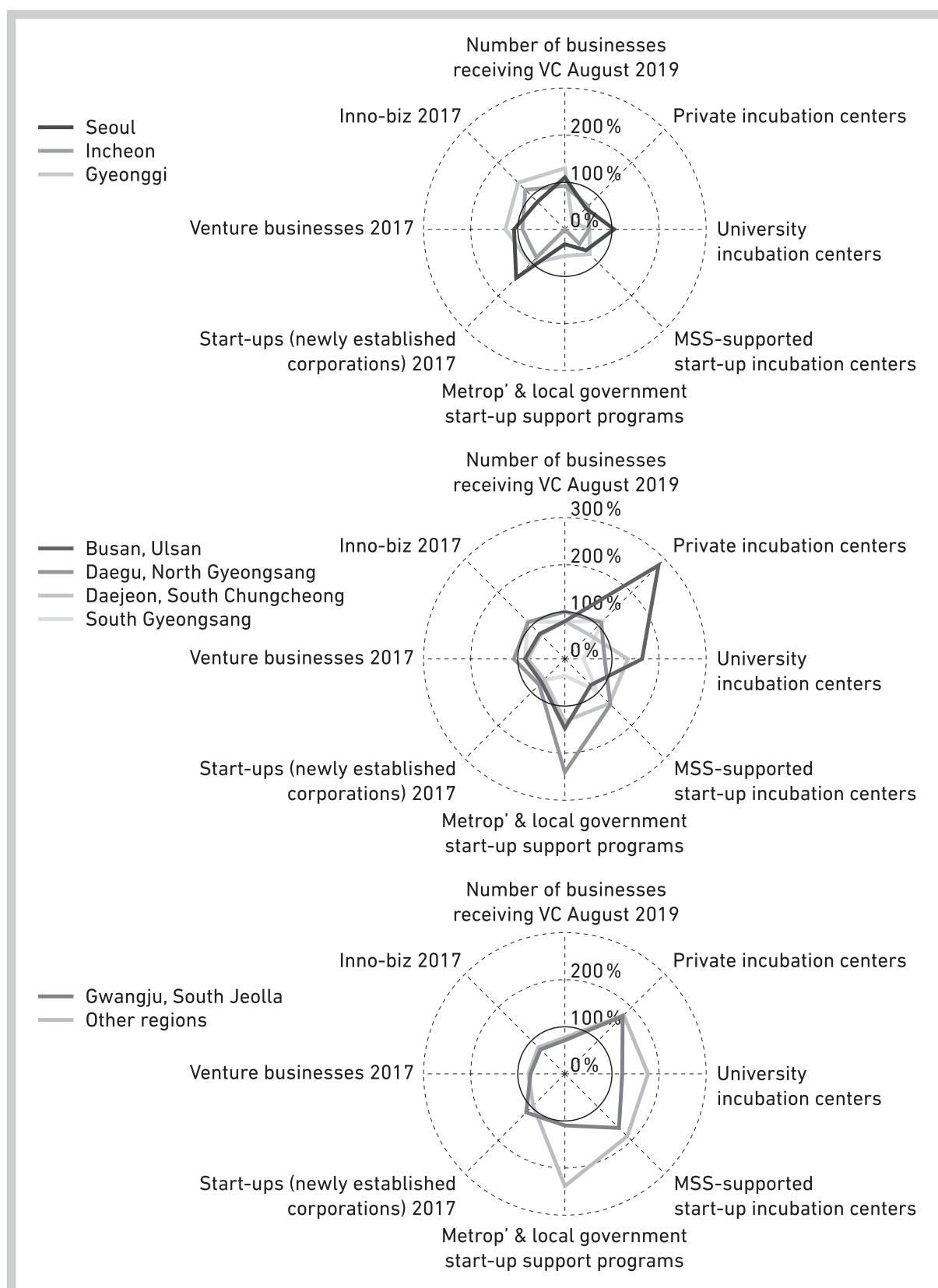
Note: Regional Gross Domestic Product, number of businesses and population by region, metropolitan city and special city Seoul. All data is from 2017.

Source: Data compiled by the authors from KOSIS.

Figure 8 shows the deviations of the input and output factors in the regions from the national level. The imbalance between the capital region (Seoul, Gyeonggi province, Incheon) and the rest of the country, already perceived in the rough data presented in Figure 7 above, is confirmed. Focusing on government support, it turns out that while most start-up activities are in the capital region and most investments go to start-ups

there as well, private and public support programs and facilities are disproportionately located in other regions and cities. In particular, a relatively large number of metropolitan or local government start-up support programs can be found in Daegu / North Gyeongsang as well as Gwangju / South Jeolla. Busan/Ulsan has a disproportionately high number of private incubation centers.

Figure 8: Regional distribution of start-up input and output factors



Source: Data compiled by the authors from various sources, including KOSIS.

Note: The graphs show the regional deviation of input and output factors in relation to the national level, taking into account regional economic power (RGDP). It is calculated as follows: $\text{Regional Deviation} = \frac{\text{Regional Value}}{\text{National Value}} \times \frac{\text{National RGDP}}{\text{Regional RGDP}} \times 100\%$. Thus, a number greater (smaller) than 100 % means that the region has relatively more (less) input or output factors than on the national level, accounting for regional variation in RGDP.

