Status of Functions of Public Quasi-Equity Funds in Japan: Possibilities and Risks of Public-Private Funds*

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Abstract

This paper analyzed three hypotheses concerning public-private investment funds. The analysis obtained the following three major conclusions:

(1) Under some existing investment projects, it has been possible to pursue policy objectives and profitability, and those projects have been effective in inducing other investments (pump priming effect). On the other hand, regarding risk factors, the analysis indicated the presence of the risks that policy objectives may be susceptible to discretionary interpretation and that private businesses may be squeezed out. Most of the funds so far recollected are investments in large-scale projects, while it will be required for future recollection of funds from small-scale projects.

(2) The governance exercised by the government over public-private funds has worked to some degree, as funds for which cumulative losses had expanded were subjected to review at a relatively early stage. As for risk factors, the investment period for some public-private funds (which has been set under the sunset clause) has been extended, which means that the governance over organizations operating the funds may not necessarily be functioning adequately.

(3) With respect to training of personnel to acquire investment skills, people who have left public-private funds after cultivating investing experience tend to be working successfully in the private sector. As for risk factors, the analysis indicated the need for strict enforcement of the sunset clause.

Keywords: public-private funds, fiscal investment and loan program, industrial investment, venture capital

JEL Classification: G10, G20, G30, H50

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To examine these hypotheses in this paper, we asked eight fund officials to cooperate in the interview and they provided valuable opinions and materials. We would like to thank them again.

I. Introduction

In the Japanese national budget, there is a general account which is generally funded mainly by taxes and special accounts. The special accounts have a Fiscal Investment and Loan Program (FILP) which is mainly funded by issuing FILP bonds in the financial markets. As for public-private funds, although there is no strict definition for them, they are considered investment companies which are established by the government and a private company based on legal grounds. They invest in private businesses (funding in the form of stock) or provide loans to private businesses. Their financial resources mainly come from FILP and the general account. In this paper, we will analyze the role of public-private funds, which are currently the center of providing public equity funds in Japan, from various aspects.

In the first new growth strategy as a country "Japan Revitalization Strategy—Japan is Back—" (Cabinet decision in June 2013) after the inauguration of the second Abe administration, the key to strengthening industrial competitiveness is the private sector, but various intervention measures by the government are included. As one of them, the public-private fund was utilized. As shown in Table 1, many public-private funds have been established since 2013, and the total investment amount at the end of March 2014 was 619.7 billion yen, but as of the end of March 2020, they increased to 1,126.6 billion yen. As of the end of March 2020, the financial resources were 955.3 billion yen from the investment of FILP and 151.1 billion yen from the general account (investment and assistance). As of the end of March 2020, the industrial investment balance of FILP was 5,842.8 billion yen, so the investment in public-private funds accounted for approximately 16% (955.3 billion yen / 5,842.8 billion yen) of the industrial investment balance of FILP. It is important that these investments are provided and financed to the companies to be supported in line with the policy objectives without squeezing out the private sector investment, but has a pump priming effect (the effect of inducing and stimulating private investment). In addition, it is necessary to obtain a return commensurate with the investment in the future as a public-private fund as a whole, and repay it to the national treasury.

The outline of this paper is as follows. First, looking back on the history of industrial investment in FILP since the end of the war, the current public-private funds have become mainstream in the reform of industrial investment in 2008 and the first Japan growth strategy of the second Abe administration in June 2013. We confirm that the use of public-private funds was mentioned in the growth strategy as an opportunity in 2013. Second, from the perspective of achieving the objectives of the public-private fund, we verify three main hypotheses: (1) The public-private fund has investment projects that can pursue policy objectives and profitability, which have a pump priming effect. We also verify (2) whether governance to the public-private fund is working, and (3) whether the public-private fund contributes to the training and development of investment human resources. For verification, we will conduct previous research surveys, analysis of performance data by statistics and literature surveys, interviews with experts, etc. to analyze the current state of public-private

Table 1. Government investment in public-private funds as of 2014/3 and 2020/3

					Total amount of investment (100 million yen)	
			regulatory authority	Date of establishment	Government-funded portion	
					Mar-14	Mar-20
	Japan Investment Corporation*（JIC）	JIC	METI	2009/7/17 (2018/9/25 reorganization)	FILP(industrial investment)：2,860	FILP(industrial investment)：2,860
		INCJ	METI	2018/9/21	-	-
	Organization for Small & Medium Enterprises and Regional Innovation		METI	2004/7/1	General Account (Investment)：157	General Account (Investment)：157
	Regional Economy Vitalization Corporation of Japan(REVIC)**		Cabinet Office・FSA・Ministry of Internal Affairs and Communications ・MOF・Ministry of Health, Labour and Welfare・METI	2009/10/4 (2013/3/18 reorganization)	FILP(industrial investment)：100、General Account (Investment)：30	General Account (Investment)：29
	Agriculture, forestry and fisheries Fund corporation for Innovation, Value-chain and Expansion Japan(A-FIVE)		MAFF	2013/1/23	FILP(industrial investment)：300	FILP(industrial investment)：300
	Private Finance Initiative Promotion Corporation of Japan(PFIPCJ)		Cabinet Office	2013/10/7	FILP(industrial investment)：100	FILP(industrial investment)：100
	Public-Private Innovation Program	Tohoku University	Ministry of Education, Culture, Sports, Science and Technology(MEXT)	2015/2/23	General Account (Investment)：125	General Account (Investment)：125
		Tokyo University		2016/1/21	General Account (Investment)：417	General Account (Investment)：417
		Kyoto University		2014/12/22	General Account (Investment)：292	General Account (Investment)：292
		Osaka University		2014/12/22	General Account (Investment)：166	General Account (Investment)：166
	Cool Japan Fund Inc.(Cool Japan)		METI	2013/11/8	FILP(industrial investment)：300	FILP(industrial investment)：756
	Earthquake Resistance and Environmental Real Estate Formation Promotion Project Real Estate Sustainability and Energy-Efficiency Diffusion		MLIT・Ministry of the Environment	2013/3/29	General Account (Investment)：350	General Account Assistance：300
	Development Bank of Japan(DBJ)	Competitiveness Fund	MOF	2013/3/12	FILP(Loan)：1,000	Paid off May 2018
		Specific Investment Business	MOF	2015/6/29	—	FILP(industrial investment)：4, 240
	Japan Overseas Infrastructure Investment Corporation for Transport & Urban Development(JOIN)		MLIT	2014/10/20	—	FILP(industrial investment)：935
	Japan Science and Technology Agency(JST)		MEXT	2014/4/1	—	General Account (Investment)：25
	Fund Corporation for the Overseas Development of Japan's ICT and Postal Services Inc. (JICT)		Ministry of Internal Affairs and Communications	2015/11/25	—	FILP(industrial investment)：362
	Local Decarbonization Investment Promotion Fund Project Green Finance Organisation		Ministry of the Environment	2013/6/20	—	Special Account Aid for Energy Measures：202
	Total				FILP(industrial investment)：3,660 General Account (Investment)：1,537 FILP(Loan)：1,000 Total：6,197	FILP(industrial investment) 9,553 General Account (Investment) 1,211 General Account Assistance 300 Special Account Aid for Energy Measures 202 Total 11,266

*The Innovation Network Corporation of Japan(INCJ), established in 2009/7, was reorganized and the Japan Investment Company (JIC) was established in 2018/9.
**Reorganized Enterprise Turnaround Initiative Corporation of Japan (ETIC), established in 2009/10, and launched Regional Economy Revitalization Initiative Corporation of Japan (REVIC) in 2013/3.
Source: Report on Verification under the Guidelines for the Management of Public-Private Funds (1st and 12th)
http://www.cas.go.jp/jp/seisaku/kanmin_fund/dai2/siryou1.pdf
http://www.cas.go.jp/jp/seisaku/kanmin_fund/dai13/siryou1.pdf

funds and clarify the differences between private funds and public-private funds. Judging these comprehensively, we will consider the possibility and risk implications for hypotheses (1) to (3). The main conclusions are (1) it is confirmed that there are still fields in which policy objectives and profitability can be pursued, and that the results so far also have a pump priming effect (induce more private investments than primary public-private funds' investment). In addition, when the fund industry was immature, public-private funds had the secondary pump priming effect of fostering the domestic fund industry. In this sense, it is thought that private investment is being stimulated by public-private funds taking risks that are difficult for the private sector to take for those with policy significance. On the other hand, risk factors are also clarified, suggesting that there is a discretionary interpretation of policy objectives and the risk of putting a squeeze on private sector businesses. The risk of overinvestment to eliminate cumulative losses and the risk of KPIs becoming a formality existed in the past (generally before 2018), but now (generally after 2020) the government's governance of public-private funds has been strengthened and is decreasing. In addition, the

recovery (exit) record of investments so far comes mainly from large projects, and it is required that small projects will be collected in the future. (2) Regarding governance of public-private funds, under the Ministerial Conference, in order to evaluate and verify the activities of public-private funds and take necessary measures so that public-private funds will be operated in line with policy objectives, an "Executive Committee Meeting" consisting of relevant ministries and experts has been set up, and from 2013 when the number of public-private funds increased to the present (2021), a total of 13 verification reports have been made, approximately once every six months. The government's governance and monitoring function for public-private funds has been properly functioning to some degree because private experts are also included here and the public-private fund whose cumulative loss has deteriorated has been reviewed early. On the other hand, regarding risk factors, there is a possibility that the governance of the operating organization is not always functioning sufficiently due to the extension of the public-private fund installation deadline (sunset provision). It was also suggested that there is room for improvement in governance of investment targets, governance of investment terms and conditions, and attitudes toward information disclosure. (3) Regarding training and development of investment personnel, graduates of public-private funds tend to be active in the private sector. However, the need for strict operation of the Sunset Provision and the adverse effects of personnel changes at government offices have been suggested as risk factors.

As for the contribution of this paper, first, about 10 years after the public-private fund started in earnest, by interviewing experts who have been involved in them and analyzing statistical figures and facts, we mentioned the possibility of a public-private fund. Second, we have clarified the risk factors that still exist in public-private funds. In the future, we expect that public-private funds will be effectively utilized in policy-appropriate investment projects by making efforts to reduce the probability of occurrence of risk factors.

The structure of this paper is as follows. First, Chapter II looks back on the historical background of industrial investment in FILP. In Chapter III, we mainly discuss the hypotheses that we would like to test in this paper. Chapter IV analyzes the current state of public-private funds, including interviews with experts, and Chapter V discusses the differences between private funds and public-private funds. Then, in Chapter VI, the hypothesis presented in Chapter III will be examined for suggestions on the possibilities and risks of public-private funds. Finally, Chapter VII describes the summary and limitations of this paper.

In this paper, the abbreviations in Table 2 may be used for each public-private fund.

II. Historical background[1]

II-1. From Founding to Development (Postwar 1953-2000)

First, we would like to consider the historical background up to the establishment of the

[1] The contents of II-1 to 3 in this chapter are based on Tanaka (2015) and others.

Table 2. Official name and abbreviation of each public-private fund

Official Name of Public-private fund		Abbreviation	
Japan Investment Corporation（JIC）	JIC	JIC	JIC
	Innovation Network Corporation of Japan		INCJ
Organization for Small & Medium Enterprises and Regional Innovation			
Regional Economy Vitalization Corporation of Japan(REVIC)		REVIC	
Agriculture, forestry and fisheries Fund corporation for Innovation, Value-chain and Expansion Japan(A-FIVE)		A-FIVE	
Private Finance Initiative Promotion Corporation of Japan(PFIPCJ)		PFIPCJ	
Public-Private Innovation Program	Tohoku University		
	Tokyo University		
	Kyoto University		
	Osaka University		
Cool Japan Fund Inc.(Cool Japan)		Cool Japan	
Earthquake Resistance and Environmental Real Estate Formation Promotion Project Real Estate Sustainability and Energy-Efficiency Diffusion			
Development Bank of Japan(DBJ)	Competitiveness Fund	DBJ	
	Specific Investment Business	DBJ	
Japan Overseas Infrastructure Investment Corporation for Transport & Urban Development(JOIN)		JOIN	
Japan Science and Technology Agency(JST)		JST	
Fund Corporation for the Overseas Development of Japan's ICT and Postal Services Inc. (JICT)		JICT	
Local Decarbonization Investment Promotion Fund Project Green Finance Organisation			

public-private fund, focusing on industrial investment, which is one of the FILP.

After World War II, the FILP system was revived by the enactment of the Fund Law of the Fund Management Department in 1951, and the Industrial Investment Special Account (hereinafter referred to as industrial investment) was established in FILP and started in 1953. This industrial investment was set up to make investments aimed at industrial development, trade promotion and economic reconstruction. As targets for FILP, emphasis was placed on fostering key industries such as coal, steel, shipping, and electric power during the postwar economic recovery period. It is presumed that it was virtually impossible to ask private finance at that time to raise the huge amount of funds necessary for these, and industrial investment of FILP would have played a certain role[2]. This special account was mainly funded by transfers from the general account. Then, it invested in the policy financial institutions such as the Development Bank of Japan and the Export-Import Bank of Japan, and invested in large-scale infrastructure projects such as the Japan Railway Construction Public Corporation[3]. After that, entering Japan's high-growth period, FILP was also used for infrastructure development and housing development for acquiring homes, which were behind

[2] Regarding the collection method at that time, in the worst case, there may have been an idea that the utility bill should be raised step by step.

