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How do financialization trends differ between parent companies and corporate groups? Evidence from Japanese manufacturing corporations.

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Abstract

This study aims to examine financialization in non-financial corporations (NFCs) by a new analytical method. Using both parent-only and consolidated financial statements, we reveal the complete picture of financialization in Japanese manufacturing corporations from the perspectives of both parent companies and corporate groups. We show that financialization trends differ significantly between parent companies and corporate groups. In particular, the content of financial assets held by corporations and the trend of financial revenues are quite different between them. After demonstrating the financialization trends, this study further investigates the determinants of financial revenues in Japanese manufacturing corporations, focusing on the difference in the level of financial revenues between parent companies and corporate groups. By panel data analysis, we clarify that financial revenues in parent companies have been much larger than those in corporate groups because only parent companies need to increase their financial revenues to cover dividend payments. Our analysis shows that as globalization progresses, Japanese manufacturing parent companies absorb a large amount of financial revenues from overseas subsidiaries and affiliates to pay dividends to shareholders. This behavior of the parent companies is a typical example of how financialization interacts with globalization.

KEYWORDS： Financialization, non-financial corporations, firm data, Japan

JEL CLASSIFICATION：C23, D21, G34, P16

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1. Introduction

Financialization of the economy has progressed in many countries over the past several decades. As stressed in Epstein's (2005) famous definition, financialization denotes the increasing role of financial motives, financial markets, financial actors, and financial institutions. These features of financialization have affected many aspects of the economy, such as patterns of profit-making and modes of capital accumulation. Financialization is an important phenomenon to understand the modern economy.

However, perspectives on the actual state of financialization are not unified, particularly regarding the financialization of non-financial corporations (NFCs). There have been debates about the true picture of the financialization of NFCs. Early studies of financialization emphasized the effect of short-termism on management goals in NFCs. For example, Stockhammer (2004) and Orhangazi (2008a, b) claim that NFCs in developed countries have substituted capital investment for financial investment to earn financial revenues over a short time as short-termism evoked by shareholder value orientation, a new ideology of corporate governance, spread in NFCs. These studies assume that the spread of shareholder value orientation has made NFCs consider short-term profits to meet shareholder interests such as maintenance of share price to be more important, and the increase in financial investment resulting from short-termism has caused a slowdown in capital accumulation. Krippner (2005) also claims that the profit-making of the US NFCs has been increasingly dependent on financial channels rather than on productive activities as financial revenues obtained from financial investment increased in the process of financialization. These studies of financialization argue that the share of financial revenues obtained from financial investment in total profits becomes higher in NFCs under the pressure of short-termism evoked by shareholder value orientation. The assumption of previous studies is what Rabinovich (2019) calls the financial turn of accumulation hypothesis.

Recently, however, some studies have criticized this hypothesis. The first criticism of the hypothesis is aimed at the characteristic of financial investment made by NFCs. The financial turn of accumulation hypothesis usually considers that NFCs have increased financial investment to earn short-term profits, suggesting that the acquisition of financial assets by NFCs has a short-term nature. Fiebiger (2016) raises a question about this assumption and argues that managers' incentives to pursue long-term growth objectives should not be underestimated. He indicates that US NFCs have greatly increased foreign direct investment (FDI) over the past few decades, and that the increase in direct investment reflects managers' long-term growth orientation in the international sphere,

even though FDI is included in financial investment. Rabinovich (2019) also shows that FDI, a type of financial investment, has dramatically increased since the 1980s among US NFCs, and insists that this kind of investment related to real activities should be distinguished from financial investment to acquire financial assets related to speculation. They agree that the increase in financial investment should not always be considered as a symptom of short-termism in management because a certain kind of acquisition of financial assets, such as FDI, rather reflects the growth orientation of companies.

The second criticism of the hypothesis is directed toward the degree to which the profit-making of NFCs depends on financial revenues obtained from financial investment. Stockhammer (2004), Krippner (2005), and Orhangazi (2008a, b) show that the ratio of financial revenues to profits or value added had increased from the 1970s to the 1990s in the US non-financial sector. These data support the view of the financial turn of accumulation hypothesis that NFC profits have become highly dependent on financial income. In contrast, Fiebiger (2016) and Rabinovich (2019) extend the analysis period and show that the ratio of financial income to profits in the US NFCs had rather decreased from the 2000s. Based on the trend of the ratio from the 2000s, Fiebiger (2016) and Rabinovich (2019) question the view that NFCs derive an increasing share of profits from financial income. Thus, there is controversy on the actual state of financialization

Based on the discussions about the true picture of financialization, this study first investigates features of financialization in Japanese manufacturing corporations depending on a new framework. An analysis of financialization using data of Japanese corporations has advantages, owing to the unique financial reporting system in Japan. Unlike the accounting practices in the United States, where only consolidated financial statements are required in financial reporting, the Japanese financial reporting system requires publicly traded firms to report both parent-only financial statements and consolidated financial statements.[1] The first contribution of this study is to show the whole picture of financialization in Japanese manufacturing corporations by using a new analysis method that uses both parent-only and consolidated financial statements. Using both sets of financial statements of 826 companies, we disclose the actual state of financialization in Japanese manufacturing corporations. Through this analysis, we verify the financial turn of accumulation hypothesis.

Since our analysis uses not only consolidated financial statements but also parent-only financial statements, it can reveal new aspects of financialization. This is because parent-only financial statements record transactions within corporate groups that are not

[1] Parent-only financial statements report the financial information of the parent company of a corporate group, whereas consolidated financial statements report the financial information of the entire corporate group.

recorded in consolidated financial statements. In the era of globalization, parent companies are increasing the number of subsidiaries they control through FDI, thereby also getting much more dividends from overseas subsidiaries. As a result, the level of financial revenues of parent companies largely exceeds that of the entire corporate groups among Japanese manufacturing corporations. To grasp the trend of financial revenues in parent companies by using parent-only financial statements is crucial for understanding the relationship between financialization and globalization. Our analysis also shows that the difference between parent companies and corporate groups lies in the content of financial assets held by the corporations. We reveal the whole picture of financialization from the perspectives of both parent companies and corporate groups. In doing so, we clarify that the claim of the financial turn of accumulation hypothesis does not apply to Japanese manufacturing corporations.

The second contribution of this study is to clarify the determinants of the level of financial revenues, both in parent companies and in corporate groups, using a panel data analysis and focusing on the difference in the trend of financial revenues between them. In this analysis, we consider several company expenditure types that could be financed by financial revenues. Previous studies on financialization focus mainly on the relationship between financial revenues and capital investment. However, some studies also address the importance of examining the relationship between financial revenues and expenditures other than capital investment. For example, Desai et al. (2007) reveal that in the US, the share of parent companies receiving dividends from affiliates becomes higher as the dividend payout ratio of the parent companies increases. This means that the US parent companies need more financial income when their demands for funds for dividend payments increase.

Using panel data of the Japanese manufacturing corporations, this study examines the important factors affecting their financial revenues by considering various determinants. The panel data analysis shows that while financial revenues in parent companies have significantly increased to prepare for the increase in dividend payments, the financial revenues in corporate groups have not responded to the increasing dividend payments. Since financial revenues have increased in response to the increase in dividend payments only in parent companies, the trend of financial revenues has been different between parent companies and corporate groups. Japanese manufacturing parent companies have increased financial revenues to cover dividend payments, which also shows an important aspect of financialization among NFCs in developed countries.

This paper is organized as follows. Section 2 presents the methodology and data sources used to analyze financialization in this paper. Section 3 shows the actual state of

financialization in Japanese manufacturing corporations, using both parent-only and consolidated financial statements. Focusing on the difference in the level of financial revenues between the parent companies and the corporate groups in Japanese manufacturing corporations, Section 4 reveals the determinants of financial revenues by conducting a panel data analysis. Section 5 addresses the findings and concludes the study.

2. Methodology and Data

First, we explain the method used to analyze financialization in Japanese manufacturing corporations. This study adopts a new methodology for analyzing financialization that uses both parent-only and consolidated financial statements. In the United States, firms are not required to report parent-only financial statements as long as they report consolidated financial statements. Previous financialization studies, such as Krippner (2005), Orhangazi (2008 a,b), Fiebiger (2016), and Rabinovich (2019), use the US empirical data to examine the financial turn of accumulation hypothesis, and the database they utilize is consolidated. However, Japan has a unique financial reporting system that requires publicly traded firms to report both parent-only and consolidated financial statements. Using Japanese firm-level data for the manufacturing sector, this study refers to both financial statements and adds a new perspective to studies of financialization.

The most important advantage of using data from parent-only financial statements is that they reveal transactions within corporate groups. Along with the deepening of globalization, Japan has dramatically increased FDI and direct investment income since the 2000s.[2] The increase in Japanese FDI has been stimulated by the intention of Japanese firms to seek foreign markets and reduce labor costs (Barrel and Pain 1998 ; Head and Mayer 2004 ; Farell et al 2004). According to Greaney and Kiyota (2020), the value of Japanese outward FDI stock has increased from 30.6 trillion yen in 1996 to 181.7 trillion yen in 2018. As a result, direct investment income of Japan has also increased from 1.4 trillion yen to 11.0 trillion yen between 1996 to 2018 (Ministry of Finance, Japan 2025). Namely, Japanese firms have recently expanded overseas business and have increased repatriation of direct investment profits to Japan. Behind the increase in FDI, Japanese parent companies increase their shareholdings of subsidiaries and affiliates in foreign countries through means such as mergers and acquisitions (M＆A) and receive more dividends from overseas subsidiaries.[3]

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[2] Kiyota (2015) shows that the main destinations of Japanese FDI are North America, Europe, and Asia, and that these three regions in total have accounted for more than 80% of Japanese outward FDI from 1996 to 2012.

[3] Dividends obtained by FDI in Japan have increased from 0.8 trillion yen to 5.2 trillion yen between 1996 to 2018

Considering the progress of globalization in the Japanese economy, it is important to grasp the transactions inside the corporate group, namely, acquisitions of shares of subsidiaries by parent companies and dividend payments by subsidiaries. However, consolidated financial statements, which include the financial information of the entire corporate group, report transactions between the corporate group and entities outside the corporate group, and they do not report these transactions within the corporate group.[4] On the other hand, since parent-only financial statements, which include the financial information of the parent company, report all kinds of parent-company transactions, they report both the shares of subsidiaries that a parent company acquires and the dividend income it receives from subsidiaries. Therefore, as parent-only financial statements disclose a large amount of dividends that parent companies receive from subsidiaries in many countries, an analysis that uses parent-only financial statements has the advantage of capturing a specific characteristic of financialization in the era of globalization. The important difference between parent-only and consolidated financial statements is summarized in Figure 1.

【 Insert Figure 1 】

Considering the accounting practice of financial revenues received by parent companies from their subsidiaries being included in parent-only financial statements, but not included in consolidated financial statements, it is possible that the two financial statements show different levels of financial revenues in corporations. It is also important to consider that the content of financial assets held by corporations differs between them. If a parent company increases its shareholdings in subsidiaries, these shares that the parent company newly acquires are reported in parent-only financial statements, but not reported in consolidated financial statements. Consequently, the content of financial assets in corporations can be different between parent-only and consolidated financial statements. We can verify whether the level of financial revenues and the content of financial assets differ between parent companies and corporate groups by using the two financial statements. This is a new attempt in the study of financialization.