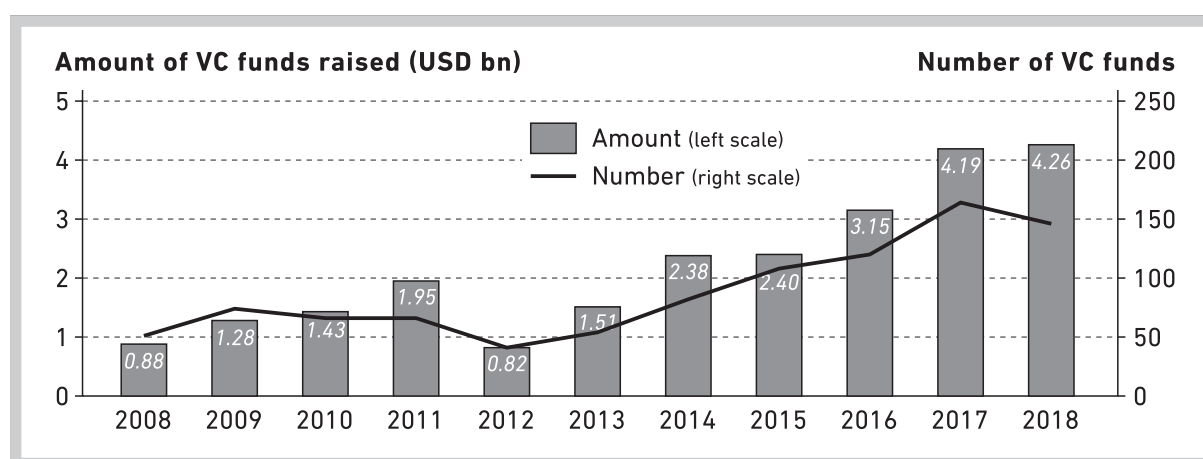
5.3 FINANCE: KOREA'S VENTURE CAPITAL INDUSTRY

Beside the policy support, financial sources are essential for the promotion of start-up activities. Therefore, this subsection provides an overview of the Korean venture capital (VC) industry and its development.⁴ It will eventually turn out, however, that even for seemingly private VC financing, government involvement is essential.

VC funds raised during the past decade have risen significantly in monetary terms, although some fluctuations are also noticeable. This also holds for the number of funds raised (Figure 9).

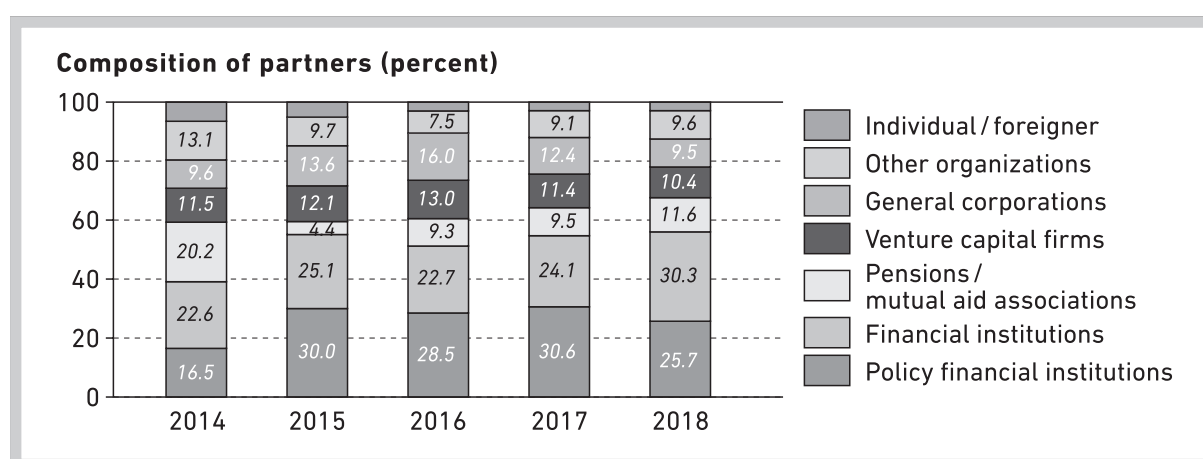
The largest contributors to new fund formation in 2018 are financial institutions (30.3 %) and policy financial institutions (25.7 %) (Figure 10); they cover Fund of funds, activities of central government agencies, local government, Korea Development Bank financing, etc. Venture capital firms and general corporations contribute approximately 12 % on average to new fund formation. Figures fluctuate somewhat in different years, but it is noteworthy that policy-related financial institutions are fairly stable in recent years, making up about one quarter or even more.

Figure 9: Newly organized Korean VC funds by year



Source: Authors, based on KVIC (2019).

Figure 10: Composition of partners for new fund formation



Source: Authors, based on KVCA Venture Capital Market Brief 12.2018.

