Controlling Funds Allocation for the War:
The Experience of Japan in the Late 1930s

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April 2022

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Abstract

This paper explores how financial controls functioned to affect funds allocations in late 1930s Japan. For larger firms, subject to the financial controls, the difference in capital growth between firms in the nonpriority and priority industries expanded when the financial controls started, while differences in borrowing growth between them did not until the controls were later extended to cover both short- and long-term funds. For samples including small and medium-sized firms, I found that for a nonpriority industry, the capital growth of the firms subject to the controls (with capital over the upper limit of exemption for the controls) declined compared with the firms under the upper limit when the controls commenced. Conversely, for firms in a priority industry, this discontinuity across the upper capital limit is not observed. These results strongly suggest that the financial controls did indeed affect and alter the funds allocation.

Key words: Economic control, financial control, war economy, fund allocation, Japan

JEL classification numbers: G18, G21, G38, N25, P21

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1. Introduction

World War II had a great impact on the economies of the countries involved. In addition to the loss of people and production capacity as a result of warfare, the governments of the belligerent countries mobilized huge amounts of resources to contribute to their war efforts. The extent of such mobilizations has been well documented in the literature for major countries (Harrison 1998; Eloranta et al. 2016). Harrison (1998) showed that the military outlays of the USA, UK, Germany, and Japan were 42%, 55%, 70%, and 43% of national income, respectively (p. 21).

This large-scale mobilization during the war has been related to the imposition of economic controls in the literature, which describes how economic controls proliferated in major countries (Mills and Rockoff 1987; Temin 1991; Higgs 1992; Abelshauser 1998; Hara 1998; Capie and Wood 2002; Broadberry and Howlett 2016). Thus, the years of World War II can be seen as the period when a controlled economy operated in all major countries, providing us with an opportunity to explore how nonmarket mechanisms worked and substituted for market mechanisms. To my knowledge, the function of economic controls and their impact on resource allocation have not been well studied.

In this paper, I address these issues, focusing on the financial controls in Japan during the late 1930s. Japan, one of the Axis countries, imposed large-scale resource mobilization efforts and economic controls from the late 1930s, when it started the Second Sino–Japanese War. The financial system and its funds allocation was one of the targets of wartime economic controls (Hara 1998; Nakamura 1999; Okazaki 1999; Okazaki and Okuno-Fujiwara (eds.) 1999; Shibata 2011). Although the existing literature has examined the background and the system of financial controls in detail, its function is yet to be explored.

This paper is related to a strand of the literature that examines the micro aspects of the war economy (Streb 2009; Budrass, Scherner, and Streb et al. 2010; Okazaki 2011, 2014; Scherner, Streb, and Tilly 2014). These studies have explored the behaviors and incentives of firms using data at the firm level to gain a more precise and deeper understanding of the war economy. In this paper, I use the financial data of not only major firms subject to the financial controls, but also small and medium-sized firms that were exempt, to identify the impact of the financial control quantitatively.

To preview the main results, for larger firms, the differences in capital growth between firms in the nonpriority and priority industries expanded after the financial controls commenced, whereas the corresponding differences in terms of borrowing growth did not until the controls were extended to cover both short- and long-term funds. With respect to the samples including small and medium-sized firms, when the controls started, for a nonpriority industry, capital growth declined for the firms with capital over compared with those below the upper limit of the control exemption. Conversely, for a priority industry, this discontinuity across the upper limit is not observed. These results strongly suggest that financial controls

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did indeed affect and alter the funds allocations.

The remainder of the paper is organized as follows. Section 2 provides an overview of the war economy in Japan and describes the system of financial controls. Section 3 analyses the data on large firms to identify the impact of the financial controls. Section 4 analyses the data on small and medium-sized firms as well as large firms to identify further the impact of financial controls by exploiting the firm size difference as well as the difference of industries. Section 5 concludes.

2. Japan's war economy and the system of financial controls

Japan started a full-scale war with China in July 1937, which escalated into the Pacific War in 1941 and continued until August 1945. During the war, a drastic resource reallocation occurred in the Japanese economy. Figure 1 illustrates the change in the resource allocation at the macro level. From 1937, government expenditure expanded sharply, reflecting the increase in military expenses. In addition, private capital formation, which had already been increasing in the boom of the early 1930s, continued to increase. Conversely, private consumption declined sharply. Indeed, private consumption in 1944 was just 64% that in 1936. Simultaneously increasing military consumption and investment in production capacity, given the limited production factors, and the blockade by the Allied Nations, resulted in the suppression of private consumption[1].

