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Prospects of Private Equity Funds in Japan
—Expectations toward Finance with Ideas and Commitment—

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Abstract

Japanese firms have faced the need to adapt to globalization, digitalization, and post-COVID-19 economic structural changes against the headwind of a declining population. Japanese firms have reduced liabilities and raised their capital adequacy ratios since the late 1990s. While this has strengthened their resiliency against crises, it remains open to question whether they have made effective use of capital for business reforms. Meanwhile, business succession has been a crucial challenge for many firms as the aging of CEOs progresses remarkably, leading to the possibility that corporate restructuring could take place at a wider level. Against this backdrop, the role of finance with ideas and commitment for business reforms is becoming increasingly important. This paper focuses on the prospects of private equity funds (PE funds) as a vehicle to provide such a function.

The history of Japan's PE market is short relative to Europe and the U.S., and track records of deals are rarely available. Therefore, empirical analyses on the impact of corporate restructuring via PE funds have been extremely limited. That said, the empirical analysis in this paper together with a very recent study indicate that corporate restructuring by PE funds is expected to increase the value added per worker by increasing sales without reducing the number of workers on average—albeit those studies have had limited sample sizes. While care should be taken in interpreting those studies as the results could vary across firms, this might reflect the fact that investments by PE funds have increased added value by not only reducing costs but also improving the businesses of the investment targets. Expanding these investments could lead to improved productivity in

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the Japanese economy. In doing so, the following is required: (1) raising awareness of the economic benefits by PE funds and accumulating data and analyses; (2) expanding investments in PE funds by institutional investors; and (3) maintaining and developing professional human resources in business restructuring.

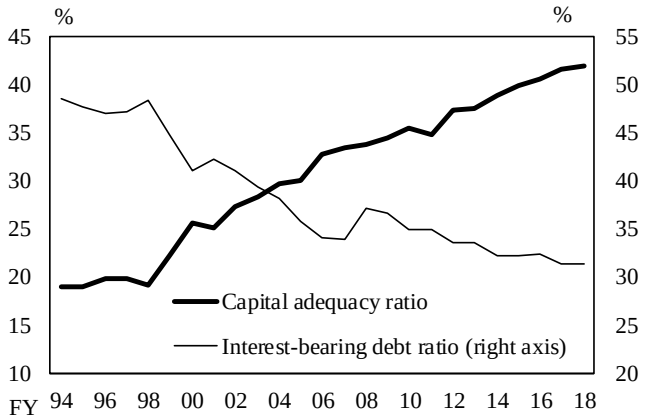
1. Introduction

Japanese firms have raised their capital adequacy ratios by reducing liabilities since the late 1990s (Figure 1). This could be attributable to the fact that business sentiment has become more cautious due to stagnating domestic demand since the burst of the bubble economy in the early 1990s, followed by a transition to a decline of the working-age population in the late 1990s and the total population since around 2010. This capital accumulation could increase resilience against crises and has in fact contributed to a relatively smaller number of corporate defaults in Japan during the current COVID-19 crisis. Nevertheless, the question of whether a majority of Japanese firms have made effective use of their accumulated capital as risk capital for business reforms remains open. This could be consistent with a slower growth of TFP (total factor productivity) among the components of potential growth in the Japanese economy.

Meanwhile, the aging of CEOs has progressed remarkably in Japan (Figure 2), and the need for business succession is growing. In particular, the effects of COVID-19 are expected to increase the need for corporate restructuring under an even more severe business environment.[1] Business reforms will be inevitable in order to increase business growth prospects and sustainability. In this context, impending corporate restructuring could be a good opportunity to implement business reforms that have been postponed until now. For this purpose, CEOs and shareholders who can take decisive action are needed. Private equity funds (PE funds) are considered a vehicle that can provide such a function. This paper aims to summarize the developments of PE fund investments and the challenges that lie ahead.

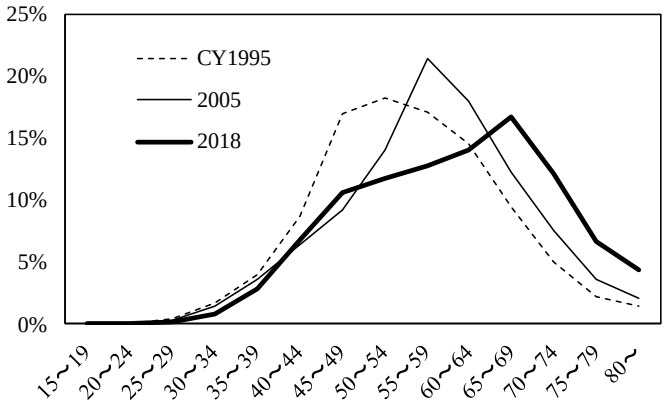
[1] For instance, Hong et al. (2020) pointed out the possibility that the impact of COVID-19 has led to an increase of voluntary discontinuation of businesses by SMEs where CEOs are aging.