[3] "Future of Industrial Investment" (June 2008).

those in Europe and the United States. Furthermore, it was also used for measures against small and medium-sized enterprises and public works projects, and various FILP agencies were born according to policy objectives from the postwar reconstruction period to the high growth period. (Japan Finance Corporation for Small Business, Development Bank of Japan, Japan Housing Corporation, Government Housing Loan Corporation and Japan Highway Public Corporation etc.)

In 1985, the Industrial Investment Special Account Law was amended to remove "economic reconstruction" from the purpose provisions for industrial investment and add "contributing to the development of the national economy and the improvement of people's lives." Moreover, after the privatization of Japan Tabacco inc. (JT) and Nippon Telegraph and Telephone Corporation (NTT), the financial resources of industrial investment increased due to the free affiliation of the shares obliged to be owned by the government from the general account to the industrial investment special account and their dividend income becomes financial resources for industrial investment. As an event related to the public-private fund, a specially authorized corporation "Japan Key Technology Center" was newly established in 1985 and became a target of industrial investment support. The "Japan Key Technology Center" jointly managed by the Minister of International Trade and Industry and the Minister of Posts and Telecommunications has invested in and financed basic technology research such as new materials and biotechnology. In the investment business, they invest in a company established for joint research of multiple companies (or universities) for basic technology research, and it was supposed to recover the investment by dividends based on patent fee income from the research results. However, by the end of year 2000, more than 279 billion yen was invested in 74 R&D project companies, but unfortunately the total amount of patent income was only about 3.05 billion yen, and no company paid dividends. The amount of funds recovered from the dissolution company was only over 800 million yen, and it was disastrous that most of the investment was lost[4, 5].

In 1998, the New Business Creation Promotion Law (integrated into the "Act on Promotion of New Business Activities of SMEs" in 2005) was enacted, and businesses invested by SMEs are also subject to industrial investment. Under this law, the ①Entrepreneurship support fund, ②SME growth support fund and ③SME revitalization fund were introduced.

II-2. Reform/Review (2001-2007)

In 2001, a drastic reform of the FILP system was implemented, including the abolition of postal savings and pension deposits, the issuance of FILP bonds, and the introduction of policy cost analysis. In conjunction with the FILP reform, the Cabinet approved the Special Corporation Reorganization and Rationalization Plan, which promoted the reform of special corporations. In the course of this reform of special corporations, it was decided in accor-

[4] Board of Audit of Japan "FY2000 Financial Results Inspection Report: Investment Business at Japan Key Technology Center".

[5] In April 2003, the Japan Key Technology Center was abolished.

dance with the 2006 Law on Promoting Administrative Reform that government-affiliated financial institutions should narrow down their policy for finance functions and consolidated from five policy finance institutions into one (Japan Finance Corporation).

As a result of the above reforms, industrial investment targets were mainly (1) equity investments and loans for R&D projects conducted by independent administrative agencies, etc., and (2) equity investments and loans for various funds and policy loans by government-affiliated financial institutions. On the other hand, at that time, the aforementioned "Japan Key Technology Center," a specially approved corporation, was dissolved (in 2003) because it could not recover its investment, and independent administrative agencies were under severe scrutiny for their accumulated losses, which made them cautious about adopting new R&D projects.

Industrial investment does not need to secure profits on individual investment projects, but it does need to generate a certain amount of profit on an ongoing basis as a whole and to operate without incurring losses. In this regard, since the establishment of the Special Account for Industrial Investment in 1953, the Special Account for Industrial Investment has generated profits (flows) of 3,550.1 billion yen, even after taking into account losses of 373.9 billion yen, out of the 4,686.8 billion yen in investments (stocks) outstanding by 2013. From the profits of the industrial investment account, 1,348.0 billion yen was transferred to the general account[6].

Although outside the framework of Japanese government budget, in 2003, the event of a quasi-public-private equity fund, the Industrial Revitalization Corporation of Japan (IRCJ), was established. The IRCJ was not exactly a public-private fund but similar to a public-private fund. The IRCJ was established with the Deposit Insurance Corporation holding the majority of shares. Its purpose was to assist businesses with useful management resources but with excessive debts to revitalize their businesses in order to revitalize Japanese industry and maintain credit order. In line with this objective, the IRCJ conducted debt purchase and equity participation operations. The IRCJ provided business rehabilitation support to 41 companies, including Kanebo, Dia Corporation, DAIKYO, and Daiei, Inc. The IRCJ dissolved in 2007, one year earlier than originally planned, and paid 31.2 billion yen in taxes during its existence. The distribution of the remaining assets after the dissolution resulted in a further payment of 43.2 billion yen to the national treasury, so there was no burden on the public.

II-3. Reform/Direction of Public-private Fund (2008)

In 2008, reforms related to industrial investment were implemented. First, the Japan Finance Corporation (JFC)[7] was established and the Development Bank of Japan (DBJ)[8] was converted to a joint stock company. In addition, with the transfer of the Industrial Invest-

[6] "Issues and Future Directions for Fiscal Investment and Loan" (2014), p 38.

[7] Launched by taking over the operations of National Life Finance Corporation, Agriculture, Forestry and Fisheries Finance Corporation, and Japan Finance Corporation for Small Business.

ment Special Account to the Fiscal Loan Fund Special Account under the Act on Special Accounts, the name was changed to the Fiscal Investment and Loan Special Account, and the Fiscal Loan Fund Account and the Investment Account were established. Along with these reforms, a report on "Future of Industrial Investment" was issued in June 2008. In this report, the basic concept of industrial investment is stated as follows.

Industrial investment provides risk money to fields where there is a high policy need and long-term returns can be expected, but the risks are high and the private sector alone cannot provide sufficient funds. Specifically, it is an important role to complement the private financial market by taking advantage of the characteristics of industrial investment, which is a fund (patient risk money) that can withstand long-term profits. In addition, unlike loan from finance, it is possible to supply funds by investing (mainly equity investment) in relatively high-risk businesses.

The priority areas for industrial investment are (1) R&D and venture support, (2) national projects such as rare metal exploration and development, and (3) promotion of investment in the environment and Asia. Furthermore, (1) in the area of R&D and venture support, the government will utilize industrial investment to invest in sub-funds that invest in R&D and venture projects, while basing their operations on the human resources and know-how of the private sector. The report cites the necessity of creating a new mechanism to create new public-private partnerships led by the private sector.

We believe that this June 2008 report on "Future of Industrial Investment" indicated the direction of promoting public-private funds, and further, in the second Abe administration's "Japan Revitalization Strategy—Japan is Back—" (2013) accelerated the movement of this public-private fund.

In terms of the mechanism and directions, appropriate risk allocation between private and public funds, private-sector initiative in identifying investment projects, and a time-limited nature to public-private funds are suggested in the report.

II-4. Creation of Numerous Public-private Funds (Since 2013)

In June 2013, the second Abe administration's first growth strategy, "Japan Revitalization Strategy-Japan is Back," identified priority areas for growth and the use of public-private funds. Regarding public-private funds, on September 27, 2013, at the "Ministerial Conference on Promotion of Utilization of Public-Private Funds" (hereinafter referred to as "Ministerial Conference"), "Guidelines for the Management of Public-Private Funds" (hereinafter "Public-Private Fund Guidelines") had been decided.

The Public-Private Fund Guidelines expected the following. In order to bring the Japanese economy out of stagnation and onto a growth trajectory, the growth strategy should restore the confidence of corporate executives and of each and every citizen, transform "ex-

[8] It was established in 1999 as a special corporation by taking over the operations of the Japan Development Bank and Hokkaido-Tohoku Development Finance Public Corporation, and was converted to a joint-stock corporation in 2008 on the on the assumption that it would be privatized.

pectations" into "actions," and move the stagnant people, goods, and money in one fell swoop. To this end, the government will encourage bold new innovation and new entrepreneurship, accelerate research and development, utilize local resources, make agriculture, forestry, and fisheries into growth industries, promote globalization of Japanese industries and businesses, and introduce private-sector funds and wisdom into social infrastructure development, etc. In order to promote these measures, it is expected that public-private funds will be effectively utilized, while paying attention to fiscal soundness and squeezed private sector businesses.

The Public-Private Fund Guidelines stipulate that "the activities of public-private funds will be evaluated and verified, and necessary measures will be taken so that the public-private funds will be operated in line with policy objectives." They have established the "Executive Committee Meeting under the Ministerial Conference on Promotion of Utilization of Public-Private Funds" (hereinafter referred to as the "Executive Committee Meeting") consisting of relevant ministries and experts, under Ministerial Conference. The Executive Committee Meeting is supposed to carry out verification based on the Public-Private Fund Guidelines, and since 2013, they have made 13 verification reports at a frequency of approximately once every six months from 2013 to the present (2021). It can be said that the creation of a mechanism for conducting regular self-verification in advance is a lesson learned from the failure of the Japan Key Technology Center in 1985. Thanks to this verification report and other mechanisms, we believe that it was possible to withdraw from public-private funds with large cumulative losses as described in II-5 below at an early stage.

In line with these Public-Private Fund Guidelines, many public-private funds have been established since 2013, as shown in Table 3.

One public-private fund that existed before 2013 was the Innovation Network Corporation of Japan (INCJ), established in July 2009 to foster and create the next generation of national wealth through open innovation that transcends industry and organizational boundaries. The INCJ was reorganized as the Japan Investment Corporation (JIC) in 2018, following the enforcement of the amendment to the Act on Strengthening Industrial Competitiveness, the law on which the INCJ is based. JIC aims to promote private-sector investment through the provision of funds that will lead to corporate growth and strengthen competitiveness through open innovation, and to create a virtuous cycle of risk money that will support Japan's next-generation industries through the training and development of investment personnel and other measures.

Another public-private fund that also existed before 2013 was the Enterprise Turnaround Initiative Corporation of Japan (ETIC), which was established in October 2009 and reorganized as the Regional Economy Vitalization Corporation of Japan (REVIC) in 2013. The ETIC assisted both large companies and SMEs, and in January 2010 it provided assistance to Japan Airlines (JAL). Since it was reorganized into the REVIC in 2013, it has been supporting the business revitalization of small and medium-sized enterprises that have useful management resources but have excessive debt.

Furthermore, the Organization for Small & Medium Enterprises and Regional Innova-

Table 3. Timing of establishment of each public-private fund and areas to be invested and supported

		Date of establishment	Areas to be investmented and supported
Japan Investment Corporation* (JIC)	JIC	2009/7/17 (2018/9/25 reorganization)	Promotion of open innovation, etc.
	Innovation Network Corporation of Japan(INCJ)	2018/9/21	
Organization for Small & Medium Enterprises and Regional Innovation		2004/7/1	Revitalization of business activities of SMEs
Regional Economy Vitalization Corporation of Japan(REVIC)**		2009/10/4 (2013/3/18 reorganization)	Support for business activities that contribute to the revitalization of the local economy, etc.
Agriculture, forestry and fisheries Fund corporation for Innovation, Value-chain and Expansion Japan(A-FIVE)		2013/1/23	6th industrialization enterprises, etc. in which agriculture, forestry and fisheries have a majority of voting rights
Private Finance Initiative Promotion Corporation of Japan(PFIPCJ)		2013/10/7	Independently profitable PFI operator
Public-Private Innovation Program	Tohoku University	2015/2/23	Businesses that utilize the results of research on technology at Tohoku University
	Tokyo University	2016/1/21	Businesses that utilize the results of research on technology at Tokyo University
	Kyoto University	2014/12/22	Businesses that utilize the results of research on technology at Kyoto University
	Osaka University	2014/12/22	Businesses that utilize the results of research on technology at Osaka University
Cool Japan Fund Inc.(Cool Japan)		2013/11/8	A business that develops overseas demand by taking advantage of the characteristics of Japanese culture
Earthquake Resistance and Environmental Real Estate Formation Promotion Project Real Estate Sustainability and Energy-Efficiency Diffusion		2013/3/29	A business operator that develops and repairs real estate with earthquake resistance and environmental performance
Development Bank of Japan(DBJ)	Competitiveness Fund	2013/3/12	Efforts to innovate and increase corporate value
	Specific Investment Business	2015/6/29	Business activities to strengthen corporate competitiveness and improve productivity or profitability
Japan Overseas Infrastructure Investment Corporation for Transport & Urban Development(JOIN)		2014/10/20	Businesses engaged in overseas transportation and urban development
Japan Science and Technology Agency(JST)		2014/4/1	Businesses trying to utilize the results of research and development of the JST
Fund Corporation for the Overseas Development of Japan's ICT and Postal Services Inc. (JICT)		2015/11/25	Businesses engaged in overseas communications, broadcasting, and postal services
Local Decarbonization Investment Promotion Fund Project Green Finance Organisation		2013/6/20	Businesses engaged in projects to combat global warming

*The Innovation Network Corporation of Japan(INCJ), established in 2009/7, was reorganized and the Japan Investment Company (JIC) was established in 2018/9.
**Reorganized Enterprise Turnaround Initiative Corporation of Japan (ETIC), established in 2009/10, and launched Regional Economy Revitalization Initiative Corporation of Japan (REVIC) in 2013/3.
Source: Board of Audit of Japan "Status of Business Operation in Public-Private Funds" April, 2018, p. 27

tion, Japan, which started its public-private fund business in 2004, has a policy objective of the revitalization of SMEs' businesses. Other public-private funds have all been established since 2013, and their main areas of investment and support are shown in Table 3.

