



What caused the downward trend in Japan's labor share?☆

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ABSTRACT

Measuring the labor share is not an easy task. Labor share movements often vary depending on both their definition and the measurement scope. This study estimates the labor share in Japan based on two representative government statistical sources—the National Accounts and the “Financial Statements Statistics of Corporations by Industry”—with their differences in coverage and accounting standards corrected. We confirmed a clear downward trend in Japan's labor share since the 1990s, both in the total Japanese economy and in the corporate sector. The driving force behind the labor share decline is the significant decrease in the income of the self-employed (mixed income) and in the salaries and bonuses awarded to executives who are owners of small- and medium-sized enterprises (SMEs). This decrease is attributed to the decline in the number of self-employed individuals and SMEs. By contrast, salaries and bonuses to employees hardly contributed to the decline. These findings suggest that the straightforward narrative that—technological progress, globalization such as the transfer of production overseas, and the expansion of non-regular employment have reduced labor income to employees, thus resulting in a lower labor share—does not directly apply to the Japanese economy. Understanding the mechanism of the decline in Japan's labor share requires identifying the causes and effects of the decline in the numbers of self-employed individuals and SMEs.

1. Introduction

Labor share is an important concept to policymakers and economists. It refers to the ratio of labor compensation to GDP expressed in labor share levels, and the changes to the level relate to the degree of income inequality (OECD, 2012; IMF, 2017). It is considered that recent changes in the economic structure, such as information and communication technology (ICT), transfer of production overseas, and expansion of non-regular employment, have led to a decline in the labor share. In the Japanese economy, Tanaka et al. (2018) and the Cabinet Office (2018) show that the decline in capital goods prices due to ICT, transfer of production overseas, and expansion of non-regular employment have contributed to labor share declines in corporations. Haneda et al. (2021) note that the introduction of industrial robots and the expansion of non-regular employment have also contributed to this decline. However, the increasing globalization, as manifested in offshoring, and competition with imported goods have not had a clear impact on labor share. Fukao and Perugini (2021) show that the increase in non-information

technology (non-IT) capital has caused a decrease in labor share across all industries, while in some industries, IT capital emerged as complementary to labor. The impact of the increase in ICT capital and globalization on the volume of employment, working hours, wages, and productivity varies (Lee et al., 2020; Endoh, 2021; Hayakawa et al., 2021). Hence, it is not easy to quantify this impact on labor share.¹

However, measuring labor share is not an easy task. As the IMF (2017), the OECD (2018), and Grossman and Oberfield (2022) emphasize, there is wide variation in labor share movements across countries. Labor share movements often vary depending on both their definition and the measurement scope. In measuring the labor share, it is necessary to overcome various measurement difficulties. Grossman and Oberfield (2022) identify five difficulties in measuring labor share: the choice of the denominator of the labor share (gross value added vs. net value added), treatment of intellectual property, treatment of self-employed income, treatment of owner-occupied housing, and treatment of factorless income. This study will focus on the treatment of self-employed income as this treatment has the greatest impact.

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¹ In addition, labor supply factors are more important than labor demand factors in terms of the increase in non-regular employment, and the impact of these factors is complex (Teruyama et al., 2018; Esteban-Pretelet and Fujimoto, 2020; Kohara and Maity, 2021).

Many early researchers equated labor income with employee compensation, thereby excluding self-employed income entirely and implicitly treating it as a return to capital (Gollin, 2002). However, the trend of the labor share from the compensation of employees employed by enterprises (payroll labor share) has not been declining in various countries. A decline in the number of self-employed individuals affects the labor share trend by increasing the number of employees employed by enterprises. According to Kambayashi (2017), the proportion of self-employed individuals in Japan in the 1980 s was at a high level compared with other developed countries. However, it has been consistently declining since then. The extent of this decline is the largest among developed countries.² For this reason, recent studies have made various adjustments to the treatment of self-employed income when measuring labor share.