Figure 1: Capital Adequacy Ratio and Interest-bearing Debt Ratio



Note: Interest-bearing debt = borrowings from financial institutions + borrowings from others + bonds
Source: Ministry of Finance "Financial Statements Statistics of Corporations by Industry, Annually"

Figure 2: CEO Age Distribution for Japanese SMEs



Source: 2019 White Paper on Small and Medium Enterprises in Japan

This paper is structured as follows: Section 2 provides an overview of the changing environment surrounding Japanese firms; Section 3 explains PE fund investments and their role in business restructuring; Section 4 presents challenges ahead toward further expansion of PE fund investments; and Section 5 concludes with key takeaways.

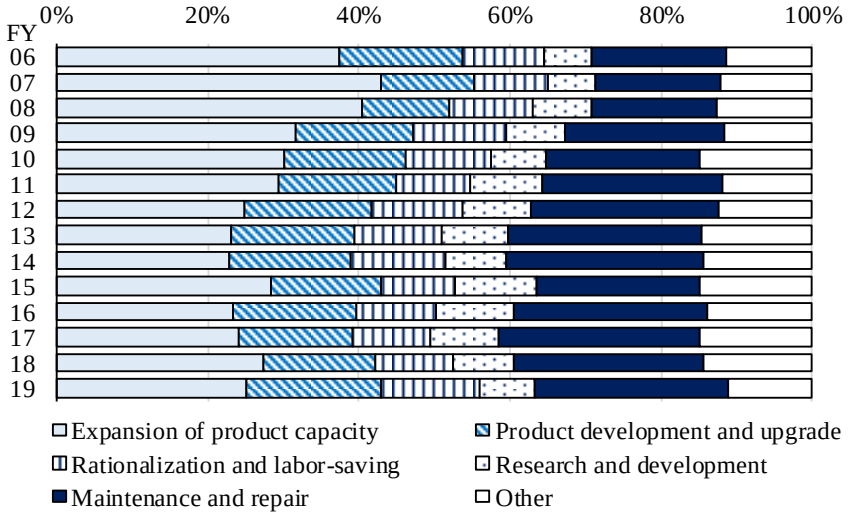
2. Changing Environment Surrounding Japanese Firms

A large number of Japanese firms have made progress in business reforms to address environment changes such as domestic depopulation, economic globalization, and digitalization. For instance, foreign direct investment by not only manufacturing sectors but also non-manufacturing sectors has expanded remarkably in recent years due to

stagnating domestic demand, and the number of firms that have adapted to globalization has increased. These firms have allocated accumulated capital through overseas business development that accompanies risks. Nevertheless, those firms only account for a portion of firms in Japan.[2] More firms need to move forward with business reforms in order to adapt to structural changes including globalization and digitalization.

There are several reasons that a number of firms are cautious with respect to business reforms even though they have relatively adequate capital. The most fundamental of those reasons lies in the fact that the burst of the bubble economy in the early 1990s and the decline in population since the late 1990s have weighed on the expected growth rate, which led to a more cautious business sentiment. In addition, as CEOs age, it is likely they will take a more cautious stance to be prepared for crises based on their past experiences. For instance, there has been an upward trend in the share of investments in maintenance and renewal (Figure 3) amid shrinking domestic demand. The 2018 White Paper on SMEs also pointed out that CEOs tend to have a more cautious stance on investments if they are older (Figure 4).

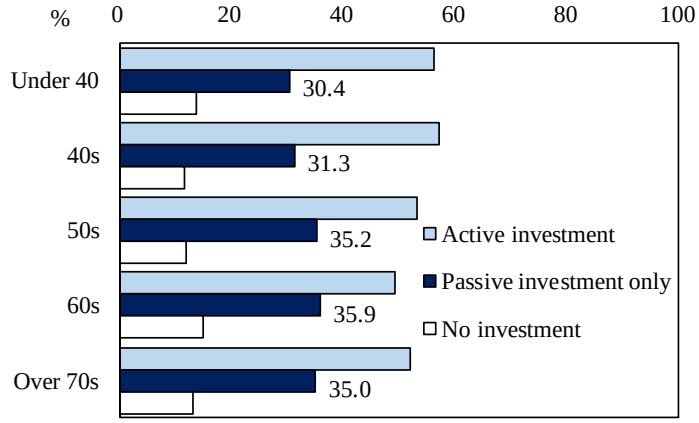
Figure 3: Investment Motives (Manufacturing)



Source: Development Bank of Japan

[2] For instance, according to the Survey of Corporate Attitude Towards Overseas Expansion (2019) by Teikoku Databank, about 70 percent of firms do not expand overseas. In particular, it noted that SMEs cannot move towards overseas expansion due to lack of financial and human resources.

Figure 4: Capital Investment in the Last Three Years (by Manager Age Group)



Source: Mitsubishi UFJ Research and Consulting Co., Ltd., "Survey on Initiatives for Increasing Productivity to Address Labor Shortages" (December 2017).