To analyze financialization, we collect data on Japanese manufacturing corporations from the Nikkei NEEDS-Financial Quest database, which provides comprehensive

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(Ministry of Finance, Japan 2025).

[4] Consolidated financial statements are based on two principles (Sakurai 2024). First, the same accounting items, such as sales, are combined between a parent company and subsidiaries and affiliates. Second, the accounting items that derive from transactions within a corporate group are erased.

financial information of Japanese listed firms. An important feature of the database is that it distinguishes the type of financial assets that belong to fixed assets by the holding purpose.[5] The database distinguishes shares of subsidiaries and affiliates and investment securities, both of which belong to fixed financial assets.[6] Shares of subsidiaries and affiliates are the assets that are held to take control of companies to increase the scale of a corporation, and their holding purpose usually relates to long-term growth. Conversely, investment securities that belong to fixed financial assets are held for earning financial profits and have little relationship with growth objectives. Hence, the Nikkei NEEDS-Financial Quest database can discern the holding purpose of financial assets in corporations. This feature enables us to verify the financial turn of accumulation hypothesis, which regards short-term profits as the goal of acquisition of financial assets in NFCs. Even if the holding of financial assets in NFCs increases, it does not verify the financial turn of accumulation hypothesis when the increase of financial assets is proved to be caused by the massive acquisition of shares of subsidiaries and affiliates that are usually held for growth objectives, rather than short-term profits.

Using the database, this study examines the financialization of Japanese manufacturing corporations during the period from 2001 to 2018. We select this period because shareholder value orientation, the main ideology of corporate governance for promoting financialization, has become popular in Japanese NFCs since the 2000s. Furthermore, indicators of financialization, such as the increase in dividend payments among Japanese NFCs, have been remarkable during the same period (Miyamoto 2017).[7] This period is also characterized by an important change in the Japanese accounting system. In Japan, parent-only financial statements were originally the main financial statements, whereas consolidated financial statements played only a complementary role. However, after the fiscal year ending in March 2000, Japan's Securities and Exchange Law was reformed to introduce a new system for reporting financial statements. The new system regards consolidated financial statements as the main financial statements (Shuto 2009). In Japan, after the new system was introduced, the control approach replaced the equity share approach as the criterion for determining the scope of consolidation of financial statements. Considering these important changes, this study focuses on the period after

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[5] Hereafter, we define financial assets that belong to fixed assets as fixed financial assets. Fixed financial assets are the difference between investment and other assets and investment property. We deduct investment property from fixed financial assets because real estates are not usually considered as financial assets.

[6] In the Nikkei NEEDS-Financial Quest database, investment securities that belong to fixed financial assets include securities that are held for investment purposes, except for bonds whose maturity date falls within a year.

[7] As shareholder value orientation spreads, corporations promote downsizing and increase distribution to shareholders to satisfy shareholders (Lazonick and O'Sullivan 2000).

the 2000s, when consolidated financial statements became the primary financial statements and the new consolidation approach was selected.

For the empirical analysis, we first extract data of Japanese manufacturing corporations that report both parent-only and consolidated financial statements from 2000 to 2018.[8] We then remove the data of corporations whose consolidated financial statements are prepared based on the International Financial Reporting Standards (IFRS) because the methods for measuring and classifying assets in IFRS are quite different from those in Japanese accounting standards, which are the most popular accounting standards adopted in Japanese companies. When preparing consolidated financial statements, all corporations adopting Japanese accounting standards record the amount of investments and other assets, which is essential data for obtaining the amount of fixed financial assets. In contrast, most corporations adopting IFRS do not record the amount of investments and other assets in consolidated financial statements. Since we cannot collect fixed financial assets data, which are important for the analysis of financialization, in consolidated financial statements for corporations adopting IFRS, we remove data of corporations using IFRS. Through the procedures, we finally obtain 826 Japanese manufacturing corporations from the Nikkei NEEDS-Financial Quest database.

3. The actual state of financialization in Japanese manufacturing corporations

3-1. Financialization indicators

To reveal financialization trends among Japanese manufacturing corporations, we focus on three indicators. The first indicator is the ratio of financial assets to total assets. As Clévenot et al. (2010) claim, the increase in the holding ratio of financial assets on the asset side of the balance sheet is one of the most important characteristics of financialization in NFCs. The second indicator is the ratio of financial revenues to total assets. Krippner (2005) argues that the role of financial revenues in the profit-making of NFCs becomes increasingly important in the process of financialization. The third indicator is the trend of financial payments such as dividends. Crotty (2005), Duenhaupt (2012, 2016), and Valeeva et al. (2022) show that dividend payments have increased in many countries over the past few decades because of the spread of shareholder value orientation. Such an increase in dividend payments cannot be ignored when investigating

[8] Although this study's analytical period starts in 2001, we need some data for 2000 to obtain values of certain variables in 2001. For example, a value of capital investment in 2001 cannot be derived without using a value of capital stock in 2000.

the financialization of NFCs.

Considering each of the indicators, we confirm trends of the parent companies using parent-only financial statements and those of the entire corporate groups using consolidated financial statements. We show that even within the same 826 Japanese manufacturing corporations, financialization trends differ between parent-only and consolidated financial statements.

3-2. Asset structure

We first show the composition of assets in both parent companies and corporate groups, using the financial statements of the 826 Japanese manufacturing corporations and focusing on the holding share of financial assets. The composition of assets for the parent companies and the corporate groups is presented using parent-only and consolidated financial statements, respectively. Figure 2 shows the ratio of respective assets to total assets from 2001 to 2018 for Japanese manufacturing parent companies. In addition, Table 1 shows the holding ratios of the respective assets in 2001 and 2018 for each category to clarify trends in the holding ratios of the assets.

【 Insert Figure2 】【 Insert Table1 】

From Figure 2 and Table 1, we can confirm that the ratio of tangible fixed assets to total assets decreased from 26.8% in 2001 to 18.2% in 2018. This reflects the stagnation of capital investment in Japanese parent companies. The slump of real investment in the age of financialization has been found in many countries (Stockhammer 2004, 2008 ; Orhangazi 2008a, b ; van Treeck 2008 ; Demir 2009 ; Tori and Onaran 2018, 2020, 2022; Zeolla and Santarcángelo 2024). In this respect, Japan is no exception.

Conversely, fixed financial assets have increased from 29.3% to 38.9% during the same period. Fixed financial assets have been substituted for tangible fixed assets in Japanese manufacturing parent companies since the 2000s. This substitution of financial assets for real assets is a remarkable characteristic of financialization (Clévenot, et al. 2010; Davis 2016, 2018).

What, then, caused the increase in the holding ratio of fixed financial assets in the parent companies? We can answer the question by showing the holding ratio of shares of subsidiaries and affiliates and investment securities, both of which belong to fixed financial assets. Figure 2 and Table 1 also show that while the ratio of investment securities to total assets slightly declined from 12.7% to 11.3%, the ratio of shares of

subsidiaries and affiliates to total assets significantly increased from 9.5% to 20.9%.[9] The increase in the holding ratio of fixed financial assets in the parent companies was mainly caused by the increase in the holding ratio of shares of subsidiaries and affiliates. Isobe (2013) demonstrates that the rise in overseas M＆A and the increase in investment in shares of overseas subsidiaries are important factors that increase the holding ratio of shares of subsidiaries and affiliates in Japanese parent companies. In the globalization process, Japanese parent companies have been aggressively acquiring overseas companies since the 2000s to relocate their production bases abroad and develop foreign markets. The surge in FDI among Japanese parent companies to expand international business activities is the main reason behind the increase in the holding ratio of shares of subsidiaries and affiliates.[10] Therefore, the increase of financial assets in the parent companies relates to growth objectives and does not have a short-term nature.

Next, we present the asset structure of the corporate groups. Figure 3 shows the ratio of respective assets to total assets in Japanese manufacturing corporate groups, while Table 2 shows the holding ratios of the respective assets of the corporate groups in 2001 and 2018.

【 Insert Figure 3 】【 Insert Table 2 】

Figure 3 and Table 2 show that in the corporate groups, the ratio of tangible fixed assets to total assets has decreased from 33.4% in 2001 to 25.1% in 2018. On the other hand, the ratio of fixed financial assets to total assets increased from 16.4% in 2001 to 23.0% in 2018. This means that the increase in the holding ratio of fixed financial assets can also be confirmed in the corporate groups.

However, if we further consider the breakdown of fixed financial assets held by the corporate groups, we detect a unique trend of financialization that differs from that of the parent companies. Figure 3 and Table 2 show that in the corporate groups, while the ratio of shares of subsidiaries and affiliates to total assets remained low, at only 3.4% in 2018, the ratio of investment securities to total assets increased from 7.3% to 11.5% between

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[9] Subsidiaries are firms in which the parent company has the majority of voting rights and firms in which the parent company holds less than 50% of the voting and has effective control. Affiliates are firms in which the parent company holds between 20% and 50% of the voting rights and firms in which a parent company holds between 15% and 20% of the voting rights and has important influence.

[10] Isobe (2013) shows that after the late 1990s, Japan's outward foreign direct investment balance is closely correlated with the balance of shares of subsidiaries and affiliates held by Japanese large NFCs. The trend of global production and offshoring can also be found in the US and other countries in the process of globalization and financialization (Milberg 2008 ; Milberg and Winkler 2010 ; Milberg and Winkler 2013 ; Auvray and Rabinovich 2019).

2001 and 2018.[11] This demonstrates that unlike the parent companies, for whom the main cause of the increased holding ratio of fixed financial assets is the rise in the holding of shares of subsidiaries and affiliates, the important cause of the increase in the holding ratio of fixed financial assets in the corporate groups is the rise in the holding of investment securities. Investment securities in fixed financial assets include securities that are held for investment purposes, except for bonds whose maturity date falls within a year. Therefore, investment securities that expand in the balance sheet of the corporate groups are more connected to the trading purpose than shares of subsidiaries and affiliates that relate to the growth objective and expand in the balance sheet of the parent companies.

The difference in the breakdown of fixed financial assets between the parent companies and the corporate groups is caused by an accounting rule that becomes effective when preparing consolidated financial statements of corporate groups. When a parent company acquires shares of a subsidiary, these shares are newly reported on the asset side of the parent company's balance sheet, and the capital invested by the parent company is simultaneously reported as net worth in the subsidiary's balance sheet. However, when preparing consolidated financial statements of the entire corporate group, both the shares of the subsidiary that are reported as assets on the parent company's balance sheet and the capital that is reported as net worth on the subsidiary's balance sheet are erased because the transaction is merely a capital transfer within the corporate group. Owing to the accounting rule that consolidated financial statements do not report transactions within the corporate group, the parent company's investment in the shares of the subsidiary is not reported in consolidated financial statements (Kikuti 2002). Since shares of subsidiaries that parent companies newly acquire are reported in the balance sheet of parent-only financial statements, but not in the balance sheet of consolidated financial statements, the holding ratios of shares of subsidiaries and affiliates differ markedly between the parent companies and the corporate groups.