The first adjustment is to estimate the labor income of the self-employed and add it to the compensation of employees. In the National Accounts, self-employed income is measured as mixed income, which includes the labor income of the self-employed plus the capital income—the compensation for the capital provided by the self-employed. Many studies (Elsby et al., 2013; IMF, 2017; OECD, 2018) estimated self-employed income by assuming that the hourly wage of the self-employed is equal to the hourly wage of employees. However, the appropriateness of the estimated self-employed labor income is open to question. The labor share estimated while adjusting for self-employed labor income has been trending downward since the mid-1990 s through to the early 2010 s in Japan, the United States, and Germany. In the IMF's (2017) estimation, the self-employed labor income exceeds the mixed income in the National Accounts in four countries (Japan, Germany, the United Kingdom, and France). This means that capital income from the self-employed (mixed income minus self-employed labor income) is continuously negative. Self-employed labor income is therefore overestimated, possibly distorting the labor share trend adjusted with employed labor income.

The second adjustment is to limit the labor share measurement scope to the corporate sector, rather than to the total economy of a country. This allows the exclusion of labor income from the self-employed, which is difficult to estimate (Karabarbounis and Neiman, 2014; Barkai, 2020). In a notable study, Karabarbounis and Neiman (2014) calculated the labor share of the corporate sector (non-financial corporations) using data from the sectoral accounts of the National Accounts Statistics of various countries and found a downward trend in 42 of 59 countries.

However, two problems must be resolved when using the labor share of the corporate sector for Japan. First, it is not possible to calculate the labor share of the corporate sector because sectoral accounts are not published in Japan's National Accounts. Many studies in Japan have instead used the labor share calculated from the Ministry of Finance's "Financial Statements Statistics of Corporations by Industry" (hereinafter, "Financial Statements Statistics of Corporations"), from the Ministry of Economy, Trade and Industry's "Basic Survey of Japanese Business Structure and Activities," or from individual enterprises' financial data. These data show a downward trend in labor share in non-financial corporations since the mid-1990 s. However, none of the data covers the whole corporate sector. The "Basic Survey of Japanese Business Structure and Activities" is limited to large- and medium-sized firms, whereas the financial data on individual enterprises are limited to those of large listed firms. Additionally, the "Financial Statements Statistics of Corporations" excludes medical corporations and other companies that are not corporations. Furthermore, the corporate accounting standards used in the statistical data differ from those used in the National Accounts in how intellectual property such as R&D investment and software is treated. This affects the value added—the denominator

² Genda and Kambayashi (2002) show that the decline in the income of self-employed individuals relative to employees made it difficult for the self-employed to continue in business.

of the labor share. Therefore, it is necessary to verify whether a downward trend can be found based on the National Accounts.

The second issue is the impact of the tax system on labor and capital income. In small- and medium-sized enterprises (SMEs), management and capital ownership are not separated. Therefore, the decision of whether executives receive remuneration as labor income, such as salaries and bonuses, or as capital income, such as dividends, depends on the corporate tax rate on enterprise profits and the income tax rates on individual executives. Given that executive remunerations account for a significant share of value added in SMEs, the tax system can have a considerable impact on the labor share.

In the United States, since the 1986 tax reform was implemented, the income tax rate has been lower than the corporate tax rate. There has been a widespread trend among small corporations with a high labor share to avoid corporate taxation by changing their business form (reincorporating) into partnerships, whose incomes are classified as self-employed income with respect to taxation. In addition, the pass-through tax system available to small enterprises exempts capital income from corporate taxation, leaving only income taxation on individual executives. Both reduce the labor income of corporations and push down the labor share, and according to Smith et al. (2022), the tax-induced impact accounts for one-third of the decline in the labor share of the corporate sector from 1978 to 2017.

In Japan, however, it is advantageous for corporate enterprises to remunerate executives through labor income to save on taxes. Salaries paid to executives, including bonuses, can be recorded as expenses, thus avoiding corporate taxation. Payroll deductions can be applied to the personal income tax of executives, thus keeping their income tax burden low. SMEs, where management and capital ownership are not separated, occupy a large share of the corporate sector. The superiority of labor income over capital income in executive remuneration may boost the labor share of corporations. This effect may be further magnified by the fact that tax benefits for self-employed income were greatly reduced in the late 1980 s and early 1990 s, thus increasing the tax advantage of corporate enterprises.

In this study, we analyze developments in the labor share in Japan from 1994 to 2019 based on two representative statistics—the National Accounts and the "Financial Statements Statistics of Corporations"—with their differences in coverage and accounting standards corrected. In particular, we focus on the impact of the labor income of the self-employed and SME executives on the labor share in the total economy and in non-financial corporations. The analysis results are summarized below.

