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Rationality of Corporate Cash Holdings

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The views expressed in this paper are those of the authors and not those of the Ministry of Finance or the Policy Research Institute.

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Summary

Cash equivalents (cash/deposit) held by Japanese firms were as much as 222 trillion yen in Fiscal Year 2017, but their value is discounted by the market. The background may be that cash is not effectively used because it is built up with ROE remaining low. Individual firms may think that their cash holdings behavior is reasonable, but it does not improve market valuation and the firms fail to properly increase their corporate value.

Means to improve corporate value using cash they hold may include investment in people and businesses, and return to shareholders if there are surplus funds. We analyzed the rate of stock price increase of firms that had acquired shares of its own shares, and found that the rate of stock price increase of "firms with room for improvement in capital efficiency" is higher compared with "the other firms." In addition, investment toward human capital is important for firms' growth. Corporate managers are required to make more rational decisions concerning cash holdings also with consideration of valuation by the market.

Key words: cash holdings, corporate governance, excess cash
JEL Classification: G32, G34

1. Introduction

Surveys for the Financial Statements Statistics of Corporations by Industry show that ordinary profits of all Japanese firms (except financial and insurance firms) reached around 84 trillion yen in FY2017 (from April 2017 to March 2018), which means record profits for five years in a row. The amount of cash equivalents (cash/deposit) held by Japanese firms has been increasing and reached around 222 trillion yen in FY 2017[1]. If firms don't utilize excess cash for their growth, the firm just holds cash which will not bring any return. Even if each Japanese firm thinks that their cash holdings behavior is reasonable, the firms might fail to properly increase their corporate value. In this paper, we focused on especially listed firms, and explored whether Japanese firms' behavior, holding cash without investing in human capital or equipment, is really rational or not.

The paper proceeds as follows. In section 2, we will refer to previous studies of firms' cash holdings

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[1] "Cash" is cash equivalents (cash/deposit) in the following paper.

and the results of considerations of individual firms. In section 3, we will compare the level of cash amount held by Japanese firms to that of U.S. firms. In section 4, we will confirm market value for Japanese firms' cash holdings behavior. In section 5, we will verify whether Japanese firms improve their market valuation by using excess cash holdings. Section 6 is the conclusion.

2. Related previous studies and individual firms' considerations of cash holdings

2.1 Related previous studies of cash holdings

One of the reasons for excess cash holdings by firms was explained as firms' precautionary motive. The firms facing constraints on external borrowing but having promising investment opportunities in the near future have incentives to hold extra cash as a precautionary incentive. Shinada and Ando (2013) pointed out that firms choose to hold liquidity assets rather than external borrowing if their external procurement cost is high. Fukuda (2017) analyzed the industry data of General Explanation of the Short-term Economic Survey of Enterprises in Japan (*Tankan*) from FY1995 to FY2015, and found that the industry group, which thinks banks' lending attitude was "strict", hold excess cash over their assets compared with the other industry groups. Fukuda (2017) also pointed out that large firms potentially face investment opportunities in the domestic market but did not actually implement the investments, so that the firms held extra cash as a result.

In addition, another reason of excess cash holdings by firms was explained as agency cost. Fukuda (2017) explained that if there is an agency cost, business managers will not pay out dividends to shareholders, and have an incentive to hold extra cash to increase their discretion, even though their action might decrease corporate value. On the other hand, Harford, et al. (2008) showed that the firms where the rights of the shareholders are weaker hold less cash reserves rather than the firms with stronger shareholders' rights. Therefore, the relationship between agency cost and cash holdings by firms doesn't reach consensus as Fukuda (2017) also mentioned.

2.2 Interviews of individual firms about their cash holding behavior

To make clear Japanese firms' cash holdings behavior, we held interviews with Japanese listed firms conducted by local-financial bureaus and the Ministry of Finance from September to October 2017. We analyzed listed firms' opinions and their reasons.