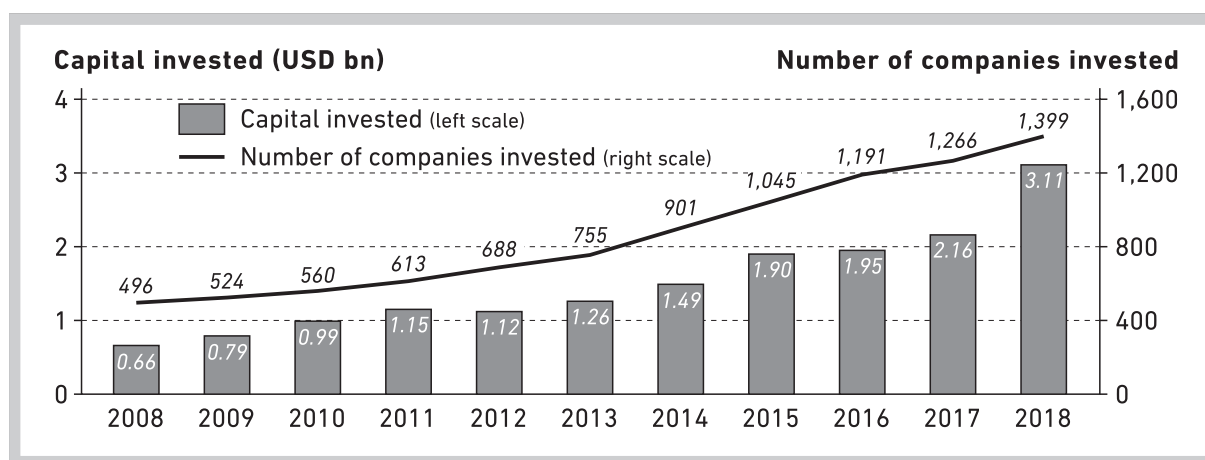
⁴ According to the KVCA 2018/12 Venture Capital Market Brief, 63.4 % of VC was invested in start-ups in 2018,

i.e., early-stage (1–3 years) and expansion-stage (up to 7 years) businesses. In 2017, it was 67.3 %.

As for the investment side, the amount of capital invested by venture capital companies increased by 371 % between 2008 and 2018. In 2011, the amount invested surpassed 1 bn USD for the first time, and exceeded 2 bn USD in 2017 (Figure 11). At the same time, the absolute number of companies invested increased steadily with positive growth rates, from below 500 in 2008 to approximately 1,400 in 2018 (right axis of Figure 11). In international comparison, Korea ranks fourth in

the OECD venture capital investment trend statistics, according to which Korea's venture capital investments increased by 130 % between 2010 and 2016, only behind Poland (361 %), Ireland (269 %) and the US (132 %) (OECD 2017: 125). In 2016, VC investments accounted for 0.086 % of Korea's GDP, ranking fourth only behind Israel (0.377 %, 2014), the US (0.358 %) and Canada (0.155 %). This is remarkable for the size of Korea's economy.

Figure 11: 10-year Korean venture capital investment

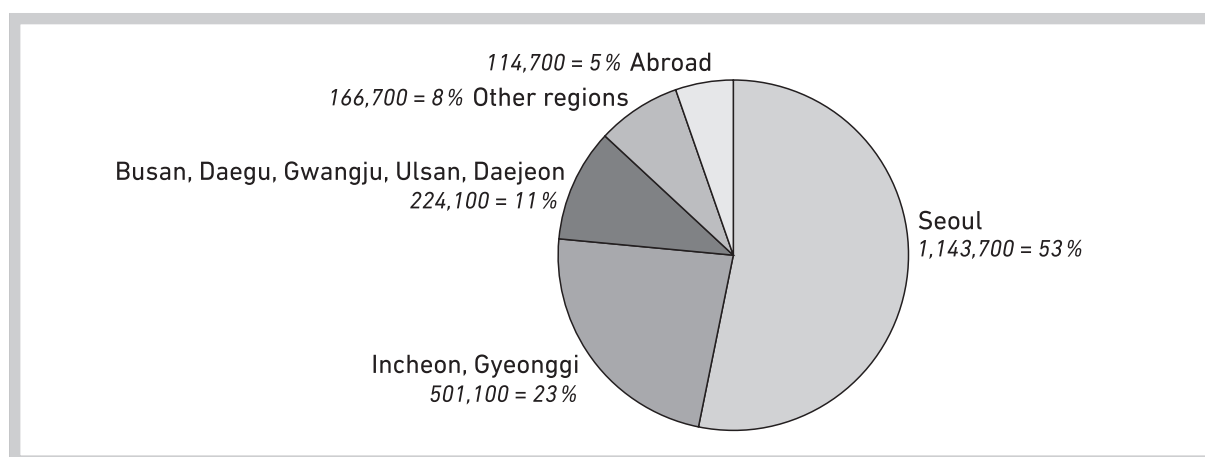


Source: Authors, based on KVIC (2019).

As for the regional distribution of venture capital, 53 % of new venture capital invested in 2017 went to businesses located in Seoul and a further 23 % was allocated to Incheon and Gyeonggi province (Figure 12). This means that only as little as one quarter of new venture capital is

invested outside of the capital region. In fact, only 11 % of new VC went to the important Metropolitan cities Busan (2nd largest city of South Korea), Daegu (4th), Gwangju (6th), Ulsan (10th) and Daejeon (5th).

