

Regulatory Sandbox, Korea's New Regulation Paradigm

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Abstract

Understanding of a Regulatory Sandbox

A regulatory sandbox is a mechanism for the easing of regulations for new goods and services under certain conditions for the sake of making it possible for testing to be done before they are launched on the market. The idea of a regulatory sandbox has evolved with the goals and aims of, as well as content itself. It is difficult to define what the foremost definition of a regulatory sandbox is, but it is significant as an 'efficient' way to keep up with the rapid pace of technological innovation.

The Advent and Contents of the Korean Regulatory Sandbox

The Korean regulatory sandbox is different from that of Britain and others that are focused on the financial industry. This is because the range includes assorted areas extending from the info-communications industry, industry convergence, special economic zone for specialized regional development, as well as the financial industry. Under positive-list-regulation of legislation, the domestic regulatory sandbox has been introduced in order to make the regulation of science and technology more innovative. Regulatory-sandbox laws that consist of five different laws, which provide for the implementation of domestic regulatory sandbox, have been completed through legislation. They have created the Korean regulatory sandbox, which constitutes three sets of 'prompt identification,' 'special regulation for substantiation,' 'interim authorization,' all of which are based upon various bills of legislation discussed previously.

The Current State of the Korean Regulatory Sandbox

Currently, an ICT regulatory sandbox set up by the Ministry of Science and ICT, industrial convergence regulatory sandbox by the Ministry of Trade, Industry and Energy, a financial regulatory sandbox by Financial Services Commission, and a regulation-free special zone by the Ministry of SMEs and Startups have been in force, respectively. After proceeding with an inter-agency consultation and advance review, each Ministry holds a committee for the sake of deciding whether applications should be granted special regulations.

A Proposal for Invigorating the Regulatory Sandbox

It is necessary to possess a clear understanding of the Korean regulatory sandbox which includes assorted areas, and we have a need for operative and legislative ways to enact such an invigoration. As operative measures for invigorating the regulatory sandbox, we suggest public disclosure of information prepared in the course of the procedures of the regulatory sandbox, support for the regulatory sandbox concerned with R&D, improvement of the capability and specialty of regulatory authorities, inter-agency cooperation, etc. As a legislative means for invigorating the regulatory sandbox, we also suggest the modification of provisions on 'prompt identification' of the regulatory sandbox in order to allow for smoother implementation, and study into the discussing of limitations on interpreting provisions of regulatory sandbox.

This paper was selected from "KISTEP Issue Paper 2019 (Vol.261)".

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1. Understanding the Regulatory Sandbox

1.1 The Concept of a Regulatory Sandbox

The regulatory sandbox system (hereinafter referred to as the "regulatory sandbox") is a system with which regulations on new products and services are relaxed under limited conditions in order for market participants to test new industrial sectors and new technologies. The term 'sandbox' is in reference to the small box filled with sand in which children play freely while in a controlled and safe environment. The limit referred to in 'limited conditions' is meant in terms of place, period, or action. A regulatory sandbox can be regarded as a process to improve laws and systems through a strategic approach in order to overcome the impediments to innovation caused by regulations and to find new growth engines.

In 2015, the Financial Conduct Authority of the UK introduced a regulatory sandbox to promote new financial innovations such as FinTech. Since then, major economies have adopted the regulatory sandbox largely to support financial services. The Monetary Authority of Singapore released "FinTech Regulatory Sandbox Guidelines" in 2016. The guidelines were almost identical to their counterparts in the UK. The Singaporean regulatory sandbox was officially introduced after receiving some feedback from industry players in Singapore. According to Australian Securities and Investments Commission rules, a financial service license is issued to a financial service business under limited conditions, an unlicensed agent can provide financial services as a registered agent on behalf of financial firms under certain terms and conditions, and regulatory exemptions are granted to financial firms which provide innovative financial services.

Since 2016, the Financial Services Commission

of Korea has promoted a regulatory sandbox to achieve a smooth introduction of new products and services born out of the convergence of finance and IT. The Korean regulatory sandbox has established the framework for an introduction—similar to that of the UK—such as operating the regulatory sandbox system under strict conditions including limitations on customers and investments during the testing session, granting the minimum time required for testing, holding financial firms accountable for customer protection approaches, and testing new financial models under close observation by supervisory authorities. The Korean government then granted its first regulatory sandbox to robo-advisors¹⁾ as a way to provide investors with a more efficient and broader choice of options.

1.2 The Evolution of a Regulatory Sandbox

The concept of a regulatory sandbox as a promotion of financial innovation is evolving. This is no longer the sole purpose of the regulatory sandbox as its function and contents have constantly changed. Countries which employ the regulatory sandbox are modifying theirs by relaxing regulatory requirements, e.g. expanding the scope of and qualifications for the participants in the regulatory sandbox. In the UK, a working group was created to explore the possibility that an industry-led regulatory sandbox could replace the existing one led by the Financial Conduct Authority. The Government of Australia issued amendments to the relevant laws and regulations, suitable for emerging FinTech products and services, to strengthen the existing regulatory sandbox.

Korea recognizes that the existing regulatory system cannot reflect the rapid change from new technologies and industries in a swift manner and therefore, utilizes the regulatory sandbox to apply

1) A class of financial advisers that provide portfolio advisory and management services online by using computer programs based on algorithms and big-data analyses.

regulatory exemptions to various sectors such as ICT, industrial convergence, regional special zones, as well as the financial industry. Like Korea, Japan is also taking a two-track approach to the regulatory sandbox: special zone-based and project-based.

The effect of the regulatory sandbox may vary depending on how much it takes root in the national legislation, the way regulatory authorities operate, and the level of cooperation by authorities concerned. The regulatory sandbox itself is just a test bed for temporary suspension of regulatory proceedings. What is most important is that the test result of the regulatory sandbox is utilized for enacting or amending law, and then the law is enforced into practice.

1.3 The Direction a Regulatory Sandbox Should Take

It is not easy to define the principal purpose of a regulatory sandbox. However, we can say that the background of and the direction the regulatory sandbox is taking are similar around the world. With the advent of the Fourth Industrial Revolution, new technologies are being introduced more quickly than ever before, and the emergence of new products and services has been accelerated. However, new products and services cannot be released into the market unless the side effects or risks of the new products and services are confirmed. For this reason, there exists a need for a system which advances the launch of new technologies and products while minimizing the side effects and risks of the technologies and products, thereby enabling the owners of the technologies and products to preempt the global market. Consequently, countries respond to the rapidly changing science and technology sectors by applying the regulatory sandbox which enables experimental operation of new technologies and new industry sectors under more relaxed regulatory conditions.

The goal of a regulatory sandbox is to provide

an 'efficient' method for technological innovation. One of the main purposes to adopt a regulatory sandbox is to facilitate early market entry of new products and services which utilize new technologies by lowering regulatory barriers and costs to comply with regulations in certain industry sectors. The Financial Conduct Authority of the UK published an evaluation report one year after the introduction of a regulatory sandbox. According to the report, introducing new technologies through the regulatory sandbox contributed to quality improvement, price reduction, and enhanced consumer accessibility. Also, by applying a regulatory sandbox to robo-advisors and through credible reviews, Korea has prevented companies which fail to pass the minimum requirements from entering the market and has drawn attention to new players in the market. Since then, each financial institution in Korea has started consultation and discretionary investment services in which robo-advisors take the place of humans.