The increase in private capital formation occurred because of not only the military demand for munitions, but also the government policies to expand industries producing basic materials. "Expansion of production capacity" was one of the policy goals given top priority in late 1930s Japan. A long-term plan for expanding production capacity for basic materials was initiated by the Army and, at the Army's request, drawn up by the cabinet beginning in early 1937. When the cabinet with Fumimaro Konoe as the head was established in June 1937, the Minister of Finance (Okinori Kaya) and the Minister of Commerce and Industry (Shinji Yoshino) announced the "Three Principles of Public Finance and Economy," namely: (a) expanding production capacity, (b) balancing international payments, and (c) adjusting the supply and demand of commodities. That is, the government officially declared that it would adopt a policy of expanding production capacity while maintaining the balance of international payments, and that to pursue these two goals simultaneously, it would intervene in the supply of and demand for commodities (Nakamura 1999, 2017; Okazaki and Okuno-Fujiwara 1999; Hara 2013)[2].

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[1] Katsumi Yamazumi, the head of Corporation Department, the Ministry of Finance, wrote in his book, published in 1941, that "Japan's war economy expanding defense production capacity carries two burdens of funding government bonds and production capacity expansion. The only way to address this difficulty is reducing consumption by people's mental power" (Yamazumi 1941, p. 59, author's translation).

[2] In response to the interview, Okinori Kaya stated in retrospect that the "Three Principles

Figure 1

The change in the resource allocation corresponded with changes to the flow of funds. Figure 2 illustrates the investment–savings balance by sector. The war period is characterized by huge funds flows between sectors. While the government and the corporate sector had a large deficit of funds, the household sector had a large surplus. For the overseas sector, investment and savings were almost balanced. Maintaining the balance of payments was one of the top priorities of Japan's economic policy (Nakamura 1999, 2017; Hara 2013). This implies that a huge amount of funds flowed from the household sector to the government and the corporate sector during the war. The funds flow was mediated by the financial market, and the government endeavored to control the financial market to concentrate funds with the government and the industries that were the targets of the production capacity expansion policy.

Figure 2

To control the financial market, the government legislated the Temporary Law for Fund Adjustment (*Rinji Shikin Chosei Ho*) in September 1937, just after the military confrontation in the northern part of China expanded to Shanghai to become the Second Sino–Japanese War; it also implemented the Temporary Measure Law for Export and Import Commodities (*Yushutsunyuhin-to Rinji Sochi Ho*), which aimed at controlling the real side of the economy (Ministry of Finance 1969, p. 85). These laws were in line with the Three Principles of Public Finance and Economy, mentioned above. The Temporary Law for Funds Adjustment aimed at "adjusting utilization of domestic funds to balance demand and supply of commodities and funds" (Article 1, author's translation). "Adjustment" is the author's literal translation of the Japanese word "*chosei*". Although this law was used to control the flow of funds, as described below, the government intentionally chose a mild name to avoid criticism and negative impacts on the financial market (Bank of Japan, 1984, p. 287).[3] The Temporary Law for Funds Adjustment continued to be the fundamental legal basis for financial control throughout the war (Bank of Japan 1970, p. 103; Ministry of Finance 1957, p. 67).

This law regulated both nonfinancial firms (to control the demand side of funds) and financial institutions (i.e., the supply side). First, concerning nonfinancial firms, the law

is the first trial to manage the whole economy premeditatedly" (Ministry of Finance 1978, pp. 19–20).

[3] Okinori Kaya stated in retrospect that in preparing the Law, he thought that the Funds Control Law was a natural name, but because Chuji Machida, the President of the largest party, insisted that "The word control is unacceptable. Could you not manage to change the name ?", they decided on the name it was given (Ministry of Finance 1978, pp. 19–20).

introduced a licensing system applying to (a) the foundation of a firm with capital of 500,000 yen or more, (b) a capital increase or merger that made a firm's capital 500,000 yen or more, (c) alteration of the purpose of a firm with capital of 500,000 yen or more, and (d) paying-in capital, issuing corporate bonds, or investing in equipment of 100,000 yen or more through internal funds by a firm with capital of 500,000 yen or more. Second, concerning financial institutions, the law introduced the licensing system applying to (a) long-term funds loans of 100,000 yen or more for installation, expansion, or modification of industrial equipment, and (b) purchasing, underwriting, or dealing in corporate bonds of 100,000 yen or more (Ministry of Finance 1957, pp. 69–71).

Although the authority of licensing belonged to the Minister of Finance, associations of financial institutions authorized by the government were allowed to undertake "self-adjustment" of loans, underwriting, dealing, etc., and did not require licenses issued by the Minister of Finance in this case. In other words, a financial institution could loan long-term funds to, for example, a nonfinancial firm if the self-adjustment association with which it was affiliated approved the loan. There were 24 authorized self-adjustment associations at the end of 1938, including 17 regional associations of ordinary banks organized under the Bank of Japan (BOJ) branches, the Association of Trust Companies, and the Association of Life Insurance Companies (Ministry of Finance 1957, pp. 76–77; Yamazumi 1941, p. 178).