Figure 12: New investment distribution by region 2017, in billion KRW



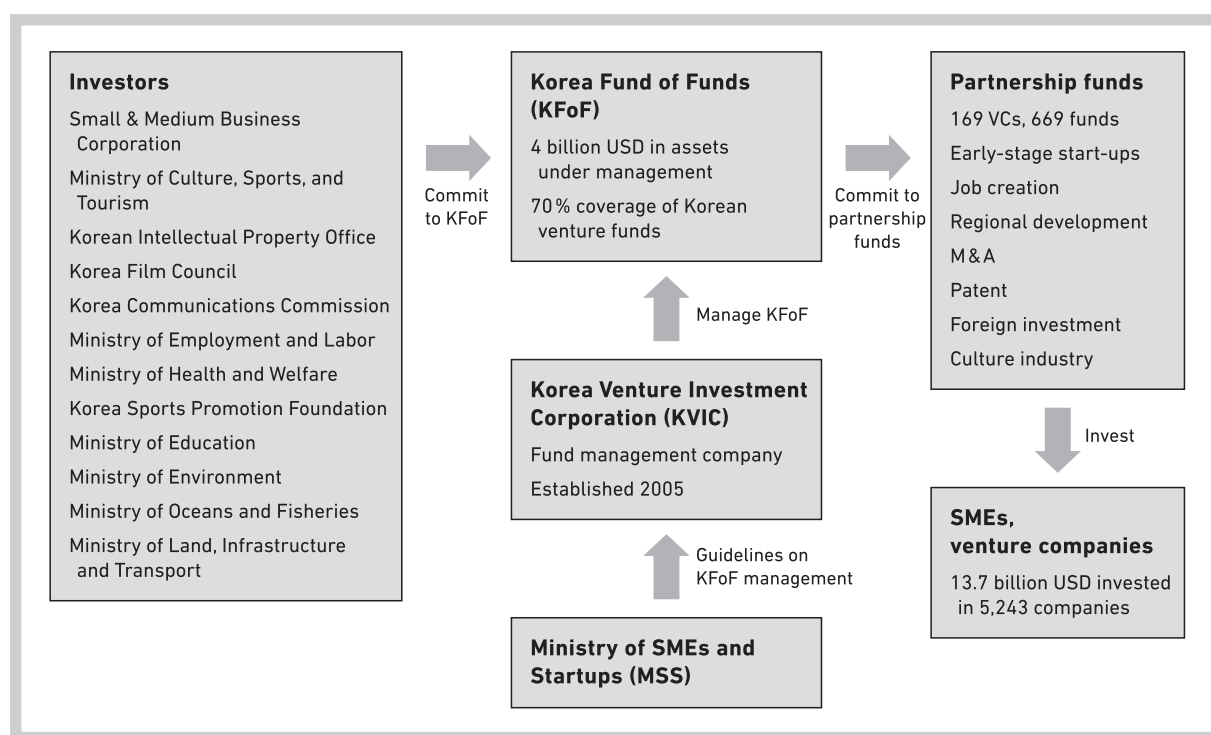
Source: Authors, based on KVCA Yearbook and Directory 2017.

Focusing on the VC raised actually distorts the role of privately raised capital for venture businesses and, more narrowly, for start-ups. Looking somewhat closer at the mechanisms of how VC is raised and distributed, the important role of the government is noticeable.

In 2005, the Korea Fund of Funds (KFoF) was established on the basis of the 'Special Measures for the Promotion of Venture Businesses Act' in order to ensure a stable capital source for venture investment. Simultaneously, the Korea Venture Investment Corporation (KVIC) was established as the fund management company for the KFoF (KVIC homepage). The KFoF's management guidelines are produced by the MSS and its capital is funded by the Korean government (KVIC homepage). In par-

ticular, the KFoF has 4 billion USD in Assets under Management and its investors include several Korean ministries like the Ministry of Employment and Labor (MOEL) or the Ministry of Culture, Sports and Tourism (MCST), and public organizations like the Small & Medium Business Corporation (SBC) and the Korean Intellectual Property Office (KIPO). By participating in 70 % of all Korean venture funds, the KFoF commits to 669 partnership funds by 169 VCs which specialize on early-stage start-ups, job creation, M&A, regional development etc. Through these partnership funds, a total investment amount of 13.7 billion USD (comprised of KFoF and private investors) is distributed to over 5,200 mainly technology-oriented or innovation-driven SMEs (KVIC document) (see Figure 13).

Figure 13: Korea Fund of Funds and KVIC



Source: KVIC homepage and KVIC (2019), own illustration.

Note: Data on partnership funds and SMEs, venture companies as of December 2018.

There are two important points to take away from this section. First, the Korean central government is very much involved in fostering technology-driven start-ups and SMEs, either directly

through the various policy programs of the MSS, the MSIT and their affiliated organizations, or rather indirectly, for instance, through allocating the KFoF and the Technology Commercialization

Fund via the KVIC. Second, a regional imbalance between input and output factors is visible. This has led to significant public and private sector support in the regions, which is supposed to help balance out shortcomings of the regions. At the same time, coordination problems may become particularly accentuated in the underprivileged regions, strengthening the negative impact of

the disproportionately high shortcomings of the regions. Next, it will be helpful to more closely address obstacles that restrain the successful establishment of start-ups – in the country as a whole and in the more provincial regions in particular. Such insights will help establish whether government support can indeed help to overcome the shortcomings or obstacles.