2. The Advent and Contents of the Korean Regulatory Sandbox

2.1 Policy Backgrounds

Recently, with the advent of the Fourth Industrial Revolution which has brought about innumerable innovations such as areas as Internet of Things, artificial intelligence, and robots, we confront the challenge of identifying the growth model based on new industries in order to achieve a higher level of national competitiveness. According to the Global Innovation Index of 2018, Korea ranks 12th out of 126 countries and is the second highest among East Asian countries after Singapore (5th). However, out of the seven innovation input and output sub-indices, Korea ranked low for institutions (26th) and corporate maturity (20th) compared to human capital and

research (2nd) and knowledge and technology outputs (9th). This shows that Korea has a higher level of innovation capability in terms of R&D and ICT and a lower level of capacity in terms of institutions included in the regulatory environment.

To deal with this situation, it is necessary for Korea to change its regulatory system which is currently a positive-list regulatory system of “prohibited in principle and exceptions allowed.” Since the Korean legislative system is based on a “prohibited in principle and exceptions allowed” system, matters not judged to be subject to statutes shall be subject to regulations. This type of regulatory system also applies to science and technology sectors in the same way and consequently new attempts which have not been explicitly allowed in regulations or have not been permitted in the current system are prohibited.

Moreover, it is not easy to deal with this situation easily and with one swoop as the regulations of various ministries related to the businesses where new technologies and services should apply are complicated. Due to their novelty, it is not easy for anyone to give definite answers to the questions about safety and other issues raised by the central government, ministries concerned, local governments, and civic groups. In order for a new growth market to firmly take root, we think that the existing framework cannot give definite answers, and therefore, there is a need for an institutional framework to implement deregulation. Unlike Korea, the regulatory systems of the UK and the US are negative-list regulatory systems of “permitted in principle and prohibited in exceptional circumstances,” enabling various industry sectors to seek new growth engines in a relatively easy way.

Therefore, in order to establish the environment where regulatory innovation for science and technology is fostered under the statute system of “prohibited in principle and exceptions allowed,” the Korean government applies the “Korean regulatory sandbox” which exempts businesses from

the regulations on finance, ICT, and industrial convergence as well as at regional special zones if certain conditions (period, place, etc.) are met, or the “Korean regulatory sandbox” suspends the application of the regulations when new products or services are released in the market.

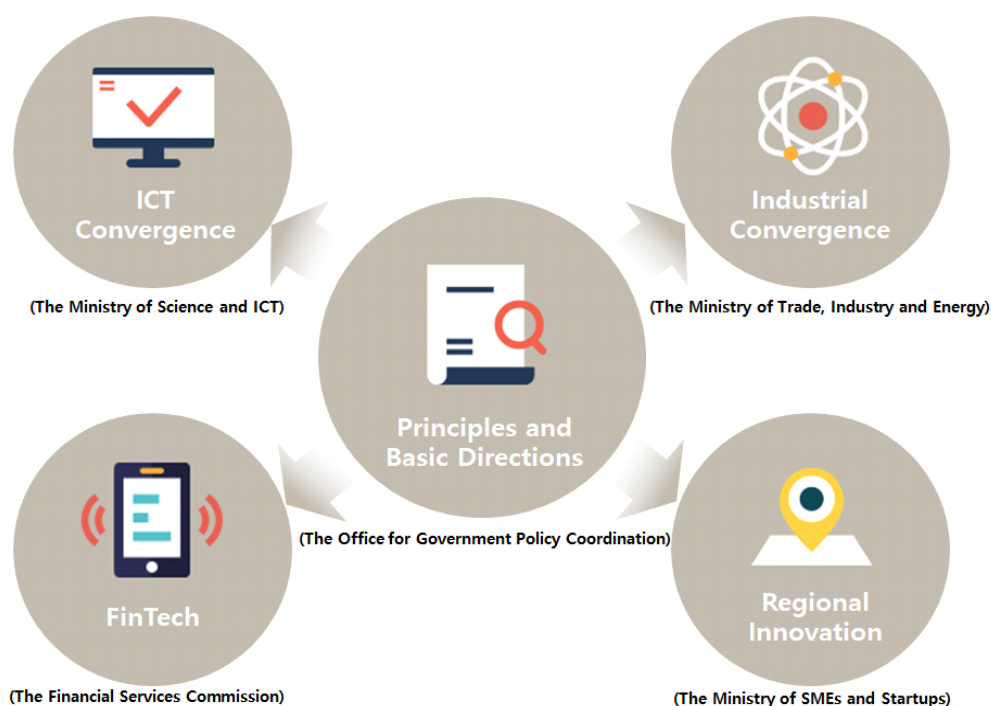
2.2 Characteristics of the Korean Regulatory Sandbox

The Korean regulatory sandbox is based on the principle of ‘ex ante authorization, ex post regulation’ under the negative-list regulatory system of “permitted in principle and prohibited in exceptional circumstances” and applies to new technologies and new industry sectors. This regulatory system permits everything except those prohibited by law or policy and is a type of ex-post regulatory system. On the other hand, the positive-list regulatory system of “prohibited in principle and exceptions allowed” lists only those permitted by law or policy and prohibits those not included in the list. The negative-list regulatory system breaks from the customary principle of prohibiting various and novel attempts in the fields of science and technology if there is no clear authorization of administrative business.

The regulatory sandbox sets certain conditions and suspends application of the existing regulations or gives exemption from the regulations under such conditions. Under the regulatory sandbox, exemption from application of all or partial provisions of an act is done by adding new provisions which prescribe suspension of the all or partial provisions or which contrast with all or partial provisions of another act. By doing so, if the application of a new technology, service, or product is considered inadequate under the existing regulations, the regulatory sandbox allows temporary suspension of or exemption from the regulations in order to make sure that the new technology, service, or product is released into the market before the regulations are revised.

2.3 Legislative Status of the Korean Regulatory Sandbox

Figure 1. Flowchart of the Korean Regulatory Sandbox ('1+4 Acts')



[Date source] Website of Regulatory Information Portal (www.better.go.kr), 2019.

Korea introduced the regulatory sandbox acts (1+4 acts) for regulatory innovation.

The five regulatory innovation acts (“The Framework Act on Administrative Regulations,” “The Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc.,” “The Industrial Convergence Promotion Act,” “The Special Act on Financial Innovation Support,” “The Act on Special Cases Concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development”) which constitute the basis of the Korean regulatory sandbox are all finalized for legislation. Of the five regulatory innovation acts finalized for legislation, “The Special Act on Promotion of Information and Communications Technology, Vitalization of

Convergence thereof, etc.” and “The Industrial Convergence Promotion Act” became effective on January 17, 2019, “The Special Act on Financial Innovation Support” began on April 1, 2019, and “The Act on Special Cases Concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development” began on April 17, 2019. And the revised version of “The Framework Act on Administrative Regulations” was passed after the amendment on March 28, 2019.