3-3. The trend of financial revenues

Having demonstrated the asset structure, we then show the trend of financial revenues. Figure 4 shows the ratio of financial revenues to total assets in the parent companies and the corporate groups from 2001 to 2018.[12]

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[11] In consolidated financial statements of Japanese corporations, the value of shares of subsidiaries and affiliates can only be obtained from 2007. This is why the ratio of shares of subsidiaries and affiliates to total assets in the corporate groups is shown from 2007 in Figure 2.

[12] The ratio of financial revenues to total assets in the parent companies is obtained from parent-only financial

【Insert Figure 4】

Figure 4 shows a clear upward trend in the ratio of financial revenues to total assets in the parent companies over the period. The trend confirms that financial revenues earned by Japanese manufacturing parent companies have significantly increased, and that the role of financial revenues in profit-making in the parent companies has become increasingly important. Conversely, Figure 4 also shows that the ratio of financial revenues to total assets in the corporate groups has a slight decreasing trend. It is noteworthy that an increase in the ratio of financial revenues, an important characteristic of financialization, can only be confirmed in the parent companies and not in the corporate groups.

Why do the trends in the ratio of financial revenues differ so much between the parent companies and the corporate groups? To understand the cause of the difference in these trends, we first investigate the factor behind the upward trend of the ratio of financial revenues to total assets in the parent companies. What is important is that parent companies have significantly increased shareholdings of overseas subsidiaries and affiliates through M＆A activities since the 2000s. In such a situation, parent companies have increased the dividend income received from subsidiaries and affiliates, and the dividend income has become an increasingly significant part of financial revenues in parent companies (Isobe 2013).[13] Figure 5 shows the ratio of interest and dividend income to total financial revenues, and the ratio of dividends received from subsidiaries and affiliates to total financial revenues in the parent companies. It shows the ratio of dividends received from subsidiaries and affiliates to total financial revenues up to 2012 because most of the parent companies did not report dividends from subsidiaries and affiliates from 2013 to 2018 in parent-only financial statements.

【 Insert Figure 5 】

The results for the parent companies, shown in Figure 5, reveal that the ratio of interest and dividend income to total financial revenues has significantly increased during the

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statements, and that in the corporate group is obtained from consolidated financial statements.

[13] Isobe (2013) shows a close correlation between the increase in dividends obtained by Japanese FDI and the increase in dividend income of Japanese non-financial parent companies and argues that dividend income of Japanese non-financial parent companies has increased due to the return of FDI in the form of dividends paid to the parent companies. Hasegawa and Kiyota (2019) also show that divided payments by foreign subsidiaries and affiliates of Japanese firms as a proportion of sales have significantly increased from 2007 to 2013.

period.[14] Figure 5 also shows that the ratio of dividends received from subsidiaries and affiliates to total financial revenues remarkably increased from 2001 to 2012, and remained constantly above 50% after 2007. Figure 5 shows that in the parent companies, interest and dividend income are the most important sources of financial revenues, and that a large part of this income is composed of dividends received from subsidiaries and affiliates.[15]

Although most parent companies did not report dividends received from subsidiaries and affiliates after 2013, 90 parent companies reported them even after 2013. Figure 6 shows the ratios of interest and dividend income and dividends received from subsidiaries and affiliates to total financial revenues for the 90 parent companies to confirm the importance of dividends received from subsidiaries and affiliates in financial revenues after 2013.

【 Insert Figure 6 】

Figure 6 shows that in the 90 parent companies, the ratio of interest and dividend income to total financial revenues also had the same increasing trend, and the ratio of dividends received from subsidiaries and affiliates to total financial revenues exceeded 70% in 2018. This indicates that dividends received from subsidiaries and affiliates continued to be a significant portion of financial revenues since 2013 for the 90 parent firms. These results for the 90 parent firms show that the increase in financial revenues was still caused mainly by the rise in interest and dividend income, which is mostly comprised of dividends received from subsidiaries and affiliates, since 2013 in Japanese manufacturing parent companies.

The fact that a significant portion of financial revenues in the parent companies is comprised of dividends received from subsidiaries and affiliates is important for understanding the different trends of financial revenues between the parent companies and the corporate groups. Since remittance from subsidiaries and affiliates to a parent company is merely a fund transfer within the corporate group, dividends that a parent company receives from subsidiaries and affiliates are not reported in consolidated financial statements, although they are reported in parent-only financial statements

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[14] In the parent companies, the ratio of interest and dividend income to total financial revenues has increased from 45.1% in 2001 to 81.7% in 2018.

[15] In the parent companies, the ratio of dividends received from subsidiaries and affiliates to interest and dividend income has increased from 65.1% in 2001 to 81.3 % in 2012. This supports the view that interest and dividend income consist mostly of dividends received from subsidiaries and affiliates.

(Kikuti 2002). As a result, the level of financial revenues in the parent companies largely exceeds that in the corporate groups. Figure 7 shows the ratio of financial revenues in the parent companies to that in the corporate groups, and the ratio of interest and dividend income in the parent companies to that in the corporate groups.

【 Insert Figure 7 】

Figure 7 shows that the ratio of financial revenues in the parent companies to financial revenues in the corporate groups shows an increasing trend. Throughout the entire period, this ratio consistently exceeds 1, reaching nearly 2 in 2018. Figure 7 also shows that the ratio of interest and dividend income in the parent companies to interest and dividend income in the corporate groups shows a similar increasing trend, and that it exceeds 4 in 2018. Namely, in 2018, the financial revenues of the parent companies were nearly double those of the corporate groups. Additionally, the interest and dividend income for the parent companies was more than four times greater than that of the corporate groups. Within a corporation, most account items reported in financial statements usually tend to be larger in consolidated financial statements than in parent-only financial statements. However, there are exceptions, such as financial revenues and interest and dividend income, where the values in parent-only financial statements are significantly higher than those in consolidated financial statements.

The reason for the aggregate values of financial revenues and interest and dividend income in parent-only financial statements being so much larger than those in consolidated financial statements is that dividends received from subsidiaries in a parent company, which mainly comprise financial revenues in parent-only financial statements, are eliminated in consolidated financial statements. The result that the level of financial revenues in the parent companies largely exceeds those in the corporate groups suggests that the analysis of parent companies, as well as that of corporate groups, is vital for understanding the comprehensive picture of financialization.

3-4. Dividend payments

Then, we present the trend of dividend payments, the third indicator of financialization. Figure 8 shows the ratio of dividend payments to total assets in the parent companies and in the corporate groups.

【 Insert Figure 8 】

As shown in Figure 8, the ratio of dividend payments to total assets in the parent companies increased significantly during the period. The important reason for the increase in dividend payments in the parent companies is the spread of shareholder value orientation in Japanese firms. According to Miyajima and Nitta (2011), the sum of the ratio of shareholding by foreigners, individuals, trust banks, and pension trusts in Japanese NFCs that are first-section listed was 31.0 % in 1991, but the ratio increased to 47.8% in 2008.[16] Since these groups were shareholders whose main motive for shareholding was to maximize investment returns, their involvement intensified pressure on Japanese NFCs to increase shareholder value. The change in the ownership structure in Japanese firms since the 1990s has increased shareholder pressure on firms, leading to an increase in dividend payments in the parent companies.

Figure 8 also shows that the ratio of dividend payments to total assets in the corporate groups basically represents an increasing trend. However, when comparing the ratios in the parent companies and the corporate groups, the ratio of dividend payments to total assets is higher in the parent companies than in the corporate groups during the period[17].

The difference in the trend of these ratios derives from the fact that the amount of dividend payments is almost the same between parent-only and consolidated financial statements, whereas total assets tend to be larger in consolidated financial statements. Figure 9 shows the total amount of dividend payments in parent companies and in corporate groups.

【 Insert Figure 9 】

As shown in Figure 9, the total amount of dividend payments in the parent companies is almost the same as in the corporate groups. Within a corporate group, in addition to dividends paid by a parent company, there are also dividends paid from subsidiaries to the parent company or to minority shareholders. However, as already mentioned, dividends paid from subsidiaries to the parent company are eliminated in consolidated

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[16] Before the 1980s, cross-shareholdings between NFCs and financial institutions, such as city banks and regional banks, were a significant part of the ownership structure in Japan. After the 1990s, however, such cross-shareholdings became less common in Japan in the wake of the collapse of the bubble economy (Kuroki 2003 ; Miyajima and Kuroki 2007). The decline of cross-shareholdings promoted a shift in the ownership structure, such as an increase in shareholding by foreigners in Japanese corporations.

[17] The ratio of dividend payments to total assets in the parent companies, which is obtained from parent-only financial statements, has increased from 0.6% in 2001 to 2.6% in 2018. On the other hand, the ratio of dividend payments to total assets in the corporate groups, which is obtained from consolidated financial statements, has only increased from 0.4% to 1.4% during the same period.

financial statements. Furthermore, dividends paid from subsidiaries to minority shareholders are adjusted by simply reducing minority interest in consolidated financial statements (Kikuti, 2002). As a result, only dividends paid by a parent company are assumed as dividends paid from a corporate group to shareholders who are outside the corporate group. Consequently, the amount of dividend payments coincides between a parent company and a corporate group in most corporations.[18] Since total assets tend to be larger in corporate groups than in parent companies, the ratio of dividend payments to total assets in parent companies exceeds that in corporate groups.

3-5. The characteristics of financialization in Japanese manufacturing corporations

The characteristics of financialization in Japanese manufacturing corporations are summarized as follows. First, all three characteristics of financialization, such as an increase in the holding ratio of financial assets, an increase in dependence on financial revenues, and an increase in dividend payments, are found in the parent companies. Although the degree of financialization is less pronounced in the corporate groups, we find that corporate groups are partially financialized in terms of an increase in the holding ratio of financial assets.

Second, the actual state of financialization in Japanese manufacturing corporations differs from the assumption of the financial turn of accumulation hypothesis. The parent companies have increased the holding of shares of subsidiaries and affiliates through overseas M＆A and investment in shares of overseas subsidiaries, and they have earned considerable dividend income from the subsidiaries and affiliates they have controlled since the 2000s. This feature of financialization in Japanese manufacturing parent companies is different from the view of the financial turn of accumulation hypothesis, which states that NFCs increase financial revenues by increasing financial investment aimed at short-term profit. The parent companies have actually increased holdings of financial assets by acquiring shares of subsidiaries and affiliates. However, the increase in financial assets was brought about by factors such as overseas M＆A that aimed at growth in the international market and had little to do with financial investment to earn short-term profit. Moreover, financial revenues received by the parent companies are not

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[18] In all but 1 of the 826 corporations, the amount of dividend payments in the parent company, which is obtained from parent-only financial statements, perfectly coincides with that of the corporate group, which is obtained from consolidated financial statements during the period from 2001 to 2018. In only one corporation, the amount of dividend payments in the parent company differs slightly from that in the corporate group, except for in 2001, 2011, and 2013. In 2001, 2011, and 2013, the amount of dividend payments in a parent company and a corporate group coincides perfectly even in the corporation. Therefore, the total values of dividend payments are the same between the 826 parent companies and the 826 corporate groups in these years.

temporary in nature. The parent companies have continuously absorbed dividends from their subsidiaries and affiliates. Furthermore, since the ratio relating to financial revenues does not show an increasing trend in the corporate groups, the assumption of the financial turn of accumulation hypothesis that financial revenues derived from financial investment increase in NFCs also does not apply to financialization in Japanese manufacturing corporate groups.