(1) Preliminary reasons and uncertainty

The reasons for listed firms' cash holdings were expressed as follows: "After the Lehman shock (global financial crisis) happened, we were requested to repay the borrowings from the bank even when our firm's financial positions did not matter"; "We recognize the importance of cash holdings after we experienced the Lehman shock"; "As a CEO, I could not forget the experiences during the Lehman shock"; "We have no choice but to be concerned with our company's financial strength after our experiences after the Lehman shock." These interviews implied that the global financial crisis, especially the Lehman shock in Japan, had a negative impact on Japanese firms, which promote cash holdings behavior of Japanese firms. In addition, several firms answered the reason for uncertainty, such as "we want to hold cash as much as possible to prepare for uncertainty"; "Even though our current business environment is in good condition, we want to hold more cash in preparation for rainy days." Therefore, of the main reasons for listed firms' cash holdings are these preliminary reasons and uncertainty.

(2) Preparing for future investments

The other reasons for listed firms' cash holdings behavior are preparing for future investments. For example, a firm answered, "We need to hold a certain degree of cash holdings to prepare for large-scale investment quickly and flexibly"; "We just started to deal with IoT and AI in our business, the possibility of these innovative technologies is high in the future, and at that time, we need a large amount for investment."

These listed firms' opinions would support related previous studies of cash holdings mentioned in 2.1. In the next section, we would explore whether the Japanese firms' cash holdings behavior is the same as those in other countries.

3. Comparison of cash holdings behavior between Japan and the U.S.

In this section, we will compare cash holdings behavior between Japan and the U.S. in three points of view.

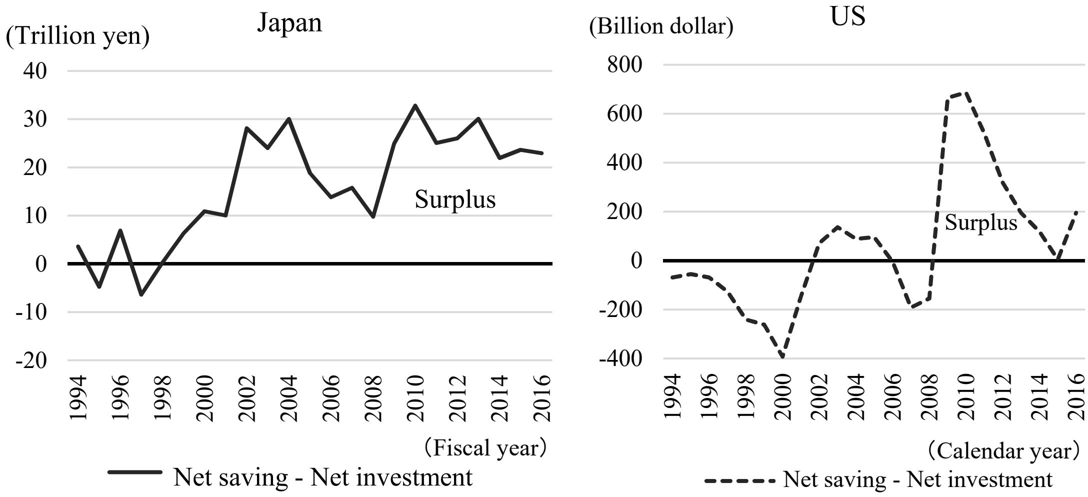
3.1. Previous studies of Japanese and U.S. firms' cash holdings behavior

Kato, et al. (2017) compared U.S. and Japanese firms' cash holdings behavior after conditioning on firms' characteristics during 1990 and 2011 using the approach of Opler et al. (1999) model cash holdings. They obtained the results that Japanese firms' cash/total assets share are higher than that of U.S. firms, around 10-20% (14.9% higher in 2011).

3.2 Comparison of IS balance (investment and saving balance) of the corporate sector

We compared surplus cash amount between the Japanese corporate sector and the U.S. one. Graph 1 shows that there was surplus after the world financial crisis in the U.S. corporate sector, but the surplus has been dissolved as the U.S. economy gradually recovered. On the other hand, the surplus of the Japanese corporate sector has continued.