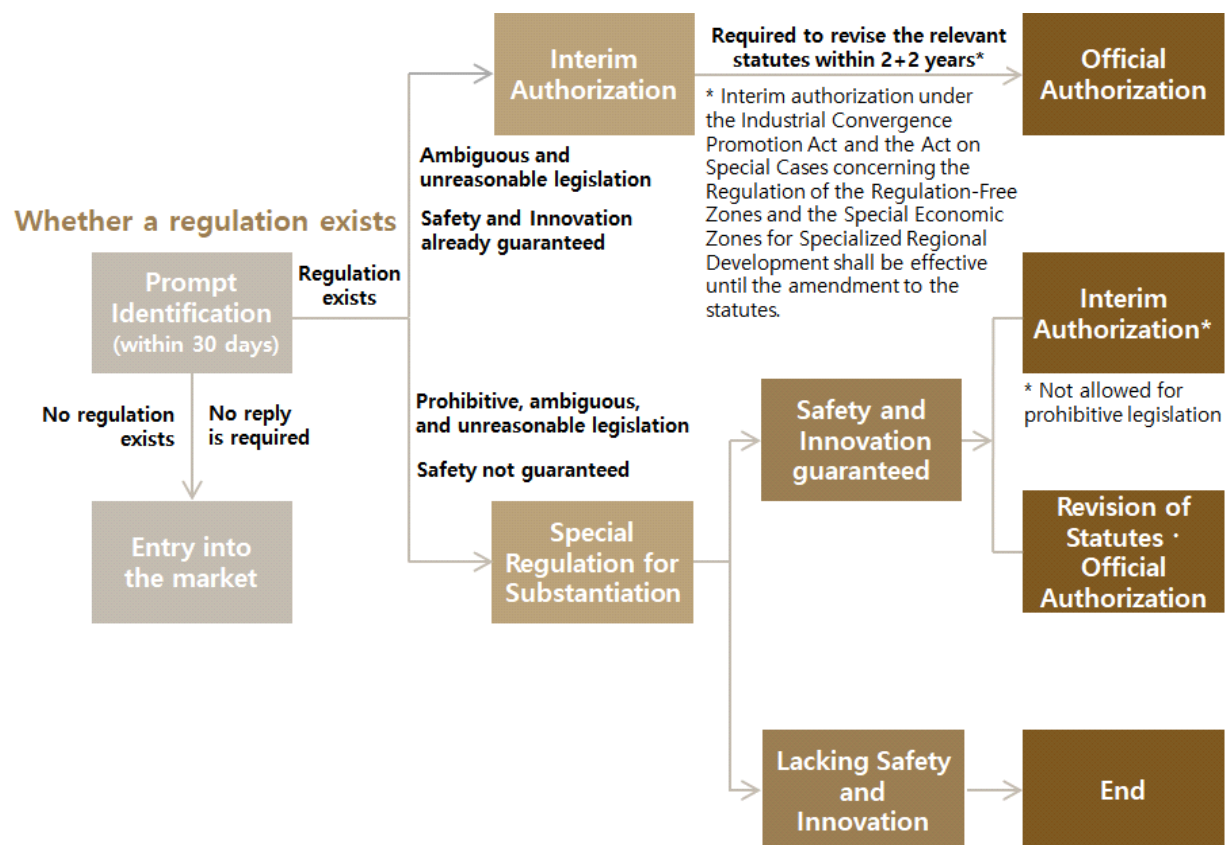
The Korean regulatory sandbox comprises three regulatory innovations of ‘prompt identification, special regulation for substantiation, and interim authorization.’

Table 1. History and Overview of the Acts and Bills on a Regulatory Sandbox²⁾

Category	Special Bill on Regulatory Reform of Pilot Projects	Special Bill on the Regulation-Free Zones		Regulatory Sandbox Acts (1 + 4 Acts)				
Introduction date	December 5, 2014	March 24, 2016	May 30, 2016	March 28, 2018	March 6, 2018	September 20, 2018	September 20, 2018	September 20, 2018
National Assembly session where introduction is made	19th Session	19th Session	20th Session	20th Session	20th Session	20th Session	20th Session	20th Session
Bill	Special Bill on Regulatory Reform of Pilot Projects for Creative Economy	Special Bill on the Designation and Operation of the Regulation-Free Zones for Regional Strategic Industry		Framework Act on Administrative Regulations	Special Act on Financial Innovation Support	Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc.	Industrial Convergence Promotion Act	Act on Special Cases concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development
Ministry concerned	Ministry of Science, ICT and Future Planning	Ministry of Economy and Finance		Office for Government Policy Coordination	Financial Services Commission	Ministry of Science and ICT	Ministry of Trade, Industry and Energy	Ministry of SMEs and Startups
Legal state	Enacted	Enacted		Partially amended	Enacted	Partially amended	Partially amended	Wholly amended
Introduced by	18 National Assembly members including Rep. Lee Hahn-koo	13 National Assembly members including Rep. Kang Seok-hoon	125 National Assembly members including Rep. Lee Hak-jae	Chairman of the National Policy Committee Integration and conciliation with the partial amendment of the Framework Act on Administrative Regulations and other introduced bills on special cases concerning regulatory reform	45 National Assembly members including Rep. Min Byung-doo	Chairman of the Science, ICT, Broadcasting, and Communications Committee Integration and conciliation after consolidated review of 4 bills with similar content	Chairman of the Trade, Industry, Energy, SMEs and Startups Committee Integration and conciliation after consolidated review of 3 bills with similar content	Chairman of the Trade, Industry, Energy, SMEs and Startups Committee Integration and conciliation after consolidated review of 4 bills with similar content
Result	Disposed due to term expiration	Disposed due to term expiration	Pending	Passed after amendment	Passed after amendment	Passed as it is	Passed as it is	Passed as it is
Enacted as	-	-	-	-	Special Act on Financial Innovation Support (April 1, 2019) Enforcement Decree of the Special Act on Financial Innovation Support (April 1, 2019)	Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc. (January 17, 2019) Enforcement Decree of the Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc. (January 17, 2019) Enforcement Rule of the Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc. (January 17, 2019)	Industrial Convergence Promotion Act (January 17, 2019) Enforcement Decree of the Industrial Convergence Promotion Act (January 17, 2019)	Act on Special Cases concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development (April 17, 2019) Act on Special Cases concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development (April 17, 2019) (Lower statutes are waiting for prior announcement of legislation.)

[Data source] compiled by the author

2) President selected and decided 27 regional strategic industries (two industries from each 13 cities and provinces and one from Sejong city) and announced the “Methods to Develop Regional Economy through the Introduction of Regulation-Free Zones.”

Figure 2. Three Regulatory Innovations

[Date source] Website of Regulatory Information Portal (www.better.go.kr), 2019.

The five regulatory innovation acts made to improve the existing regulatory conditions are not entirely new acts but rather revised and improved version of the existing “Special Bill on Regulatory Reform of Pilot Projects for Creative Economy” and “Special Bill on the Regulation-Free Zones” and are based on the various bills introduced and discussed before. In particular, the term “Regulation-Free Zone” prescribed in the Special Bill on the Regulation-Free Zones is also prescribed in the Act on Special Cases Concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional

Development and the issues concerning the “Regional Strategic Industry³⁾” in the Special Bill is also reflected in the Act.

2.3.1 Key Points of the Bills Which Have Been Discussed So Far

2.3.1.1 Special Bill on Regulatory Reform of Pilot Projects

A pilot project is a project implemented to verify the effectiveness and utility of the convergence

3) In December 2015, the Regional Development Committee under the authority of the President selected and decided 27 regional strategic industries (two industries from 13 cities and provinces and one from Sejong city) and announced the “Methods to Develop Regional Economy through the Introduction of Regulation-Free Zones.”

between different technologies, new technologies, applicability of the existing technology to a new use, convergence between products, and convergence between products and services (hereinafter referred to as “the convergence technologies, etc.”) and to identify the response of the market to the effectiveness and utility. A pilot project is carried out under limited conditions such as place, period, and scale.