II-5. Reform Schedule, Cost of Capital, Revision of Public-private Fund Guidelines (After 2018)

II-5-1. Follow-up of Funds with High Cumulative Losses in the Reform Schedule

At the Council on Economic and Fiscal Policy on December 20, 2018, the points made by the Executive Committee Meeting under the Ministerial Conference and the FILP Subcommittee were discussed and Reform schedule 2018 was announced. Each public-private fund and regulatory agency had formulated and announced numerical targets and plans to eliminate cumulative losses by April 2019, and it was decided to continue to follow up on it[9].

Since April 2019, the four public-private funds (Cool Japan Fund Inc. (Cool Japan) under the jurisdiction of the METI, A-FIVE under the jurisdiction of the MAFF, JOIN under the jurisdiction of the MLIT and JICT under the jurisdiction of the Ministry of Internal Af-

[9] In the Reform schedule, it is required to follow up on the announced plan, and if there is a discrepancy between the plan and the actual result, it is required to formulate and announce the improvement target/plan by the middle of 2019 and by 2020 and May 2021.

fairs and Communications) that have been pointed out by the Fiscal Investment and Loan Subcommittee of the Fiscal System Council have disclosed plans to eliminate cumulative losses and are being followed up on regularly. At the follow-up meeting (Financial System Council FILP Subcommittee) in November 2019, the plan for A-FIVE under the jurisdiction of the MAFF had not been reached and A-FIVE withdrew the FILP request for FY2020. Then, in December 2019, it decided to withdraw and changed its policy to minimize losses. In addition, it was pointed out that the remaining three public-private funds would be withdrawn at the Fiscal Investment and Loan Subcommittee of the Fiscal System Council in November 2020 if there were few policy reasons for each investment project and if profitability did not improve. Then, in May 2021, Cool Japan formulated and announced an improvement plan. At the Fiscal Investment and Loan Subcommittee of the Financial System Council in June 2021, if the improvement plan for Cool Japan was not achieved in the fiscal year ending March 2022, it was decided to shift to a drastic review including the restructuring of the organization.

Moreover, as overall progress, the "New Economic and Fiscal Revitalization Plan Reform Schedule 2020" newly stipulates that "deviations between the formulated and announced improvement targets and plans and actual results shall be verified, and if any deviations are found, each public and private fund and supervisory agency shall promptly conduct a fundamental review, including organizational structure."[10]

II-5-2. Introduction of Cost of Capital to Profitability Index (Industrial Investment)

Traditionally, public-private funds have been required to be profitable and policy-oriented. On the other hand, the aforementioned "Future of Industrial Investment" of 2008 was positioned as a supply of risk money (patient risk money) to sectors where returns could be expected in the long term, but where risks were high and the private sector alone could not provide sufficient funds. Because of this, the profit targets of public-private funds up to that time were based on investment multiples, rather than on IRR, an indicator that private funds place more emphasis on. The investment multiple is the required return on investment, and in most cases, the target recovery from investments was at least one times to the sum of the investment and overhead expenses for the organization as a whole.

Afterwards, in June 2019, new "Future of Industrial Investment" was reported and required public-private funds through industrial investment to invest in projects that were both policy-oriented and profitable, as in the past, but the criteria for profitability had changed significantly. As a specific profitability criterion, a profit-and-loss level that at least exceeded the cost of capital was now required for future investment projects so as not to put a squeeze on private sector business. Considering that the idea of cost of capital for each investment was introduced as a minimum target value for profitability[11], we think that it is highly likely that the direct investment projects of public-private funds that were funded by industrial in-

[10] https://www5.cao.go.jp/keizai-shimon/kaigi/special/reform/021218_devided/report_201218_2_2.pdf p 109.
[11] Executive Committee Meeting (October 2019, 11th meeting document).

vestment will be limited to projects that had policy value and that are more difficult for the private sector to undertake as the investment horizon is too long term. Also, indirect investment (investment in private funds) is expected to increase[12].

II-5-3. Revision of Public-private Fund Guidelines

The Public-Private Fund Guidelines were also revised at the 12th Executive Committee Meeting in 2019. Specifically, there are four points: reviewing KPIs, enhancing information disclosure, promoting ESG investment and SDG initiatives, and strengthening governance.

The KPI review defines the level of performance that each public-private fund should achieve. However, for some of the indicators, the deadline for their achievement was the deadline for the installation of the public-private fund, and for some of them, the achievement date was more than 10 years away. In addition, looking at the number of KPI indicators for each public-private fund, some public-private funds had as few as three indicators, while others had more than ten. Furthermore, when the contents of the indicators were compared, there was a problem that the contents varied, making side-by-side comparisons impossible. Therefore, in this review, they have made it possible to verify the progress of achieving the target by setting milestones before the installation deadline of each public-private fund, for example, approximately every 3 to 5 years. In terms of the content of KPIs, the direction has been set to simplify the number of indicators by reducing the number of indicators, while at the same time making it possible to evaluate policy and profitability, respectively, and to standardize the content across all public-private funds. The first index of policy is the index of inducing private funds. So far, they have only verified the actual results of the past pump priming effect. However, with this review, the level of priming effect that should be aimed at in the future as a KPI has been set as a target. The second policy index is to quantify the contribution to the ecosystem, such as human resource development and collaboration with private companies and universities, but they will further consider what kind of quantitative index is appropriate in the future. As the third policy index, for example, promotion of ESG investment and SDG initiatives is required to be set. The KPI for profitability is cumulative profit and loss, and progress and achievement are evaluated by comparing actual results with the income and expenditure plan and investment plan, which are formulated based on the profit structure of each public-private fund.

Regarding the enhancement of information disclosure, the management of the financial status of the fund as a whole is required to be disclosed on a regular basis, and especially in the case of losses that could have a significant impact on government investments, etc., information is required to be disclosed in a timely and appropriate manner, while paying attention to the confidentiality of the information.

In promoting ESG investment and SDG initiatives, it was clearly stated that each public-private fund should promote ESG investment and SDG initiatives based on its own policy objectives when making investment decisions.

[12] This is because indirect investment is unlikely to put a squeeze on private sector businesses or pressure on the private sector.

Regarding the strengthening of governance, it was clearly stated that each public-private fund should consider the business management stance and various risk management postures of the investee companies when making investment decisions.

III. Presentation of Verification Hypothesis

In this paper, we examine hypotheses on the possibilities and risks of public-private funds mainly from the following three perspectives, taking into account the purpose of the introduction of public-private funds as described in Chapter II.

Hypothesis 1: Is there an investment project that can pursue policy objectives and profitability, which produces a pump priming effect and does not put a squeeze on private sector businesses?

Hypothesis 2: Is governance working for public-private funds?

Hypothesis 3: Does the public-private fund contribute to the training and development of investment personnel?

To test the hypotheses, we conducted a survey of previous studies, analyzed performance data through statistics and literature review, interviewed experts, and exchanged opinions at a paper review meeting hosted by the Policy Research Institute of the Ministry of Finance. We then analyzed the current status of public-private funds, clarified the differences between private funds and public-private funds, and made a comprehensive judgment on these hypotheses. The interviewees were a total of eight people, including five former public-private fund personnel and three private fund personnel who may receive investment or compete with public-private funds. The interviews were conducted between 2020 and 2021, either online or through real interviews.

IV. Analysis of the Current Status of each Public-private Fund

IV-1. Analysis of Policy Nature

IV-1-1. Effective Use of Investments and Pump Priming Effect

As of the end of March 2020, the government's investment in public-private funds amounted to 1,126.6 billion yen, while the private sector invested 479.1 billion yen, for a total of 1,605.7 billion yen. Specifically, as shown in Table 4, the cumulative amount of actual loans and investments through March 2020 is 2,538.6 billion yen. On the other hand, the total investment in public-private funds at the same point in time was 1,605.7 billion yen, so the ratio of the total investment to the actual amount of loans and investments was 158% (2,538.6 billion yen / 1,605.7 billion yen). However, some public-private funds have a low

Table 4. Total public-private fund investment, support decisions, actual investment, and induced private investment

<Unit; The investment amount is shown in 100 million yen>

		Total capital amout for public-private funds by the government and private sector			Cumulative investment results since the establishment until 2020/3			
		As of end of March/2000						
				Total	Number of cases	Amount of investment support decided	Actual investment and loans amount	Induced private investments and loans
		Governmet portion	Private portion					
Japan Investment Corporation* (JIC)	JIC	FILP(industrial investment) : 2,860	135	2,995	-	-	-	-
	INCJ	-	5	5	143	13,216	12,315	9,276
Organization for Small & Medium Enterprises and Regional Innovation		General Account (Investment) : 157	-	157	303	4,721	3,596	9,710
Regional Economy Vitalization Corporation of Japan(REVIC)**		General Account (Investment) : 29	102	131	252	1,157	415	1,190
Agriculture, forestry and fisheries Fund corporation for Innovation, Value-chain and Expansion Japan(A-FIVE)		FILP(industrial investment) : 300	19	319	77	470	134	514
Private Finance Initiative Promotion Corporation of Japan(PFIPCJ)		FILP(industrial investment) : 100	100	200	39	1,062	608	6,331
Public-Private Innovation Program	Tohoku University	General Account (Investment) : 125	-	125	22	49	49	128
	Tokyo University	General Account (Investment) : 417	-	417	21	99	80	299
	Kyoto University	General Account (Investment) : 292	-	292	33	70	64	172
	Osaka University	General Account (Investment) : 166	-	166	36	62	59	110
Cool Japan Fund Inc.(Cool Japan)		FILP(industrial investment) : 756	107	863	43	970	744	1,585
Earthquake Resistance and Environmental Real Estate Formation Promotion Project Real Estate Sustainability and Energy-Efficiency Diffusion		General Account Assistance : 300	-	300	14	191	180	1,614
DBJ	Specific Investment Business	FILP(industrial investment) : 4, 240	4,240***	8,480	100	7,172	5,902	40,421
JOIN		FILP(industrial investment) : 935	59	994	34	1,198	888	1,554
JST		General Account (Investment) : 25	-	25	27	21	21	238
JICT		FILP(industrial investment) : 362	24	386	6	412	279	1,833
Local Decarbonization Investment Promotion Fund Project Green Finance Organisation		Special Account Aid for Energy Measures : 202	-	202	36	162	52	1,657
Total		FILP(industrial investment) 9,553 General Account (Investment) 1,211 General Account Assistance 300 Special Account Aid for Energy Measures 202 Total 11,266	551 4,240 (Own money of DBJ) Total 4,791	16,057	1,186	31,032	25,386	76,632

*The Innovation Network Corporation of Japan(INCJ), established in 2009/7, was reorganized and the Japan Investment Company (JIC) was established in 2018/9.
**Does not include Enterprise Turnaround Initiative Corporation of Japan
***Own money of DBJ
Source: Report on Verification under the Guidelines for the Management of Public-Private Funds (12th)
http://www.cas.go.jp/jp/seisaku/kanmin_fund/dai13/siryou1.pdf

ratio of actual investment support to capital. For example, in the case of A-FIVE, Public-Private Innovation Programs, Cool Japan, JOIN and JICT, the actual amount of loans and investments is less than 100% of the total amount of capital.

The total amount of private-sector investment and loans induced was 7,663.2 billion yen, compared with a cumulative investment and loan total of 2,538.6 billion yen by public-private funds as a whole, indicating that they had a pump priming effect of more than three times. As for the priming effect, in addition to joint equity investments, there are cases in which public-private funds bear the high-risk portion of equity while private financial institutions engage in medium-risk, medium-return risk-taking such as mezzanine (subordinated loan), and there was an opinion that in this case, the priming effect is easily generated. However, looking at individual public-private funds, there are funds such as the INCJ where the amount of private-sector investment and loans induced (927.6 billion yen) is less than the actual amount of investment and loans (1,231.5 billion yen).

In this way, looking at the public-private fund as a whole, in addition to investments from the government and the private sector, the amount of actual investments and loans have exceeded the amount of accepted investments by utilizing the recovered amount of investments and loans from the businesses that have been invested in so far. Moreover, the amount of private-sector investment and loans greatly exceeded the amount of actual invest-

ment and loans by the public-private fund, suggesting that there was a pump priming effect.

IV-1-2. Inspection Results by the Board of Audit of Japan

Corporations that manage public-private funds are supposed to provide support such as capital injection in line with the policy objectives stipulated in the laws and regulations that form the basis for establishment and support, and the amount of government investment in corporations that manage public-private funds is substantial. As a result, there is a growing public interest in whether there have been numerous failures in the investment provided by the corporations managing the public-private funds, whether losses have been incurred, and whether the support is being provided in line with policy objectives. In light of the above situation, the Board of Audit of Japan conducted a cross-sectional inspection of the status of each corporation operating a public-private fund, including the status of government financial support for corporations operating public-private funds, the status of support provided by corporations operating public-private funds, the status of finding projects, decisions on investment and support, and monitoring and other operations at corporations operating public-private funds, and compiled the status of these operations. On that basis, in accordance with the provisions of Article 30-2 of the Board of Audit Act, a report was made by the Director General of the Board of Audit of Japan to the Speaker of the House of Representatives, the Speaker of the House of Councillors, and the Prime Minister in April 2018[13].