However, experienced CEOs have to retire at some point. Amid a decreasing working age population, it is difficult to find as many successor CEOs as it was in the past, and business succession has certainly become a significant problem.[3] Given these elements, business succession-oriented corporate restructuring could take place at a wider level. There is a high chance that the anticipated changes in the demand and supply structures in various industries could spur corporate restructuring.

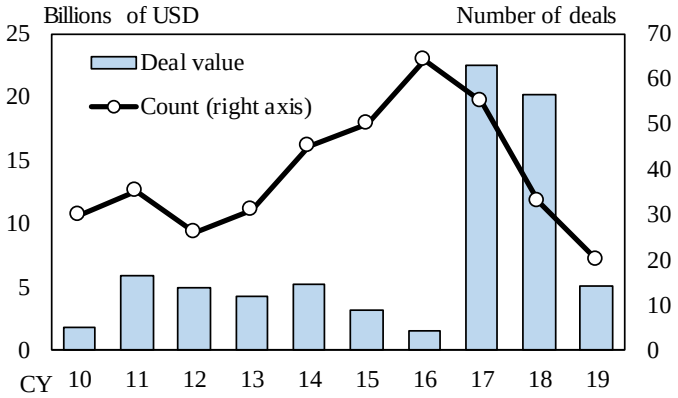
Finance with ideas and commitment should play a pivotal role in promoting business reforms amid economic structural changes. Ideas stand for "knowledge on how to promote business restructuring" and commitment means "the ability to participate in management to realize those ideas and to share losses." These initiatives could be implemented through various vehicles including business support by financial institutions, private-public partnership funds, and regional revitalization funds. Among all, this paper focuses on PE funds from the perspective of market-based discipline, and the next section discusses PE fund investments and their role in business restructuring.

[3] A similar point was raised in the 2019 White Paper on SMEs. That paper introduced various measures to support business succession and emphasized the importance of looking ahead in advance and preparing effective succession in a smooth way.

3. PE Fund Investments and Their Role in Business Restructuring

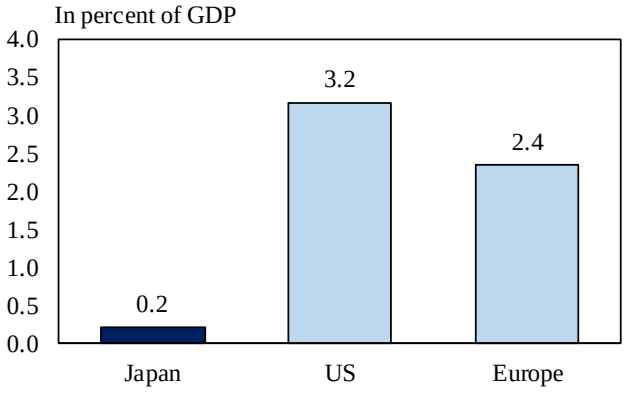
PE funds correspond to investment funds that mainly invest in unlisted shares. The deal value per year in Japan's PE market has picked up, chiefly led by large deals in recent years (Figure 5). Nevertheless, compared to the U.S. and Europe, the market size of PE in Japan remains small in terms of the percent of nominal GDP (Figure 6).

Figure 5: PE Deal Value and Volume in Japan



Note: As of December 16 for 2019.
Source: PitchBook

Figure 6: Market Size of PE in Japan Compared to Overseas (CY2014-18 average)



Source: PitchBook, IMF

PE funds in Japan consist of domestic firms and local offices of foreign firms. While the former are mainly involved in mid-cap sized deals (tens of billions of yen) that target

SMEs, the latter tend to focus on larger deals.[4] Buyouts—the acquisition of a controlling interest in a company by buying shares—account for the majority of PE deals, where a company is bought out by using funds from investors and added value is provided to the acquired company. In general, PE funds hold the shares of acquired companies for about 4-5 years on average, and then sell those shares to non-financial corporates or exit through an IPO. In recent years, due to increased awareness of capital efficiency and the aging of CEOs, the number of buyouts by PE funds has increased led by carve-outs and business succession-oriented deals reflecting a need for further corporate restructuring.

The benefits of PE fund investments include the fact that firms can make strategy and action plans for 10 years into the future as PE funds make relatively medium-and long-term commitments to management and firms can reinforce their management structures and governance using the management resources of PE funds (e.g., human resources, management know-how). On the other hand, as a potential caveat, it is important to note that in some cases participation by PE funds in management might reduce management flexibility for the existing management team or give priority to short-term profits ahead of an exit.