If it becomes impossible or difficult for a business project to be carried out with the existing standards, specifications, requirements, etc. in accordance with the statutes which are the basis of licenses, approvals, accreditations, certifications, and licenses (hereinafter referred to as licenses, etc.) then it is not suitable for the release of the convergence technologies, etc. into the market. If there is no legal grounds for the licenses, etc. or if the legal grounds are unclear, anyone who wants to carry out the business project can be granted authorization to conduct a pilot project for a limited period of time after sending a request for approval of the pilot project to the head of the central administrative agency concerned. The term ‘pilot project’ used in this paper covers ‘interim authorization’ and ‘special regulation for substantiation’ under a regulatory sandbox.

2.3.1.2 Special Bill on the Regulation-Free Zones

Under the Special Bill on the Regulation-Free Zones, any business activity related to regional strategic industries shall be granted authorization if there is no explicit restriction or prohibition pursuant to other statutes (permitted in principle and no exception allowed).

In addition, if it is necessary for the central administrative agency that is concerned to decide and analyze whether or not a regional strategic industry is subject to regulations, the head of the central administrative agency concerned shall send

his/her opinion to the Minister of Economy and Finance within thirty (30) days. If the head does not send his/her opinion, no regulation shall be applied. The term ‘regulatory verification’ used here is virtually the same as ‘prompt identification’ used in a regulatory sandbox.

Under the Special Bill on the Regulation-Free Zones, a business activity whose safety is not verified until its release into the market or a business activity which requires a pilot project to be carried out to verify relevant technologies or identify market responses could be subject to a pilot project with restrictions imposed on place, period, or scale. The term ‘projects based on new technologies’ used here is virtually the same as ‘special regulation for substantiation’ used in a regulatory sandbox.

Finally, if there is no regulation or the existing regulations are inappropriate or unreasonable, special exemption is granted to the business activity if the business responsible for the activity secures the safety of the activity. The term ‘special regulation for substantiation for companies’ used here is virtually the same as ‘interim authorization’ used in a regulatory sandbox.

2.3.2 Key Points of the Acts on a Regulatory Sandbox

2.3.2.1 Framework Act on Administrative Regulations

According to the Framework Act on Administrative Regulations, the State or a local government prescribes which regulations related to the new services or products utilizing new technologies should be included in acts and subordinate statutes, municipal ordinances or municipal rules, and these regulations shall be considered foremost as the rights restricted or duties imposed by the regulations shall be listed restrictively and other matters shall be permitted in principle (principle of ex ante authorization and ex post regulation).

The head of a central administrative agency shall immediately verify and revise the regulations related to new services and products using new technologies (revision of the regulations related to new services and products). Furthermore, if it is difficult or inappropriate for the existing regulations to be applied to the new services and products using new technologies when it comes to the regulations related to the new services and products using new technologies, the head of a central administrative agency could exempt the new services and products from the existing regulations or postpone the application of the regulations as stipulated by the relevant laws which grant special exemption related to the services and products even before the regulations have not yet been revised (regulatory exemption related to new services and products using new technologies).

2.3.2.2 Act on Financial Innovation Support

The Financial Services Commission can designate what innovative financial services are, and the provider of an innovative financial service can implement the innovative financial service within the designated range even if the innovative financial service is not prescribed in the finance-related statutes, or it is not appropriate to apply relevant provisions to the innovative financial service (operation of an innovative financial service).

The Financial Service Commission can grant special exemption to a provider of an innovative financial service within the scope designated by the Commission (exemption for regulatory application). The special exemption refers to the exemption from the provisions prescribed in the finance-related statutes, such as licensing, registration, and reporting of financial services or that related to the provider of financial services in the areas of governance, scope of business, integrity, business activities of the provider and matters related to supervision and

inspection of the provider.

In addition, those who want to provide innovative financial services can receive a reply within thirty (30) days if they apply to the Financial Services Commission for verification of whether or not the services are subject to statutes (prompt identification of regulations).

2.3.2.3 Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence Thereof, Etc.

According to the Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc., anyone may operate an ICT convergence business which utilizes the new ICT technologies and services (hereinafter referred to as an ICT convergence business) and the State can restrict the ICT convergence businesses if the convergence businesses threaten the life and safety of the people and, in accordance with this principle, the State shall do its best to revise the relevant statutes and systems (principle of ex ante authorization and ex post regulation).

In addition, a person who intends to conduct a new ICT convergence business may apply to the Minister of Science and ICT for confirmation of whether or not the technologies and services behind the new ICT convergence business are subject to the licenses, etc. under the relevant statutes (fast processing).

Any person who intends to conduct a new ICT convergence business may apply to the Minister of Science and ICT for regulatory exemptions when the person is exempt from all or partial regulations related to the new ICT convergence business. This is done in order to conduct limited tests on or technical verification of the technologies and services used for the new ICT convergence business if the licenses, etc. cannot be issued to the technologies and services according to the provisions of the different statutes

or if it is inappropriate for the standards, specifications, and requirements under the statutes to be applied to the relevant technologies and services (regulatory exemption for substantiation tests) or if it is not clear how these standards, specifications, and requirements should be applied.

Also, anyone who intends to start a new ICT convergence business may apply to the Minister of Science and ICT for an interim authorization of the business in order to achieve commercialization of the technologies and services related to the new business if the statutes which serve as the basis for the licenses, etc. of the business do not prescribe the standards, specifications, and requirements suitable for the technologies and services related to the new business. In addition, if the statutes have the standards, specifications, and requirements, but the application of the statutes itself is considered unclear or inappropriate, an interim authorization may be requested.

2.3.2.4 Industrial Convergence Promotion Act

According to the Industrial Convergence Promotion Act, the State and local governments are obliged to allow new industrial convergence products and services in principle and shall restrict the products and services only when they threaten the life and safety of the people or significantly disturb the environment. In accordance with this principle, the State and local governments shall revise the relevant statutes (principle of ex ante authorization and ex post regulation).

Also, anyone who wants to start a business by utilizing new industrial convergence products and services may apply to the Minister of Commerce, Industry and Energy for confirmation as to whether or not the new products and services require the licenses, etc. (prompt identification of regulations).

The Industrial Convergence Promotion Act exempts the new industrial convergence products and services from all or partial regulations in order to conduct tests on or verification of the technologies

and services if it is impossible for the new products and services to apply for the licenses, etc. under other statutes, and if the statutes which serve as the basis for the official authorization of the products and services do not prescribe the standards, specifications, and requirements, or if it is inappropriate for the standards, specifications, and requirements to be applied to the new products and services thereby, making it impossible for a business to provide the new products and services (regulatory exemption for substantiation tests).

In addition, this system temporarily issues the licenses, etc. effective for a specific period of time if the new industrial convergence products and services are verified as safe even when there are no standards, specifications, and requirements in the statutes which serve as the basis for the authorization of the new products and services or when it is considered not appropriate for the standards, specifications, and requirements in the statutes to be applied to the products and services (interim authorization).

2.3.2.5 Act on Special Cases Concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development

According to the Act on Special Cases concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development, the State and local governments are obliged to allow new innovative businesses in principle and shall restrict the innovative businesses only when they threaten the life and safety of the people or significantly disturb the environment. In accordance with this principle, the State and local governments shall revise the relevant statutes (principle of ex ante authorization and ex post regulation).

A Regulation-Free Zone is a zone designated and

notified by the Minister of SMEs and Startups in metropolitan cities and provinces (except the Seoul Capital Area). Regulatory exemption is applied to a Regulation-Free Zone in order to foster innovative businesses.