Third, even when the same indicators of financialization are used, the trends shown by the parent companies and by the corporate groups differ. Although the holding ratio of financial assets increased in both the parent companies and the corporate groups, the content and the holding purpose of the newly acquired financial assets vary between them. The increasing trend of the ratio relating to financial revenues can be found only in the parent companies. The rising trend of the ratio relating to dividend payments is common between the parent companies and the corporate groups, but the extent of the increase in the ratios is greater in the parent companies than in the corporate groups. Since the trends of financialization indicators clearly differ between parent companies and corporate groups, it is necessary to analyze both parent companies and corporate groups to accurately grasp the whole picture of financialization.

Among the differences in financialization trends between the parent companies and the corporate groups, the most striking difference exists in the ratio relating to financial revenues, which shows an increasing trend in the parent companies, but not in the corporate groups. Elucidating the cause of the difference in trends will lead to a deeper understanding of financialization in Japanese manufacturing corporations. In the next section, using panel data analysis, we examine determinants of financial revenues in both the parent companies and the corporate groups to reveal the cause of the different trends of financial revenues between them.

4. Determinants of financial revenues in parent companies and corporate groups

4.1. Statistical specifications for panel data analysis

In this section, we clarify determinants of financial revenues in both parent companies and corporate groups. For this purpose, we perform a panel data analysis using the same 826 Japanese manufacturing corporations as employed in the previous section. We construct a balanced panel dataset from the sample for the period from 2001 to 2018.

Although there are many studies of financialization, few attempts have been made to confirm the determinants of financial revenues in NFCs. An exception is Soener (2015),

who investigates determinants of interest income of NFCs in the US. However, Soener (2015) considers only interest income as financial revenues and does not include dividend income in financial revenues. Moreover, since Soener (2015) does not consider company expenditures as determinants of financial revenues, the study cannot examine the possibility that NFCs earn financial revenues to fund their expenditures. When performing the panel data analysis, we include both interest income and dividend income in financial revenues and consider several types of company expenditures as determinants of financial revenues. To conduct the panel data analysis, we use the ratio of financial revenues to total assets as the dependent variable in regression equations.

We next describe the explanatory variables in the regression equations. As explanatory variables, we use the ratio of each expenditure item of firms, such as capital investment, dividends, and interest payments, to total assets. The relationship between financial revenues and capital investment has been examined by previous empirical studies on financialization, such as Orhangazi (2008a, b), Demir (2009), Barradas (2017), Barradas and Lagoa (2017), Tori and Onaran (2018, 2020, 2022), and Zeolla and Santarcángelo (2024). However, the effect of dividend payments on financial revenues is also important. For example, Desai et al. (2007) show that the US parent companies with higher dividend payout ratios receive dividends from foreign subsidiaries more frequently. This suggests that the amount of financial revenues acquired by parent companies is determined in relation to demand for funds for dividend payments. Furthermore, Hein and Schoder (2011) find that interest payments are estimated significantly in their estimation of profit share functions for the US and Germany business sectors. Their findings indicate that an increase in interest payments is associated with an increase in profit share in the business sectors of both countries. This means that firms cope with an increase in financial expenditure, such as interest payments, by raising their profits. In this case, if a rise in operating profit is not sufficient to prepare for an increase in interest payments, firms may also receive financial revenues as additional funds.

Based on these points, this study considers not only capital investment but also dividend payments and interest payments as possible determinants of financial revenues. Furthermore, we include the debt to total assets ratio as an explanatory variable regarding the possibility that firms acquire financial revenues to reduce debt and maintain a suitable debt ratio.

In addition to these variables, we use return on assets in a parent company (ROA^P) and return on assets in a corporate group (ROA^C) as explanatory variables in the regression equations of both parent companies and corporate groups. The potential effect of these variables on the level of financial revenues in parent companies is as follows. ROA^P

represents the profitability of a parent company. If ROA^P is high and the parent company is profitable, the parent company needs fewer financial revenues to fund expenditure items because it is likely to manage them by its high operating profit. Therefore, the levels of financial revenues in parent companies are expected to be lower as ROA^P increases. On the other hand, ROA^C relates to profitability in a corporate group. If ROA^C is high, the profitability of subsidiaries and affiliates in a corporate group is often high. In this case, a parent company is likely to receive more dividends from its subsidiaries and affiliates, who earn large profits and can make remittance to the parent company. We expect that the level of financial revenues in parent companies increases as ROA^C rises.

Next, in terms of corporate groups, the level of financial revenues in corporate groups is expected to decrease as ROA^C rises. When ROA^C is high, a corporate group needs fewer financial revenues because it is profitable and can manage funds for expenditures by its operating profit. The level of financial revenues in corporate groups is expected to decrease as ROA^P rises. When ROA^P is high, a parent company can manage expenditures by its operating profit, and its necessity for financial income becomes lower. In this case, subsidiaries and affiliates have less need to prepare additional funds, such as financial revenues, to remit dividends to the parent company. In such a case, financial revenues received by corporate groups decrease.

Finally, we add a new explanatory variable, the ratio of financial revenues in a parent company to total assets in a corporate group, only in the estimation equation for corporate groups. When financial revenues received by a parent company increase, subsidiaries and affiliates also increase their dividend remittances to the parent company to meet its demand for financial revenues. In this case, if the subsidiaries and affiliates cannot cover the dividend remittances by their own internal funds, they may prepare additional funds by earning financial revenues and make the remittances. Accordingly, financial revenues received by corporate groups are expected to increase as the financial revenues of parent companies increase.

Based on the above, the estimation equation for parent companies is set as

$$\left(\frac{\mathrm{FIN^P}}{\mathrm{TA^P}}\right)_{it} = \alpha_0 + \alpha_1\left(\frac{\mathrm{CAP^P}}{\mathrm{TA^P}}\right)_{it} + \alpha_2\left(\frac{\mathrm{DIV^P}}{\mathrm{TA^P}}\right)_{it} + \alpha_3\left(\frac{\mathrm{INT^P}}{\mathrm{TA^P}}\right)_{it} + \alpha_4\left(\frac{\mathrm{OP^P}}{\mathrm{TA^P}}\right)_{it} + \alpha_5\left(\frac{\mathrm{OP^C}}{\mathrm{TA^C}}\right)_{it} + \alpha_6\left(\frac{\mathrm{TD^P}}{\mathrm{TA^P}}\right)_{it} + \mu_t + \eta_i + \varepsilon_{it} \quad (\mathrm{i})$$

where FIN^P is financial revenues of a parent company, CAP^P is capital investment of a parent company, DIV^P is dividend payments of a parent company, INT^P is interest

payments of a parent company, OP^P is operating profit of a parent company, OP^C is operating profit of a corporate group, TD^P is total debt of a parent company, TA^P is beginning-of-period total assets of a parent company, and TA^C is beginning-of-period total assets of a corporate group. Furthermore, μ_t and η_i are time and unit fixed effects, ε_{it} is an error term, i is the firm index, and t represents the time.

In addition, the estimation equation for corporate groups is set as

$$\left(\frac{FIN^C}{TA^C}\right)_{it} = \beta_0 + \beta_1\left(\frac{CAP^C}{TA^C}\right)_{it} + \beta_2\left(\frac{DIV^C}{TA^C}\right)_{it} + \beta_3\left(\frac{INT^C}{TA^C}\right)_{it} + \beta_4\left(\frac{FIN^P}{TA^C}\right)_{it} + \beta_5\left(\frac{OP^P}{TA^P}\right)_{it} + \beta_6\left(\frac{OP^C}{TA^C}\right)_{it} + \beta_7\left(\frac{TD^C}{TA^C}\right)_{it} + \mu_t + \eta_i + \varepsilon_{it} \quad (ii)$$

where FIN^C is financial revenues of a corporate group, CAP^C is capital investment of a corporate group, DIV^C is dividend payments of a corporate group, and INT^C is interest payments of a corporate group[19].

To confirm whether determinants of financial revenues differ depending on firm size, we divide the 826 corporations in the sample into the top 10 % and the bottom 90%, according to the amount of total assets in consolidated financial statements, and we estimate the equations for the top 10% and the bottom 90% as well as all sizes.[20]

In the estimation equations for both parent companies and corporate groups, we use the fixed effects model irrespective of firm size because results of the F test and the Hausman test show that the fixed effects model is suitable for the equations. As is well known, in the fixed effects model, all factors specific to a firm that do not change over time are eliminated. Thus, the fixed effects model has the advantage of preventing the lack of consistency in the estimated parameters, which results from the omission of the explanatory variables that are constant over time. Similarly, the fixed effects model also removes endogeneity problems that derive from the fixed effects. We also include time fixed effects in the effects specification to control for factors such as the economic condition, which are constant across firms but change over time. Namely, we use the two way fixed effects equations. When estimating the equations, we use robust corrected

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[19] In the equation (1) and (2), capital investment is defined as the increase in capital stock plus depreciation in a period. Capital stock is the sum of tangible fixed assets except land and intangible fixed assets.

[20] In this study, the top 10% comprises corporations whose average value of the amount of total assets in consolidated financial statements from 2001 to 2018 is in the top 10% of the 826 corporations. The other corporations are included in the bottom 90%. The definitions of the top 10% and the bottom 90% are the same in the analysis of both the parent companies and the corporate groups. Soener (2021) also divides all firms into the top 10% and the bottom 90%, according to the amount of sales.

standard errors to cope with outliers.

Table 3 shows the descriptive statistics for the variables used in panel data analysis in the estimation period.

【 Insert Table 3 】

Before estimating the equations, we perform panel unit root tests for the variables. We conduct Levin, Lin, and Chu (LLC), Fisher-type augmented Dickey-Fuller, and Fisher-type Phillips–Perron tests. The results of the unit root tests are shown in Table 4.

【 Insert Table 4 】

Table 4 demonstrates that the null hypothesis of a unit root is rejected in all the three tests at the 1% significance level for all variables in all sizes and the bottom 90%. Based on the results, we consider all variables in all sizes and the bottom 90% as stationary. However, the null hypothesis of a unit root cannot be rejected in at least one of the three tests at the 5% significance level for FIN^P/TA^P, DIV^P/TA^P, TD^P/TA^P, DIV^C/TA^C, and TD^C/TA^C in the top 10%, which are considered to be I(1) because the null hypothesis can be rejected in all the three tests at the 1% significance level for the first difference of the variables. Since variables that have a unit root are included in the regression equations, we perform Kao and Pedroni panel cointegration tests when estimating the equations for the top 10% in both the parent companies and the corporate groups.

4-2. Estimation results

Table 5 shows estimation results of the estimation equation (i) for each category of firm size.