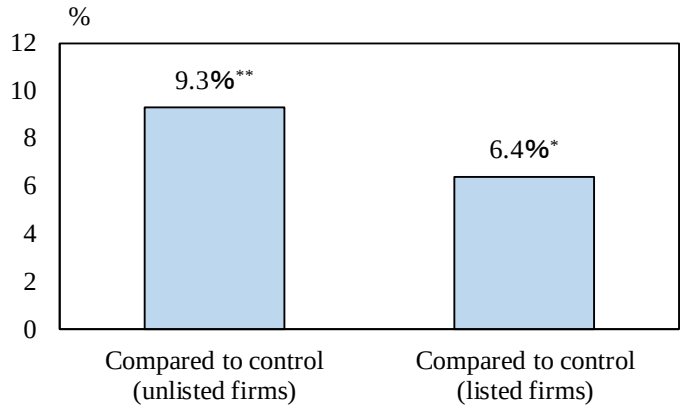
In relation to investors, PE funds are expected to achieve higher returns than the benchmark of market portfolios. With respect to PE backed firms, PE funds are expected to provide risk capital, improve management, and contribute to revitalization. The question is what economic impact PE funds can actually bring about for portfolio companies. Despite the short history of Japan's PE market and data constraints, an empirical analysis in Japan (Iioka (2020))[5] suggests that on average the sales of PE backed firms are significantly higher than a control group (Figure 7). These results are in

[4] The overview of PE funds in Japan in this section is based on an explanation by the Japan Private Equity Association etc. For the structure of PE funds and the sources of their returns, see Watanabe, Igarashi, and Inaba (2018).

[5] The treatment group was selected among buyout deals by PE funds between April 2012 and March 2016 based on the RECOF M&A database and the "Japan Buy-out Market Review," and those firms were then narrowed down to 60 firms where sales and profit after tax data are available for three years since the buyout in Teikoku Databank Corporate Database.

line with earlier studies in other countries.[6] That said, a potential caveat is that that impact might be overestimated given that a sample selection bias cannot be fully ruled out, though selecting control groups based on characteristics such as industry and sales could reduce the sample selection bias to a certain degree.[7]

Figure 7: Impact of PE Fund Investments on Sales of Portfolio Companies



Note: This indicates the gap in sales growth (three years after buyout / one year after buyout) between a treatment group and matched controls that belong to the same industry and have similar sales sizes. The treatment group consists of 60 companies where sales data are available for three years after the buyout. ** indicates significance at a 5% level, while * indicates significance at a 10% level.

Source: Iioka (2020)

On the other hand, as far as the author knows, there has been virtually no empirical work on the impact of PE fund investments on employment at PE backed firms.[8] Though the sample is very small due to data constraints, this paper conducted an empirical analysis using a synthetic control method (see Appendix 1 for details). The results indicate that the number of workers in the treatment group has at least not decreased relative to

[6] For instance, Fracassi et al. (2020) shows target firms in the consumer products sector see greater sales increases than matched control firms following buyouts by PE funds.

[7] One cannot rule out the possibility that the sales of the portfolio companies might have outperformed the sales of a control group without buyouts by PE funds, as it is likely PE funds select portfolio companies based on unobservable growth potential other than industry and sales. On the other hand, as Adhikari et al. (2016) pointed out, a synthetic control method (which is discussed later) takes into account time-varying unobservable confounding factors, so it is believed the possibility of omitted variable bias is quite small.

[8] Previous literature in other countries shows mixed results on the impact of PE fund investments on employment depending on firms' characteristics. For instance, Davis et al. (2019) indicates that PE fund investments have a positive impact on employment for the buyout of unlisted firms, while they have a negative impact for the privatization of listed firms.