In order to promote innovative businesses in a Regulation-Free Zone, it is possible to ask the major of the competent city or the governor of the competent province to confirm the necessity of related licenses, etc. (prompt identification of regulations).

The exemption for substantiation tests under the Act on Special Cases Concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development means exemption from all or partial regulations in order to conduct tests on or verification of the new products using new technologies if it is impossible for innovative businesses to apply for the licenses, etc. under other statutes, and if the

statutes which serve as the basis for the official authorization of the innovative businesses do not prescribe the standards, specifications, and requirements, or if it is inappropriate for the standards, specifications, and requirements to be applied to the innovative businesses thereby, making it impossible for an innovative business to provide the new products and services using new technologies (regulatory exemption for substantiation tests).

In addition, this is the system to temporarily issues the licenses, etc. effective for a specific period of time if innovative businesses are verified as safe even when there are no standards, specifications, and requirements in the statutes which serve as the basis for the authorization of innovative businesses or when it is considered not appropriate for the standards, specifications, and requirements in the statutes to be applied to innovative businesses (interim authorization).

Table 2. Comparison of the Acts and Bills on a Regulatory Sandbox

Category	Special Bill on Regulatory Reform of Pilot Projects	Special Bill on the Regulation-Free Zones	Framework Act on Administrative Regulations	Act on Financial Innovation Support	Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc.	Industrial Convergence Promotion Act	Act on Special Cases concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development	Notes (concerning Regulatory Sandbox 1 + 4 Acts)
Principle of ex ante authorization and ex post regulation	×	○ Article 4	○ Article 5-2	×	○ Article 3-2	○ Article 3-2	○ Article 4	* Similar to the provisions of the Framework Act on Administrative Regulations and the Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc.
Prompt identification	×	○ Article 12 Regulatory identification	○ Article 19-3 Regulatory revision	○ Article 24 Prompt regulatory identification	○ Article 36 Fast processing	○ Article 10-2 Prompt regulatory identification	○ Article 85 Prompt identification	

Category	Special Bill on Regulatory Reform of Pilot Projects	Special Bill on the Regulation-Free Zones	Framework Act on Administrative Regulations	Act on Financial Innovation Support	Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc.	Industrial Convergence Promotion Act	Act on Special Cases concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development	Notes (concerning Regulatory Sandbox 1 + 4 Acts)
Special regulation for substantiation	○ Article 5, etc. Pilot projects	○ Article 15, etc. Projects based on new technologies	○ Article 19-3 Regulatory exemption	×	○ Article 38-2 Special regulation for substantiation	○ Article 10-3 Special regulation for substantiation	○ Article 86, etc. Special regulation for substantiation	* The Framework Act on Administrative Regulations provides the framework for interim authorization and special regulation for substantiation
Interim authorization		○ Article 13, etc. Special regulation for substantiation of companies		○ Article 17, etc. Special regulation in terms of applying regulation	○ Article 37 Interim authorization	○ Article 10-5 Interim authorization	○ Article 90, etc. Interim authorization	
Designation of special zones	×	○ Article 6, etc. Regulation-free zones	×	×	×	×	○ Article 72, etc. Regulation-free special zones(Regulation-free zones)	
Establishment of committees	○ Article 20 Pilot Project Review Committee	○ Article 91, etc. Special Committee on Regulation-Free Zones	×	○ Article 13 Innovative Finance Evaluation Committee	○ Article 10-2 New Technology and Service Review Committee	○ Article 8 Industrial Convergence Regulatory Exemption Review Committee	○ Article 77 Regulation-Free Zone Committee Article 79 Regulatory exemption Review Committee	
Penalty provisions	○ Article 26, etc.	○ Article 94, etc.	×	○ Article 33, etc.	○ Article 44	○ Article 38	○ Article 142	

[Data source] compiled by the author

3. The Current State of the Korean Regulatory Sandbox Focusing on ICT · Industrial Convergence Regulatory Sandbox

“ICT Regulatory Sandbox” and “Industrial Convergence Regulatory Sandbox” are being implemented as “The Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc.” and “The Industrial Convergence Promotion Act” became

effective on January 17, 2019. The “Financial Regulatory Sandbox” is being implemented as “The Act on Financial Innovation Support” became effective on April 1, 2019. Also, “Regulation-free Special Zone” is being implemented as “The Act on Special Cases Concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development” became effective on April 17, 2019.

The Ministry of Science and ICT and the Ministry of Trade, Industry and Energy opened the website

to explain the procedures for a regulatory sandbox (prompt identification, special regulation for substantiation, and interim authorization) on December 31, 2018 and established a counseling center to provide legal and technical analyses and help establish the plans for special regulation for

substantiation. On the first day of implementation, 19 regulatory sandbox applications were submitted to the Ministry of Science and ICT (10 applications) and to the Ministry of Trade, Industry and Energy (9 applications).

Table 3. List of the Projects Applied for the Regulatory Sandbox System

Category	Company name	Business model	Project type	Rule used for review	Ministry concerned
ICT regulatory sandbox	KakaoPay Corp. KT Corp.	Mobile electronic notification service for messenger and character-based bills issued by administrative and public institutions	Interim authorization	Act on Promotion of Information and Communications Network Utilization and Information Protection, etc.	Ministry of Science and ICT Korea Communications Commission
	Moiin	Blockchain-based overseas remittance service	Interim authorization Special regulation for substantiation	Foreign Exchange Transactions Act	Ministry of Economy and Finance
	VRisVR	Mobile VR truck	Interim authorization Special regulation for substantiation	Game Industry Promotion Act Motor Vehicle Management Act	Ministry of Culture, Sports and Tourism
	joinsauto	Online car scrap value comparison service	Special regulation for substantiation	Motor Vehicle Management Act	Ministry of Land, Infrastructure and Transport
	AllLive Healthcare Co., Ltd.	Online agency for clinical trial applicants	Special regulation for substantiation	Pharmaceutical Affairs Act	Ministry of Health and Welfare Ministry of Food and Drug Safety
	Blakstone Co., Ltd.	Maritime distress signal device based on the transmission of moisture sensor detection signals	Interim authorization	Radio Waves Act	Ministry of Science and ICT Korea Communications Commission
	Starkoff Co., Ltd.	IoT-enabled smart electric car rechargeable outlet	Interim authorization	Measures Act	Ministry of Trade, Industry and Energy
	NewKoADwind Inc.	Delivery Digital Box – Motorcycle advertising	Special regulation for substantiation	Act on the Management of Outdoor Advertisements, etc. and Promotion of Outdoor Advertisement Industry	Ministry of the Interior and Safety
Industrial convergence regulatory sandbox	Hyundai Motor Company	Urban hydrogen station	Special regulation for substantiation Interim authorization	Enforcement Decree of the National Land Planning And Utilization Act Seoul Metropolitan Government Ordinance on Urban Planning	Ministry of Land, Infrastructure and Transport Seoul Metropolitan Government
	Macrogen, Inc.	Health promotion service customized by genome analysis	Special regulation for substantiation	Bioethics and Safety Act	Ministry of Health and Welfare