The main findings of the Board of Audit of Japan include the following five points. (1) The content and outcome targets of KPIs should be reviewed, taking into account the fact that indicators with doubts about the necessity of KPIs for policy purposes are used. (2) Regarding profitability, public-private funds that have incurred losses carried forward should continuously review their plans and targets until they are eliminated. (3) If KPIs for profitability of public-private funds are not evaluated due to the large number of projects that have not finished their investment support, the financial status of projects currently being invested should be provided as supplementary information to the profitability KPIs, while paying attention to the confidentiality of the information. (4) Timely and appropriate monitoring should be carried out for businesses eligible for investee company, and advice and experts should be dispatched as necessary. (5) To prevent multiple public-private funds from investing in and supporting the same entity, information should be exchanged and investment methods shared among public-private funds.

IV-1-3. Investment Support Scheme for each Public-private Fund (Direct and Indirect Support)

There are two types of investment support schemes for each public-private fund: direct support (investment and financing) and indirect support (investment and financing). The law governing the establishment of the fund stipulates whether each public-private fund is to use

[13] Summary https://www.jbaudit.go.jp/pr/kensa/result/30/pdf/300413_youshi_02.pdf
Report https://report.jbaudit.go.jp/org/h29/ZUIJI3/2017-h29-Z3000-0.htm

Table 5. Percentage of support implemented by support scheme (cumulative total from date of establishment to end of FY2016)

Unit：100 million yen

		Direct Support			Indirect Support		
		Commitment Amount (A)	Accutual support amount (B)	Acctual ratio of support to comittment (B/A)	Commitment Amount (C)	Accutual support amount (D)	Acctual ratio of support to comittment (C/D)
Innovation Network Corporation of Japan（INCJ）		9,281	7,756	84%	565	403	71%
Organization for Small & Medium Enterprises and Regional Innovation		Impossible			3,584	2,534	71%
Regional Economy Vitalization Corporation of Japan(REVIC)		4,940	4,940	100%	341	104	30%
Agriculture, forestry and fisheries Fund corporation for Innovation, Value-chain and Expansion Japan(A-FIVE)		36	25	69%	375	41	11%
Private Finance Initiative Promotion Corporation of Japan(PFIPCJ)		313	299	96%	0	0	-
Public-Private Innovation Program	Tohoku University	14	14	100%	0	0	-
	Tokyo University	0	0	-	27	8	30%
	Kyoto University	13	13	100%	0	0	-
	Osaka University	12	12	100%	0	0	-
Cool Japan Fund Inc.(Cool Japan)		349	298	85%	117	12	10%
Earthquake Resistance and Environmental Real Estate Formation Promotion Project Real Estate Sustainability and Energy-Efficiency Diffusion		Impossible			90	71	79%
Development Bank of Japan(DBJ)	Competitiveness Fund	1,223	1,220	100%	66	59	89%
	Specific Investment Business	1,561	1,447	93%	106	6	6%
Japan Overseas Infrastructure Investment Corporation for Transport & Urban Development(JOIN)		205	109	53%	0	0	-
Japan Science and Technology Agency(JST)		9	9	100%	Impossible		
Fund Corporation for the Overseas Development of Japan's ICT and Postal Services Inc. (JICT)		75	13	17%	0	0	-
Local Decarbonization Investment Promotion Fund Project Green Finance Organisation		68	33	49%	42	6	14%
Total		18,098	16,187	89%	5,315	3,242	61%

Source: Board of Audit of Japan "Status of business operations in public-private funds" April 2018

both support schemes or one of the two (See Table 5). Direct support is to make a direct investment and loan to a company subject to investment and loan. Indirect support is a scheme in which a public-private fund makes a GP investment or an LP investment in a sub-fund. The latter is a scheme in which the sub-fund determines the investment target companies and the terms and conditions.

According to the "Future Operation of the Japan Investment Corporation (JIC)[14]" compiled by the Ministry of Economy, Trade and Industry (METI) in March 2019, the JIC, that serves the policy objective of strengthening industrial competitiveness and expanding private investment through open innovation, should in principle provide indirect support. Although it does not deny direct support as an investment institution. Specifically, JIC is expected, in principle, to invest in business areas of policy significance through the establishment of funds and investment in sub-funds, and to serve as a catalyst for private investment. Even if JIC makes a direct investment, it is necessary to clarify the significance of making a direct investment instead of a sub-fund investment from the same viewpoint.

Although the data are somewhat old, Table 5 shows the cumulative amount of promised support and actual investment in direct and indirect investment support by each public-private fund from the date of establishment to the end of March 2017. The following trends can be identified: (1) As a whole, there was more direct investment at the end of March 2017 (actual direct investment: 1,618.7 billion yen vs. actual indirect investment: 324.2 billion

[14] https://www.meti.go.jp/shingikai/economy/jic/pdf/20190326_01.pdf

yen), (2) the ratio of direct investment and indirect investment differed for each public-private fund, and (3) the ratio of investment support implementation was higher for direct investment (direct support: 89% vs. indirect support: 61%).

Looking at monitoring, it is presumed that monitoring of investee companies by direct investment support of public-private funds is easier than by indirect investment support. However, according to the report of the Board of Audit of Japan in IV-1-2, there are some investee companies of direct investment support by the Green Finance Organisation that have problems in terms of monitoring, such as starting construction without following the legally required procedures. In the case of indirect support, the 10 public-private funds that were still in existence at the end of FY2016 made investment support commitments to 267 sub-funds, but of the sub-funds for which more than one year had passed since the decision to provide investment support, 10 sub-funds from 4 public-private funds had no record of investment support (A-FIVE's 7 sub-funds, Cool Japan's 1 sub-fund, DBJ's 1 sub-fund and Green Finance Organisation's 1 sub-fund). Furthermore, among the sub-funds that dissolved and completed liquidation from FY2013 to FY2016, four A-FIVE's sub-funds dissolved and completed liquidation without any investment or other results. Thus, both direct and indirect support has created challenges in the process up to the decision to provide investment support and in monitoring.

IV-1-4. Development of Investment Personnel

As shown in Table 7, as of the end of March 2020, 2,799 people (excluding the Development Bank of Japan) were working as executives and employees of public-private funds in one form or another, and it is assumed that they have accumulated a variety of investment-related know-how (Deal sourcing, deal identification, due diligence, negotiations with investee companies, governance and monitoring of investee companies, value enhancement of investee companies, exit methods, etc.). However, since 1,363 of these employees are at JST and the personnel cost of the organization cannot be said to be the amount of personnel cost of these over 1,300 employees (e.g., seconded from other organizations), in effect, there may be 1,436 executives and employees (excluding the Development Bank of Japan) who work at public-private funds other than JST. Looking at the job changes of the professional staff who left the INCJ as of the end of March 2021, 34% left for business companies, 28% for private funds, and 24% for ventures, suggesting that their experience in public-private funds is useful in the private sector[15].

IV-2. Analysis of Profitability

IV-2-1. Analysis of Accumulated Profit/Loss

Each public-private fund is required to establish and implement numerical targets and plans for eliminating accumulated losses. Table 6 shows the accumulated profit/loss as of

[15] INCJ Corporation (2021) "INCJ's Investment Activities - Review of Last Year and Future" July 20, 2021.

Table 6. Profit/loss of each public-private fund and cumulative profit/loss as of 2020/3

Unit：100 million yen

				Profit or loss of each fiscal year								Accumulated
				FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	profit/loss as of
				Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	2020/3
	Japan Investment Corporation*（JIC）	JIC	2009/7/17 (2018/9/25 reorganization)								△ 7	△ 19
		INCJ	2018/9/21	△ 98	362	△ 83	△ 477	13	2,202	1,149	△ 68	4,362
	Organization for Small & Medium Enterprises and Regional Innovation		2004/7/1						138	234	31	163
	Regional Economy Vitalization Corporation of Japan(REVIC)**		2009/10/4 (2013/3/18 reorganization)	1,784	△ 11	124	△ 47	△ 53	△ 49	△ 115	△ 38	1,584
	Agriculture, forestry and fisheries Fund corporation for Innovation, Value-chain and Expansion Japan(A-FIVE)		2013/1/23	△ 1	△ 7	△ 10	△ 12	△ 15	△ 18	△ 29	△ 12	△ 105
	Private Finance Initiative Promotion Corporation of Japan(PFIPCJ)		2013/10/7		△ 2	△ 5	△ 3	1	5	9	7	10
	Public-Private Innovation Program	Tohoku University	2015/2/23			△ 0	△ 1	△ 2	NA	NA	△ 8	△ 30
		Tokyo University	2016/1/21				△ 0	△ 2	NA	NA	△ 3	
		Kyoto University	2014/12/22			△ 0	0	△ 4	NA	NA	△ 2	
		Osaka University	2014/12/22			△ 0	△ 1	△ 2	NA	NA	△ 6	
	Cool Japan Fund Inc.(Cool Japan)		2013/11/8		△ 6	△ 15	△ 15	△ 23	△ 39	△ 81	△ 36	△ 215
	Earthquake Resistance and Environmental Real Estate Formation Promotion Project Real Estate Sustainability and Energy-Efficiency Diffusion		2013/3/29		△ 2	△ 2	△ 0	△ 1	1	16	49	60
	Development Bank of Japan(DBJ)	Competitiveness Fund	2013/3/12	0	4	3	2	94				
		Specific Investment Business	2015/6/29				6	12	13	23	70	124
	Japan Overseas Infrastructure Investment Corporation for Transport & Urban Development(JOIN)		2014/10/20			△ 3	△ 11	△ 13	△ 18	△ 19	△ 9	△ 73
	Japan Science and Technology Agency(JST)		2014/4/1								2	△ 3
	Fund Corporation for the Overseas Development of Japan's ICT and Postal Services Inc. (JICT)		2015/11/25				△ 2	△ 5	△ 18	△ 6	△ 7	△ 38
	Local Decarbonization Investment Promotion Fund Project Green Finance Organisation		2013/6/20		△ 1	△ 3	△ 3	△ 3	NA	NA	△ 0	△ 13
			Accumulated profit/loss as of 2020/3									5,807

*The Innovation Network Corporation of Japan(INCJ), established in 2009/7, was reorganized and the Japan Investment Company (JIC) was established in 2018/9.
**Reorganized Enterprise Turnaround Initiative Corporation of Japan (ETIC), established in 2009/10, and launched Regional Economy Revitalization Initiative Corporation of Japan (REVIC) in 2013/3.
Source: From FY2012 to FY2016; Board of Audit of Japan (2018). From FY20174 to FY 2019; Executive Committee Meeting.
Profit and loss of each company/year: Website of each company where it is available
From FY2017 to FY2019 profit and loss; https://www.cas.go.jp/jp/seisaku/kanmin_fund/dai13/siryou2.pdf
Accumulated profit/loss as of 2020/3 (Executive Committee,12th, P20)
https://www.cas.go.jp/jp/seisaku/kanmin_fund/dai13/siryou1.pdf

March 2020 for each public-private fund. According to this table, the total accumulated profit of the public-private funds as a whole amounted to 580.7 billion yen.

As of the end of March 2020, the INCJ had the largest cumulative gain/loss (436.2 billion yen) among public-private funds, accounting for 75% of the total. Looking at the historical profit and loss of the INCJ, it shows that they made large profits in FY2017 and FY2018. In the INCJ's portfolio, Japan Display is the number one in terms of investment amount, and has invested 462 billion yen by the end of March 2020. Considering that 233.7 billion yen of this amount has been recovered in FY2013, FY2018, and FY2019, and that the accumulated investment and other estimated principal is 156.3 billion yen, it is calculated that Japan Display has earned 77.4 billion yen in pre-tax proceeds from the sale of its shares. However, for Japan Display, the total return is unknown because impairment losses were also recorded in FY2015 (60.3 billion yen impairment losses for all listed investment securities including Japan Display in FY2015) and FY2018.

The INCJ's second largest portfolio is Renesas Electronics Corporation, in which it has invested 138.35 billion yen. Of this amount, 559.2 billion yen has already been recovered

through stock sales in FY2017 and FY2018, and taking into account that the cumulative investment estimate is 71.5 billion yen, it can be seen that at least 487.7 billion yen was recorded as a gain on sale before tax payment from the investment in Renesas Electronics Corporation. The INCJ, under the umbrella of JIC, will be engaged in increasing the value of existing portfolio companies and investment recovery operations, and it is required that direct and indirect investees will increase their corporate value and accumulate further accumulated profits.

After the INCJ, the second largest public-private fund in terms of accumulated profits is REVIC, with 158.4 billion yen. It accounts for 27% of the total 580.7 billion yen in accumulated profits of total public-private funds. Looking at historical profits and losses of REVIC, net income of 178.4 billion yen in FY2012 can be found. Japan Airlines (JAL), which had received an investment of 350 billion yen from REVIC's predecessor ETIC (established in 2009), relisted in 2012 and ETIC sold their shares and received 648.3 billion yen. As a profit, it is thought that it brought a little less than 300 billion yen[16] of profit to ETIC (currently REVIC) before tax payment[17].

Thus, the major contributors to the total accumulated profits and losses to date (580.7 billion yen; as of the end of March 2020) are JAL, Renesas (accumulated profits: 487.7 billion yen), and Japan Display (accumulated profits before taking impairment into account: 77.4 billion yen, which would be lower if impairment losses were taken into account). The contribution to the total accumulated profits of public-private equity funds mainly comes from large projects. In the future, steady recovery of smaller projects is required.