First, in Japan, we confirmed a clear downward trend in the total economy labor share when it includes the compensation of enterprise employees as well as mixed income assumed to be self-employed income from labor. Although the labor share from employee compensation has remained unchanged, the labor share when considering mixed income has a clear downward trend. The rapid decline in self-employed income has significantly impacted the downward trend of the labor share in Japan.

Second, we also confirmed a clear downward trend in labor shares in non-financial corporations based on both the National Accounts and the "Financial Statements Statistics of Corporations." By firm size, the downward trend of the labor share is larger for SMEs than for large enterprises. By type of labor income, the decline in salaries and bonuses to executives has greatly contributed to the decline in the labor share. By contrast, employee salaries and bonuses hardly contributed to the decline in labor share. In SMEs where management and capital ownership are not separated, it is advantageous under the current tax system to remunerate executives in terms of labor income such as salaries and bonuses, rather than capital income such as dividends. SME executives account for a large share of labor costs in the Japanese corporate sector; this makes a significant reduction in salaries and bonuses for SME executives the main driver of the decline in the labor share. Tax incentives play a role in amplifying the impact of the decline of SMEs on the labor

share.

Simultaneously, we note the following regarding the statistics on the labor share. First, in Japan, it is reasonable to consider mixed income as self-employed income from labor. Following previous studies, if the labor income of the self-employed is estimated assuming that the relevant hourly wage equals that of the employed, it will be overstated and substantially exceed the mixed income in Japan. This is unrealistic, as it implies that self-employed capital income is substantially negative. The

$$(\text{labor share with mixed income}) = \frac{(\text{compensation of employees}) + (\text{mixed income})}{\text{GDP}}$$

second point is that the labor share based on the National Accounts is consistent with that calculated from the “Financial Statements Statistics of Corporations.” The difference in the slope and level of the declining trend in the labor share between the two statistics can be explained to a certain extent by differences in the accounting standards applied and the coverage of the statistics.

The remainder of this paper is organized as follows. In Section 2, we explain the data and methodology for estimating the labor share. In Section 3, we analyze the labor share developments in the total economy based on the National Accounts Statistics. In Section 4, we compare the labor share in non-financial corporations based on the National Accounts Statistics with that based on the “Financial Statements Statistics of Corporations.” In Section 5, we examine the labor share by firm size and by type of labor income using the “Financial Statements Statistics of Corporations” to analyze the factors that cause the difference between large and small enterprises. In Section 6, we present our conclusions and the remaining issues.

2. Data and methodology for estimating the labor share

2.1. Empirical framework

In this study, we estimate the labor shares as follows.

First, we use the “National Accounts” to calculate the labor share for the total economy of a country. Specifically, we calculate the labor share from the enterprise employee compensation (payroll labor share) and the labor share from both the enterprise employee compensation plus self-employed mixed income (labor share with mixed income).

Second, we estimate the labor share of the non-financial corporate sector, which is not published in Japan’s National Accounts. Specifically, this estimation is made by using data from the National Accounts and those from the Tax Statistics. We estimate the sectoral accounts based on the National Accounts and use the results to calculate the labor share of the non-financial corporate sector.

Third, we calculate the labor share in the non-financial corporate sector using the “Financial Statements Statistics of Corporations,” which has the widest coverage among the corporate statistics. The statistics enable us to analyze the labor shares by firm size and by type of labor income such as salaries and bonuses to employees, salaries and bonuses to executives, and welfare expenses, which are not available from the National Accounts Statistics.

2.2. How to estimate the labor share in the total economy based on the National Accounts Statistics

We use data from Japan’s National Accounts Statistics “Annual Report on National Accounts for 2019” published by the Cabinet Office

to calculate the payroll labor share and the labor share with mixed income, which includes the income of the self-employed, in the country’s total economy.³

$$(\text{payroll labor share}) = \frac{(\text{compensation of employees})}{\text{GDP}}$$

Henceforth, unless otherwise noted, mixed income means mixed income (net). Mixed income (net) is defined as mixed income (gross) minus the consumption of fixed capital. For the total economy, we use GDP on the production side, compensation of employees, and mixed income (net). The analysis period is 26 years, from 1994 to 2019, the period for which 2008 SNA data are available in Japan. Data in and after 2020 were omitted to exclude the impact of the COVID-19 pandemic. Data are on an annual (calendar year) basis. GDP excludes taxes levied on production and imports such as value-added taxes and adds subsidies because they are neither attributable to labor income nor capital income.