Category	Company name	Business model	Project type	Rule used for review	Ministry concerned
	JG Industry Co., Ltd.	Digital signage bus advertising	Special regulation for substantiation	Act on the Management of Outdoor Advertisements, etc. and Promotion of Outdoor Advertisement Industry Act on the Prevention of Light Pollution due to Artificial Lighting	Ministry of the Interior and Safety Ministry of Environment
	Charzin	Pay-per-charging outlet which supports electric car charging	Special regulation for substantiation	Electric Utility Act	Ministry of Trade, Industry and Energy
	RS Careservice Corp.	Electric assist kit for manual wheelchairs	Special regulation for substantiation	Medical Devices Act Standards for medical devices	Ministry of Food and Drug Safety
	KEPCO	Power data sharing center	Special regulation for substantiation	Personal Information Protection Act	Ministry of the Interior and Safety
	Jung Lab Cosmetics	Probiotics cosmetics	Interim authorization	Regulation on Safety Standards etc. of Cosmetics	Ministry of Food and Drug Safety
	Jinwoo SMC Co., Ltd.	Truck-mounted telescopic handler	Interim authorization	Public Notification of Compulsory Safety Certification for Dangerous Machinery Regulation on Safety Standards for Construction Machinery	Ministry of Employment and Labor Ministry of Land, Infrastructure and Transport
	NF	Centralized automatic oxygen supplier	Interim authorization	Enforcement Decree of the National Health Insurance Act Republic of Korea Pharmacopoeia, etc.	Ministry of Health and Welfare Ministry of Food and Drug Safety
	KEPCO	Power & Energy Marketplace	Interim authorization	Korea Electric Power Corporation Act	Ministry of Trade, Industry and Energy

[Data source] Bae Young-im and Shin Hye-ri (2019)

The Ministry of Science and ICT and the Ministry of Trade, Industry and Energy conducted consultation with ministries concerned. They also conducted advance reviews of the applications for the regulatory sandbox and held a Review Committee to discuss whether or not to designate an application as a regulatory sandbox.

At the 1st New Technology and Service Review Committee hosted by the Ministry of Science and ICT (February 14, 2019), the regulatory sandbox was granted to two out of three agenda items (applications). At the 2nd New Technology and Service Review Committee (March 6, 2019), the

regulatory sandbox was granted to all (four) agenda items (applications).

At the 1st Industrial Convergence Regulatory Exemption Review Committee hosted by the Ministry of Trade, Industry and Energy (on February 11, 2019), the regulatory sandbox was granted to all (four) agenda items (applications). And at the 2nd Industrial Convergence Regulatory Exemption Review Committee (on February 27, 2019), the regulatory sandbox was granted to two out of five agenda items (applications) and other methods to remove regulatory barriers were applied to the remaining three agenda items (applications).

Table 4. Composition of the Regulatory Sandbox Review Committee

Category	ICT regulatory sandbox		Industrial convergence regulatory sandbox	
Committee	New Technology and Service Review Committee		Industrial Convergence Regulatory Exemption Review Committee	
Chairperson	Minister of Science and ICT		Minister of Trade, Industry and Energy	
Government delegates	6 persons	Vice ministers of Trade, Industry and Energy; Health and Welfare; Land, Infrastructure and Transport; and Financial Services Commission and vice ministers of ministries concerned subject to review	12 persons	Vice ministers of Economy and Finance; Science and ICT; the Interior and Safety; Culture, Sports and Tourism; Agriculture and Forestry; Health and Welfare; Environment; Employment and Labor; Land, Infrastructure and Transport; Oceans and Fisheries; SMEs and Startups; and Financial Services Commission
Civilian delegates	13 persons	Civilian delegates with high professionalism from various fields including industrial, legal, and consumer groups	12 persons	Twelve civilian experts including two experts recommended by a standing committee of the National Assembly
Total	20 persons in total		25 persons in total	

[Data source] Ministry of Science and ICT (2019) and Ministry of Trade, Industry and Energy (2019)

Table 5. List of the Tasks To be Handled Through the Regulatory Sandbox System

Category	Company name	Business model	Review result	Note
ICT regulatory sandbox	HUINNO Korea University Anam Hospital	Cardiac care service using a wristwatch-type electrocardiography device	Special regulation for substantiation granted	Agenda item on the 1st New Technology and Service Review Committee
	KakaoPay Corp. KT Corp.	Mobile electronic notification service for messenger and character-based bills issued by administrative and public institutions	Interim authorization granted	
	AllLive Healthcare Co., Ltd.	Online agency for clinical trial applicants	Instead of granting special regulation for substantiation, notifying the organization carrying out a clinical trial of the fact that ‘online recruitment of clinical trial participants’ is allowed	
	VRisVR Lusso Factory	Mobile virtual reality (VR) experience service truck	Interim authorization and special regulation for substantiation granted	Agenda item on the 2nd New Technology and Service Review Committee
	joinsauto	Mobile-based car scrap value comparison service	Special regulation for substantiation granted	
	Starkoff Co., Ltd.	Charging outlet for smart electric cars	Interim authorization granted	
	Blakstone Co., Ltd.	Maritime distress signal device for lifesaving	Interim authorization granted	

Category	Company name	Business model	Review result	Note
Industrial convergence regulatory sandbox	Hyundai Motor Company	Installation and operation of urban hydrogen stations	Special regulation for substantiation granted	Agenda item on the 1st Industrial Convergence Regulatory Exemption Review Committee
	Macrogen, Inc.	Customized health promotion service through genome analysis directly requested by consumers	Special regulation for substantiation granted	
	JG Industry Co., Ltd.	Digital bus advertising	Special regulation for substantiation granted	
	Charzin	App-based electric car charging outlet	Interim authorization granted	
	KEPCO	Establishment of power data sharing centers	Special regulation for substantiation granted	Agenda item on the 2nd Industrial Convergence Regulatory Exemption Review Committee
	RS Careservice Corp.	Electric assist kit for manual wheelchairs	Special regulation for substantiation granted	
	NF	Centralized oxygen generation system	Official authorization granted	
	KEPCO	Energy marketplace	Allowing the business to be launched through authoritative interpretation	
	Jung Lab Cosmetics	Cosmetics using probiotics as ingredients	Confirmed that no regulation exists	

[Data source] Ministry of Science and ICT (2019) and Ministry of Trade, Industry and Energy (2019)

4. A Proposal for Invigorating the Regulatory Sandbox

4.1 A Clear Understanding of the Korean Regulatory Sandbox Shall be Made First.

It is most important to recognize that the Korean regulatory sandbox differs from the international regulatory sandbox system as the Korean version applies to the ICT, industrial convergence, and regional special zones in addition to the financial sector. The Korean regulatory sandbox reflects the first attempt in Korea to pass a bill enacting a system which covers various fields when compared to foreign countries where similar systems are already in place. Therefore, it is necessary to clearly understand the characteristics of the Korean regulatory sandbox which differentiate the Korean version from the existing regulatory sandbox systems and to develop an operative and legal system required

to help the Korean regulatory sandbox successfully take root.

The Korean regulatory sandbox itself serves as the test bed for improvement of statutes and as a temporary mitigation and postponement of the system. The effect of the regulatory sandbox can be maximized when the matters confirmed by the regulatory sandbox become legalized and applied under the legal system.

4.2 A Policy Proposal for Invigorating the Regulatory Sandbox

It is necessary to disclose the data and information created during the procedures for the regulatory sandbox related to application and review. Currently, each ministry which operates a regulatory sandbox has established an online homepage to provide information on related seminars and application methods. However, the ministries' homepages do

not disclose the details of applications, statutes, provisions and data related to the applications and their reviews. Although some of the information has been disclosed to the public through press releases, they are limited to promoting special regulation for substantiation and interim authorization.