Conversely, in terms of public-private funds with large accumulated losses, Cool Japan, A-FIVE, JOIN, and JICT posted accumulated losses of 21.5 billion yen, 10.5 billion yen, 7.3 billion yen, and 3.8 billion yen, respectively. For these four public-private funds, a plan for eliminating accumulated losses has been established and is being continuously followed up, taking advantage of the Reform Schedule 2018. In December 2019, the Ministry of Agriculture, Forestry and Fisheries (MAFF) announced its policy to dissolve A-FIVE as soon as possible without making a new investment decision after FY2021, as it has not achieved its plan. Furthermore, in May 2020, the company formulated and published an "Investment Plan to Minimize Losses". In January 2020, a "Study Group on the Verification of the A-FIVE" was established within the MAFF, with experts as members, to verify the causes of the A-FIVE that led to this situation, and a verification report was released in July 2020. The report lists the following factors as contributing to the failure of A-FIVE: (1) a high-cost organizational structure that was not commensurate with the size of investments and in-

[16] Source: Nihon Keizai Shimbun, September 10, 2012, "300 Billion Yen in Gain from Sale to ETIC - With Re-listing of Japan Airline"
https://www.nikkei.com/article/DGXNASGC1000W_Q2A910C1EA2000/

[17] In 2013, REVIC decided to pay 88.7 billion yen, or half of the gain (net of taxes) on the sale of JAL's shares from its re-listing during the ETIC period, to the treasury.
Source: Nihon Keizai Shimbun, December 7, 2013, "JAL Listing Gain of 88.7 Billion Yen to be Paid to the National Treasury by REVIC"
https://www.nikkei.com/article/DGXNASGC0601E_W3A201C1EE8000/

vestment returns, (2) limited investment targets and multilayered investment procedures, (3) failure to maximize exit returns, and (4) sub-funds that did not function sufficiently. Although it may not necessarily be a failure factor that can be generalized to all public-private funds, proper public-private fund governance is required to prevent the same failure from occurring in other public-private funds. Additionally, Cool Japan formulated and announced its improvement plan in May 2021. In June 2021, the Fiscal Investment and Loan Subcommittee of the Fiscal System Council decided that if the improvement plan is not achieved at the end of FY2021, a fundamental review will be undertaken, including the organization itself. These examples suggest that early governance of public-private funds may be at work.

Moreover, according to the "Status of Business Operations in Public-Private Funds" by the Board of Audit of Japan released in April 2018, there were only two public-private funds that had formulated plans to eliminate accumulated losses as of the end of FY2016, although they had not yet been publicly announced. The two public-private funds are the PFIPCJ and the Green Finance Organisation. Table 6 shows that for PFIPCJ, the company turned profitable in FY2016 and has been continuously profitable in a single year since then through FY2019. For the Green Finance Organisation, they calculated the estimated amount of expenses up to FY2025 and the estimated amount of recovery for the promised amount of support as of the end of FY2016. The Organisation is formulating a plan to cover the promised amount of investment support and the estimated amount of expenses based on the estimated amount of recovery from investment[18].

Public-private funds provide risk money (patient risk money) in areas where returns are expected over the long term, but where risk is high and the private sector alone is not able to provide sufficient funds. For this reason, many of the public-private funds assume a period of 5-10 years or longer until exit[19]. In the future, it will be necessary to closely monitor (1) whether the amount of committed investments in existing investee companies and indirect investment sub-funds will steadily increase in line with policy objectives, (2) whether earnings will improve, (3) whether new investment projects will steadily increase in line with policy objectives and not squeeze private sector businesses but has a pump priming effect, and (4) whether investments can be recovered in a manner that eliminates accumulated losses during the exit period.

IV-2-2. Analysis of Expenses

One of the reasons for the failure of A-FIVE was the high-cost organizational structure that was not commensurate with the size of the investment, investment returns, and other factors. Therefore, we would like to confirm the expense ratio of each public-private fund. In general, public-private funds receive fee income in the form of x% of the total amount invested (or committed). In other words, if the investment does not proceed smoothly, the public-private fund (or more precisely, the X Organization, which is the management entity

[18] "Status of Business Operations at Public-Private Funds" by the Board of Audit of Japan (p 90).
[19] From the 13th Executive Committee Meeting (Basic Portfolio Information)
https://www.cas.go.jp/jp/seisaku/kanmin_fund/index.html

of the public-private fund) will not earn any income, and only personnel expenses, which are fixed costs, will be incurred. After a certain period of time, the invested company can make an exit, and at the time of the exit, the amount from the sale of the invested company is also received as income.

Table 7 shows the expenses and investment balance of the public-private funds. Although there is some variation among the funds, personnel expenses account for about 44% of the total expenses of the public-private funds. If the investment does not progress smoothly despite the personnel expenses spent to identify direct or indirect investment support projects, the ratio of total expenses divided by the investment balance (cost-to-investment ratio) will be higher.

A-FIVE's cost-to-investment ratio was nearly 20% by the end of March 2019, and as of March 31, 2020, it was 13%, still above 10%.

REVIC also has a high cost-to-investment ratio of 33%, and this ratio may have increased in recent years because REVIC has been using more polite but costly support methods that do not involve investment, such as coordination among credit and debt parties and hands-on support (e.g., management consultancy) for the corporate reorganization process. Since REVIC has a surplus fund (accumulated profit of 158.4 billion yen as of the end of March 2020. See Table 6) derived from past gains on the sale of JAL, it is not classified as a fund with large accumulated losses. However, assuming that around 5 billion yen in expenses will be incurred annually in the future, the fund will be required to either recover a certain return on its current investment balance of 12.4 billion yen or reduce personnel expenses. Or, if the support methods that do not involve investment are becoming more common, it may be necessary to review the reason for existence of REVIC (if it has policy significance, it could be included in the general account budget in terms of cost recovery). Alternatively, with the new budget for the coronavirus (hereinafter referred to as COVID-19) infectious disease countermeasures, it will be necessary to increase the balance of investments by bringing in new investee company for support, and to increase corporate value through investment in such new investee companies and subsequent management advice.

PFIPCJ also has a high cost-to-investment ratio of 13.6%, and the Green Finance Organisation also has a high cost-to-investment ratio of 7.2%. However, it should be noted that PFIPCJ and the Green Finance Organisation tend to have a high cost-to-investment ratio because stock investment is small and mezzanine loan investment is the main focus. As mentioned above, these two organizations have already submitted plans for eliminating carry-forward accumulated losses as of the end of FY2016, although the details of the plans have not been announced.

In addition, this cost-to-investment ratio is regularly monitored. As a response to this, public-private funds with a high cost-to-investment ratio should not take any action to reduce this ratio by making easy investments and increasing the investment balance of the denominator[20].

For reference, JAFCO, a private fund, had personnel expenses of 2.1 billion yen at the end of FY2019, accounting for about 51% of the total sales administration expenses of 4.1

Table 7. Cost to investment ratio, expense and investment balance of public-private funds

(Unit：100 million yen、%、persons)

																									(Ref.)	
			Japan Investment Corporation* (JIC)		Organization for Small & Medium Enterprises and Regional Innovation	REVIC	A-FIVE	PFIPCJ	Public-Private Innovation Program				Cool Japan	Earthquake Resistance and Environmental Real Estate Formation Promotion Project	DBJ	JOIN	JST	JICT	Local Decarbonization Investment Promotion Fund Project Green Finance Organisation	Total Public-Private Funds (Excluding DBJ)	cost-to-investment ratio (Excluding DBJ)	Jafco	
			JIC	INCJ					Tohoku University	Tokyo University	Kyoto University	Osaka University			Specific Investment Business								
March-20		personnel expenses	623	1,224	237	2,549	473	298	644				928	74	NA	854	33	312	182	8,431	44%	2,075	51%
		Other expenses	747	3,925	157	1,488	506	153	536				1,354	115	NA	1,306	16	482	97	10,882	56%	2,013	49%
	Total expenses (A)		1,370	5,149	394	4,037	979	451	1,180				2,282	189	3,415	2,160	49	794	279	19,313	100%	4,088	100%
Mar-20	Total assets (B)		70,872	834,466	144,467	65,097	21,775	89,358	31,680				64,753	36,026	577,677	88,770	93,058	34,177	18,946	1,593,445			
	Expenses/Total assets (A/B)		1.9%	0.6%	0.3%	6.2%	4.5%	0.5%	3.7%				3.5%	0.5%	0.6%	2.4%	0.1%	2.3%	1.5%	1.2%			
Mar-20	Investment balance (C)		0	755,256	144,467	12,392	7,443	3,314	21,910				57,666	8,810	353,227	34,880	1,870	20,443	3,868	1,072,319		433,939	
	Cost-to-Investment Ratio (A/C)		NA	0.7%	0.3%	32.6%	13.2%	13.6%	5.4%				4.0%	2.1%	1.0%	6.2%	2.6%	3.9%	7.2%	1.8%		0.9%	
Number of directors and staff	Total		111	9	728	238	35	27	16	14	20	23	70	18	NA	65	1,363	28	34	2,799			
	Of which, Directors		11	9	13	13	7	7	7	5	7	8	8	12	NA	8	7	7	10	139			
loaned employee (2020/3)	Total		11	0	29	16	6	5	0	0	0	0	8	3	NA	20	14	3	0	115			
	Of which, Directors		2	0	5	2	1	0	0	0	0	0	0	1	NA	0	1	0	0	12			

Source: Verification Report under the Guidelines for the Management of Public-Private Funds (12th, Executive Committee Meeting)
Jafco's data is from the company's annual report for the fiscal year ending March 31, 2020. (Expenses are total SG&A expenses. Personnel expenses are the figures in the footnotes of the annual report.) Investment balance is the balance of investments under management.

billion yen, and the total amount of funds in operation was 433.9 billion yen. The cost-to-investment ratio is about 0.9%.

V. Differences between Public-private Funds and Private Funds

V-1. Fund Raising (Financing) Stage

Private funds present their own fund strategies and solicit funds from home and abroad. Investors in the fund will carefully examine in advance who will be the responsible person for identifying investment projects and managing post-investment value enhancement. If the responsible person leaves the fund, the investors in the fund often come with an "option to terminate their investment," that is, a key man clause. Regarding the structure of the fund, the fund will be managed in a pass-through fund structure, as investors want to avoid double taxation on their earnings.

In contrast, in the public-private fund, funding is mostly provided by the government, except for the proprietary portion of the DBJ, as shown in Table 4, which can be funded if the government budget is approved by the Diet. For this reason, working in a public-private fund does not help one acquire the ability to raise funds. In addition, the fund management company itself directly makes investments and loans, since tax reduction schemes to avoid double taxation are not required due to the government investment. The no key man clause is attached. There could be a number of reasons for the lack of a key man clause. For example, (1) the person who initially conceived the idea of a public-private fund in consideration of its public significance (from the government office) would be transferred due to regular personnel changes, and (2) the person in charge of the investment department would come from the private sector, but even this person could have age-related problems because the investment period of a public-private fund is long. However, it is also true that the absence of a key man clause is associated with the risk of unclear responsibility for the investment[21].

V-2. Identification and Screening Stage of Investment Projects

Private funds selectively invest in projects that can enhance corporate value by leveraging their own strengths and that are of an appropriate size relative to the size of the fund. In many cases, the fund management company refuses deals that are too small because they are too time-consuming and do not contribute to the absolute value of the fund's earnings. Some fund management companies visit companies by themselves to find investment opportunities, while others are brought in directly by external intermediaries or companies. In

[20] The plans submitted to the Ministry of Finance in April 2019 by four public-private funds with particularly large accumulated losses painted a picture of rapidly expanding investments starting in FY2019 and generally eliminating accumulated losses in FY2030 or later. (Source: Nihon Keizai Shimbun, June 14, 2019, "Public-Private Funds, Ministry of Finance to Tighten Monitoring.")

[21] One suggestion would be to select several key persons from the private sector and agree in advance on a process for changing key persons, assuming that there will be changes in key persons.

the case of private funds, depending on the name recognition of the fund management company, if the fund management company is not well known, many projects are discovered by the fund management company itself or brought to the fund by external intermediaries. Once an investment project is decided, in the case of a buyout with stable cash flow, other financing sources such as non-recourse loans and mezzanine finance are added to the financing structure to determine the amount of equity investment. Venture investments are often made entirely in equity. Whether or not an investment project is viable as an investment project is determined purely by whether or not the profitability and amount of return are economically viable from the fund management company's perspective. Private funds differ in their approach to investment portfolio construction. Some seek a certain degree of diversification across industries in a portfolio, while others seek a more biased portfolio, focusing on business areas in which they excel.

In contrast, public-private funds are required to achieve both profitability as well as policy objectives. In identifying projects, public-private funds that have a relatively broad business domains often receive introductions from outside sources. Public-private funds that limit their investment targets too much to specific business areas face the problem of not being able to find investment projects. In addition, there was an opinion that the public-private fund, which has been slow to discover and formulate investment projects, has an inadequate network for getting information on potential projects[22]. In the future, the investment areas of public-private funds are expected to become borderless and expand as a result of DX (Digital Transformation) and the integration and servicing of industries, deepening and diversifying this network may become even more critical. Since human resources are the lifeblood of a fund, the concept of diversity and inclusion, which actively utilizes human resources with diverse backgrounds, should be promoted in all public-private funds. Regarding whether or not to make an investment, in the case of a private fund, it is possible to make a decision not to invest for the simple reason that the size of the investment project does not match. On the other hand, in the case of a public-private fund, it is necessary to keep a firm record of the reasons not only for invested projects, but for projects that were not invested. Furthermore, when making an investment, it is necessary to make a decision on whether or not to invest not only by the internal investment committee but also by a third-party committee with the addition of outside experts. For this reason, it is considered that it often takes more time and cost to make a decision on each investment project than a private fund. Also, there may be cases where the intentions and introductions of the government and politicians were received. Even for such projects, it is important to have governance that firmly assesses policy and profitability and makes investment decisions. Moreover, in terms of portfolio, some public-private funds are constructing portfolios with diversified policy and profitability.