Licensing and self-regulation were executed according to the Standard for Adjustment of Industrial Funds, determined by the Temporary Committee of Funds Adjustment (*Rinji Shikin Chosei Iinkai*), established according to the Law and headed by the Prime Minister. The Standard classifies 533 industries into six ranks, i.e., A1, A2, B1, B2, B3, and C. The A1 industries had the highest priority, and their applications for raising funds were to be approved in principle, whereas the C industries had the lowest priority and their applications were to be rejected in principle. The classification was based on the attributes of each industry, such as (a) relationship to the Production Capacity Expansion Plan, (b) relationship to the military demand, (c) relationship to improvement of the international balance of payments, and (d) existing production capacity and supply of raw materials (ibid, pp. 73–74; BOJ 1984, pp. 293–294; Okazaki 1999, p. 148). The Standard was related to self-regulation in that a self-adjustment association should consult with the BOJ in advance before it could approve a long-term loan of 500,000 yen or more to a firm in the B1, B2, B3, or C industries (Ministry of Finance 1957, pp. 77–79).

The controls of the Temporary Law for Funds Adjustment were strengthened after the enactment of the Law. In August 1938, the upper limit of capital for a firm to be exempted from the regulation was reduced from 500,000 to 200,000 yen[4]. This revision occurred because

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[4] As a result of this reduction of the upper limit of capital, the number of firms covered by the Temporary Law for Fund Adjustment increased from 5,760 to 13,260 (Bank of Japan 1962, pp. 120–121).

after the legislation was passed, many firms were established with capital of 480,000 or 490,000 yen, including firms that were not desirable from the standpoint of the policy for production expansion (Yamazumi 1941, pp. 132–133; Ministry of Finance 1957, pp. 79–81; BOJ 1984, p. 297). At the same time, the upper limits on the amounts of long-term loans and on purchases, underwriting, or dealing in corporate bonds or foreign securities below which a financial institution was exempted from the controls were reduced from 100,000 to 50,000 yen. In addition, the threshold under which a self-adjustment association could approve loans without prior consultation with the BOJ was reduced from 500,000 to 300,000 yen for firms in the B1, B2, B3, or C industries (Ministry of Finance 1957, pp. 81–87).

After these revisions of the control powers under the Temporary Law for Fund Adjustment, the government made a more fundamental change to the system for financial control. As mentioned above, the Temporary Law for Funds Adjustment focused on long-term funds; short-term funds or working capital were not regulated. In 1939, a shortcoming of this regulation scheme became a substantial issue. That is, financial institutions were providing de facto long-term loans in the form of short-term loans. Reflecting this, according to the survey by the Ministry of Finance, the total amount of short-term loans of 60 ordinary banks increased from 5 billion yen at the end of June 1937 to 9 billion yen at the end of December 1939, whereas long-term loans increased from 2.4 billion yen to 3 billion yen in the same period (BOJ 1984, p. 297)[5].

In addition, due to the breakout of World War II in September 1939, demand for funds increased and inflation accelerated in Japan. To cope with this situation, in October 1940, the government legislated a new act, the Act on Funds Allocation of Banks and Other Financial Institutions (*Ginko-to Shikin Un'yo Rei*), which covered short-term loans by financial institutions. That is, if a financial institution loaned a firm working funds equivalent to more than the largest outstanding working funds loan to that firm in the previous year and more than 50,000 yen, it required a license by the Ministry of Finance or the BOJ, which was delegated the authority of licensing (Bank of Japan 1970, p. 119; BOJ 1962, pp. 7–8, p. 341; BOJ 1984, pp. 91–92; Yamazumi 1941, p. 399).

3. Impact on funds allocation I

Table 1 shows the percentage of long-term loans newly provided by financial institutions by rank in the Standard for Adjustment of Industrial Funds. As the table indicates, around 70% of long-term loans by financial institutions were concentrated in firms in the A1 and A2 ranks, which were given priority under the financial controls. However, evaluating the impact of the

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[5] Katsumi Yamazumi wrote, "As control of the short-term fund was incomplete, some firms raised funds for equipment in the form of short-term funds, and some firms borrowed funds for speculation and stocking up. In order to prevent these unsound loans more thoroughly, we should implement an appropriate adjustment of short-term funds" (Yamazumi 1941, p. 407, author's translation).

financial controls is not straightforward because the data not only by rank, but also on long-term loans, are available only for the period after enactment of the Temporary Law for Fund Adjustment, and hence, I cannot simply compare before and after. Okazaki (1999) undertook an evaluation using firm-level financial data. He determined the amount of borrowing of each nonfinancial firm from various issues of *Honpo Jigyo Seiseki Bunseki (Analysis of Business Performance in Japan)* for the 186 firms for which data are continuously available from 1936 to 1942. Then, he aggregated the data by industry and examined the relationship between the trend of each industry's aggregated borrowing and the rank of the industry. He concluded that after 1937, the borrowing of the higher-ranked industries increased faster than that of the lower-ranked industries. In addition, he conducted regression analyses using industry-level data and found that the rank of an industry was positively associated with its rank for 1938, 1940, 1941, and 1942.

Table 1

I follow Okazaki's (1999) idea in using the financial data of firms, but examine the causal impact of the financial controls more carefully, using nonaggregated firm-level data. First, I use the data from *Honpo Jigyo Seiseki Bunseki*. My sample is the 193 firms for which financial data are available in this source continuously from the second half of the 1935 financial year to the second half of the 1941 financial year (hereafter, I express the first and second halves of the financial year in the format 19XX_1 and 19XX_2, respectively). As this source covers large firms, almost all of the sample firms are those subject to the regulations under the Temporary Law for Funds Adjustment[6].