Graph 1: Comparison of IS balance (investment and saving balance) of the corporate sector



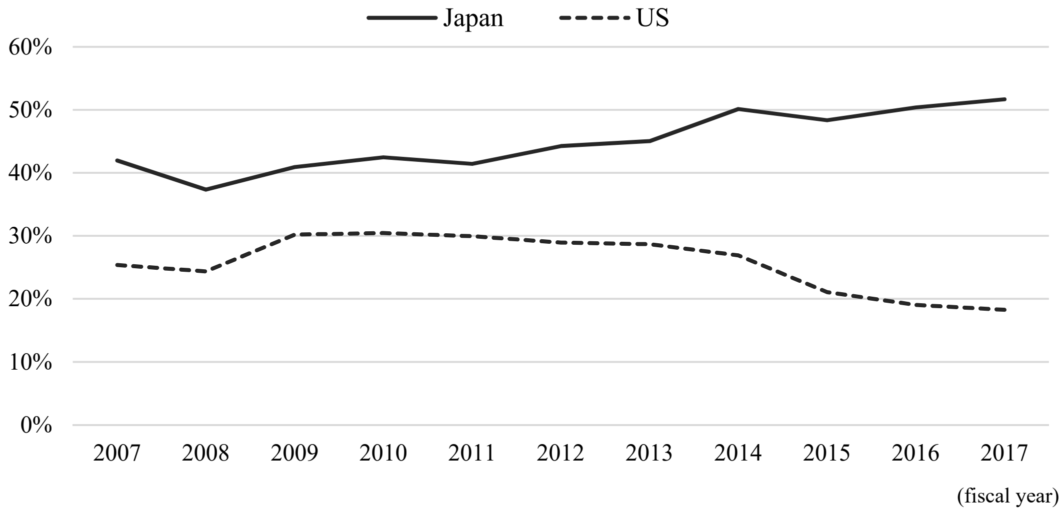
(footnote) Japan: fiscal year basis. U.S.: calendar year basis. Positive figures indicate a surplus; negative figures indicate a deficit.
(source) Cabinet Office "SNA (National Accounts of Japan)", Bureau of Economic Analysis, GDP table 5.1.

3.3 The trend of debt-free firms' share

We analyzed the trend of debt-free firms' share, which means the firms with no debt[2]. The trend of debt-free firms' share of Japan has been higher than that of the U.S. The share of U.S. firms slightly increased after the world financial crisis happened, but in recent years, the share of U.S. firms has been decreasing. In contrast, the share of Japanese firms has been increasing.

[2] We defined "debt-free company" as the company which has a surplus after subtracting the sum of short-term borrowing, long-term borrowing and notes receivable discounted from the total of the cash equivalent.

Graph 2: The trend of debt-free firms' share



(footnote 1) The data of Japanese firms was based on TOPIX500 excluding financial institutions. The number of data was 391 firms out of 443, meaning 52 firms without data. The data of U.S. firms was based on S&P500 excluding financial institutions. The number of data was 394 firms out of 431, meaning 37 firms without data.

(footnote 2) The period of a year on the graph is the fiscal year from April 1st to March 31st of the next year. We used the firm's financial data of full year business results during this fiscal year. (The same applies in Graphs 2 and 3.)

(footnote 3) We decide "debt-free firms" as (cash equivalents)－(short-term borrowings + long-term borrowings + the amount of notes receivable discount)>0. Borrowings include corporate bonds in our case.

(footnote 4) Data was from June 4th, 2018. (The same applies in Graphs 3, 4, and 5.)

(source) Bloomberg.

Based on the arguments from 3.1 to 3.3, it would be said that Japanese firms have accumulated cash with a precautionary motive after experiencing a constraint on firms' access to external financing experiences during world financial crises (especially the Lehman shock in the Japanese case). Of course, U.S. firms also suffered negative impacts of the world financial crisis, but Japanese firms have been excessively conservative since then compared to U.S. firms.