6 MAJOR OBSTACLES

Despite the government's efforts to boost start-up activities in the South Korean peninsula, there are a few socio-economic factors that play a role in the effectiveness of the many policies and support programs. These factors can either bolster or hamper start-up activities.

The following section will present these factors, incorporating evidence from qualitative interviews conducted in 2018 and 2019 in the Seoul greater area, in Seongnam and Daejeon. The interview partners included both entrepreneurs and official representatives from various support institutions for start-ups, such as the MSS, the Centers for Creative Economy and Innovation and major venture capital firms.

6.1 RISK AVERSION

One of the major factors that emerged time and again during the conducted interviews and that acts like a hindrance to start-up activities are various aspects of risk aversion. This might be related to Korea's history of economic development, in particular, to Korea's compressed rise from one of the poorest countries in the world around 1960 to an advanced economy and important OECD member today. Because of this still quite recent experience of poverty precariousness, the preference for stability and high income is deeply ingrained in the society. Moreover, the Asian Financial Crisis of 1997 was a shock to the Korean economy and society, pushing a whole generation into secure public sector

jobs, which are still preferred by many amid increasing economic uncertainties.

6.1.1 CAREER PREFERENCES AND RISK AVERSION

Risk aversion and a preference for secure employment affect Korean entrepreneurial activities in two ways. Firstly, there is generally low interest among young Koreans in founding a start-up of their own, when the option to be employed in an established company is available. An expert from a start-up support institution in Daejeon said "I think nationwide people want to get employed rather than start their own business after graduation. [...] Working in a big company is steady, so people prefer to work there."

A 2019 Global Entrepreneurship Monitor (GEM) report on youth entrepreneurship in Asia and the Pacific supports these findings. The report shows that only 3.6 % of the Korean population between the ages of 18 to 34 were engaged in early-stage entrepreneurship in 2015 (Guelich/Bosma 2019).

Secondly, the preference for stable employment makes finding personnel particularly difficult for start-ups. An experienced entrepreneur based in Daejeon mentioned that acquiring skilled employees is one of the biggest challenges his start-up faces: "Even if we offer good salaries, they hesitate because the future of the company is unstable".

In addition, the younger generation, as the future work force of the country, follows a similar trend. Extreme competitiveness among students to enter elite Korean universities is mostly driven by the expectation that it will guarantee employment with large corporations or the government (Connell 2014). The statistics also suggest that young South Koreans seem to prefer stable and secure positions in the form of regular employment, above other types of employment. A survey of university students in 2016 has shown that only 5 % would prefer to work for an SME, whereas 32 % and 25 % respectively wanted to work for a big company or state-run institutions (Jones/Lee 2018). At the same time, “jobs with *chaebol* have become increasingly competitive, and SMEs – which lack the prestige, salaries and benefits enjoyed by employees of large companies – face challenges filling jobs” (Connell 2014).

6.1.2 GENERATION GAP AND RISK AVERSION

Although South Korea possesses entrepreneurial potential due to the large number of highly educated young Koreans, becoming an entrepreneur and founding one's own business might be hindered by the older generation. This is because the latter frequently seem to project their own experience of poverty and economic shock onto their children, pushing them into the aforementioned stable and secure jobs (Schüler 2020).

Young Koreans who consider starting their own business might, thus, experience a backlash from their parents. A university student and budding entrepreneur said that he has had such discussions with his parents. “My parents want me to get employed. They are worried that my business might not survive. [...] They worry because of the uncertainty of my future.”

Surprisingly, this applies even to those parents who are themselves involved in entrepreneurial activities. A representative and expert from a center for start-up support in Daejeon men-

tioned that when his son graduated from university, he asked him to find a position with a big conglomerate. “I think I am a specialist in supporting start-ups but I told my son you have to [...] learn with a big company”.

GEM reports that 30.8 % of young Koreans name fear of failure as a reason for not starting their own business (Guelich/Bosma 2019) and 38 % of students regard the financial burden in case of business failure as the biggest obstacle to start a company. Fear of business failure is connected to the way in which start-ups have been financed in Korea. As the development of the VC market is still under way, many technology-oriented businesses rely on debt financing which has been subject to the so-called joint guarantee system in the past. This regulation implies that entrepreneurs and their guarantors, which frequently are family members, are personally liable for the debt of their business in case of business failure. Although the exemptions of technology-oriented start-ups from this joint guarantee system have increased in recent years, some businesses still underlie this regulation. Moreover, collective experiences related to the joint guarantee system still linger in the Korean society, shaping people's risk perception of business failure (Schüler 2020).

6.2 SOCIAL NETWORKS

A second factor that was found to be relevant not only in the context of entrepreneurship, but also in other aspects of Korean society, is a strong network (Hoang/Antoncic 2003). Interestingly, the traditional Korean networks based on education (*hakyon*), family (*hyulyon*) and regional origin (*jiyon*), in other words, the so-called *yongo* or personal relationships “attached to affiliation in an informally organized group” (Horak 2014: 87f.) seem to play a limited role in the establishment and success of technology-oriented start-ups. Instead, *inmaek*, i.e., general social networks, within the start-up and VC community, were found to be of much more importance to the interviewed parties.