Using the data, I investigate how a firm's paid-in capital and borrowing were affected by the financial control. Paid-in capital is the capital that shareholders actually invested in the firm's shares[7]. Based on the available data, "borrowing" includes the liability of a firm other than corporate bonds, bills payable, and trade credit, and thus includes short-term as well as long-term borrowing. To observe the difference in the impact of the financial controls across the ranks in the Standard for Adjustment of Industrial Funds, explained above, I identify the ranks of 19 industries in *Honpo Jigyo Seiseki Bunseki*, referring to the table of the Standard in the Ministry of Finance (1957). For simplicity, I combine A1 and A2 as rank A, and B1, B2, and B3 as rank B, so that I have three ranks, A, B, and C. The numbers of industries in the A, B, and C ranks are 3, 10, and 6, respectively.

Because the direct aim of the Temporary Law for Funds Adjustment was to restrict

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[6] Of the 2,509 firm-half year observations, there were only three with capital below the upper limit of the exemption.

[7] According to the Commercial Code in this period, the capital of a firm was the amount authorized by the shareholder meeting, up to which the firm could request the shareholders to pay-in the money.

flows of long-term fund to nonurgent industries, I focus on the paid-in capital and borrowings of the firms in rank C industries. Thus, I estimate the following equation:

$$Y_{it}=\alpha +\times \sum_t \beta_t RANK\_C_i \times HALFYEAR_t + \sum_t HALFYEAR_t + e_{it} \text{ ¥,} \qquad (1)$$

where Y_{it} is growth rate of paid-in capital (GPAIDIN) or that of borrowing (GBORROW) of firm i in half year t, and $RANK\_C_i$ is a dummy variable that equals one if industry i is classified as rank C, and zero otherwise. $HALFYEAR_t$ is the half year dummy variable, and e_{it} is the error term. The coefficient β_t is intended to capture the time-varying effect difference between the firms in rank C and other industries, i.e., rank A and rank B industries.

The basic statistics of the variables are reported in Table 2, and the estimation results are presented in Table 3. Column (1) shows the case where the growth rate of the paid-in capital is the dependent variable. From 1936_1 to 1937_2, the coefficient on the interaction term of the half year dummy and RANK_C is negative, but basically insignificant except for 1936_2. Conversely, from 1938_1, the coefficient is negative and statistically significant, except for 1941_2. In addition, the magnitude becomes larger. Column (2) shows the case where I add the log of paid-in capital in the previous half year and the return on equity (ROE) in the previous half year. Adding the log of paid-in capital in the previous half year is to control for the reversal to the mean, while adding ROE in the previous half year is to control for the demand for funds of the firm. In this case, the magnitude of the coefficients becomes slightly smaller, but the result is qualitatively the same.

Table 2, Table 3

Panel A of Figure 3 shows the event study graph based on the estimation result in column (1). From 1936_1 to 1937_2, there is no significant difference or trend in the growth rate of paid-in capital between rank C firms and ranks A and B firms. Then, from 1938_1, a significant difference in the growth rate of the paid-in capital emerges between the two groups of firms. These results suggest that the Temporary Law for Funds Adjustment did indeed have a negative impact on fund-raising by rank C firms from the capital market, as the government intended.

Figure 3

The estimation results on the growth rate of borrowing in columns (3) and (4) reinforce this inference. In these cases, the interaction term of the half year dummy and RANK_C is not statistically significant from 1936_1 to 1940_1, but becomes negative and statistically significant from the second half of 1940. Panel B of Figure 3 shows the event study graph

based on the estimation result in column (4). From 1936_1 to 1940_2, there no significant difference or trend in the growth rate of borrowing between rank C firms and rank A and B firms. Then, from 1940_2, a significant difference emerges[8]. These results are consistent with the historical narratives. October 1940 was the date when the government started to regulate short-term funds under the Act on Fund Allocations of Banks and Other Financial Institutions, as described above, and the borrowing considered here includes both short- and long-term borrowing. I can interpret the significant difference in the growth rate of borrowing between rank C firms and ranks A and B firms as reflecting the start of the regulation of short-term funds. The results indicate that the times when the growth rate of funds diverged between rank C firms and ranks A and B firms are different between paid-in capital and borrowing, and that the times of the divergences coincide with the times when the controls started, strongly suggesting that the divergences were caused by the financial controls.

4. Impact on funds allocation II

When the Temporary Law for Funds Adjustment was legislated, and firms with capital of less than 500,000 were exempt, many firms were founded with capital just below this threshold; when the upper limit was reduced to 200,000 yen, the same thing occurred. This provides anecdotal evidence in itself that the regulation was effective in restricting the flow of funds to larger firms in rank C, but it is also significant because I can exploit this discontinuity in regulation by firm size to identify the impact of regulation quantitatively.