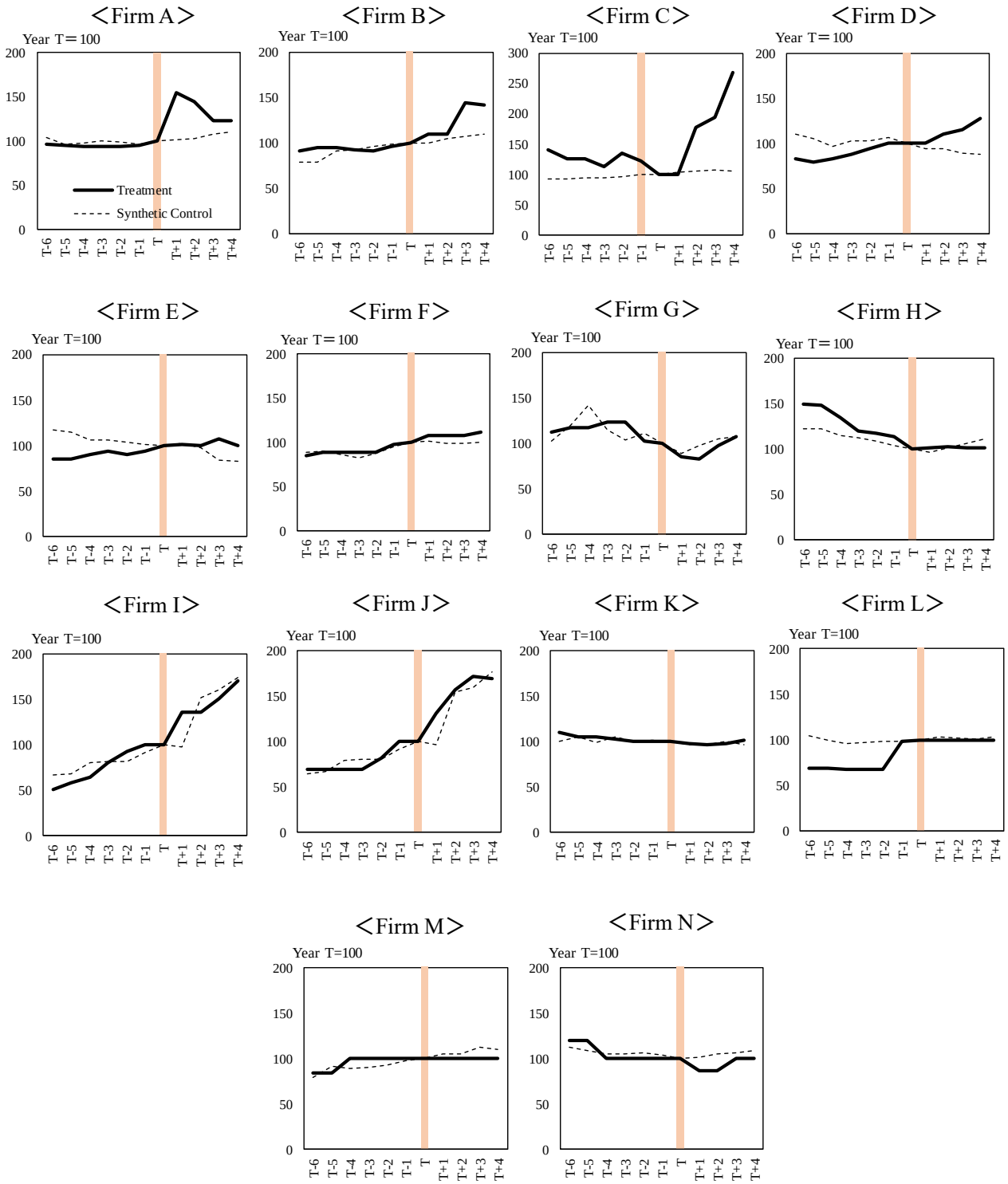
synthetic controls and the treatment group has not experienced a headcount reduction or a cutback in hiring on a large scale (Figure 8).[9]

Therefore, corporate restructuring by PE funds is expected to increase the value-added per worker by increasing sales without reducing the number of workers. While results vary across firms, that might reflect the fact that investments by PE funds have achieved increases in returns through not only cost reduction but by improving business efficiency (e.g., promoting globalization and digitalization, reform of supply chains and organizations) of the portfolio companies as a whole.

[9] Looking at the number of workers in the treatment group after four years (Year T+4) since buyouts by PE funds, they have outweighed those in the synthetic control for 5 out of 14 firms (firm A-E) while staying more or less the same as those in the synthetic control for the remaining 9 firms (firm F-N).

These results suggest that short-term job cuts right after buyouts by PE funds—which previous studies in other countries such as UNI Global Union (2007) have pointed out—were not observed at least for the samples in this study.

Figure 8: Impact of PE Fund Investments on Number of Workers in Portfolio Companies



Note: Synthetic controls are constructed from firms that belong to the same industry and have capital and sales growth similar to the treatment group (14 cases) where the number of workers and sales data are available for ten years before and after the buyout.

The shaded areas in the charts represent the years when the PE funds acquired the firms (Year T).

4. Challenges for the Expansion of PE Funds

If corporate restructuring by PE funds is to have a positive impact on portfolio companies as a whole as discussed in Section 3, an expansion of PE fund investments could bring about some positive impacts on the macro economy in Japan as well. To achieve that, at least the following three challenges need to be addressed.[10]

First, it should be noted that the level of awareness of the benefits that PE funds could bring to the economy needs to be improved. Once social recognition has improved, it is likely the number of PE deals from CEOs and shareholders (who consider business succession and sales of the business) to PE funds will increase. That could also contribute to attracting funds from investors that focus on sustainable investments. To that end, as this paper attempts, there should be further analysis and the public should be informed about how PE fund investments would have a positive impact on employment and adding to the value of portfolio companies. As can be seen in other countries, data accumulation and increasing transparency with respect to PE fund investment performance and portfolio companies are key.