【 Insert Table 5 】

From the results shown in Table 5, we can confirm the determinants of the level of financial revenues in Japanese manufacturing parent companies as follows. For all sizes, the ratio of capital expenditure to total assets and the ratio of interest payments to total assets are not estimated significantly, which means that financial revenues of the parent companies do not respond to fluctuations of capital expenditure and interest payments. On the other hand, the ratio of dividend payments to total assets is estimated positively

and significantly. This demonstrates that the increase in dividend payments since the 2000s caused an increase in financial revenues of the parent companies over the same period. Among the three variables relating to items of expenditure, only dividend payments affected the level of financial revenues in the parent companies. Regarding variables relating to profitability, Return on Assets (ROA) in a parent company is estimated negatively and significantly, and ROA in a corporate group is estimated positively and significantly. The results are as expected. The parent companies need fewer financial revenues when their ROA is high because they can easily manage expenditures by their own operating profits. Conversely, financial revenues received by the parent companies increase when ROA in the corporate groups is high because the parent companies can receive more dividends from their subsidiaries and affiliates who earn large profits. The debt to total assets ratio of a parent company is estimated positively and significantly, which signifies that the financial revenues of the parent companies increase when their level of debt is high and they need to reduce the debt ratio.

In addition, looking at the estimation results by size of firms, the ratio of dividend payments to total assets is estimated positively and significantly both in the top 10% and the bottom 90% of the parent companies[21]. This result shows that obtaining funds for dividend payments is an important factor for receiving financial revenues in parent companies, irrespective of firm size. The negative and significant effect of ROA in a parent company on the financial revenues of the parent companies is also the same for the top 10% and the bottom 90%. On the other hand, some explanatory variables do not have the same effect on the financial revenues of the parent companies when firm size is different. The ratio of capital expenditure to total assets is estimated positively and significantly only for the top 10%, though its estimated coefficient is not as large as the ratio of dividend payments to total assets. ROA in a corporate group and the debt to total assets ratio are estimated positively and significantly only for the bottom 90%. This suggests that the profitability of subsidiaries and affiliates that pay dividends to parent companies and the motive for reducing debt becomes more important for the level of financial revenues of the parent companies when firm size is relatively small.

Then, Table 6 shows the estimation results of the estimation equation (ii), which reveal the determinants of the level of financial revenues in Japanese manufacturing corporate

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[21] As shown in Table 5, for the parent companies of the top 10%, the null hypothesis of no cointegration is rejected at the 5 % significance level in both Kao and Pedroni cointegration tests. The results of these tests confirm that cointegration exists among the variables used in the estimation equation. Therefore, the estimation results for parent companies of the top 10 % are regarded as reliable, despite the inclusion of variables that have unit roots.

groups.

【 Insert Table 6 】

The results in Table 6 show that for the corporate groups of all sizes, the ratio of capital expenditure to total assets and the ratio of interest payments to total assets are estimated positively and significantly, though the estimated coefficients are relatively small. In the corporate groups, the increase in capital expenditure and interest payments has had a slightly increasing effect on financial revenues. However, the ratio of dividend payments to total assets is not estimated significantly in the corporate groups. This means that the effect of dividend payments on financial revenues is quite different between the parent companies and the corporate groups. While the rise in dividend payments has led to an increase in financial revenues in the parent companies, the increasing effect of dividend payments on financial revenues cannot be confirmed in the corporate groups.

The ratio of financial revenues in a parent company to total assets in a corporate group is estimated positively and significantly, which signifies that financial revenues received by a corporate group tend to rise as financial revenues received by a parent company increase. The result indicates that subsidiaries and affiliates earn additional funds by receiving financial revenues to make remittances to a parent company when demand for financial revenues in a parent company increases. ROA in a corporate group is estimated negatively and significantly, which means that the necessity for receiving additional financial revenues decreases in a corporate group when the corporate group is profitable from the beginning. In contrast, ROA in a parent company is estimated positively and significantly. Although this is an unexpected result, it can be interpreted as follows. When the profit rate in a corporate group is constant, the profit of subsidiaries and affiliates decreases and the profit of a parent company increases in the corporate group as ROA in the parent company rises. The subsidiaries and affiliates need more financial revenues to compensate for the decrease in profit, and this leads to an increase in financial revenues in the corporate group. The debt to total assets ratio in a corporate group is not estimated significantly. The debt burden has not affected financial revenues in the corporate groups.

Looking at the estimation results of the corporate groups by firm size, the ratio of dividend payments to total assets is not estimated significantly for both the top 10 % and the bottom 90%.[22] The trend of dividend payments has not affected the financial revenues

[22] Table 8 shows that the null hypothesis of no cointegration is rejected at the 1 % significance level in both Kao and Pedroni cointegration tests for corporate groups of the top 10%. Since the results of these tests verify the existence of cointegration among the variables used in the estimation equation, the estimation results for corporate groups of the top

of the corporate groups in both groups of firm size. The ratio of capital expenditure to total assets is estimated positively and significantly only for the bottom 90%. The ratio of financial revenues in a parent company to total assets in a corporate group is estimated positively and significantly in both groups, which means that financial revenues in a parent company are an important determinant of that in a corporate group. The estimation results of ROA in a parent company and ROA in a corporate group for the top 10% and the bottom 90 % are the same for all sizes. The debt to total assets ratio is not estimated significantly in either of the size groups.

4-3. The factor affecting the trend of financial revenues

Based on the results of the panel data estimation, we reveal the magnitude of the impact of the explanatory variables that are estimated significantly on the ratio of financial revenues to total assets. Table 7 shows the contributions of each explanatory variable that is estimated significantly to changes in the ratios of financial assets to total assets in the period from 2001 to 2018 in both the parent companies and the corporate groups. The contributions of the explanatory variables are calculated as the estimated coefficient multiplied by the change in the variable concerned.[23]

【 Insert Table 7 】

Table 7 shows that in the parent companies, the ratio of dividend payments to total assets has had the largest impact on the ratio of financial revenues to total assets for all sizes and the top 10%, explaining about 0.73% and 0.90%, respectively. For the parent companies of all sizes, considering the actual change in the ratio of financial revenues to total assets is 1.8%, we can confirm that the increase in the ratio of dividend payments to total assets explains about 40% of the change in the ratio of financial revenues to total assets. The ratio of dividend payments to total assets also explains 38% of the actual change in the ratio of financial revenues to total assets for the top 10 % of the parent companies.

For the bottom 90% of the parent companies, the ratio of dividend payments to total assets has contributed about 0.37% rise in the ratio of financial revenues to total assets,

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10 % are considered reliable, even with the inclusion of variables that have unit roots.

[23] The method for calculating the contributions of the explanatory variables by using estimation results of panel data analysis is the same as that of Stockhammer (2013), who estimated the effect of financialization on functional income distribution in both developing and advanced countries.

and it explains more than half of the actual change in the ratio of financial revenues to total assets. This demonstrates that the increase in dividend payments has been a decisive determinant of the increased financial revenues for most of the parent companies. Additionally, ROA in a corporate group explains about 0.47% rise in the ratio of financial revenues to total assets for the bottom 90%. which means that profitability in a corporate group is an important source of financial revenues in relatively small-sized parent companies.

Table 7 also shows that in the corporate groups, the contributions of the explanatory variables relating to expenditure items are trivial. The ratio of capital investment to total assets positively contributes to the ratio of financial revenues to total assets in the corporate groups for all sizes and the bottom 90%. However, the magnitudes of the contributions are very small. The contribution of the ratio of interest payments to total assets is small and negative for the corporate groups of all sizes. The ratio of dividend payments to total assets is assumed not to affect the ratio of financial revenues to total assets in the corporate groups because it is not estimated significantly.

For the corporate groups, the ratio of financial revenues in a parent company to total assets in a corporate group has had the largest impact on the ratio of financial revenues to total assets in each category of firm size, but its contributions for all sizes, the top 10%, and the bottom 90% is only 0.26%, 0.10%, and 0.14%, respectively. The positive contribution of ROA in a parent company and the negative contribution of ROA in a corporate group are common among the corporate groups, irrespective of the category of firm size. However, the magnitudes of the contributions are also small.

When considering the factor behind the difference in the trend of the ratio of financial revenues to total assets between the parent companies and the corporate groups, it is important that the increase in dividend payments to total assets has a significant positive impact on the ratio of financial revenues to total assets only in the parent companies. For all sizes and the top 10%, the increase in dividend payments makes the largest contribution to the surge in financial revenues in the parent companies, but it has no impact on financial revenues in the corporate groups. For the bottom 90%, while the increasing dividend payments explain more than half of the rise in financial revenues in the parent companies, the positive effect of dividend payments disappears in the corporate groups. The difference in the effect of dividend payments on financial revenues between the parent companies and the corporate groups is a dominant factor in explaining the different trends of the ratio of financial revenues to total assets between them.

The different effect of dividend payments on financial revenues is caused because in corporate groups, only a parent company pays dividends to shareholders outside the

corporate groups in most cases, as we already mentioned. Parent companies need to receive financial revenues to cover the increasing dividend payments. Moreover, the Companies Act of Japan stipulates that the amount of dividends payable in a company is determined depending on the conditions of net assets of parent-only financial statements (Sakurai 2024). Specifically, among the breakdown of net assets of parent-only financial statements, retained earnings brought forward, which is the sum of retained earnings from previous periods and current net income, is the main source of dividend payments of a parent company. Therefore, parent companies have the incentive to receive financial revenues to manage accounting items relating to earnings in parent-only financial statements to secure fund resources for dividend payments. However, corporate groups do not have such an incentive to receive financial revenues because dividends payable of parent companies are usually not determined depending on consolidated financial statements of corporate groups in Japan. This is why financial revenues have increased in accordance with the increase in dividend payments, not in the corporate groups, but in the parent companies.

5. Conclusion

This study clarifies the actual state of financialization in Japanese manufacturing corporations, using a new framework that utilizes both parent-only financial statements and consolidated financial statements. Our study finds that the content of financial assets held by corporations and the trend of financial revenues differ significantly between the two types of financial statements. As we have shown in the results obtained from parent-only financial statements, the parent companies have increased the shareholders of affiliates and subsidiaries in foreign countries through M＆A activities and have greatly raised dividends received from overseas subsidiaries and affiliates, which comprise a significant part of the financial revenues of the parent companies. By contrast, the results obtained from consolidated financial statements show that although the corporate groups have increased the holdings of investment securities, they have not raised the level of financial revenues. These trends of financialization are different from the assumption of the financial turn of accumulation hypothesis, which states that NFCs increase financial revenues earned from financial investment of a short-term nature. Since financialization trends are different between the parent companies and the corporate groups, it can be said that an analysis of both parent companies and corporate groups is necessary to show the entire structure of financialization. Even in countries where the trend of financial revenues does not show an increasing trend in consolidated financial statements of corporations,

the result may change when using data of financial revenues of parent-only financial statements.