To do this, I require data covering small and medium-sized firms as well as large firms. Here, my data sources are *Tokyo-shi Shoko Meikan* (*Directory of Traders and Manufactures in Tokyo City*) (6th edition) and *Ginko Kaisha Yoroku* (*Handbook of Banks and Firms*) (40th–44th editions). *Tokyo-shi Shoko Meikan* is a directory of traders and manufacturers in Tokyo City, edited by the Tokyo City Office, that covers individuals who paid 50 yen or more in business profit tax and firms with capital of 50,000 yen or more. For these individuals and firms, information on name, address, capital, and so on is available. This source is appropriate for my purpose in that it covers small firms exempted from the financial regulation from 1937 as well as larger firms subject to the regulation. However, it is available only for 1934, 1935, and 1936 (6th–8th editions). Hence, I also use the data from *Ginko Kaisha Yoroku*, edited by Tokyo Koshinjo, one of the major credit bureaus in Japan.

I first collect the data on capital[9] for the firms in the following two groups of industries from *Tokyo-shi Shoko Meikan* (6th edition) for 1934. The first group is the firms in the real estate industry, which is a typical rank C industry. The second group is the firms in the

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[8] For 1941_1, the difference is not significant at the 5% level, but is significant at the 10% level (Table 3).
[9] Capital here refers to the capital authorized by the shareholder meeting, as mentioned above.

automobile industry (the automobile, motor cycle, their parts, and repair of them industry), and the industry of locomotives, rolling stock, aircraft, and their parts (the transport machinery, hereafter), which is a typical rank A industry. Then, I collect capital data for these firms for the years from 1935 to 1939 from various editions of *Ginko Kaisha Yoroku*. I obtained capital data continuously from 1934 to 1939, with 941 observations in the real estate industry, and 259 observations in the transport machinery industry[10].

I classify these sample firms into those subject to the financial regulation and those exempted from it. As described above, the threshold under the regulation was capital of 500,000 yen from September 1937 to August 1938, falling to 200,000 yen from August 1938. I incorporate two dummy variables LARGE_FIRM and LARGE_FIRM2. The former (latter) equals one if a firm has capital of 500,000 yen (200,000 yen) or more, and zero otherwise. As presented in Table 4, for 46.2% and 64.7% of the observations in the real estate industry, LARGE_FIRM and LARGE_FIRM2, respectively, equal one. For the transport machinery industry, the corresponding percentages are 48.7% and 66.7%, respectively. Thus, the proportions of larger firms subject to the financial regulation are similar between the two industries. Using these samples, I estimate the following equations by industry.

$$GCAPITAL_{it} = \alpha + \beta_1 LARGE\_FIRM_{it} + \beta_2 LARGE\_FIRM_{it} \times CONTROL_t + \gamma_t + e_{it}, \quad (2)$$
$$GCAPITAL_{it} = \alpha + \beta_1 LARGE\_FIRM2_{it} + \beta_2 LARGE\_FIRM2_{it} \times CONTROL_t + \gamma_t + e_{it}, (3)$$

where *GCAPITAL*$_{it}$ represents the growth rate of capital of firm *i* in year *t*, *CONTROL*$_t$ is a dummy variable that equals one if the year is 1937, 1938, or 1939, and zero otherwise, and γ_t is the year fixed effect. The coefficients on *LARGE_FIRM*$_{it}$ and *LARGE_FIRM2*$_{it}$ capture the difference in capital growth between the larger and smaller firms before the financial controls started. The coefficients on the interaction terms capture the difference in the changes of capital growth between the larger firms subject to the regulation and the smaller firms exempted from the regulation after the financial controls commenced. My key focus is the coefficients on the interaction terms.

Table 4

The estimation results are presented in Table 5. Concerning the real estate industry in rank C, the growth rate of capital declined 3.27% point (column (1)) or 2.82% point (column (2)) more for the larger firms than smaller firms after the start of the financial control (Panel A). This discontinuity between the firms subject to the regulation and those exempt from the regulation indicates the negative impact of the regulation on capital growth. I can examine

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[10] The observations for which capital declined from the previous year are excluded so that the results are not affected by capital reductions.

the impact of the financial controls further by conducting the same regressions using the data on the transport machinery firms in rank A. Because the firms in this industry were given priority under the financial controls, it is expected that the discontinuity found for the real estate firms will not observed for this industry (Panel B). As expected, the coefficients on the interaction term are positive and not statistically significant.

Table 5

5. Conclusion

The Japanese government imposed financial controls just after the Second Sino–Japanese War broke out in 1937. At first, the controls covered only long-term funds, but in October 1940, they were extended to short-term funds as well. The intent of the controls was to rank industries based on their relationships with the production capacity expansion policy and the war, and to restrict funds allocation to lower rank industries. The financial controls initially targeted firms with capital of 500,000 yen or more, and then 200,000 yen or more from August 1938. The scheme provides an opportunity to identify the impacts of the financial controls.