4. Market valuation for Japanese firms' cash holdings behavior

4.1. Related previous studies of market valuation for Japanese firms' cash holdings behavior

The cash held by Japanese firms is discounted in the market according to the previous studies' both empirical analysis and worldwide questionnaire survey. First, from the results of empirical analysis, Yamaguchi and Baba (2012) mentioned that if Japanese firms increase to hold 1 yen, the market discount goes from 1 yen to 0.55-0.68 yen. Nakai and Kamiyama (2013) argue that the firm's cash position is not clearly decided in theory, and the value of firm's cash holdings is devaluated if investors consider there is asymmetric information between shareholders and managers relating to usage of cash. Yanagi and Uesaki (2017) show that marginal values of cash and deposits (including short-term and marketable securities) are 36-37% of average Japanese firms, though Japanese firms with good corporate governance are 67-78%.

Yanagi (2015a) reveals the results of a worldwide questionnaire survey. According to the results, domestic investors valuate Japanese companies' cash and cash equivalent: 55% in per, 45% in discount (from 0 to -9%, around 50%:12%, 50-100%:24%), and foreign investors valuate 35% in per, but 65% in discount (0-50%:5%, around 50%:25%, 50-100%:35%). The most common reasons for their discount valuations were that foreign investors were worried whether Japanese companies destroy their firm's value by low return investment (low level of ROE), and they are also afraid of such Japanese firms' corporate governance (agency cost).

As we see from 2.2, individual firms may think that their cash holdings behavior is reasonable, but markets undervalue such Japanese firms' accumulating cash.

4.2. Comparison between Japan and U.S. companies' ROE and PBR

Why do markets undervalue the accumulated cash held by Japanese companies? The main reason is that Japanese companies just accumulated cash, without using cash for increasing corporate value and improving their ROE which shows how much profit is made with their stakeholders' equities. We compare ROE and PBR of Japanese and U.S. companies relating to market values. We used the companies' data of TOPIX500 in Japan and S&P500 in U.S. without financial companies.

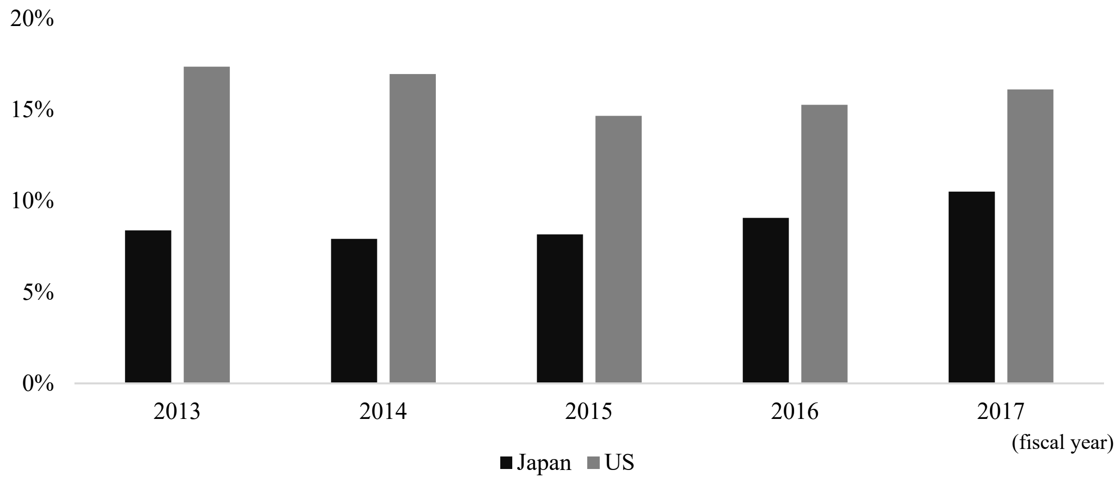
(1) ROE

"Ito report[3]" recommended that Japanese companies should commit ROE over 8% in 2014. Graph 3 shows that ROE of Japanese companies has been over 8% after the "Ito report". However, ROE of U.S. companies has remained around 15%. Even though Japanese companies have been catching up to the level of U.S. companies, there is still a wide gap between the two countries.