There appears to be a general consensus among both entrepreneurs and experts that such *inmaek* have expanded more in the capital region of Seoul and Gyeonggi province than in other regions. This could be a result of economic centralization, high population density, as well as a concentration of VC investors, private relevant institutions that promote networking events and universities. In contrast, networks in the regions outside of Seoul seem to be more compressed into designated, sometimes artificially created areas like the Daedok Innopolis in Daejeon. A purposely designed conglomeration of government and public research institutes, universities and non-profit organizations, Daedok Innopolis' *inmaek* seem to be less fanned out compared to the capital equivalent. This might be due to the absence of an organically developed entrepreneurship culture, a lack of key organizations and physical network facilities beside universities, as well as the tendency of successful businesses to move to the Seoul area which prevents the creation of persistent networks.

The extent of a network, however, says little about its strength and its efficiency. In fact, a representative of the Gyeonggi Center for Creative Economy believes that "networks are at an early stage" and that "people don't want or don't have the opportunity to share information". It seems that an obstacle for creating beneficial social networks within the start-up community in Korea is low levels of trust among the network partners. A spokesperson of the Korean development institution agrees and suggests that entrepreneurs are afraid that "their knowhow will be stolen if they work with other companies". Another issue is the perception that networking outside of one's *yongo* is not useful. An established entrepreneur from Daejeon mentioned that while he believes "there is a good system for networking", he rarely makes use of it. "I have to think about the value of my time. Sometimes it can be a waste of time to network". This could explain the weaker characteristics of *inmaek* compared to pure *yongo* ties in terms of tie

strength, trust, in-group loyalty, and reciprocity (Horak 2014: 92).

6.3 REGIONAL IMBALANCES

The aforementioned regional imbalance between input and output factors requires more explanation. South Korea is a centralized country with a high concentration of population, businesses, job opportunities, universities and public institutions in the capital area. Like a magnet, Seoul attracts not only human resources, but entrepreneurs and successful venture businesses alike:

"Everything is too much centralized, that's the problem. [...] If [companies] are successful, they move to Seoul, because there is a big market." (VC investor from Seoul)

For venture businesses and technology-oriented start-ups established in the non-capital regions, it seems more reasonable to move to Seoul once the business is successful in order to exploit the benefits in terms of availability of VC capital, business partners, networks, human capital resources, universities, infrastructure, etc. Thus, a major challenge for the central government and local governments in non-capital regions is to make successful entrepreneurs stay put in order to create a history of entrepreneurship with role models inspiring new entrepreneurs:

"The central government and the local government, and government institutions like KVIC or government banks all would like to support decentralization, and therefore, they have a strong inclination to support the local start-ups. However, the important thing is that unfortunately, they don't have enough clients there." (VC investor from Seoul)

Previous attempts at decentralization, including the settlement of venture capitalists outside of Seoul (Kenney/Han/Tanaka 2002: 81f.) were unsuccessful (Lee 2009: 357f.). When the dis-

parities between Seoul and non-capital regions intensified (e.g., in 2003, 46 % of Korea's population, 55 % of all manufacturing firms, 77 % of VC, 88 % of conglomerates' headquarters and 85 % of national government offices were located in the capital region (Korea Herald 2003, in Lee (2009: 358)), the central government under President Roh Moo-hyun (2003–2008) attempted to decentralize and balance national development across the country via regional innovation systems, a regional equity policy, a regional strategic industrial policy, and an innovative cluster policy (Lee 2009: 358f.). As an expression of the government's special policy, several government ministries and state-run organizations were relocated to non-capital regions (Lee 2009: 359f.), with mixed results, however:

"The government sacrificed itself and moved first. For example, the National Pension Service moved to Jeonju, it's a 2.5 hours drive from [Seoul]. At that time, in the investment offices [...] more than 150 people quit the job. Because it's a trouble for them moving their families there. They have to consider the school of the kids, hospitals [...] and the wives' job as well. [...] That's a problem. That means, that kind of thing will happen even to the start-up companies." (VC investor from Seoul)

In order to promote start-ups and entrepreneurship in the non-capital regions, the central government under Park Geun-hye (2013–2017) established 17 so-called Centers for Creative Economy and Innovation as major part of the Creative Economy. These centers are important drivers of regional start-up activities. Local governments in non-capital regions provide tax incentives, free office space and other benefits in order to keep businesses for a healthy economy. Even cities close to Seoul like Pangyo Techno Valley in Seongnam prohibit businesses that moved to the area to relocate for 10 years as a measure to activate the local economy.