Each ministry should clearly state the provisions of the relevant statutes and disclose precisely which provision is used to grant regulatory postponement to the organization applying for a regulatory sandbox even through the existing statutes that serve as the basis for regulations. This is because, if such information is fully disclosed to the public, a latecomer or a SME could apply for the regulatory sandbox on the grounds that their application is based on the provision used to grant regulatory exemption to the organization applying for a regulatory sandbox without seeking legal advice or consultation.

The current regulatory sandbox meets the requirements for creation of technology-based new markets, but it is not suitable for basic and applied research fields for future R&D activities including development of new technologies and services, and therefore, it needs support for consultation and review on how to apply for the R&D-related regulatory sandbox. As of today, special regulation for

substantiation is limited to the cases which require commercializing new products and services. Interim authorization is also limited to the cases which are required to release new products and service into the market.

In order to verify the stability and efficacy of R&D itself and to understand market reactions, it is necessary to develop separate methods for trial implementation of the regulatory sandbox with limited place, period, and scale. In particular, though regulatory improvement for bio-related sectors including biotechnology focuses on R&D-related issues, it is not easy to expand the scope of R&D activities through the regulatory sandbox.

It is also necessary to discuss the investigation and relevant revision of each special zone in Korea. Discussions about the regulatory sandbox and the revision of the existing special zones are required to maximize the effectiveness of the “Regulation-Free Zones” under the Act on Special Cases Concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development. It is also necessary to abolish the special zones whose economic efficacy is lower than expected, and the use of the Regulation-Free Special Zones under the act should be promoted.

Table 6. Summary of the Statutes Concerning Special Zones in Korea

Title	Statute concerned	Ministry concerned	Effective date	Note
Regional Special Zones (Regulation-Free Zones), Special Economic Zones for Specialized Regional Development	Act on Special Cases concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development	Ministry of SMEs and Startups	April 17, 2019	
Saemangeum Project Area	Special Act on Promotion and Support for Saemangeum Project	Ministry of Land, Infrastructure and Transport	September 12, 2013	
Special Zone for Internationalization of Education	Special Act on Designation, Operation, and Fostering of Special Zones for Internationalization of Education	Ministry of Education	July 27, 2012	
Special Research and Development Zone	Special Act on Promotion of Special Research and Development Zones	Ministry of Science and ICT	July 27, 2012	

Title	Statute concerned	Ministry concerned	Effective date	Note
Special Horse Industry Zone	Horse Industry Development Act	Ministry for Food, Agriculture, Forestry and Fisheries	August 4, 2011	
International Science and Business Belt	Special Act on Establishment of and Support for International Science and Business Belt	Ministry of Science and ICT	April 5, 2011	
High-Tech Medical Complex	Special Act on the Designation and Support of High-Tech Medical Complexes	Ministry of Health and Welfare Ministry of Science and ICT Ministry of Trade, Industry and Energy	June 29, 2008	
Free International City	Special Act on the Establishment of Jeju Special Self-Governing Province and the Development of Free International City	Ministry of the Interior and Safety Ministry of Land, Infrastructure and Transport	June 21, 2006	
Educational Institutions in Free Economic Zones and Free International City	Special Act on Establishment and Management of Foreign Educational Institutions in Free Economic Zones and Jeju Free International City	Ministry of Education	December 1, 2005	
National Innovation Cluster	Special Act on Balanced National Development	Ministry of Trade, Industry and Energy, Ministry of Economy and Finance	April 1, 2004	
Free Economic Zone	Special Act on Designation and Management of Free Economic Zones	Ministry of Trade, Industry and Energy	July 1, 2003	
Free Trade Zone	Act on Designation and Management of Free Trade Zones	Ministry of Trade, Industry and Energy	July 13, 2000	
Special Tourist Zone	Tourism Promotion Act	Ministry of Culture, Sports and Tourism	July 1, 1987	

[Data source] compiled by the author

As invigoration of the regulatory sandbox could be hampered due to the lack of applying companies and applicants, regulatory authorities should strengthen their capacity for consultation. The purpose of the regulation sandbox is to provide market participants with a place to test-run new technologies and new industry sectors for a certain period of time without being burdened with regulations. However, the regulation sandbox could be useless if a company or an individual does not apply for the regulatory sandbox or gives up before completing application forms due to the lack of

understanding of the complicated legal principles and systems.

Human and material support for the invigoration of the regulatory sandbox is also important. As diverse players including large corporations, SMEs, and individual operators are expected to be the participants in the regulatory sandbox, the government should strengthen its capacity as the professional consultant which meets the demands of each player. The Ministry of Science and ICT and the Ministry of Trade, Industry and Energy, the current operators of the regulatory sandbox, have

counseling centers to provide legal and technical analyses and help establish the plans for special regulation for substantiation. However, instead of providing support only as a response to each application, the ministries should consider establishing a system that can provide counseling services which meet the demands of each participant associated with the regulatory sandbox.

There is also a need to strengthen the capacity and expertise related to the regulatory sandbox by establishing the agencies dedicated to the regulatory sandbox. Depending on the capacity and expertise of each ministry official or regulatory agency in charge of the regulatory sandbox, processing applications for the regulatory sandbox could be done either smoothly or poorly. As the ministries involved in the regulatory sandbox are the ministries most concerned and relevant central administrative agencies, depending on how they operate, implementation of the regulatory sandbox may discourage innovation. As many of the applications for the regulatory sandbox are based on new technologies and new industries, the ministries concerned should have enough capacity and expertise to interpret and review the applications.

In order for the regulatory sandbox applications that are sent to the ministries to be identified and processed swiftly, the ministrie should increase the manpower in charge of the regulatory sandbox or support methods to improve the efficiency of the processes for prompt identification. In addition, the Review Committee should be more professional and fair in assuring that the applications submitted as agenda items for the Review Committee will receive prompt identification and processed more efficiently after advance reviews by the authorities concerned.

A strong will is required for fulfilling the roles of the ministries concerned as well as strengthening their cooperation with each other. The Korean regulatory sandbox is used for postponement or exemption of the regulations in various fields

including ICT, industrial convergence, and regional special zones as well as the financial sector. Accordingly, the Korean regulatory sandbox covers various organizations and stakeholders. In order for the Korean version to successfully take root, the ministries concerned should fulfill their roles and cooperation between ministries should be in place. It is also expected that the Korean regulatory system will successfully establish itself if their fulfillment and cooperation serve the purpose of introducing a Korean regulatory sandbox and the Korean regulatory system that continuously strives to improve upon itself.

The government should not be obsessed with the number of applications and the number of agenda items passed at the Review Committee. Deregulation policies have been fixated upon the number of deregulation cases. The obsession with numbers is no more meaningful as the irrationality of regulations is still much discussed despite the dramatic decline in the number of regulations. Although the number of regulations has gone down, the quality of deregulation is still low. To deal with this, we should not put great emphasis on the number of applications and agenda items passed at the Review Committee after the introduction of a regulatory sandbox. Special regulation for substantiation and interim authorization serve as an opportunity to conduct businesses for a certain period of time and at a certain place without being subject to the regulations under the existing statutes. Therefore, it should be clarified that each application of special regulation for substantiation and interim authorization is meaningful.

4.3 A Legislative and Institutional Proposal for Invigoration

First of all, it is necessary to discuss the revision of the provisions for smooth implementation of the 'prompt identification' system. Most people think

that the head of a central administrative agency should answer questions concerning regulations within thirty (30) days and, if there's no reply to the questions within thirty (30) days, there will be no regulation. However, the provisions related to the regulatory sandbox are not the same as the above

and are complicated, thus, the public has difficulty in clearly understanding the provisions. Therefore, this should be taken into consideration when developing relevant enforcement decrees and administrative rules.