To investigate the reasons for this gap, we separated the elements of ROE in Graph 4. The graph shows that the margins of Japanese companies are almost half of U.S. companies, even though Japanese companies improved them. Leverage (total asset/equity capital) of Japanese companies has been decreasing as the capital-to-asset ratio has been increasing, so that the gap between Japanese and U.S. companies was widening.

3 The full title of this report is "Competitiveness and Incentives for Sustainable Growth: Building Favorable Relationships between Companies and Investors" which was issued by the Ministry of Economy, Trade and Industry in 2014.

Graph 3: ROE comparison between Japan and the U.S.

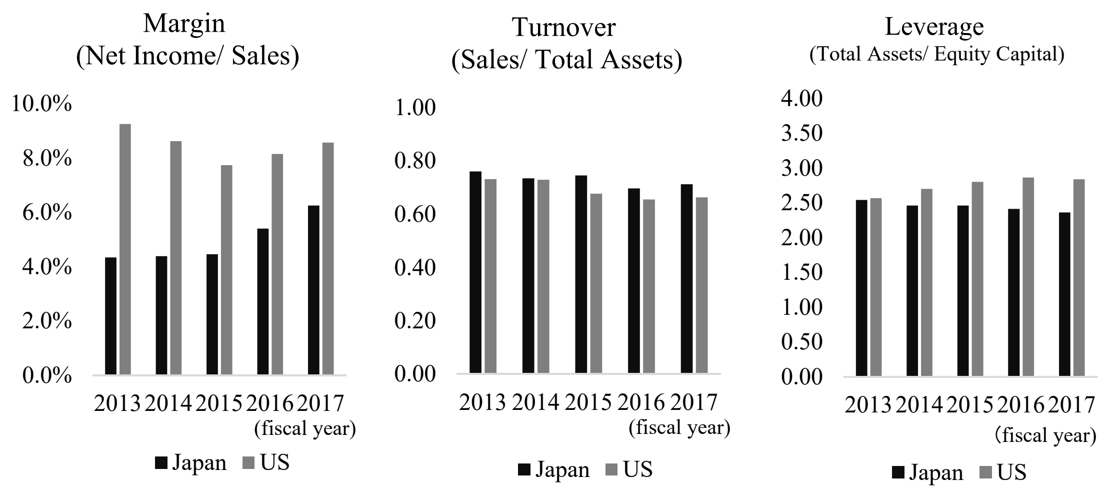


(footnote 1) ROE = Net Income/ Book Value of Equity.

(footnote 2) The data of Japanese firms was based on TOPIX500 excluding financial institutions. The number of data was 416 firms out of 443, meaning 27 firms without data. The data of U.S. firms was based on S&P500 excluding financial institutions. The number of data was 425 firms of 431, meaning 6 firms without data.

(source) Bloomberg.

Graph 4: Analysis of ROE



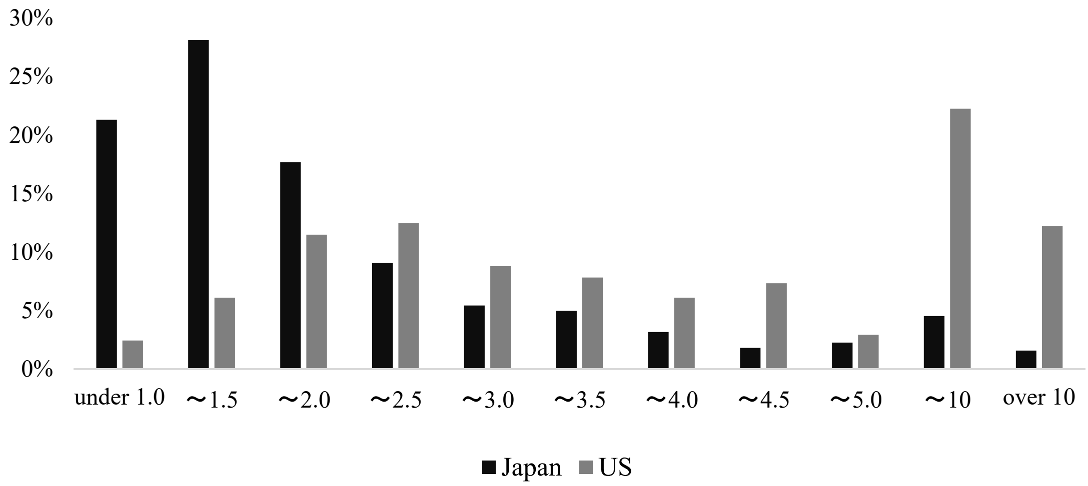
(source) Bloomberg.