Another reason for start-ups to move to the capital area is that entrepreneurs perceive geo-

graphical distance to investors to be problematic. But many Seoul-based VC in fact search for promising start-ups not only countrywide, but worldwide. Often, they travel to businesses worth investing in, cooperate with local partners to reduce geographical distance and sometimes even open regional branches to penetrate local networks. Moreover, there are regional funds based on government policies for regional development and funds initiated by local governments, however, venture capitalists reported difficulties in finding start-ups in the non-capital regions for profitable investments:

"Policy is more important than making money. So we invest in the regions with a regional fund, rural fund, like Daejeon fund or Busan fund, but it is more difficult. [...] Young entrepreneurs or young founders, or talented guys still want to live in Seoul or near Seoul. And they found their own company here [in Seoul]. So most VC also stay in Seoul. So about 50 % of VC is done in Seoul and 20–30 % in Gyeonggi-do." (VC investor from Seoul)

Furthermore, since VC investments often target specific industries, e.g., the ICT or biotech industry, it occurs that venture capital mainly flows to areas like Teheran-ro in Gangnam, Seoul, or Pangyo in Seongnam nearby Seoul where numerous IT companies have settled:

"Actually, in the early 2000s, there were hardware investments, including Daejeon. But nowadays, most VC are focusing on software, mobile and game, or healthcare. And those companies are located in Seoul or near Seoul." (VC investor from Seoul)

"So geographically, we are very open, but for the final decision for investment we have to check the ROI. So we have some portfolio companies in Pangyo and Daejeon, but the majority is in Seoul. And industry-wise we are focusing on ICT, not content, so for the ICT sectors, there are specific regions that are very strong." (VC investor from Seoul)

6.4 EXIT OPPORTUNITIES

There are several necessary preconditions that need to be met for a venture capital industry to be successful. According to Kenney/Han/Tanaka (2002: 10), this includes the possibilities to liquidate investments through either mergers and acquisitions (M&A), initial public offerings (IPO) or bankruptcies as venture capital businesses seek large capital gains within a short time to be viable. Only in this way can VCs recover from the many investments in failed start-ups and continue investing in promising start-ups. A major issue for start-ups is the limited exit options, both M&A and IPO.

Despite the increase of M&A deals by 2.9 % to 1,509 and 74.1 bn USD in 2019 (Bloomberg 2019), there are still several issues related to culture and regulations in Korea. First, CEOs of successful businesses are reluctant to leave their own company and to give up control:

“In most cases, South Korean VC rely on IPO rather than M&A. This is kind of a cultural difference. [...] In South Korea, the founders think ‘The company is myself’. So they are very hesitant to sell the company to others. But nowadays, the young generation, the young founders’ mind is different. They easily sell or merge.” (VC investor from Seoul)

Moreover, in the past, M&A has been the final option to avoid bankruptcy, so selling a business implied losing face to the founder: “The big issue is the start-up culture, the founder that thinks about M&A will lose face. It is regarded as a failure.” (Interinvest) This negative association exists until present. Recent policies to facilitate and deregulate the M&A process were hampered by such cultural issues (Jones 2015: 60).

Second, there are regulations that prevent conglomerates to acquire smaller companies in certain industries:

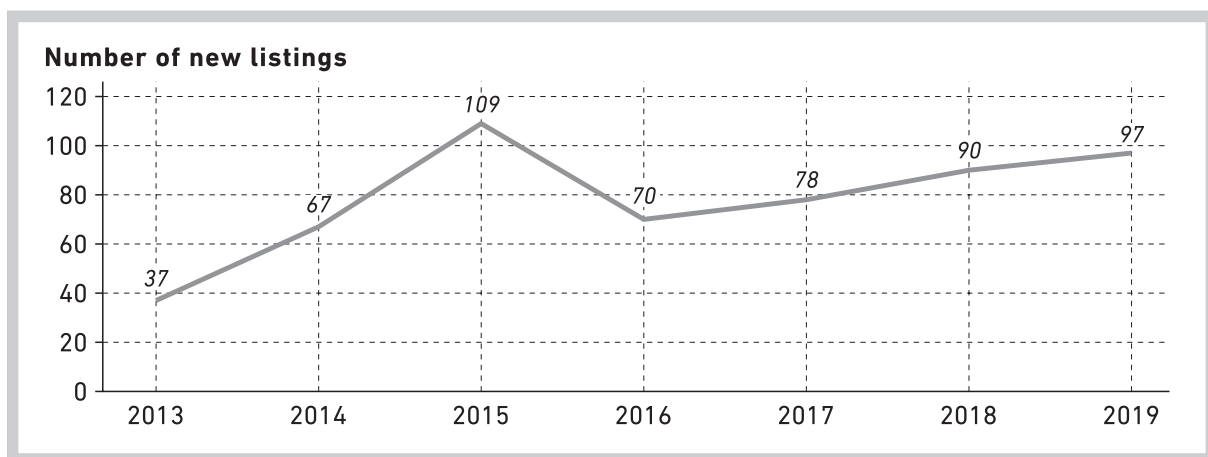
“We are encouraging the government to make a channel from the conglomerates to the start-up companies. However, we have a unique law, the Fair Competition Law, so in Korea we have very strong regulations for the big conglomerates. They cannot expand their business in the area which can be competitive with the start-ups [...], for example, the gaming industry, the internet industry. It’s a serious penalty. So in the US or in Germany there might be very strong so-called CVC, corporate venture companies, like Google, Alibaba, Tencent, Amazon, but in Korea, we don’t have it. Because of the serious regulations for the conglomerates, we are highly dependent on government money.” (VC investor from Seoul)

In addition, conglomerates are also reluctant to acquire smaller business due to concerns about bad reputations:

“From the perspective of big companies, if they do not do M&A well, people tend to think that big companies steal/exploit small companies who did the hard work. That is why big companies are reluctant to it.” (Center for start-up support from Seongnam)