After demonstrating the financialization trend, this study empirically examines the cause of the difference in the level of financial revenues between the parent companies and the corporate groups in Japanese manufacturing corporations. The results of the empirical study show that although the financial revenues of the parent companies have significantly increased in response to the rise in dividend payments, those of the corporate groups have not responded to the rising dividend payments. This is because only a parent company pays dividends to shareholders outside the corporate group in most cases and the amount of dividends payable depends mainly on accounting items in parent-only financial statements. Parent companies must increase financial revenues to cover a surge in dividend payments. However, corporate groups do not need to increase financial revenues to prepare for dividend payments because the amount of dividends payable is not determined depending on consolidated financial statements. Thus, the level of financial revenues has been different between the parent companies and the corporate groups in accordance with the effect of dividend payments on financial revenues.

The findings of this study demonstrate that obtaining funds for dividend payments is a primary motive for receiving financial revenues in Japanese manufacturing parent companies. In the modern age, when parent companies of large corporations seize control of subsidiaries and affiliates in various countries in the process of globalization, parent companies absorb a large amount of financial revenues from subsidiaries and affiliates to pay dividends to shareholders. This behavior of parent companies is a typical example of interactions between financialization and globalization. The analysis using parent-only financial statements as well as consolidated financial statements can reveal the important aspects of financialization in parent companies, and it could be applied to other countries.

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【 Figures and Tables 】

Figure 1: Transactions within a corporate group and the role of financial statements

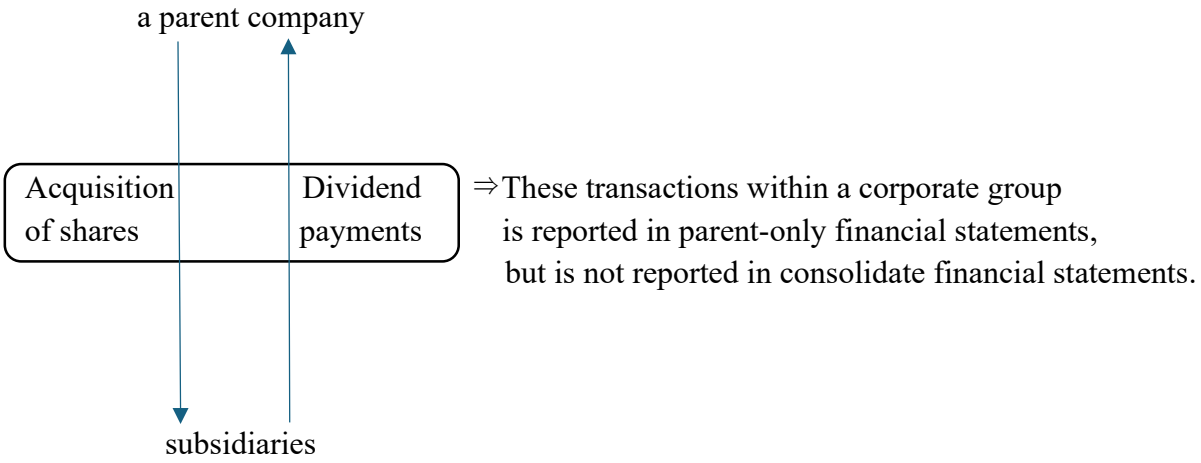

Figure 2: The ratio of respective assets to total assets in Japanese manufacturing parent companies (Source: the Nikkei NEEDS-Financial Quest database)

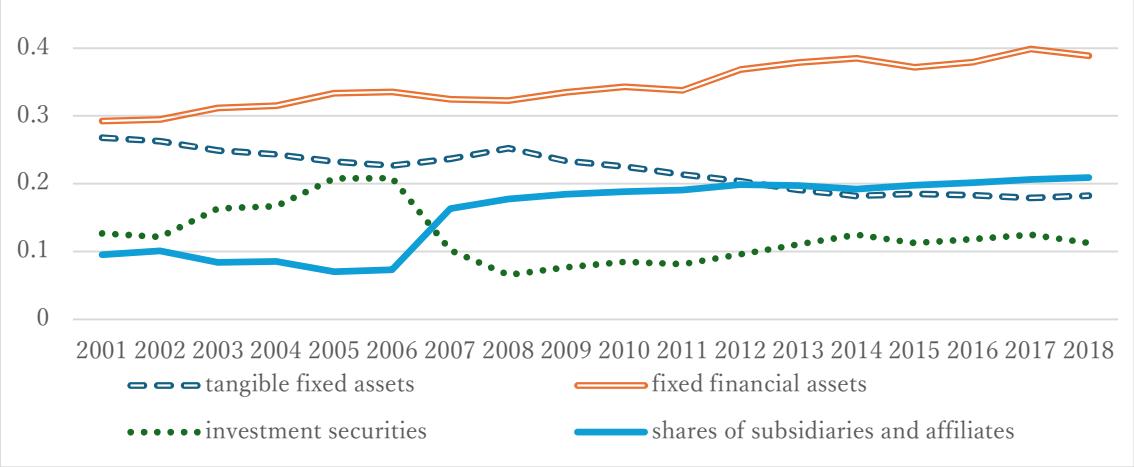

Figure 3: The ratio of respective assets to total assets in Japanese manufacturing corporate groups (Source: the Nikkei NEEDS-Financial Quest database)

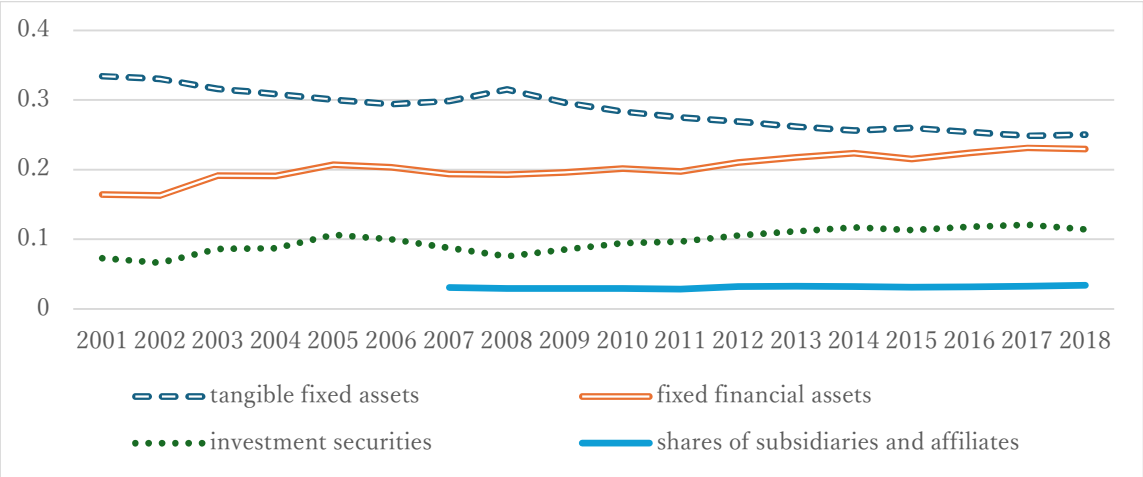

Figure 4: The ratio of financial revenues to total assets in Japanese manufacturing parent companies and corporate groups
(Source: the Nikkei NEEDS-Financial Quest database)

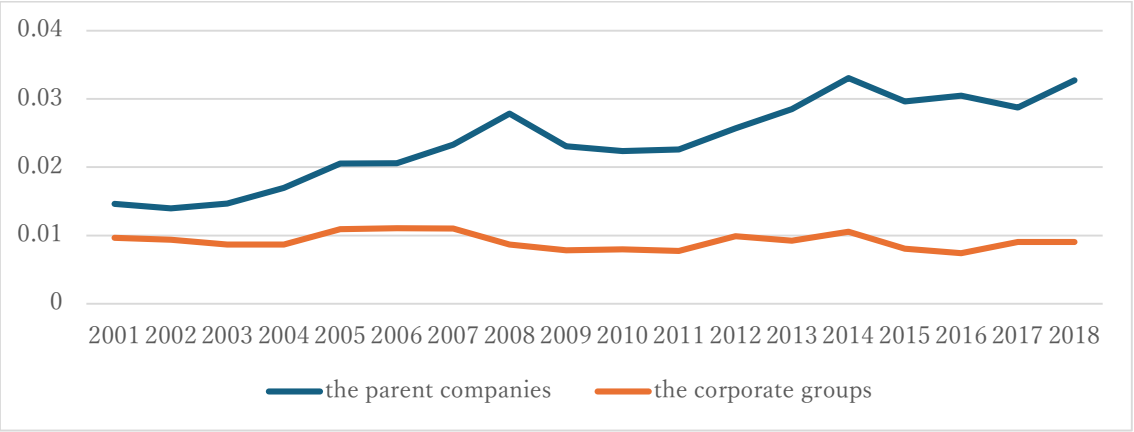

Figure 5: The ratio of interest and dividend income to total financial revenues and the ratio of dividends received from subsidiaries and affiliates to total financial revenues in Japanese manufacturing parent companies
(Source: the Nikkei NEEDS-Financial Quest database)

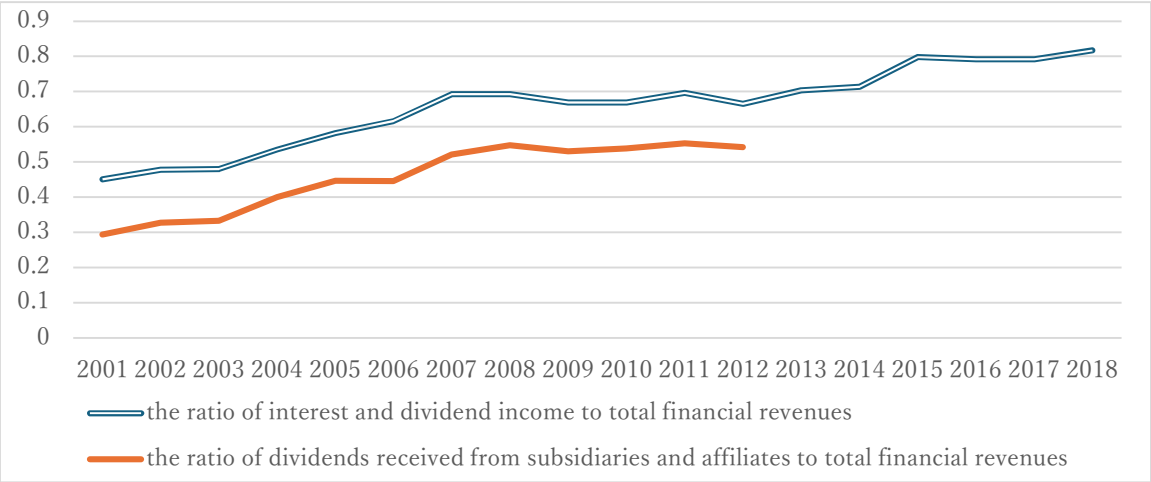

Figure 6: The ratio of interest and dividend income to total financial revenues and the ratio of dividends received from subsidiaries and affiliates to total financial revenues in the 90 parent companies
(Source: the Nikkei NEEDS-Financial Quest database)