[22] In fact, even in the practice of each public-private fund, this tendency is high in funds where the accumulation of projects has not progressed easily.

V-3. Time to Exit Investment Projects and Continuity of the Fund Management Company's Business Model

Private funds often have an investment period of three to five years for each investment project and an overall investment period of about 10 years for the fund as a whole. If the investment in the first fund goes smoothly and secures a certain level of return, a second fund is launched without waiting 10 years, and the business as a fund management company continues. This is the general business model of private funds.

In contrast, the majority of public-private funds have an expected period of more than 5 years until exit, and some projects exceed 10 years, which tends to be longer than that of the private fund. The fund management company has a fixed term of existence by law, and even if the fund management is successful, a second fund is not launched as in the case of private funds, and the fund management company is, in principle, dissolved when its term of existence expires. Once a certain organization is established, the status quo bias tends to work and the number of organization members who wish to continue the organization tends to increase, so there is a risk of agency problems and private benefit problems arising between the public, the government, and the public-private fund.

V-4. Training and Development of Investment Personnel

In a private fund, human resource development and a system of financial compensation commensurate with such human resources are important elements in order to make the fund business sustainable. With regard to human resource development, they are developing human resources to enhance their ability to identify investment projects, explain, structure, increase value, and negotiate projects.

In contrast, human resource development is also an important KPI for public-private funds. In addition to the skills required for private funds[23], the fund will also develop a high level of discipline and the ability to increase accountability, since the source of funds is public money. As for the incentive for working personnel, many commented that, in general, the compensation level of public-private funds tends to be lower than that of private funds, and the incentive from monetary rewards is relatively small. Rather, the incentive of making a social contribution (contributing to the public good) and the incentive of contributing to his/her career path are considered to be significant. Moreover, because the organization itself has a sunset clause, those who work in public-private funds must realize the process of investment, increasing value, and sale of a certain project by a certain deadline in order to achieve their own results. Therefore, it is pointed out that the sunset clause may be a source of tension for proper professional personnel.

[23] However, structuring ability for tax savings is not required.

VI. Suggestions for Verification Hypothesis

VI-1. Hypothesis 1: Availability of Investment Projects that can pursue Policy Objectives and Profitability・Pump Priming Effect

VI-1-1. Discussions for Potential in Public-private Funds

(1) Availability of Investment Projects・Pump Priming Effect

For public-private funds to be effectively utilized with a pump priming effect, the following is necessary. (1) Investment projects are selected and adopted appropriately according to the policy objectives; (2) monitoring after investment is conducted appropriately; (3) investment results are disclosed transparently and reported appropriately and in a timely manner to the regulatory authorities, the government as the investor, and private investors; (4) special consideration is given to funding start-up and venture projects that are particularly important from the perspective of growth strategies; and (5) public-private funds do not put a squeeze on private sector businesses and are managed efficiently[24].

Nakazato (2019) suggests that in areas where there is a policy objective but where it is difficult to expect returns commensurate with the risk, from the perspective of how to reconcile the income and expenditures of public-private funds, the government should provide various types of support to increase the probability of success of the investee projects, including measures to try to reduce risks that were difficult to foresee. He also points out that Japan's public-private funds aim to increase the probability of success of projects through being invested by private-sector related to the investment area.

Some interviewees also suggested that the compatibility of policy objectives and returns should not be considered for all individual projects, but rather that policy objectives and returns should be achieved ex post for the portfolio as a whole. For example, one project may have low profitability but high social impact and high public interest, and another project may not have much public interest but has very high profitability, and therefore should be invested in. The idea is to make the portfolio as a whole balanced in terms of both public benefit and profitability.

Table 4 "Total public-private fund investment, support decisions, actual investment, and induced private investment" in section IV-1-1 shows that the amount of actual investment and loan made by the public-private funds as a whole since their establishment until March 31, 2020, was 2.5386 trillion yen while the amount of induced private investment and loan during the same period (priming effect) was 7.663 trillion yen, producing an approximately threefold priming effect. In a typical public-private fund, an investment committee consisting of outside experts (it is considered that this committee does not include anyone from the government) checks the pros and cons of a project from not only the standpoint of profit-

[24] "Public-Private Fund Guidelines" partially revised on November 20, 2020.
https://www.cas.go.jp/jp/seisaku/kanmin_fund/index.html

ability but also policy considerations. Some projects may be opposed from the viewpoint that they have no policy significance (e.g., batting against a private business company). Therefore, the recipients of these investments and loans are approved by a committee of outside experts and appear to be limited to those with policy significance, which may have a priming effect.

Based on the above, we believe that there are projects that have both policy and profitability characteristics that can induce private investment, and that it is possible to construct a portfolio with a balance of policy and profitability characteristics by combining several such projects and executing investment.

(2) Fund Industry Fostering Effect (Incidental Effect of Priming Effect)

A corollary effect of the priming effect could be the effect of fostering the fund industry.

According to a study by Suzuki (2019) focusing on venture public-private funds (VCs), direct intervention in the venture capital (VC) market by venture public-private funds is widespread in Europe. VCs established in governments (government VCs) are active (Guerini and Quans (2016)) and are the largest funders to the VC industry (Bertoni and Tykvova (2015))[25].

The following factors can be pointed out as justifying government VCs: At the stage when the VC industry is underdeveloped, there is a lack of investor confidence in VC and entrepreneurial awareness of the benefits of VC investment. However, when public-private funds invest in VC, the track record of the first VC firms builds up, they are widely recognized by society, and the VC industry may start up and develop smoothly. Related to this discussion, the aforementioned "Japan Revitalization Strategy" mentions the role of public-private funds (1) as a priming effect to create new industries and markets, and (2) in training and developing investment human resources.

One interviewee also said that they were instrumental in creating the PE fund industry by utilizing public-private funds and becoming an LP investor in several private PE funds at a stage when the PE fund market was not being developed in Japan. Other interviewees also expressed the view that whether or not funds dry up in a given market depends on the time horizon, and that public-private funds can be an effective provider of risk money when funds in the private market are at a standstill and the market temporarily stops functioning, such as in some crisis. However, they pointed out that the need for public-private funds declines when the private sector is highly motivated to take risks.

(3) Possible Investment Projects

Then, what kind of case can be considered as a concrete investment project? Through discussions with interview officials, as an example, 1): industries and enterprises requiring

[25] In contrast, it has been pointed out that in the case of public-private fund venture capital overseas, the program requirements are not in line with the actual conditions of the venture, making it complicated and difficult to use. These problems can be alleviated by using private-sector experts, but this is not a universal prescription, and in many countries, such as the U.S. and the U.K., the failure of government VC has been attributed to poor selection of personnel. (Lerner (2009))

interest adjustment, and 2): projects with high risks and difficulties to implement only in the private sector are assumed.

First, 1) as industries and firms that need to adjust their interests, there are cases where they have a large amount of debt, but when adjusting that debt (debt forgiveness, etc.), it is difficult for the private fund to proceed with the adjustment if it is negotiating with them. Even if such companies have useful technologies, human resources, essential infrastructure functions, and business functions that are indispensable for Japan's future industrial policy, as their business conditions deteriorate, there is a strong possibility that human resources and technologies will leave the candidate companies and the value of the companies will be lost. Under such circumstances, it may be better to have the power of a public-private fund to persuade interested parties quickly. Even if the Civil Rehabilitation Law or Corporate Reorganization Law is used to adjust their interests, if the subsequent sponsors are mainly public-private funds, the management restructuring may go smoothly because of their high creditworthiness.

Furthermore, compared to other countries, Japan has many firms in a single industry. This may have led to excessive competition and a low ratio of operating income to sales. Additionally, in the case of R&D-oriented industries, multiple firms are engaged in similar R&D activities, which may result in inefficient R&D in Japan as a whole. On the other hand, it is easy to imagine a situation where industry restructuring does not proceed easily, such as when the shareholders of these firms are former conglomerates or independent firms. In such a case, the public nature of the public-private funds may lead to cooperation, which in turn may encourage the company to restructure its business and improve its productivity and efficiency.

In addition, when it is difficult to produce sufficient information due to cost and confidentiality problems only in the private sector, or when it is difficult for competitors to form hands, it may be easy to start a new business by the involvement of the public-private funds. Nakazato (2019) cites PFIPCJ's investment in operating companies such as Kansai International Airport and Osaka International Airport Specific Airport Operation Business. (Amount of support decided by public-private funds (investment only): 1.9 billion yen, operation started April 2016). This project is a large-scale concession project (2.2 trillion yen for operation rights), which was not yet well known in Japan at the time. Although there were precedents in other countries, concession projects had not yet been commercialized, and this is an example of a public-private fund supporting a private sector operator.

Next, 2) as projects with high risk and difficult to be implemented by the private sector alone, the 2008 "Future of Industrial Investment" document lists the following three target areas: ①R&D and venture support, ②national projects such as rare metal exploration and development, and ③promotion of investment in the environment and Asia. Some of these projects may be difficult to implement by the private sector alone. Moreover, there are areas of research and development where it takes a long time to commercialize a product, or where there is a lack of private-sector risk money to begin with. For example, it has been pointed out that the venture capital industry in Japan is small in size compared to that in oth-

er countries.

There may also be areas of business that are meaningful for the national interest, although it will take time for the investment to pay off.

For example, renewable energy can be mentioned as a business area that has potential but requires a long period of time to recover investment. In 2020, the government established a system to invest a total of 80 billion yen in companies responsible for renewable energy. The aim is to provide financial support to companies that have potential but still lack profitability, and to attract private companies to revitalize the entire market. The policy is to contribute 20 billion yen to DBJ[26] from industrial investment (FILP), add DBJ's own funds, and attract private funds to form a "green investment promotion fund" with a total of 80 billion yen[27].

Some interviewees suggested that if the situation of private funds (number of cases, amount of money, business fields, etc.) is known and if they are functioning well, public-private funds should be devoted to industrial policy purposes. In other words, they pointed out that public-private funds should invest only in business fields where the private sector is shy at the moment and where there is a need from an industrial policy standpoint. As of the time of the interview (March 2021), specific business areas include investment in nuclear technology, which is still under debate as to whether it is a step forward or a step backward, and large-scale investment in batteries and semiconductors, which could become the future industrial base, in order to maintain international competitiveness.

VI-1-2. Discussions for Risks in Public-private Funds

(1) Discretionary Interpretation of Policy Objectives

Policy objectives can be interpreted to some extent at their discretion. For example, in the event of a sudden situation, it is possible to utilize public-private funds without going through the legislative process by interpreting laws and regulations discretionarily in order to realize the policies that are truly necessary.

For example, Article 1 of the Act on the Basis of REVIC states that "REVIC shall, in cooperation with financial institutions, local governments, etc., and in consideration of securing employment opportunities, support the revitalization of local economies by improving the overall economic strength of local communities and by contributing to the strengthening of the foundations of local credit order. REVIC shall support the business revitalization of small and medium-sized enterprises and other businesses that have useful management re-

[26] In attracting private funding, care should be taken to avoid using government pressure to raise funds and take large management fees. The GPIF invests in infrastructure in developed countries under a joint investment agreement with the Ontario Public Service Pension Fund of Canada and the DBJ. The IRR since February 2014 through FY2019 is 1.57% (from the FY2019 GPIF Operations Summary, p. 49 document). By comparing this level with other infrastructure funds, it would be possible to determine, for example, whether DBJ is strong in infrastructure funds. If this is DBJ's area of expertise, then it would be considered an appropriate GP for this renewable energy fund. It is unfortunate that such information is not disclosed more often.

[27] Nihon Keizai Shimbun, December 3, 2020, "80 billion yen investment in renewable energy companies to establish a government-affiliated fund."
https://www.nikkei.com/article/DGXMZO66965640T01C20A2EE8000

sources but are overburdened with excessive debts through the purchase of debt held by financial institutions, etc. and shall execute the business as a general partner of a limited liability partnership for investment that provides funds that contribute to the revitalization of the regional economy." At first glance, it reads as if local small business owners are targeted for investment support. However, the phrase "small and medium-sized enterprises and other businesses" depending on how it is interpreted, could be considered to cover large enterprises as well.

In this COVID-19 infection countermeasure, a project team of the LDP's Economic Growth Strategy Headquarters has pointed out the need to address large companies in addition to the medium-small sized companies that have been the original focus of REVIC's capital injection. The government increased the government guarantee facility for REVIC to 2 trillion yen in the second supplementary budget for FY2020 and enacted a revised law in June 2020 that extends the deadline for investment decisions by five years. As a result, the deadline for investment decisions was extended to March 2026[28]. With a government guarantee facility of this amount, it would be possible to provide support to large companies, which may or may not be included in the initial policy objectives of the REVIC[29].

On the other hand, as the room for discretionary interpretation of such laws and regulations grows, there is a risk that public-private funds may be used to fulfill the wishes of the authorities in charge of the public-private fund (for purposes that were not included in the initial establishment of the fund).