With respect to the larger firms subject to the controls, the difference in capital growth between the firms in the lower rank industries and those in the higher rank industries expanded when the controls commenced, while the differences in the growth of borrowing of short-term credit between them did not expand until the controls were extended to short-term funds. With respect to the samples including small and medium-sized firms, for the real estate industry, ranked as low priority, the capital growth of the firms subject to the controls (i.e., firms with capital over the upper limit of the control exemption) declined compared with that of the firms exempt from the controls (under the upper limit when the controls started). Conversely, for the high-ranking transport machinery industry, this discontinuity across the upper limit is not observed. These results strongly suggest that the financial controls did indeed affect and alter the funds allocation.

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Figure 1 Change in the resource allocation at the macro level

million yen (1934-36 Price)
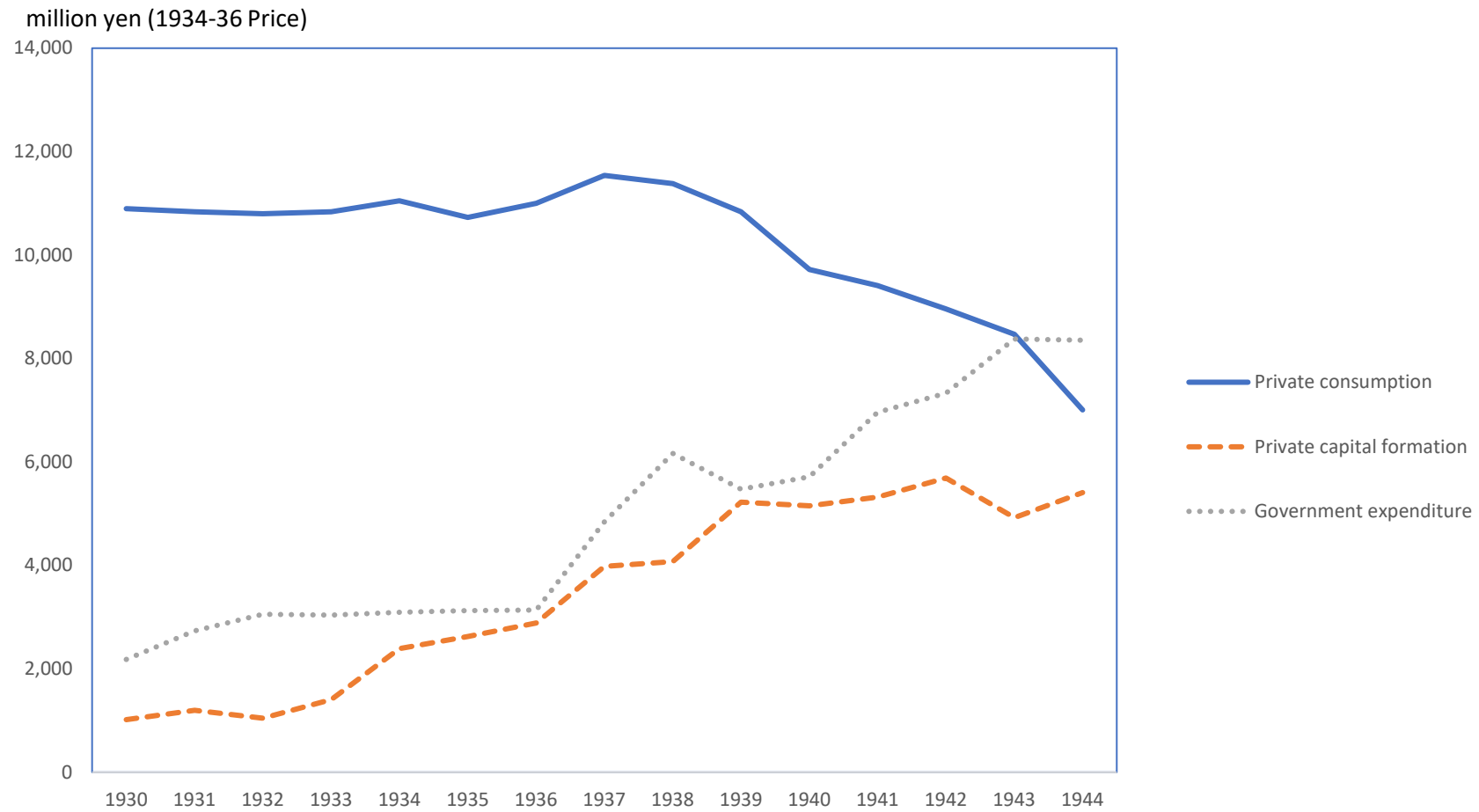
Source: Economic Planning Agency ed., *Kokumin Shotoku Hakusho (Annual Report on National Income)*
1963 issue, Tokyo: Printing Bureau of the Ministry of Finance.