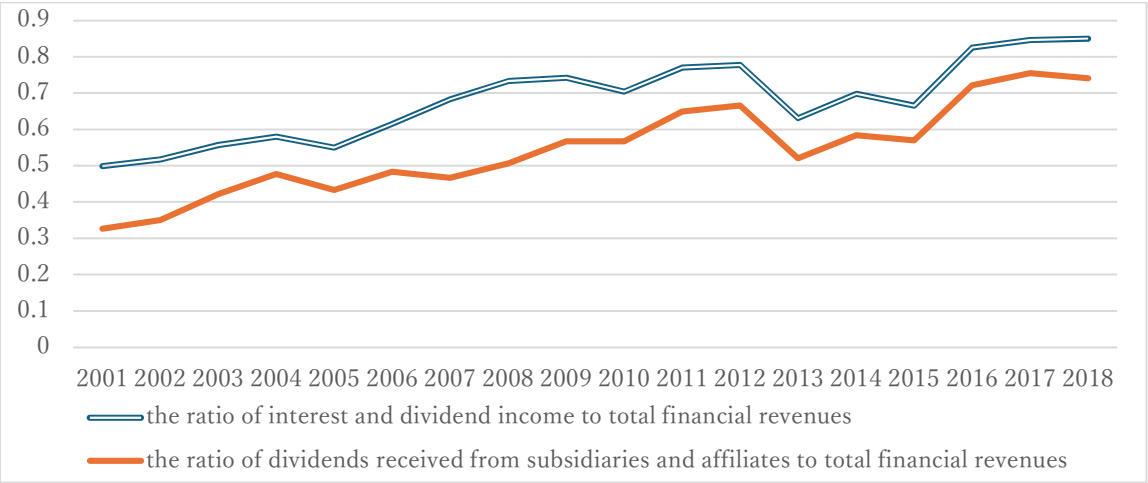

Figure 7: The ratio of financial revenues in Japanese manufacturing parent companies to that in Japanese manufacturing corporate groups, and the ratio of interest and dividend income in the parent companies to that in the corporate groups.
(Source: the Nikkei NEEDS-Financial Quest database)

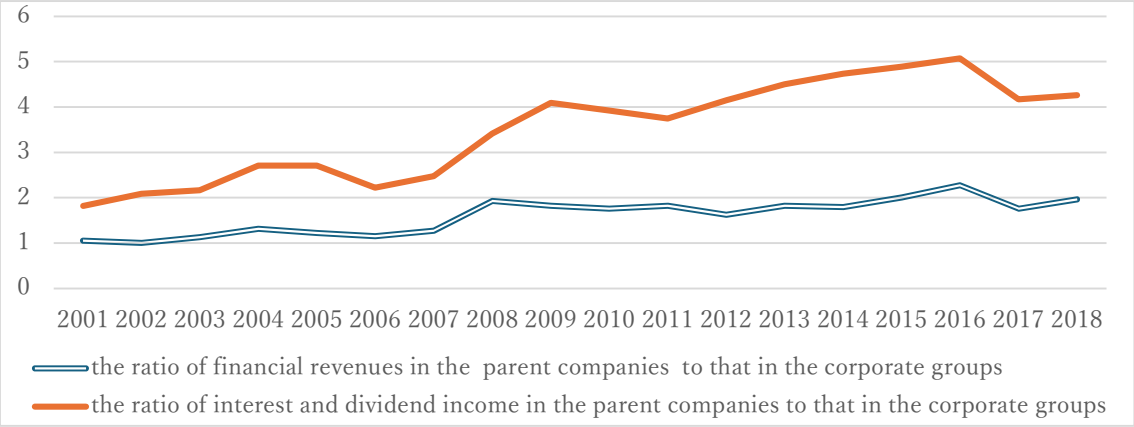

Figure 8: The ratio of dividend payments to total assets in Japanese manufacturing parent companies and corporate groups
(Source: the Nikkei NEEDS-Financial Quest database)

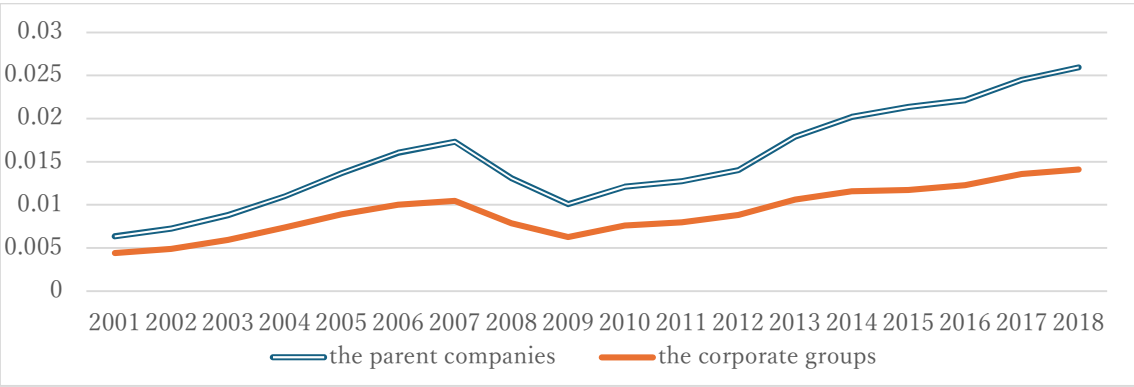

Figure 9: The total amount of dividend payments in Japanese manufacturing parent companies and corporate groups (million yen)
(Source: the Nikkei NEEDS-Financial Quest database)

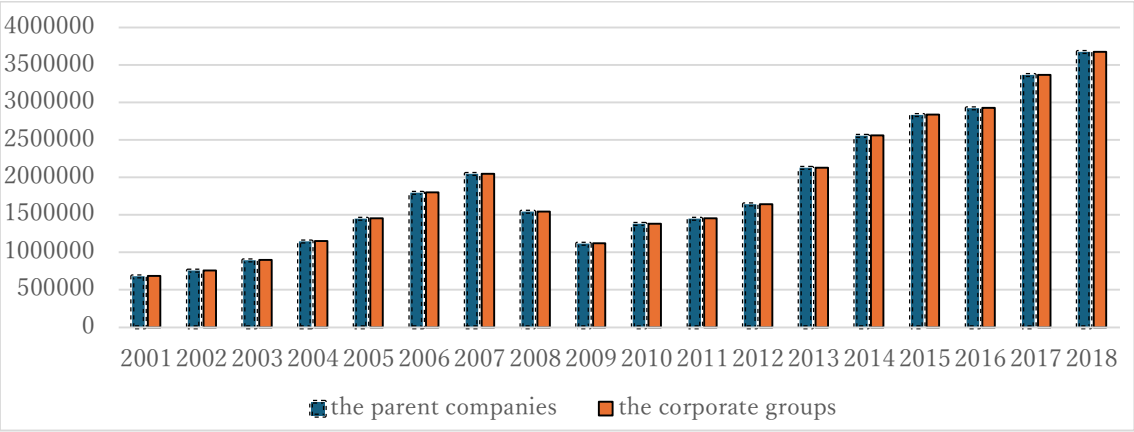

Table 1: The ratio of respective assets to total assets in Japanese manufacturing parent companies (Source: the Nikkei NEEDS-Financial Quest database)

	2001	2018
tangible fixed assets	26.8%	18.2%
fixed financial assets	29.3%	38.9%
investment securities	12.7%	11.3%
shares of subsidiaries and affiliates	9.5%	20.9%

Note: The results are obtained by using parent-only financial statements.

Table 2: The ratio of respective assets to total assets in Japanese manufacturing corporate groups (Source: the Nikkei NEEDS-Financial Quest database)

	2001	2018
tangible fixed assets	33.4%	25.1%
fixed financial assets	16.4%	23.0%
investment securities	7.3%	11.5%
shares of subsidiaries and affiliates		3.4%

Note: The results are obtained by using consolidated financial statements.

Table 3: Descriptive statistics for the variables used in panel data analysis

all sizes

Variable	Mean	Maximum	Minimum	Standard deviation
FIN^P/TA^P	0.016	0.411	0	0.015
CAP^P/TA^P	0.027	0.595	−0.331	0.033
DIV^P/TA^P	0.011	0.189	0	0.010
INT^P/TA^P	0.003	0.025	0	0.003
OP^P/TA^P	0.036	0.678	−0.366	0.044
TD^P/TA^P	0.461	1.637	0.015	0.197
FIN^C/TA^C	0.009	0.313	0	0.008
CAP^C/TA^C	0.039	2.419	−0.207	0.046
DIV^C/TA^C	0.009	0.113	0	0.008
INT^C/TA^C	0.003	0.030	0	0.003
OP^C/TA^C	0.050	0.646	−0.475	0.046
FIN^P/TA^C	0.012	0.180	0	0.010

TD^C/TA^C	0.483	1.440	0.034	0.195

Note：The number of observasions is 14868 in all variables.

the top 10%

Variable	Mean	Maximum	Minimum	Standard deviation
FIN^P/TA^P	0.023	0.209	0.001	0.019
CAP^P/TA^P	0.034	0.216	−0.227	0.035
DIV^P/TA^P	0.015	0.139	0	0.014
INT^P/TA^P	0.003	0.016	0	0.003
OP^P/TA^P	0.035	0.276	−0.106	0.041
TD^P/TA^P	0.527	1.260	0.053	0.193
FIN^C/TA^C	0.010	0.054	0.001	0.007
CAP^C/TA^C	0.051	0.384	−0.207	0.038
DIV^C/TA^C	0.010	0.113	0	0.009
INT^C/TA^C	0.004	0.018	0	0.003
OP^C/TA^C	0.056	0.294	−0.475	0.043
FIN^P/TA^C	0.015	0.166	0.0004	0.012
TD^C/TA^C	0.559	1.065	0.080	0.192

Note：The number of observasions is 1494 in all variables.

the bottom 90%

Variable	Mean	Maximum	Minimum	Standard deviation
FIN^P/TA^P	0.015	0.411	0	0.015
CAP^P/TA^P	0.027	0.595	−0.331	0.032
DIV^P/TA^P	0.010	0.189	0	0.010
INT^P/TA^P	0.003	0.025	−0.00006	0.003
OP^P/TA^P	0.037	0.678	−0.366	0.044
TD^P/TA^P	0.454	1.637	0.015	0.196
FIN^C/TA^C	0.009	0.313	0	0.008
CAP^C/TA^C	0.038	2.419	−0.199	0.047
DIV^C/TA^C	0.009	0.111	0	0.007
INT^C/TA^C	0.003	0.030	−0.00003	0.004
OP^C/TA^C	0.049	0.646	−0.247	0.046
FIN^P/TA^C	0.012	0.180	0	0.010
TD^C/TA^C	0.475	1.440	0.034	0.193

Note：The number of observasions is 13374 in all variables.