IPOs as the only alternative remain difficult due to the tough requirements established by the Korean Securities Dealers Automated Quotation System (KOSDAQ) (Jones 2015: 58), which was founded in 1996 and modelled after the US NASDAQ. In the beginning, the KOSDAQ facilitated IPOs so that in 2000 there were 25 IPOs. However, the crash of the dot.com bubble ended the first venture capital boom in Korea shortly afterwards (Kenney/Han/Tanaka 2002). Nowadays, an IPO usually takes 13 years (Choi et al. 2015: 14), much longer than the lifespan of most venture capital funds. Therefore, investors often target mature (B and C series) instead of early-stage businesses (A series) (Jones 2015: 58). The number of new listings at the KOSDAQ increased from 37 in 2013 to 109 in 2015 (+195 %) (Figure 14). After a drop to 70 one year later (–36 %), the number increased at a slower pace to 97 IPOs in 2019.

Figure 14: IPO new listings on KOSDAQ



Source: Authors, based on Venture Capital Market Brief 12.2019.

7 CONCLUSION

Through an exploratory approach based on the available literature, collected data and evidence from qualitative interviews, this paper has investigated and discussed the role of government policies and related support services in the creation of technology-oriented start-ups in South Korea.

The analysis has shown that the Korean central government is very much involved in fostering technology-driven start-ups and SMEs through the various policy programs of the MSS, the MSIT and their affiliated organizations. Additionally, indirect governmental support, for instance, by attending to the KFoF via the KVIC can also be observed. The government has thus successfully contributed to a new dynamism in start-up formation and venture capital provision that offers a ray of hope for overcoming the outdated development model of South Korea with its strong reliance on the behemoth *chaebol* business groups. Moreover, the government has not only financially supported the start-up and venture sector, but it has also reformed the regulatory framework in a desirable direction. One major accomplishment has been the stepwise phasing out of the problematic Joint Guarantee System in recent years.

At the same time, some weaknesses of the energetic governmental approach to the start-up challenge also have to be noted. It seems that policy programs, public and private organizations supporting technology-oriented start-ups have become so abundant that there is a risk of creating inefficiencies and keeping alive less productive SMEs by setting misleading incentives (Chang 2016). Some support programs by the central government and the local governments seem similar and might confuse interested entrepreneurs (KISTEP 2018). The linkages between all players might add to the confusion. Korea has already experienced an earlier period of prevailing moral hazard in the years around 2000, which had to be corrected in due course. There is an imminent danger that during the current period of disappointment over traditional, *chaebol*-led development and enthusiasm for start-up culture such mistakes may be repeated.

Another problem that is clearly visible are the regional imbalances. Public and private sector support in the regions is supposed to balance out shortcomings like low VC investment and fewer as well as weaker networks in the more provincial areas. However, those very shortcomings might prevent public support in the regions from

bearing fruit, as inputs like networks and VC investment are considered crucial for start-up activities to take off and cannot simply be created by government action. This structural limitation of active policymaking creates an additional layer of potential ineffectiveness and inefficiencies despite well-intended government efforts.

This paper has identified some major obstacles that hinder the effectiveness of policy programs, despite the government's efforts to boost start-up activities. Among these obstacles, the ambiguous effects of social networks, the widespread risk aversion among potential entrepreneurs that follows from conservative evaluations of job prospects and from parental guidance, the shortage of exit opportunities and the regional imbalances mentioned above are particularly relevant. They constitute institutional rigidities that are very difficult to change through government policies, at least in the short term. Supporting start-ups is thus not a quick fix to the developmental challenges of the Korean economy.

What lessons does this analysis hold for the government? The first lesson is that the government should consider streamlining its financial support measures, as they can create serious inefficiencies. If a non-negligible share of start-ups rather leans on state, quasi-public and government-backed private sponsors, instead of focusing on their core business model, the contribution of this new sector to dynamically reshaping the economy will be limited, not to speak of the waste of public resources. The incentive problems of the 'shot gun' approach to public start-

up support are widely known (e.g. Kanninen/Keuschnigg 2004), and they have also been noted by Korean scholars (e.g. Yoo 2018). Such a streamlining of measures would, for instance, involve a rigorous evaluation process of the more than 200 existing schemes, overseen by an independent evaluation unit, and sunset clauses for existing and particularly for new measures.

Second, instead of assuming public policy progress to consist of creating and strengthening financial support measures, the state should instead focus on creating appropriate framework conditions, in which start-ups can develop their strengths. The phasing out of the Joint Guarantee System was a meaningful and important step in this direction, as well as a better regard for entrepreneurship issues in the universities.

Third, the effectiveness of regional support measures should be critically reevaluated. Given the legacy of Korea's economic development, the strength of the Seoul area in attracting promising start-ups is overwhelming, even if up-and-coming entrepreneurs have taken their first steps elsewhere. Instead of directing subsidies to the regions, the provinces and municipalities should instead be given more independence and liberty from the central government to choose their own viable path of economic development. A few of them have the chance of creating and fostering their own start-up hotspots, and metropolitan cities like Busan or Daejeon probably possess the necessary qualities, but many other regions would be well-advised to redirect their attention to other development strategies.

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