Figure 2 Iinvestment-savings balance by sector (percentage of GNP)

%

- Household
- Corporate
- Government
- Overseas
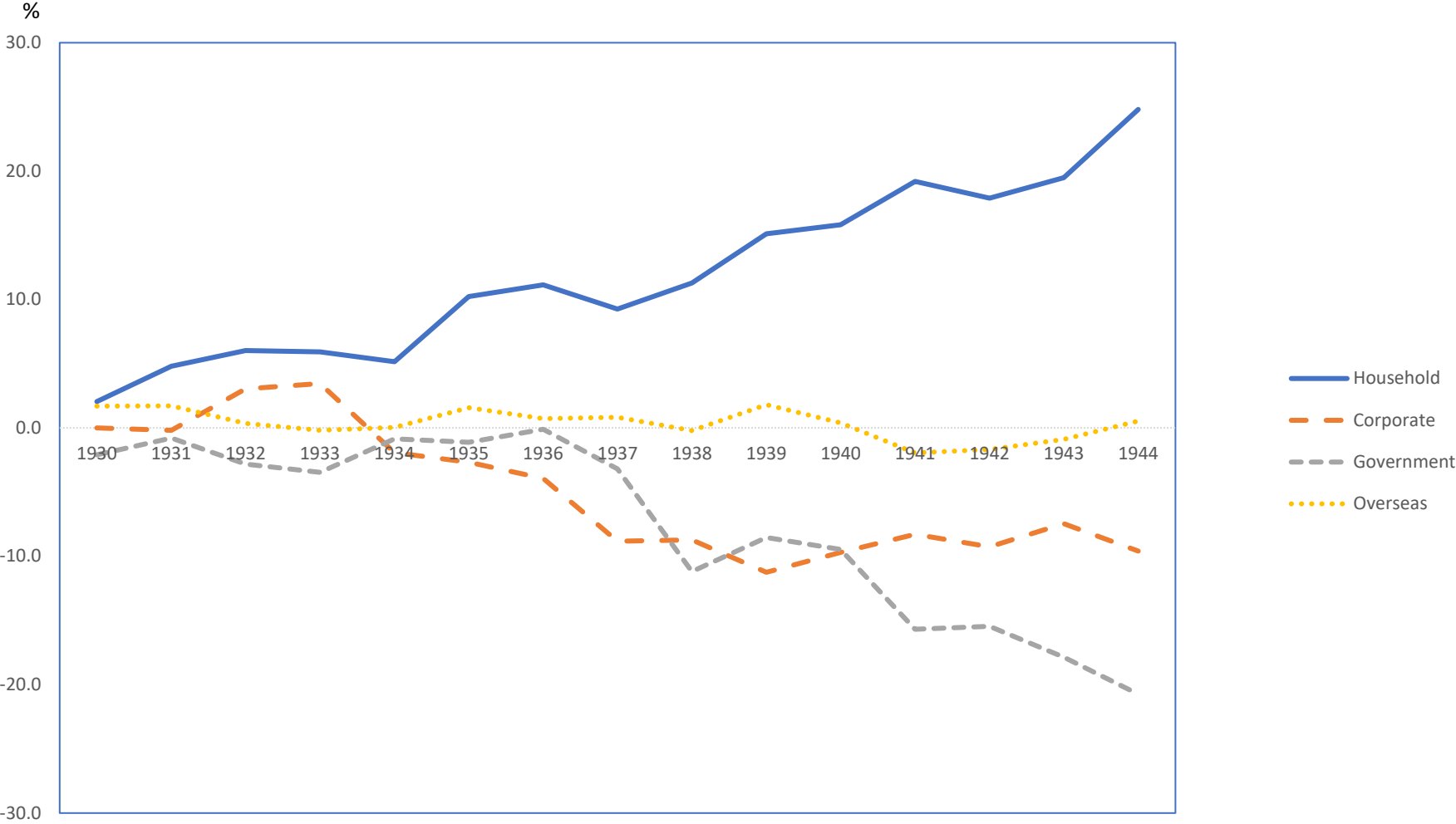
Source: See Figure 1.

Table 1 Percentage of long-term loans by financial institutions by rank

	1937 (September–	1938	1939	1940	1941
Total	100.0	100.0	100.0	100.0	100.0
A1	50.8	60.9	66.5	53.3	69.4
A2	21.0	8.9	3.3	9.0	9.6
B1	19.3	10.7	9.4	2.5	6.1
B2	4.1	9.4	12.1	15.9	10.6
B3	0.6	3.8	1.5	1.9	2.1
C	4.2	6.3	7.2	17.4	2.0

Source; Hara (2013), p.117.