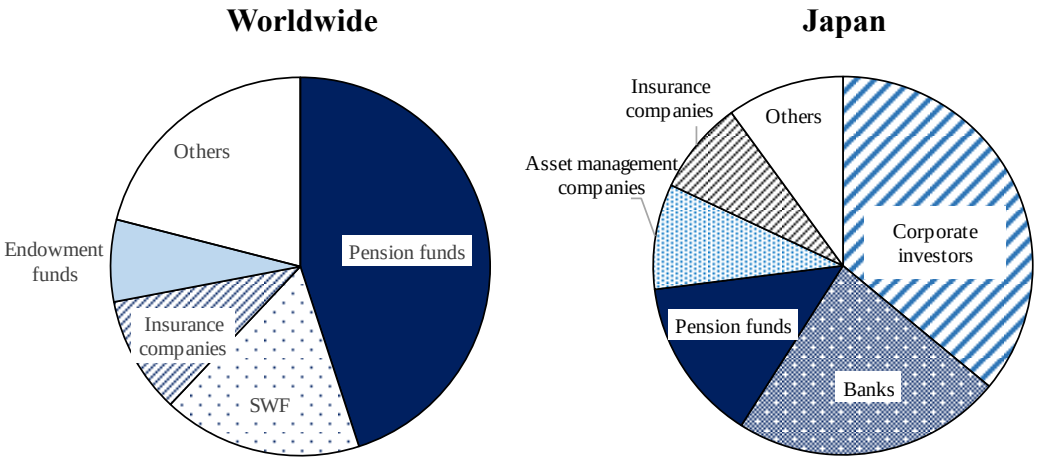
Second, institutional investors could further expand investments in PE funds in Japan. Until now, while pension funds account for about a quarter of PE investments globally, pension funds comprise around only 10 percent of PE investments in Japan (Figure 9). Japanese pension funds and insurance companies have increased alternative investments for portfolio diversification in the current low interest rate environment.[11] It would be worth considering investments in PE funds as part of those domestic alternative investments. In fact, the performance of domestic PE funds for 2009–18 is greater than

[10] In particular, firm organizations and their surroundings (e.g., employment practices, corporate governance, and decision making mechanisms) are interplayed in a complicated manner in terms of institutional comparisons at the international level, as Aoki (2001) has discussed from a comparative institutional analysis perspective. Among others, this section focuses on key issues raised by industry representatives and others.

[11] For instance, while alternative assets account for about 0.6 percent of GPIF's portfolio (as of the end June 2020), PE investments are expected to expand to as much as 5 percent of the total portfolio for alternative assets. PitchBook (2019) mentioned the possibility that a shift by pension funds to alternative investments could constitute significant support for financing of PE funds.

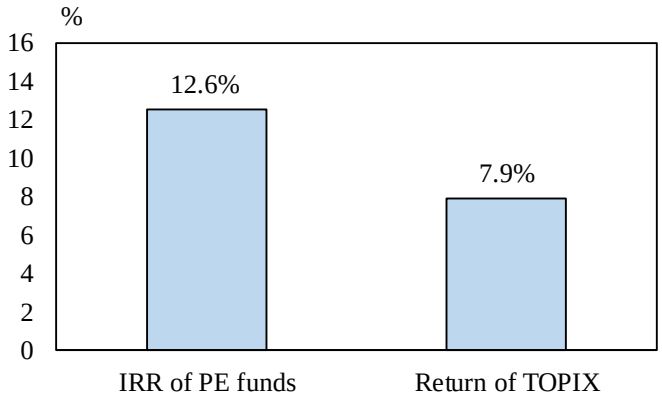
the return on domestic equity (Figure 10). According to a fundamental survey for effective use of funds by the Ministry of Economy, Trade and Industry (Figure 11) and other sources, institutional investors requested more detailed disclosure on PE fund investments and sought consistency in accounting standards on mark-to-market valuation together with a shift to fair value based valuation on investments in domestic PE funds (see Appendix 2 for details). These issues need to be addressed as soon as possible.

Figure 9: Breakdown of Investments in PE Funds by Investor Type



Note: The chart for worldwide PE funds is based on "Private Equity Growth in Transition" 2016, Deloitte Center for Financial Services, while that for Japan is based on "Japan-Based Investors in Alternative Assets" 2016, Preqin.

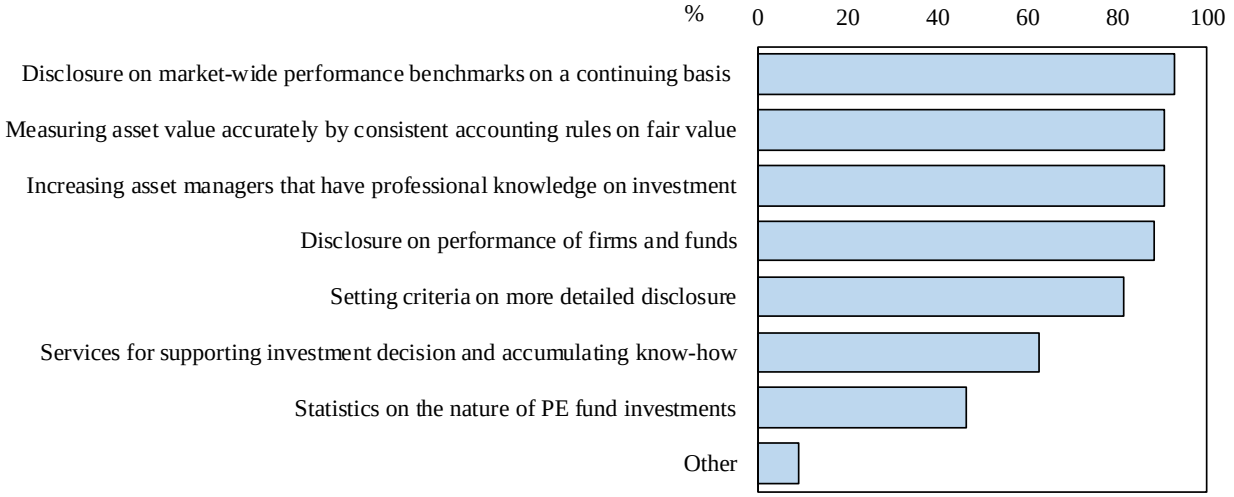
Figure 10: Internal Rate of Return for Domestic PE Funds (CY2009-18)



Note: This includes 39 PE funds that had investment track records at the start of a ten-year period up to 2018. IRRs are annualized. Return of TOPIX takes into account dividends.