(2) Squeeze out of Private Sector Businesses

When the private sector establishes a fund, it may ask a public-private fund to invest in the fund. The private fund's intention is that having a public-private fund participate in the fund will be useful in developing projects that are complicated to coordinate interests, and will also enable the fund to take advantage of consultants and other resources available within the public-private fund. At first glance, this does not appear to put pressure on the private sector, but this is the case when such functions do not exist in the private sector[30]. In fact, there are lawyers and consultants in the private sector who coordinate complex interests, and it is partly true that public-private funds put pressure on such people's private businesses.

The existence of a public-private fund may prevent funds from flowing into the private fund, or the private fund may miss investment opportunities. According to interviewees, such crowding-out can occur 1) at the stage of fund-raising by private funds or 2) at the

[28] Nihon Keizai Shimbun, June 12, 2020, "Five-year extension of the deadline for investment decisions for REVIC passed." https://www.nikkei.com/article/DGXMZO60284530S0A610C2EA3000/

[29] Nihon Keizai Shimbun, December 17, 2020, "Public-Private Fund to Provide Financial Support to Large Corporations: A Proposal by the Liberal Democratic Party."
https://www.nikkei.com/article/DGXZQODE176G20X11C20A2000000/

[30] According to Suzuki (2019), Parker (2018) points to additionality as a requirement for policy design to solve the crowding-out problem. Additionality is the increase in the number of people who take the desired action as a result of the policy. Crowding out, he notes, is nothing more than a phenomenon in which additionality is zero or negative.

stage of investment in individual projects. 1) At the stage of fund-raising by private funds, assuming that an investor is requested to invest in a fund by a public-private fund and a private fund at the same time of the fund-raising stage, we cannot deny the possibility that the investor will give priority to investing in the public-private fund by feeling pressure by the government[31]. 2) At the stage of investment in individual projects, this is the case when the required yields for investment projects differ between public and private funds, especially when the required yield of the public-private fund is lower, and the firms to be invested give priority to accepting investments from public-private funds with lower required yields (i.e., with better investment terms and conditions). This may cause private funds that demand higher yields than public-private funds to miss the opportunity to invest in the project. In fact, until 2018, the return target for public-private funds as a whole was for the amount recovered to exceed 1.0 times the sum of the principal amount invested and overhead expenses of the public-private fund. In contrast, private funds generally have higher IRR targets, such as 10% or more. In this regard, the risk of crowding out may be smaller for new investments in the future, as the concept of cost of capital has been introduced for industrial investments starting in 2019. (See Section II-5-2 Introduction of Cost of Capital to Profitability Indicators (Industrial Investment)).

The 2019 "Future of Industrial Investment" document provides guidance that pursuing profitability in excess of the cost of capital for industrial investment will not put pressure on the private sector. Therefore, public-private funds that use industrial investment as a source of funds will seek profitability that exceeds the cost of capital, at a minimum, for new projects in the future. When a company receives an equity investment, it wants to raise equity-based funds with the lowest possible required return. If public-private funds invest at a lower required return than the cost of capital while private funds set the cost of capital as the minimum required return, investment projects of good companies will flow to public-private funds with lower required returns, not to private funds. If public-private funds do not pursue returns above the cost of capital on their investment projects, private funds may lose the opportunity to invest in, which may put pressure on the private sector[32].

(3) Overinvestment Risk for Eliminating Accumulated Losses, Risk of KPI Skeletonization

As already mentioned in section II-5-1, the plans submitted to the Ministry of Finance in April 2019 by four public-private funds (A-FIVE, Cool Japan, JOIN, JICT) with particularly large accumulated losses drew a picture of rapidly expanding investment from FY2019 and generally eliminating accumulated losses in FY2030 or later. Since the private sector is responsible for projects that can be invested by the private sector and public-private funds are committed to taking risks that the private sector cannot take, there is a large risk of overinvestment in budget-based planning for investment amounts[33].

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[31] In the case of a public-private fund, there is a possibility of uniformly seeking investments from related industries.

[32] It will be necessary to further discuss whether the cost of capital should be the minimum return when a public-private fund, which is funded by the general account, invests directly in a company.

Next, the risk of KPIs becoming a formality will be discussed. Some of the policy KPIs and profitability KPIs have been skeletonized in reality; this problem has been pointed out in the findings of the Board of Audit of Japan in 2018 and by experts at previous Executive Committee Meetings. Based on these considerations, at the October 2019 Executive Committee Meeting, the KPIs will be reviewed to make it more feasible to properly evaluate and verify the operation of public-private funds, and evaluations based on the new KPIs will be conducted from April 2020. In the past, some public-private funds set KPIs until the expiration date of the public-private fund, but from now on, verification will be conducted when milestones (generally 3 to 5 years) arrive, in principle. Furthermore, it has been changed that some public-private funds will conduct verification at shorter intervals without being bound by milestones, if necessary, in cases such as when accumulated losses are significantly worse than the target values of KPIs[34].

Thus, these risks of overinvestment and KPI skeletonization are already being recognized and governance by the government is being strengthened.

VI-2. Hypothesis 2: Is Governance working for Public-private Funds?

VI-2-1. Discussions for Potential in Public-private Funds

The Public-Private Fund Guidelines state that the role of the government should not end with the establishment of public-private funds by the relevant administrative agencies, but that it is necessary to evaluate and verify the activities of public-private funds and take necessary measures to ensure that the funds are operated in accordance with the policy objectives for the growth of the Japanese economy.

"In order to evaluate and verify the activities of public-private funds and take necessary measures to ensure that public-private funds are operated in line with policy objectives," there is an "Executive Committee Meeting" under the Ministerial Conference, consisting of relevant ministries and experts, which, as mentioned earlier, has made a total of 13 verification reports from 2013 to the present (2021), roughly every six months. Since private-sector experts are also included here and, as mentioned in section III-5-1, the review of public-private funds with large accumulated losses was initiated early, it can be evaluated that the government's governance and monitoring functions for public-private funds are adequate to a certain extent.

VI-2-2. Discussions for Risks in Public-private Funds

(1) Governance of the Governing Body/Governance over Investment Projects

As noted above, a certain degree of governance is in place at present, but whether this

[33] Nihon Keizai Shimbun, October 7, 2019, "Four Public-Private Funds Eliminate Distant Accumulated Losses, 60% Increase in One Year".
https://www.nikkei.com/article/DGKKZO50670770W9A001C1NN1000/

[34] "Report on the Verification under the Guidelines for the Management of Public-Private Funds" (12th) pp. 2-3.

will continue to function in the future is another matter. Considering governance of public-private funds, there are two meanings: 1) governance of the company managing the public-private fund, and 2) governance of the entities or sub-funds directly or indirectly invested by the public-private fund.

First, as for 1) the governance of the organization that manages the public-private fund, each public-private fund has an installation deadline or a provision for review every five years, etc., and is not a permanent organization due to the sunset clause[35]. The reason there is an installation deadline of a public-private fund is that within that period of time, the private sector is made aware of investment opportunities and the public-private fund is willing to transfer its role to the private sector. It should be the role of the public-private fund to encourage the private sector and to realize the existence of demand before the installation deadline[36]. However, once an organization has been established and a large number of people have gathered there, rather than intending to terminate the organization by the deadline, there may be a desire to extend the deadline by amending the law to change the organization into a new organization or by setting new policy objectives before the deadline of the organization, etc.[37] Specifically, a detailed look at the installation deadlines of each public-private fund shows that there are public-private funds that changed their policy objectives and moved to a new organization, public-private funds that extended their installation deadlines due to changes in policy objectives, and public-private funds that were established too long in terms of their policy objectives. As shown in Table 8, for example, JIC appears to have taken over the INCJ, which was established in 2009. For REVIC, the original installation deadline was until 2023, but in FY2018 the installation deadline was extended by 3 years to 2026, and furthermore, due to COVID-19 infection control issues in 2020, the installation deadline was extended to 2031[38]. In addition, some public-private innovation programs have a maximum 20-year term for the No. 1 fund, and there is a possibility that a No. 2 fund will be started under the same program, so the total duration of the No. 1 and No. 2 funds will be quite long, and the organization managing them may continue during that time[39].

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[35] Therefore, investments supported by public-private funds will be handed over to the private sector by a certain point, which is in line with the intent of the law that "the private sector holds the key to strengthening industrial competitiveness".

[36] For example, if the purpose of public-private funds is to supplement the under-supply of risk money by the private sector alone, it would be necessary not only to provide funds during their activities but also to create an environment in which the private sector alone can secure an adequate supply of equity when the funds are dissolved. It may be necessary to monitor whether the current public-private funds are aware of such exit strategies and are implementing measures to stimulate private-sector demand.

[37] The aforementioned Industrial Revitalization Corporation of Japan (IRCJ) was dissolved in 2007 in accordance with the sunset clause, but there are no other public-private funds that were dissolved explicitly under the sunset clause as far as we know at present. (II-2. Reform and Review (2001-2007)

[38] As mentioned earlier, REVIC has so far targeted local companies for support, but the LDP is calling for preparations to utilize REVIC's equity funding function to support capital-based funding for large companies as a cash flow measure for companies affected by the new coronavirus disease. (Source: Nihon Keizai Shimbun electronic edition, December 17, 2020, "Financial Support for Large Corporations, Public-Private Fund to Prepare, LDP Proposal.")
https://www.nikkei.com/article/DGXZQODE176G20X11C20A2000000/

[39] In some cases, such as the Organization for Small & Medium Enterprises and Regional Innovation, there used to be no fixed term (for fund operations), but now they are reviewed every five years. On the other hand, as mentioned earlier, the four funds with large accumulated losses are periodically reviewed and withdrawal is in view, and it is also true that a mechanism has been introduced to prevent the expansion of public-private funds.

Table 8. Initial and subsequent installation deadline of each public-private fund

				Initial(March-2014)			Current Status(as of March-2020)		
			Regulatory Authority	Establishment date	installation deadline	No. of Staff	Establishment date	installation deadline	No. of Staff
	Japan Investment Corporation* (JIC)	JIC	METI				2009/7/17 (2018/9/25 reorganization)	2043/3/31	111
		INCJ	METI	2009/7/17	2025/3/31	137	2018/9/21	2025/3/31	9
	Organization for Small & Medium Enterprises and Regional Innovation		METI	2004/7/1	None	760	2004/7/1	Review every 5 years (Next Review FY2024)	728
	Regional Economy Vitalization Corporation of Japan(REVIC)		Cabinet Office・FSA・Ministry of Internal Affairs and Communications・MOF・Ministry of Health, Labour and Welfare・METI	2009/10/4 (2013/3/18 reorganization)	2023/3/31	193	2009/10/4 (2013/3/18 reorganization)	2031/3/31	238
	Agriculture, forestry and fisheries Fund corporation for Innovation, Value-chain and Expansion Japan(A-FIVE)		MAFF	2013/1/23	2033/3/31	45	2013/1/23	2033/3/31	35
	Private Finance Initiative Promotion Corporation of Japan(PFIPCJ)		Cabinet Office	2013/10/7	2028/3/31		2013/10/7	2028/3/31	27
	Public-Private Innovation Program	Tohoku University	Ministry of Education, Culture, Sports, Science and Technology(MEXT)	After 2014/4/1			2015/2/23	2025/12/31* (10years, max15years)	18
		Tokyo University					2016/1/21	2031/12/31* (15years, max20years)	14
		Kyoto University					2014/12/22	2030/12/31* (15years, max20years)	20
		Osaka University					2014/12/22	2025/12/31* (10years, max15years)	23
	Cool Japan Fund Inc.(Cool Japan)		METI	2013/11/8	2034/3/31	48	2013/11/8	2034/3/31	70
	Earthquake Resistance and Environmental Real Estate Formation Promotion Project Real Estate Sustainability and Energy-Efficiency Diffusion		MLIT・Ministry of the Environment	2013/3/29	Review including abolition by the end of 10 years	8	2013/3/29	Review including abolition by the end of 10 years	18
	Development Bank of Japan(DBJ)	Specific Investment Business	MOF				2015/6/29	2031/3/31	NA
	Japan Overseas Infrastructure Investment Corporation for Transport & Urban Development(JOIN)		MLIT				2014/10/20	No (review of enforcement status of the underlying law every 5 years)	65
	Japan Science and Technology Agency(JST)		MEXT				2014/4/1	Reviewed every 5 years according to the medium- to long-term plan (next review in FY2022)	1,363
	Fund Corporation for the Overseas Development of Japan's ICT and Postal Services Inc. (JICT)		Ministry of Internal Affairs and Communications				2015/11/25	2036/3/31	26
	Local Decarbonization Investment Promotion Fund Project Green Finance Organisation		Ministry of the Environment				2013/6/20	Review, including abolition, of each fund approximately 10 years after its establishment	34

*Installation deadline of Public-Private Innovation Program is for the first fund. For the 2nd fund, it is not decided.

Source: Executive Committee Meeting of the Council of Ministers on Promotion of Utilization of Public-Private Funds (1st, 12th)
http://www.cas.go.jp/jp/seisaku/kanmin_fund/dai2/siryou1.pdf
http://www.cas.go.jp/jp/seisaku/kanmin_fund/dai13/siryou1.pdf

However, there may be cases in which there are still some investment projects that continue to be supported after the expiration of the establishment period. In such cases, it is worthwhile to continue to exist as an institution that switches to business operations concentrating on increasing the value of already invested projects and conducts activities such as transferring individual investment projects to the private sector[40].