2.3. How to estimate the labor share in non-financial corporations based on the National Accounts Statistics

We intended to estimate the labor share in non-financial corporations. However, Japan’s National Accounts statistics “Annual Report on National Accounts for 2019” do not provide complete data on the compensation of employees and GDP for the different sectors, which are necessary to calculate the labor share (compensation of employees / GDP). The total economy consists of five sectors: non-financial corporations, financial corporations, general government, households, and private nonprofit institutions serving households (hereinafter abbreviated as NPISH). Specifically, data are available for only three sectors: financial corporations, general government, and NPISH. Instead, the data are provided for market producers where three sectors—non-financial corporations, financial corporations, and households—are combined.

We estimate data on the compensation of employees and GDP for non-financial corporations as follows.⁴

(i) Compensation of employees in non-financial corporations

The compensation of employees for non-financial corporations is calculated by subtracting the respective values of households and financial corporations from the corresponding values of market producers. The compensation of employees for financial corporations is available, but the compensation of employees hired by households (the self-employed) is not available from Japan’s National Accounts statistics.

In this analysis, as estimates of the compensation of employees for households, we use data on the total salaries paid by the self-employed to their employees from the tax statistics called “Statistical Survey of Actual Status for Salaries in the Private Sector” conducted by the National Tax Agency.

(ii) GDP in non-financial corporations

The GDP based on basic prices for non-financial corporations is

³ See Appendix A for the detailed data on Japan’s National Accounts.

⁴ See Appendix A for the detailed data on Japan’s National Accounts.

calculated as follows:

$$(GDP) = (\text{compensation of employees}) + (\text{operating surplus} <\text{net}>) + (\text{consumption of fixed capital}).$$

The data on both operating surplus <net> and consumption of fixed capital for non-financial corporations are obtained from Japan's National Accounts statistics.

For comparison with Japan, the same analysis for the labor share in the total economy and non-financial corporations is conducted for the United States, which has a clear downward trend.⁵

2.4. How to estimate the labor share in non-financial corporations based on the "Financial Statements Statistics of Corporations"

2.4.1. Statistics, period, and industry coverage for analysis

We use the Annual Survey of the "Financial Statements Statistics of Corporations" to calculate the labor share in non-financial corporations because the Annual Survey covers smaller firms with capital of less than 10 million yen, and they are not included in the Quarterly Survey. The data cover all industries except for finance and insurance. In addition, pure holding companies are excluded because their net operating income is not counted as GDP. Most of their income comes from dividends and interest from their subsidiaries, which are treated as property income in the National Accounts.

We analyze the labor share for four different firm sizes (capitalization classes): large firms with more than 1 billion yen in capital, medium-sized firms with 100 million yen to 1 billion yen, small and medium-sized firms with 10 million yen to 100 million yen, and smaller firms with less than 10 million yen. Data are on an annual (fiscal year) basis. The period is 30 years, from 1990 to 2019. This period is selected to capture the impact of the "incorporation" of the self-employed since around 1990.

2.4.2. How to calculate the labor share

The labor share is calculated as personnel expenses/value added. Personnel expenses and value added are defined such that these concepts are similar to employee compensation and GDP, respectively, as calculated in the National Accounts. Personnel expenses are the sum of executive salaries and bonuses, employee salaries and bonuses, and welfare expenses. Welfare expenses include the employer's burden of social insurance premiums as well as retirement benefits and other personnel expenses other than salaries. We analyze the labor share by dividing it into salaries and bonuses to executives, salaries and bonuses to employees, and welfare expenses.

Value added is calculated as the sum of personnel expenses, net operating income, interest expenses, and rental or leasing expenses for fixed and liquid assets, in line with the definition in the "Financial Statements Statistics of Corporations." In addition, depreciation expenses are added to bring the definition of value added in line with GDP. Moreover, we do not include taxes and public charges, such as value-added tax and property tax, to be consistent with the calculation of GDP.

3. Labor share developments in the total economy based on the National Accounts Statistics

3.1. Payroll labor share

The payroll labor share and the labor share with mixed income for the total economy were estimated using the method in Sections 2–2.

⁵ We use the National Accounts data "National Accounts, Annual National Accounts, 14 A. Non-financial Accounts by Sector" on OECD.Stat. However, mixed income (net) is not included at OECD.Stat. We obtain the data directly from the websites of the national statistical agencies. See Appendix B for detailed data on mixed income (net).