Table 7. Comparison of the Prompt Identification System Prescribed in the Four Regulatory Innovation Acts

Title of the Act	Name of the prompt identification system	Details (comparison is only made between the provisions of each Act)
Act on Financial Innovation Support	Prompt identification of regulations	<ul style="list-style-type: none"> - The Financial Services Commission shall respond within thirty (30) days if anyone who wants to provide innovative financial services applies to the Commission for verification of whether the services are subject to statutes. - If the application needs to be supplemented, the applicant may be requested to supplement and the supplementation period shall not be counted in the thirty days. - In the event that the application needs a review of another administrative agency and the Commission notifies the applicant of the fact, the period during which the administrative agency reviews the application shall not be counted in the thirty days and the administrative agency shall send the result of its review to the Commission within thirty (30) days. - To prevent the period not counted in the thirty days from increasing indefinitely, the total period not counted in the thirty days cannot exceed ninety (90) days in total. - However, as the Commission may extend the period during which the replay shall be sent within thirty (30) days only once, the total period of extension shall be interpreted as a maximum of one hundred and twenty (120) days.
Special Act on Promotion of Information and Communications Technology, Vitalization of Convergence thereof, etc.	Fast processing	<ul style="list-style-type: none"> - If anyone who intends to conduct a new ICT convergence business using new technologies and services applies to the Minister of Science and ICT for confirmation of whether the technologies and services behind the new ICT convergence business are subject to the licenses, etc. under the relevant statutes, the Minister shall notify the head of the ministry concerned of the application. - When the Minister of Science and ICT notifies the head of the ministry concerned of the application, the head of the ministry concerned shall reply to the Minister of Science and ICT within thirty (30) days about whether the licenses, etc. are necessary or not. If the reply is not made within thirty (30) days, it shall be considered that the technologies and services behind the new ICT convergence business are not subject to the licenses, etc. under the relevant statutes or the licenses, etc. by ministry concerned are not necessary. - If the Minister of Science and ICT thinks that the application needs to be supplemented, the Minister may set the substantial period during which the supplementation is done (the period is not specifically defined) and ask the applicant to complete the supplementation within the set period. - The head of the ministry concerned may also set the substantial period during which the supplementation is done and then ask the applicant to complete the supplementation within the set period if the head thinks that the application needs to be supplemented. The set period shall not be counted in the thirty days within which the reply to the Ministry of Science and ICT shall be made.

Title of the Act	Name of the prompt identification system	Details (comparison is only made between the provisions of each Act)
Industrial Convergence Promotion Act	Prompt identification of regulations	<ul style="list-style-type: none"> - Anyone who intends to do the business by utilizing new industrial convergence products and services can apply to the Minister of Commerce, Industry and Energy for confirmation of whether the new products and services require the relevant licenses, etc. If the reply is not made within thirty (30) days, it shall be considered that the new products and services are not subject to the relevant licenses, etc. - If the application shall be handled by another administrative agency, the Minister of Commerce, Industry and Energy shall notify the head of the administrative agency of the application. - The head of the administrative agency concerned shall reply to the Minister of Commerce, Industry and Energy within thirty (30) days about whether the application shall be handled by the administrative agency or not or whether the new products and services require the relevant licenses, etc. or not. If the reply is not made within thirty (30) days, it shall be considered that the application shall not be handled by the administrative agency or the new products and services do not require the licenses, etc. by the administrative agency concerned. - The Minister of Commerce, Industry and Energy shall immediately inform the applicant of the notification made by the administrative agency concerned.
Act on Special Cases concerning the Regulation of the Regulation-Free Zones and the Special Economic Zones for Specialized Regional Development	Regulatory verification	<ul style="list-style-type: none"> - Anyone intends to promote innovative businesses in a Regulation-Free Zone can apply to the major of the competent city or the governor of the competent province for confirmation of whether the innovative businesses require the relevant licenses, etc. The major or the governor shall conduct the regulatory verification within the scope of authority. - If the mayor or governor decides that the application requires the regulatory verification by the head of a central administrative agency, the mayor or governor shall submit the regulatory verification to the Minister of SMEs and Startups and the Minister shall immediately notify the head of the central administrative agency concerned of the regulatory verification. - The head of the central administrative agency concerned shall reply to the Minister of SMEs and Startups within thirty (30) days about the opinion on the regulatory verification. If the documentary supplementation is required, the head of the central administrative agency concerned may ask the applicant to submit the documentary supplementation. The supplementation period shall not be counted in the thirty days. - If the reply to the Minister of SMEs and Startups is not made within thirty (30) days, it shall be considered that the licenses, etc. by the head of the central administrative agency concerned are not required. - The Minister of SMEs and Startups shall notify the mayor or governor of the result and the notified mayor or governor shall inform the applicant of the result. - If the opinions from the central administrative agencies concerned conflict with each other, the Minister of SMEs and Startups shall make the opinions go through the deliberation and resolution by the Regulation-Free Zone Committee within thirty (30) days and immediately notify the competent mayor or governor of the result of the deliberation and resolution. If the documentary supplementation is required during the deliberation and resolution by the Regulation-Free Zone Committee, the Minister shall ask the applicant to submit the documentary supplementation. The supplementation period shall not be counted in the thirty days.

[Data source] compiled by the author

Research should also be conducted on the limitations that may arise from the interpretation of the provisions concerning the regulatory sandbox.

First, anyone can participate in the business that is subject to a regulatory sandbox according to the principle of *ex ante* authorization and *ex post* regulation. However, the provision which says, “If the business threatens ‘the life and safety of the people,’ the performance of the business could be restricted” and could be used as the logic behind the argument that every business could be subject to restriction because every activity involves a certain level of risk and uncertainty.

The provision which says, “Special regulation for substantiation and application for and designation of interim authorization accompany the review by the ministries concerned” could mean that the business cannot be performed if the discussion between the ministries concerned does not go as planned even after special regulation for substantiation and interim authorization are granted. Approval of the regulatory sandbox by the ministries concerned cannot override all relevant regulations, and there may be matters which require discussion between the ministries concerned.

The provision which says, “When the business that is carried out after special regulation for substantiation and interim authorization are granted, incurs loss of life or property damage, the operator of the business shall have the burden of proof with respect to the loss or the damage if the loss or the damage is not the result of fault or negligence” could mean that the burden of proof is imposed upon the operator, which could substantially increase the liability of the operator for the loss or the damage.

Another provision which needs attention is “Though it is mandatory for the operator to buy the liability insurance in advance against the liability for the loss of life or property damage which could be caused by the business carried out after special regulation for substantiation and interim

authorization are granted, it cannot be guaranteed that insurance companies would develop an insurance product which covers the liability.” For insurance companies, ‘liability insurance’ is a new insurance product. Sufficient data is required for insurance companies to develop a new insurance product. However, it is highly likely that not enough data has been accumulated to develop the product given the fact that liability insurance is accompanied with the businesses related to new technologies and new services. In other words, insurance companies face a higher risk when developing the product.

In addition, consideration should be given to the fact that all of the four Regulatory Innovation Acts contain provisions related to ‘personal information protection’. In the future when there is a question in regard to the direction we should take when developing new technologies and the results of the development cannot be guaranteed, there may be fear that the provisions related to personal information protection could hamper the development and innovation of new technologies.

Last but not least, it is necessary to revise the system in which companies that fail the regulatory sandbox application process, should have the opportunity file complaints in the future.

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