Some interviewees also wondered whether it would be possible to continue providing

[40] Public-private funds such as the INCJ's are entering this phase.

long-term funds in line with the original purpose of the public-private fund and whether governance would be possible thereafter, since the officials of the relevant ministries (especially the highly motivated ones who first launched the public-private fund concept) would be replaced periodically (about three years) through personnel changes.

Additionally, there is a concern that if future investment projects are to be invested in those that have policy significance and exceed the cost of capital over the long term in order to avoid pressure on private industry, public-private funds with low financing costs will have an extra margin, which may result in a loosening of discipline regarding efficient management. These low financing costs are due to the fact that the investment objective of public-private funds is to invest in projects with policy significance that improve social welfare. This is probably because, in the case of public-private funds financed by FILP, the financial resources are dividends from NTT and JT, which are privatized companies, and payments from the institutions subject to FILP, while in the case of public-private funds financed by the general account, the state has the right to collect taxes, which indirectly affects the expectations of the public to lower the financing cost. Therefore, we would request that governance be put to work by ensuring that when margins are widening, they are not used as a wasteful cost to the organization, but are returned to the treasury or made available for failure, as described below.

In the first place, when a public-private fund makes a direct investment[41], it should be in a project that has policy significance and a risk that cannot be taken by the private sector, and on which the expected return is higher than the cost of capital in the long term. Such deals are generally more likely to be long-term investment projects[42] that have policy significance and are expected to exceed the cost of capital in advance. However, these long-term projects may fail. For example, looking at the public-private fund portfolio ex post, one project A had a very high policy significance but not so much in terms of profitability. On the other hand, another project B had only modest policy significance but earned a return above its cost of capital, and the public-private fund as a total had a sufficient margin range. In such cases, the overall portfolio of the public-private fund is considered to be balanced in terms of profitability and policy, and it also has the advantage of enabling the fund to take on A project that it would have been willing to invest in from a policy perspective but had to be cautious due to concerns about profitability. We hope that the public-private funds that will be redeemed in the future will look like this.

Next, there is 2) the governance of the entities directly or indirectly invested by the public-private fund. As reported by the Board of Audit of Japan, while there are problems with violations of laws and regulations in the entities directly supported by the public-private funds and the lack of investment performance by the sub-funds, the public-private funds

[41] If the investment project has policy significance and the private sector can take the risk, it is reasonable for the public-private fund to introduce the investment to the private sector fund that is indirectly investing in it, and for the private sector fund to invest in the project. If the private fund cannot take the risk of the investment, the public-private fund should consider investing directly in the investment project.

[42] This is because private funds generally aim for an exit in 3-5 years (mid-term).

may be required to be accountable because they are funded by public funds, and may prepare more detailed documents than private funds. In fact, it is said that in some cases, at a portfolio company in which a public-private fund and a private fund have invested, in addition to the directors from the public-private fund, several observers participate in the board of directors' meetings and take notes. From the private fund's point of view, there may be some unnecessary costs (personnel costs at the public-private fund).

Moreover, regulatory capture is also a concern overseas. Here, regulatory capture refers to a situation in which government VCs are misused to pursue private interests of specific groups under political pressure, distorting policy objectives (Suzuki (2019), Lerner (2009), Colombo et al. (2016)). In fact, according to interviewees, some investment projects in Japanese public-private funds are subject to pressure from politicians and government agencies, so it is important to establish a governance system, especially one that enables decision-making without political pressure through the boldness of top management and the appointment of a compliance officer with a high sense of justice. It was pointed out that it is important to create an organizational structure that enables decision-making without political pressure. However, there is no guarantee that such an organizational structure can be sustained.

(2) Governance regarding Investment Terms and Conditions

Assuming that a public-private fund invests at a higher price (higher price for the fund and lower price favorable to the investee company) than a private fund would be willing to invest, and that the private fund is forced to co-invest under the same conditions, if there were no public-private fund, the investment would be cheaper and the fund would have a higher rate of return, but by setting the same conditions as the public-private fund, the fund's rate of return would be reduced.

According to interviewees, when a public-private fund is the sole and first investor, the content of the investment agreement[43] with the investee company may be more lenient than when a private fund is the first investor. As a result, it may be difficult for private funds to enter as second investors. Therefore, even if the public-private fund is the only first investor, it should make an effort to ensure that the terms of the contract with the investee company of the public-private fund are equivalent to the terms under which a general private fund invests as a first investor.

The target rate of return on renewable energy, introduced in footnote 27 in section VI-1-1-(3) above, also poses a risk that the average IRR for the entire domestic infrastructure industry investment could be low if the required rate of return for the companies to be invested by public-private funds are low.

If this happens in a large number of projects, it would reduce the average rate of return for the Japanese fund industry as a whole. This problem will be eliminated if public-private funds seek profitability above the cost of capital; after the "Future of Industrial Investment"

[43] Favorable terms for those being invested.

in 2019, the concept of the cost of capital is introduced for industrial investment in FILP, and these concerns will be lowered as they will be required to exceed the cost of capital in the long term. We hope that this will lower these concerns[44].

(3) Disclosure Stance

As mentioned earlier, the number of KPIs and the attitude toward information disclosure differed among public-private funds. In addition, some public-private funds did not evaluate the profitability of their projects because the number of projects they had exited was small or because it was difficult to evaluate the profitability of such projects. In response to this, the Board of Audit of Japan suggested providing information on the financial status of projects currently being invested as a supplement to the profitability KPI. Furthermore, from the viewpoint of fulfilling accountability to the public, when there is a risk of significant impact on government investment due to a large amount of impairment loss or a large amount of loss at the time of termination of investment support, the Board of Audit of Japan required to disclose as much information as possible on the loss of individual projects while paying attention to the confidentiality of the information. The Board of Audit of Japan will continue to monitor the business operations of public-private funds from various perspectives, taking into account the fact that the number of projects for which investment support is terminated and profits and losses are determined will increase as the business progresses.

This leads us to hope that the voluntary disclosure of information by each public-private fund will improve and that the Board of Audit will report from a third-party perspective to improve the attitude of information disclosure to the public[45].

VI-3. Hypothesis 3: Does the Public-private Fund Contribute to the Training and Development of Investment Personnel?

VI-3-1. Discussions for Potential in Public-private Funds

It is important to have a system that does not make public-private funds permanent organizations, so that investment personnel who have been active in public-private funds can be active in private-sector investment activities, and so that the eco-cycle of investment personnel can be successfully implemented. The investment human resources referred to here include not only pre-investment human resources, such as those who identify investment projects, conduct due diligence, and negotiate investment terms and conditions, but also consultant specialists who can increase the value of the investee company after the investment. We believe that it is important to have an installation deadline of the program in order to make it easier for these investment professionals in a broader sense to graduate from public-private funds and become active in private funds and other organizations. According to

[44] Ex post, the portfolio as a whole might be better served by a mechanism whereby the compatibility of policy objectives and profitability is evaluated.

[45] As the Board of Audit of Japan has stated, information exchange and sharing of investment methods among public-private funds are also desirable to prevent multiple public-private funds from providing support/investment to the same entity.

one of our interviewees, graduates of public-private funds are active in a variety of fields, including private funds and private companies, making use of their experience. Since Japanese companies are said to have low return on investment (ROE), the investment-related skills cultivated at public-private funds can also be of great use in the private sector. In fact, 34% of the INCJ's professional staff who have retired from the INCJ are now active in private business companies, which may contribute to improving the rate of return on investment (ROE) in Japanese companies[46]. As shown in Table 7, as of the end of March 2020, 2,799 staff members were involved in public-private funds (including 591 in public-private funds with an installation deadline), and we expect that these personnel will be active in the private sector after graduating from public-private funds in the future.

VI-3-2. Discussions for Risks in Public-private Funds

Some public-private funds have long durations of existence, allowing for a comfortable level of investment until commercialization is achieved, but many of the people in charge of investment are unable to monitor the investee until the time of exit, and many leave the fund midway through. In fact, the estimated period until the exit of each public-private fund is more than 5 years, and some of them exceed 10 years. In addition, as mentioned earlier, public-private funds do not have a key man clause[47], which is common in private funds. This may be due to the fact that the investment period of public-private funds is longer than that of private funds, and also due to the periodic personnel changes in government offices. Furthermore, when a former member of a public-private fund that is affiliated with a public-private fund establishes his own investment fund, and at the same time, the affiliated public-private fund invests a large percentage in the investment fund, it can be regarded as an investment eco-cycle if viewed positively. However, from a negative point of view, it may be seen as a way of preserving investment human resources within the public-private fund.

There is also the status quo bias as described in behavioral economics. In other words, some employees may not change jobs even if there are more opportunities in the private sector because they do not want to waste the time they have spent working for the organization (sunk cost), and thus the mobility of human resources may become stagnant. From this point of view, it is important to set an installation deadline[48] of such a fund to enable the mobility of human resources, and to establish a system that allows investment personnel who have grown up in public-private funds to work in the private sector[49].

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[46] Among other job changes, 28% went to private funds, 24% to start-ups and ventures, 6% to finance, 6% to others, and 2% to the JIC Group (Source: INCJ Corporation (2021), "INCJ's Investment Activities: A Review of Last Year and the Future," July 20, 2021).

[47] It is common for a certain key person to be pre-determined and for investors in the fund to have the right (option) to demand that their money be recouped if that key person quits.

[48] This includes not extending the deadline for installation and strictly adhering to the deadline.

[49] The most difficult area in the investment business is fund raising. The appropriateness of a new private fund relying 100% on a public-private fund for the fund-raising process may need to be discussed. For example, it may be better for the public-private fund to make a matching contribution, in which the public-private fund can only invest up to the same amount of funds raised by the private fund, which would have a priming effect and encourage the new private fund to become self-reliant.

VII. Summary and Limitations of this Paper

VII-1. Summary of this Paper

This paper reviews the history of FILP industrial investment since the postwar period. We confirmed that the reform of industrial investment in 2008 and the first growth strategy of the second Abe administration in June 2013 formed the backbone of the current public-private funds, and that the use of public-private funds was mentioned there as a trigger. We then examined the potential and risks of public-private funds by conducting a survey of previous studies, analyzing performance data through statistics and literature review, and interviewing experts in order to confirm (1) whether there are investment projects that can pursue policy objectives and profitability, and whether they are generating a priming effect, (2) whether governance for public-private funds is working, and (3) whether public-private funds are contributing to the development of investment personnel.

As a result, it was confirmed that (1) fields in which policy objectives and profitability can be pursued still exist today, and that the results to date have generated a priming effect. In addition, public-private funds had the secondary priming effect of fostering the fund industry in Japan at a stage when the fund industry was underdeveloped. In this sense, public-private funds are considered to take risks that are difficult for the private sector to take and thereby stimulate private investment, based on the principle of complementing the private sector for those with policy significance. However, profitability is limited to actual exit to date and does not yet include funds that are still in the uninvested stage or that are invested but have not yet reached an exit[50]. In the future, it will be necessary to determine whether the earnings of these funds and the companies in which they are invested in will improve and whether, at the time of exit, the policy objectives can be achieved and the accumulated losses can be recovered in a manner that eliminates the accumulated losses. As for new investments, they need to determine whether investments that exceed the cost of capital over the long term meet the objectives of the policy and have a priming effect. Then new investments have to be accumulated steadily. On the other hand, regarding risk factors, the results suggest the existence of discretionary interpretation of policy objectives and a squeeze on private sector businesses. It was also suggested that the risk of overinvestment to eliminate accumulated losses and the risk of KPIs becoming a formality existed in the past (generally before 2018), but is currently decreasing (generally after 2020) as a result of the government's strengthened governance of public-private funds.

Next, regarding the (2) Governance of public-private funds, in order to "evaluate and verify the activities of public-private funds and take necessary measures to ensure that they are operated in line with policy objectives," there is an "Executive Committee Meeting" under the Ministerial Conference, consisting of relevant ministries, agencies, and experts.

[50] As for profitability, large projects are generating large returns, while small projects may not be making much of a contribution at this point. The average payback period for public-private funds as a whole is estimated to be 5-10 years or longer, so we will keep a close eye on future payback trends and investment trends.

From 2013, when the number of public-private funds increased, to the present (2021), verification reports have been made approximately once every six months for a total of 13 times. The fact that private-sector experts are also included in the meeting and that reforms of public-private funds that had accumulated losses due to excessive management costs were initiated early on suggests that the government's governance and monitoring functions for public-private funds are functioning properly to a certain extent. On the other hand, as for risk factors, the governance of the governing bodies may not necessarily be functioning adequately due to the substantial extension of the installation deadline for public-private funds (sunset clause). Moreover, the study suggests room for improvement in the governance of investment targets, the governance of investment terms and conditions, and the attitude toward information disclosure.

Finally, regarding (3) investment human resource training and development, the importance of the sunset clause was again suggested, although there is a trend that graduates of public-private funds are active in the private sector.

VII-2. Limitations of this Paper

Finally, we would like to discuss the limitations of this paper. First, although we analyzed as much as possible of the disclosed data, we cannot see a 100% complete picture, so we discuss only what we can understand. In addition, regarding profitability, there are many portfolio companies and sub-funds whose investment period has not yet reached the exit period, but the paper only evaluates the projects that have achieved an exit to date. In essence, it would be necessary to conduct future verification when all of the portfolio companies have completed their exits. Second, the number of interviewees was limited. Therefore, it is undeniable that some biased opinions may have been expressed more strongly than others.

In any case, it is certain that public-private funds have both potential and risks, so periodic follow-ups are needed to monitor future developments. These issues will be discussed in the future.

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