Source: The Japan Private Equity Association, PricewaterhouseCoopers Arata LLC, Bloomberg

Figure 11: Areas for Improvement to Increase PE Investments by Institutional Investors



Note: This includes 43 pension funds (corporate pension funds and employees' pension funds).

Source: Ministry of Economy, Trade and Industry "Fundamental Survey for Effective Use of Funds Which Have a Role in Revitalizing the Japanese Economy (*Japanese only*)" (March 2011)

Third, professional human resources in business restructuring need to be maintained and further developed. Industry stakeholders have noted that the difficulty in coping with the increase of investments lies in maintaining not only those who have technical skills in finance such as business valuation, but also professional managers who can increase corporate value and lead companies after PE investments.[12] Given the size of the business community in Japan and the business restructuring in each sector, there should be a certain number of potential candidates who can be professional managers. However, it appears that matching those potential candidates with firms that need managers has not necessarily been conducted in an effective manner. There is a need to further improve services in this area.[13]

Lastly, while corporate restructuring by PE funds is useful for promoting business reforms in portfolio companies and potential growth of the Japanese economy, it might

[12] For instance, an M&A survey (2019) by KPMG shows that among firms that plan to conduct M&As in the next five years, only 26 percent actually hired and developed people who can manage the acquired firms, while 69 percent recognized these needs.

[13] In this context, the Japan Professional CEO Association has organized seminars on practices and knowledge related to business succession and assisted in matching professional managers with job opportunities.

not necessarily be an effective solution for small-sized firms that have difficulty in spending sufficient fixed costs on business reforms or in cases of half-public business reforms where private-based restructuring would not be suitable. Therefore, complementing PE fund investments with other various financial schemes—including business support by financial institutions, private-public partnership funds and regional revitalization funds—could help promote structural reforms in the Japanese economy.

5. Conclusion

This paper provides an overview of the changing environment surrounding Japanese firms and summarizes developments in PE fund investments and challenges that lie ahead. Japan faces a need for structural reforms with stagnating domestic demand stemming from an aging population and a need for business restructuring such as business succession, which has gained attention due in part to the aging of CEOs.

For business restructuring, an option could be to make use of PE funds that are committed to management and can provide comparative advantages in management resources such as human resources and management know-how. Despite the short history of Japan's PE market and data constraints, an empirical analysis indicates that corporate restructuring by PE funds is expected to increase the value added per worker by increasing sales without reducing the number of workers. Expanding those investments could lead to productivity gains in the Japanese economy.

Challenges ahead include: (1) raising awareness of the economic benefits of PE funds and accumulating data and conducting analyses; (2) expanding investments in PE funds by institutional investors; and (3) developing and maintaining professional human resources in business restructuring. Given that business restructuring by PE funds might not necessarily be an effective solution in business reforms where private-based restructuring would not be suitable, it is believed it could be important to complement that business restructuring with various other financial schemes.

(Appendix 1) Impact of PE Fund Investments on Employment at Portfolio Companies: Measurement using the Synthetic Control Method

The synthetic control method (SCM) measures the impact of an event by comparing A (treatment) and B (synthetic control), which is artificially constructed as a counterfactual of A without the event.[14] In recent years, this approach has been increasingly applied to various areas mainly for comparative case studies. For instance, one can analyze the impact of natural disasters and structural reforms on a country's macro economy by using this methodology.[15]

The main advantages are that this approach can perform causal inference with a small sample, and construct B in a data-driven way by a weighted average of controls (panel data) that have similar characteristics to A.[16] Ideally, it would be necessary to divide the randomly assigned groups into treatment and control, and measure the impact respectively in order to estimate the impact of an event. Nevertheless, randomly assigning treatment and control groups is not practically feasible in many cases (see Appendix Figure for a comparison of major methodologies). For instance, in the case of standard regression analysis, one needs to have a certain number of treatments and to cope with endogeneity problems in order to assess the impact of an event. On the other hand, SCM makes it possible to measure the impact of individual cases by constructing a synthetic control as a counterfactual, even when there is one or several treatments. While care should be taken as the impact of business restructuring via PE funds could vary across firms, SCM has a comparative advantage in estimating the impact from a small sample relative to other approaches.

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[14] For details, see Abadie et al. (2011).

[15] For instance, DuPont and Noy (2015) estimated the impact of the 1995 Earthquake in Kobe on GDP per capita of Hyogo Prefecture, and IMF (2015) analyzed the impact of tsunamis and cyclones on Samoa's external debt in BOX 1. In addition, Adhikari et al. (2016) examined the impact of labor market reforms in advanced countries on GDP per capita.