Table 4: Results of panel unit root tests

all sizes

Variable	LLC	ADF－Fisher	PP－Fisher
FIN^P/TA^P	－19.711***	2112.802***	4378.675***
CAP^P/TA^P	－84.895***	3100.316***	8039.924***
DIV^P/TA^P	－5.435***	2081.109***	2205.501***
INT^P/TA^P	－73.597***	3503.546***	3942.682***
OP^P/TA^P	－24.436***	2210.431***	3358.493***
TD^P/TA^P	－17.396***	2055.278***	2699.317***
FIN^C/TA^C	－36.430***	2753.718***	5689.679***
CAP^C/TA^C	－59.838***	3441.021***	7728.628***
DIV^C/TA^C	－10.966***	2283.918***	2362.507***
INT^C/TA^C	－5.5e+2***	3192.542***	4581.733***
OP^C/TA^C	－27.375***	2279.686***	3601.672***
FIN^P/TA^C	－26.196***	2244.042***	4745.132***
TD^C/TA^C	－14.829***	1980.625***	2540.199***

Notes：LLC, ADF－Fisher, and PP－Fisher respectively show the test statistics of Levin, Lin and Chu (LLC) test, Fisher-type augmented Dickey-Fuller test, and Fisher-type Phillips–Perron test. In these tests, the variables are used in level. In the LLC test, the lag length used in the ADF regression is chosen based on the Bayesian information criterion. In the ADF－Fisher test and the PP－Fisher test, the number of lags used to remove higher-order autoregressive components is set to 2.

the top 10%				the bottom 90%			
Variable	LLC	ADF－Fisher	PP－Fisher	Variable	LLC	ADF－Fisher	PP－Fisher
FIN^P/TA^P	－3.864***	174.794	343.836***	FIN^P/TA^P	－19.452***	1938.008***	4034.839***
$d(FIN^P/TA^P)$	－29.379***	425.878***	2263.871***	CAP^P/TA^P	－57.802***	2781.762***	7317.521***
CAP^P/TA^P	－63.631***	318.554***	722.421***	DIV^P/TA^P	－5.965***	1852.643***	2052.592***
DIV^P/TA^P	0.495	228.465***	152.909	INT^P/TA^P	－72.578***	3261.344***	3652.815***
$d(DIV^P/TA^P)$	－21.905***	320.521***	1088.906***	OP^P/TA^P	－23.649***	1953.363***	3029.638***
INT^P/TA^P	－12.767***	242.168***	289.873***	TD^P/TA^P	－17.096***	1882.933***	2448.361***
OP^P/TA^P	－6.523***	257.068***	328.855***	FIN^C/TA^C	－35.534***	2478.902***	5208.728***
TD^P/TA^P	－3.302***	172.344	250.955***	CAP^C/TA^C	－57.228***	3016.815***	6962.309***
$d(TD^P/TA^P)$	－26.856***	359.135***	1347.151***	DIV^C/TA^C	－11.168***	2106.263***	2186.109***
FIN^C/TA^C	－8.469***	274.817***	480.951***	INT^C/TA^C	－5.5e+2***	2913.887***	4095.436***
CAP^C/TA^C	－17.615***	424.206***	766.319***	OP^C/TA^C	－26.347***	2079.116***	3294.070***
DIV^C/TA^C	－1.542*	177.654	176.398	FIN^P/TA^C	－25.981***	2045.164***	4357.282***
$d(DIV^C/TA^C)$	－22.466***	388.792***	1142.556***	TD^C/TA^C	－14.661***	1814.290***	2298.612***
INT^C/TA^C	－12.146***	278.651***	486.299***				
OP^C/TA^C	－7.529***	200.570***	307.603***				
FIN^P/TA^C	－4.650***	198.878**	387.850***				
TD^C/TA^C	－2.816***	166.335	241.586***				
$d(TD^C/TA^C)$	－20.857***	378.896***	1129.087***				

Notes ：LLC, ADF－Fisher, and PP－Fisher respectively show the test statistics of Levin, Lin and Chu (LLC) test, Fisher-type augmented Dickey-Fuller test, and Fisher-type Phillips–Perron test. In these tests, the variables are used in level except for $d(FIN^P/TA^P)$, $d(DIV^P/TA^P)$, $d(TD^P/TA^P)$, $d(DIV^C/TA^C)$, and $d(TD^C/TA^C)$, which respectively show the first difference of FIN^P/TA^P, DIV^P/TA^P, TD^P/TA^P, DIV^C/TA^C, and TD^C/TA^C. In the LLC test, the lag length used in the ADF regression is chosen based on the Bayesian information criterion. In the ADF－Fisher test and the PP－Fisher test, the number of lags used to remove higher-order autoregressive components is set to 2.

Table 5: Estimation results of the equation (ⅰ)

all sizes		the top 10%		the bottom 90%	
Constant	0.008***	Constant	0.015***	Constant	0.008***
	(4.00)		(2.82)		(3.20)
$(CAP^P/TA^P)_t$	−0.001	$(CAP^P/TA^P)_t$	0.027*	$(CAP^P/TA^P)_t$	−0.004
	(−0.34)		(1.69)		(−1.19)
$(DIV^P/TA^P)_t$	0.363***	$(DIV^P/TA^P)_t$	0.376***	$(DIV^P/TA^P)_t$	0.338**
	(3.48)		(3.49)		(2.53)
$(INT^P/TA^P)_t$	0.053	$(INT^P/TA^P)_t$	−0.263	$(INT^P/TA^P)_t$	0.092
	(0.54)		(−0.46)		(0.95)
$(OP^P/TA^P)_t$	−0.180***	$(OP^P/TA^P)_t$	−0.160***	$(OP^P/TA^P)_t$	−0.186***
	(−6.23)		(−2.81)		(−6.03)
$(OP^C/TA^C)_t$	0.137***	$(OP^C/TA^C)_t$	0.083	$(OP^C/TA^C)_t$	0.148***
	(5.03)		(1.28)		(5.38)
$(TD^P/TA^P)_t$	0.008***	$(TD^C/TA^C)_t$	0.008	$(TD^C/TA^C)_t$	0.007**
	(2.67)		(0.61)		(1.98)
Cross section	Fixed		Fixed		Fixed
Year	Fixed		Fixed		Fixed
Number of Observasions	14868		1494		13374
Number of firms	826		83		743
Adjusted R^2	0.540		0.505		0.533
Kao			−2.254**		
Pedroni			−12.686***		

Note：

(1) *, **, and *** denote significance at 10, 5, 1 %, respectively. Parentheses below the coefficients are t-values.

(2) Fixed refers to the fixed effects panel specification.

(3) Kao refers to augmented Dickey-Fuller statistics obtained from Kao panel cointegration test. Pedoroni refers to augmented Dickey-Fuller statistics obtained from Pedroni panel cointegration test. In these conitegratio tests, the lag length used in the ADF regression is chosen based on the Bayesian information criterion.

Table 6: Estimation results of the equation (ii)

all sizes		the top 10%		the bottom 90%	
Constant	0.008***	Constant	0.015***	Constant	0.008***
	(4.00)		(2.82)		(3.20)
$(CAP^P/TA^P)_t$	−0.001	$(CAP^P/TA^P)_t$	0.027*	$(CAP^P/TA^P)_t$	−0.004
	(−0.34)		(1.69)		(−1.19)
$(DIV^P/TA^P)_t$	0.363***	$(DIV^P/TA^P)_t$	0.376***	$(DIV^P/TA^P)_t$	0.338**
	(3.48)		(3.49)		(2.53)
$(INT^P/TA^P)_t$	0.053	$(INT^P/TA^P)_t$	−0.263	$(INT^P/TA^P)_t$	0.092
	(0.54)		(−0.46)		(0.95)
$(OP^P/TA^P)_t$	−0.180***	$(OP^P/TA^P)_t$	−0.160***	$(OP^P/TA^P)_t$	−0.186***
	(−6.23)		(−2.81)		(−6.03)
$(OP^C/TA^C)_t$	0.137***	$(OP^C/TA^C)_t$	0.083	$(OP^C/TA^C)_t$	0.148***
	(5.03)		(1.28)		(5.38)
$(TD^P/TA^P)_t$	0.008***	$(TD^C/TA^C)_t$	0.008	$(TD^C/TA^C)_t$	0.007**
	(2.67)		(0.61)		(1.98)
Cross section	Fixed		Fixed		Fixed
Year	Fixed		Fixed		Fixed
Number of Observasions	14868		1494		13374
Number of firms	826		83		743
Adjusted R^2	0.540		0.505		0.533
Kao			−2.254**		
Pedroni			−12.686***		

Note：

(1) *, **, and *** denote significance at 10, 5, 1 %, respectively. Parentheses below the coefficients are t-values.

(2)Fixed refers to the fixed effects panel specification.

(3)Kao refers to augmented Dickey-Fuller statistics obtained from Kao panel cointegration test. Pedroni refers to augmented Dickey-Fuller statistics obtained from Pedroni panel cointegratio test. In these conitegratio tests, the lag length used in the ADF regression is chosen based on the Bayesian information criterion.

Table7：Expalaining the increase in the ratio of financial revenues to total assets

the parent companies

		all sizes	the top 10%	the bottom 90%
CAP^P/TA^P	Estimated coefficient		0.027	
	Actual change		−0.009	
	Expalained $\Delta(FIN^P/TA^P)$		−0.0002	
DIV^P/TA^P	Estimated coefficient	0.363	0.376	0.338
	Actual change	0.020	0.024	0.011
	Expalained $\Delta(FIN^P/TA^P)$	0.0073	0.0090	0.0037
OP^P/TA^P	Estimated coefficient	−0.180	−0.160	−0.186
	Actual change	0.014	0.011	0.020
	Expalained $\Delta(FIN^P/TA^P)$	−0.0025	−0.0018	−0.0037
OP^C/TA^C	Estimated coefficient	0.137		0.148
	Actual change	0.023		0.032
	Expalained $\Delta(FIN^P/TA^P)$	0.0032		0.0047
TD^P/TA^P	Estimated coefficient	0.008		0.007
	Actual change	−0.083		−0.124
	Expalained $\Delta(FIN^P/TA^P)$	−0.0007		−0.0009
	Actual $\Delta(FIN^P/TA^P)$	0.018	0.024	0.007

Note：Actual change is the difference in the variable between 2001 and 2018.
Actual $\Delta(FIN^P/TA^P)$ is the difference in (FIN^P/TA^P) between 2001 and 2018

the corporate groups

		all sizes	the top 10%	the bottom 90%
CAP^C/TA	estimated coefficient	0.010		0.010
	actual change	0.001		0.011
	expalained $\Delta(FIN^P/TA^P)$	0.00001		0.0001
INT^C/TA^C	estimated coefficient	0.085		
	actual change	−0.004		
	expalained $\Delta(FIN^P/TA^P)$	−0.0003		
FIN^P/TA^C	estimated coefficient	0.320	0.109	0.360
	actual change	0.008	0.009	0.004
	expalained $\Delta(FIN^P/TA^P)$	0.0026	0.0010	0.0014

OP^P/TA^P	estimated coefficient	0.036	0.032	0.039
	actual change	0.014	0.011	0.020
	expalained $\Delta(FIN^P/TA^P)$	0.0005	0.0004	0.0008
OP^C/TA^C	estimated coefficient	−0.033	−0.014	−0.038
	actual change	0.023	0.020	0.032
	expalained $\Delta(FIN^P/TA^P)$	−0.0008	−0.0003	−0.0012
Actual $\Delta(FIN^P/TA^P)$		−0.001	−0.001	−0.001

Notes：Actual change is the difference in the variable between 2001 and 2018.
Actual $\Delta(FIN^P/TA^P)$ is the difference in (FIN^P/TA^P) between 2001 and 2018.