(2) PBR

We also checked the PBR of Japanese and U.S. companies in Graph 5. PBR is the price-to-book value ratio, which is market capitalization divided by equity book value. In Japan, the share of the firms PBR is under 1.0, which means that market capitalization undervalue equity book value share is almost 20%. In the U.S., on the other hand, the share of the firms whose PBR under 1.0 is only 2%, and the share of PBR over 10 is almost 10%. There is a big PBR gap between Japan and the U.S.

The question is raised why so many firms whose PBR is under 1.0 exist in Japan? Yanagi (2015b) mentioned that the U.S. companies whose PBR is under 1.0 tend to be the result of a takeover or the dismissing of a CEO, so that corporate governance functioned well. The shareholder composition of Japanese firms has been stable with entrenched shareholders with vested interests (insurance companies, banks, corporations) rather than corporate investors (corporate pension funds, investment trust funds, foreign entities)[4]. If the firms' shareholders are stable and entrenched, such shareholders would not insist on improving the management, so that the firms' corporate governance might weaken because shareholder's monitoring doesn't work well. Corporate governance of Japanese firms has been reforming[5]. However, the weakness of Japanese firms' corporate governance leads to their accumulating cash behaviors in their balance sheet while not trying to increase their low ROE and low PBR.

Graph 5: PBR comparison between Japan and the U.S.



(footnote 1) The data of Japanese firms was based on TOPIX500 excluding financial institutions. The number of data was 441 firms out of 443, meaning 2 firms without data. The data of U.S. firms was based on S&P500 excluding financial institutions. The number of data was 409 firms of 431, meaning 22 firms without data.
(footnote 2) As of June 1st, 2018.
(source) Bloomberg.

To sum up, Japanese firms think that their cash holdings behavior is rational, but they could not increase their corporate value fairly. In the next section, we will discuss whether the investments using

[4] Ueda and Kobayashi (2017) reveal that the composition of stable and entrenched shareholders is 3/4 are firms, the others are insurance companies and banks, and only slightly owned by government and local governments.
[5] Japan's Stewardship Code (Financial Services Agency (FSA) and Ito report in 2014, Corporate Governance Code (the FSA and Tokyo Stock Exchange) in 2015. In 2017, the Japan's Stewardship Code was revised. Corporate Governance Code was also revised in 2018.

extra cash increase its firm’s value or not.

5. Increasing corporate value with extra cash

What are the effective ways to use the extra cash to increase their firms’ value? From the balance sheet management point of view, firms’ stock buyout would be one of the capital structure options. Then, we analyzed whether a company could raise their firm’s value by using their stock price data in 2016, and checked the percentage of rise before and after their announcement day. We separate the data “the firms need for improvement” (debt free companies with under ROE 8% or under PBR 1.0) from the others, and comparing the percentage of rise between these. As a result, “the companies need for improvement” averages 4.5%; this is higher than one of the others at 3.4%. The market value firm’s action should be taken, especially if the firms are “the firms that need improvement.”