Table 2 Basic statistics I

	Obs.	Mean	St.dev.	Min.	Max.
GPCAPITAL	2,214	0.045	0.112	−1.609	0.916
LNCAPITALt−1	2,214	9.303	1.412	5.992	13.122
GBORROW	907	0.058	0.574	−3.964	3.676
LNBORROW$_{t-1}$	907	7.603	1.712	1.792	11.936

Table 3 Estimation of the impact of financial coutrol on rank C industries

	(1) GPCAITAL			(2) GPCAITAL			(3) GBORROW			(4) GBORROW		
Dependent variable												
RANK_C × 1936_1	−0.0129	(0.0138)		−0.0109	(0.0138)		−0.0104 (0.1386)			−0.0104	(0.1380)	
RANK_C × 1936_2	−0.0413	(0.0129)	***	−0.0367	(0.0126)	***	0.1663 (0.1256)			0.1621	(0.1261)	
RANK_C × 1937_1	−0.0073	(0.0238)		−0.0183	(0.0181)		−0.0188 (0.1211)			−0.0299	(0.1184)	
RANK_C × 1937_2	−0.0180	(0.0204)		−0.0139	(0.0203)		0.0770 (0.1178)			0.0823	(0.1150)	
RANK_C × 1938_1	−0.0460	(0.0123)	***	−0.0393	(0.0122)	***	0.0305 (0.1141)			0.0419	(0.1170)	
RANK_C × 1938_2	−0.0834	(0.0161)	***	−0.0756	(0.0155)	***	−0.1775 (0.1098)			−0.1558	(0.1090)	
RANK_C × 1939_1	−0.0291	(0.0104)	***	−0.0216	(0.0102)	**	0.1997 (0.1186)			0.2122	(0.1198)	
RANK_C × 1939_2	−0.0390	(0.0109)	***	−0.0330	(0.0109)	***	−0.1307 (0.1503)			−0.1202	(0.1522)	
RANK_C × 1940_1	−0.0568	(0.0163)	***	−0.0512	(0.0161)	***	0.1423 (0.1372)			0.1480	(0.1368)	
RANK_C × 1940_2	−0.0527	(0.0118)	***	−0.0493	(0.0119)	***	−0.3084 (0.1193)	***		−0.3049	(0.1238)	**
RANK_C × 1941_1	−0.0401	(0.1012)	***	−0.0360	(0.0104)	***	−0.2354 (0.1264)	*		−0.2374	(0.1266)	*
RANK_C × 1941_2	−0.0150	(0.0138)		−0.0145	(0.0137)		−0.1954 (0.0678)	***		−0.2102	(0.0710)	***
LNPCAPITAL$_{t−1}$				−0.0012	(0.0020)							
LNBORROW$_{t−1}$										−0.0369	(0.011)	***
ROE$_{t−1}$				0.3162	(0.0102)	***				0.1140	(0.0598)	*
Const.	0.0415	(0.0096)	***	0.0188	(0.0218)		−0.1717 (0.0893)			0.0912	(0.1180)	
Half year FE	Yes			Yes			Yes			Yes		
R^2	0.053			0.176			0.051			0.064		
F	5.77			54.63			3.53			3.93		
Number of obs.	2,214			2,214			907			907		

Note: Standard errors clustered at the firm-level are in prentheses.
   *** Statistically significant at 1% level.
   ** Statistically significant at 5% level.
   * Statistically significant at 10% level.

Table 4 Basic statistics II

A. Real estate

	Obs.	Mean	St.dev.	Min.	Max.
GCAPITAL	941	0.0168	0.1087	0	1.3860
LARGE_FIRM	941	0.4623	0.4988	0	1
LARGE_FIRM2	941	0.6472	0.4781	0	1
LARGE_FIRM × CONTROL	941	0.2752	0.4469	0	1
LARGE_FIRM2 × CONTROL	941	0.3911	0.4883	0	1

B. Transport machinery

	Obs.	Mean	St.dev.	Min.	Max.
GCAPITAL	259	0.1129	0.2905	0	1.5041
LARGE_FIRM	259	0.4865	0.5008	0	1
LARGE_FIRM2	259	0.6873	0.4645	0	1
LARGE_FIRM × CONTROL	259	0.3051	0.4613	0	1
LARGE_FIRM2 × CONTROL	259	0.4208	0.4947	0	1

Table 5 Estimation of discontinuity in the empact of financial control by the threshold of firm size and by industry

A. Real estate (Rank C)

Dependent variable: GCAPITA	(1)		(2)	
LARGE_FIRM	0.0228	0.0155		
LARGE_FIRM × CONTROL	−0.0327	0.0164 **		
LARGE_FIRM2			0.0274	0.0128 **
LARGE_FIRM2 × CONTROL			−0.0282	0.1284 **
Const.	0.0221	0.0115 *	0.0155	0.0114
Year FE	Yes		Yes	
R^2	0.016		0.016	
F	3.51		3.70	
Number of obs.	941		941	

B. Transport machinery (Rank A)

Dependent variable: GCAPITA	(3)		(4)	
LARGE_FIRM	0.0504	0.0515		
LARGE_FIRM × CONTROL	0.0655	0.0648		
LARGE_FIRM2			0.1355	0.4737 **
LARGE_FIRM2 × CONTROL			−0.0177	0.0624
Const.	0.1157	0.0562	0.0481	0.0313
Year FE	Yes		Yes	
R^2	0.040		0.053	
F	2.59		3.30	
Number of obs.	259		259	

Note: Standard errors clustered at the firm-level are in prentheses.
    ** Statistically significant at 5% level.
    *   Statistically significant at 10% level.