[16] With respect to the impact of PE funds on portfolio companies, earlier literature uses a matched pair case-control study (the method to select controls which have most similar characteristics (e.g., sales) to the treatment) in many cases. For instance, Scellato and Ughetto (2013) employed a propensity score matching methodology. However, the question of whether there are appropriate matched controls can vary across firms.

On the other hand, SCM needs to obtain a sufficient number of controls and a certain length of observations before the event, compared to other approaches.

The analysis in this paper constructed synthetic control firms from those that belong to the same industry and have a similar capital size and sales growth as the PE backed firms, in order to examine the impact of PE fund investments on employment at the portfolio companies.

- For treatments, the treatment group was selected from among buyout deals by PE funds between April 2012 and March 2016 (about 150 cases) based on the "Japan Buy-out Market Review" and then narrowed down to 14 firms—judged by data availability on the number of workers and sales for ten years before and after the buyout in the "Teikoku Databank Year Book."
- Those 14 buyout cases mainly consist of unlisted SMEs including both manufacturing and non-manufacturing companies acquired by domestic PE funds. From the viewpoint of sample representativeness, they have a certain degree of external validity,[17] though more data needs to be accumulated.
- The control group consists of dozens of firms (listed on the Second Section of the Tokyo Stock Exchange, Mothers, and JASDAQ), and data are based on annual securities reports.

[17] Internal validity is the extent to which a study establishes a trustworthy cause-and-effect relationship for the targeted population. External validity is the extent to which a statistical inference of the study can be applied to a different population.

Appendix Figure: Comparison of Major Methodologies

Methodology	Description	Strength	Weakness
Randomized Control Trial (RCT)	Conduct an experiment by randomly assigning treatment and control groups	High internal validity	Difficult to randomly assign groups in practice
Synthetic Control	Construct a counterfactual by making synthetic controls	Applicable to even a small sample	Needs relatively long time series data before and after the event
Matching	Measure the impact by matched controls which have similar characteristics to treatment	High internal validity if outcomes can be measured by observable factors	Not certain whether appropriate matches exist
Difference in Differences (DID)	Use the data before and after the event to eliminate trend factors	Applicable to various areas	Requires parallel trend assumption
Regression	Measure the impact by using data after treatment	Relatively easy to conduct	Difficult to cope with endogeneity

Note: Based on Duflo et al. (2007) and others.

Parallel trend is the assumption that the outcome of treatment and control moves in parallel without the event.

(Appendix 2) Issues in Valuation Standards on Investments in Domestic PE Funds

In other countries, investments in PE funds are valued on a fair value basis following IFRS (International Financial Reporting Standards) or US GAAP (Generally Accepted Accounting Principles). On the other hand, many PE funds in Japan are not valued on a fair value basis due to inconsistencies in accounting standards with respect to mark-to-market valuation and practical burdens for fair value based valuation mentioned below.[18]

(Consistency among Accounting Standards in Mark-to-market Valuation)

In Japan, PE funds take the form of investment limited partnerships (LPs) in most cases. According to the accounting rules on investment limited partnerships by SMEs that are applied to financial statements of investment LPs, investments by investment LPs are required to be reported at fair value. Nevertheless, in practice, investments are valued at book value or recoverable value, which is estimated by a simplified method, unless the latest reference prices are available.

On the other hand, firms that invest in PE funds are required to report PE fund investments in their financial statements in accordance with the "Accounting Standard for Financial Instruments." However, according to those accounting standards, stocks without market prices are evaluated at acquisition costs unless there are impairment losses—while stocks should be evaluated at fair value as long as they have market prices. Therefore, there is an inconsistency between "Accounting Standard for Financial Instruments" and the accounting rules on investment LPs.

(Methodology on Fair Value Based Valuation)

If the accounting standards are converged to mark-to-market valuation, there is still room for discussion on how to practically conduct fair value based valuation. For instance, according to guidelines by the Ministry of Economy, Trade and Industry etc.[19], the

[18] For instance, see the explanation by the Japan Private Equity Association (*Japanese only*).

[19] Valuation approaches customized to growth stage and surroundings of firms are introduced in

multiples approach would be appropriate for firms that have established business models. The multiples approach estimates the equity value of unlisted firms by multiplying financial metrics (net profit, EBIT, net assets, etc.) of unlisted firms by a multiplier such as PER, Equity/EBIT ratio, or PBR of similar listed companies. In this case, it is crucial to choose reference listed firms in an objective and rational manner.[20]

"Examples and Explanation on Investment LPs: FY2017 Project for Strengthening Coordination of Global Venture Ecosystem (Project on Building Foundation for Venture Ecosystem in Japan), *Japanese only*".

[20] The basic idea is similar to the synthetic control method employed in this paper. Usually the procedure starts by selecting about 10-15 listed firms that have similar characteristics such as industry, size, and profits, and then narrows those down to several firms based on characteristics such as growth potential and business models.

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