In addition, there are the ways for companies to increase their corporate value before just accumulating cash. One is to invest in human capital. Policy Research Institute held “The Workshop on Productivity Improvement through Innovation”, and the chair Hiroshi Ohashi (Professor at the Faculty of Economics, The University of Tokyo) mentioned that Japanese companies have taken a market-share expansion policy, even though the number of population and the market has been shrinking, which made corporate management cause restructuring and lowering of a wedge as a tool of productivity improvements and to have inward-looking minds. As a tool of corporations’ productivity improvements, creating value is more important than cost cutting. Especially, investment toward human capital is important as many economists pointed out in “The Workshop on Investment Strategies of Enterprises – toward Innovation”. The chair Noriyuki Yanagawa (Professor at the Faculty of Economics, The University of Tokyo) mentioned that human assets which produce new ideas would be a driver of productivity improvements. So that investment in human capital is important.

In addition, there is a way to increase R&D investments. The R&D expenditures of Japanese companies are high among advanced countries. However, it is often mentioned that such expenditures are not connected to increase corporate earnings. It is important to invest in R&D but also equipment based on customers’ needs to increase corporate value, not only to increase investment amount. Moreover, Japanese companies could choose to take a stake or buyout start-up companies to correspond in global competition.

6. Conclusion

As we already explained in this paper, Japanese firms have been accumulating cash in their balance sheet. Related previous studies and interviews of individual firms for their cash holding behavior explained that Japanese firms hold their cash for preliminary reasons and uncertainty for their future.

However, compared to the U.S. firms, Japanese firms are excessively conservative. Japanese firms have accumulated cash, but the market undervalues it because Japanese firms couldn't increase their corporate value. This means that Japanese firms accumulate cash for a rational reason, but the market undervalues their behavior. If Japanese firms behave the same way, it would prevent Japanese economic growth. Recently, industrial structures have been changing. Under these circumstances, firms are required to have new ideas, so that firms need to invest in human resources, such as increase employees' wages and salary and their compensation. Firms are also required to catch up with recent technologies, so that investment in R&D or M&A would be a solution.

Even if each company thinks their cash holding behavior is rational, the market judges that Japanese firms can't increase their corporate value. There are many options to increase their corporate value. Corporate managers should pay more attention to market valuation, and judge whether their cash holding behavior is surely rational or not from the market point of view. In promoting corporate managers, corporate governance is a key. In Japan, cross-shareholding still largely exists, so that non-functional shareholders' monitoring results weaken corporate governance. If firms can't explain their reasons for cross-shareholding, they should resolve such cross-shareholding.

If Japanese firms increase their profits and make them increase their corporate value, the market would evaluate Japanese firms' value as they are. Corporate managers would be required to create a positive cycle by increasing firm growth, their employees' wages and salary, and stockholders' returns. This cycle would expand the Japanese economy.

<Discussion: required policy responses>

Based on the discussion of this paper, two policy options would be raised for Japanese firms' growth. One option is setting some "index" or "merkmal" to make a difference between the firms taking some actions and the firms taking no action. The other is to strengthen stakeholders' (including shareholders) monitoring of firms' financial strategies.

(1) Setting "index" or "merkmal" to make a difference between the firms

Chattopadhyay et al. (2017) study whether the ex ante JPX Nikkei Index 400 (JPX 400)-inclusion incentives induced Japanese managers to improve capital efficiency and their reasons. The firms with the incentives to be a member of JPX 400 increased especially ROE of the firms, close to the JPX 400-inclusion threshold, and increased around 41%. The motivations of managers to be a member of JPX 400 affected their actions by increasing their firm's margin, capital efficiency and stockholders' return. This result implies that firms took some actions aiming to be selected as a member of JPX 400, which means to label the firms as having good profitability, capital efficiency and corporate governance. Therefore, setting an "index" or "merkmal" to make a difference between the firms would be an effective strategy to raise the capital efficient firms.

(2) Strengthen stakeholders' (including shareholders) monitoring of firms' financial strategies

Jensen and Meckling (1976) and Sasaki (2013) pointed out the importance of monitoring from outside for efficient cash holdings. Especially major shareholders have a responsibility to value the firms which are trying to increase capital efficiency by Japan's stewardship code. Moreover, regarding dialogue between stockholders and firms to increase firms' capital efficiency, the Japanese firms which hold many cross-shareholdings need to explain the reasons for their holdings.

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