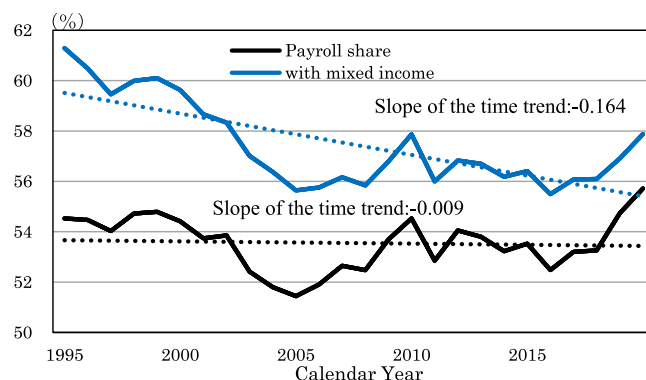


Fig. 1. Payroll labor share and labor share with mixed income in Japan's total economy.

Source: National Accounts Statistics. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

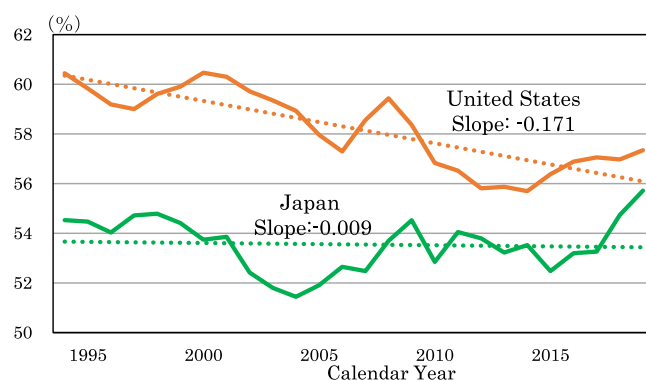


Fig. 2. Payroll labor share: Comparison with the United States.

Source: National Accounts Statistics, OECD.Stat. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

Looking at the payroll labor share in Japan's total economy, the share declined between 1998 and 2004 but has since rebounded and remained unchanged over the entire study period (see Fig. 1). The slope of the time trend line between 1994 and 2019 is -0.009 (a decline of 0.009% per year). No downward trend is observed in Japan's payroll labor share over the selected period. Looking at the United States (Fig. 2), the country has a clear decline in the slope of the time trend (a decline of

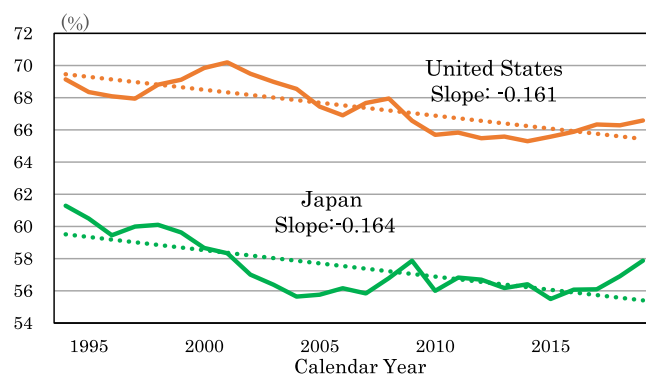


Fig. 3. Labor share with mixed income: Comparisons with the United States. Source: National Accounts Statistics, OECD.Stat. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

-0.171). Significant differences exist in the trend of the payroll labor share between Japan and the United States.

3.2. Labor share with mixed income

Subsequently, looking at the labor share with mixed income, for the total economy, the slope of the time trend between 1994 and 2019 is -0.164 (a decline of 0.164% per year). This represents a clear downward trend, which is due to the decrease in mixed income (Fig. 1). Looking at the United States, the trend slope of the labor share with mixed income is -0.161 (Fig. 3). There is little difference in the declining trend of the labor share between Japan and the United States.

The percentage of mixed income in Japan's GDP was just under 7% in 1994, slightly lower than that in the United States. However, it has since declined rapidly to 2% by 2019 (Fig. 4). This percentage is extremely low compared with that of the United States, which has stayed at approximately 9%.

In the total Japanese economy, the labor share with mixed income has been on a clear downward trend, largely owing to the rapid decline in the income of self-employed individuals. Therefore, it is essential to consider the causes of this rapid decline to understand the factors behind the decrease in the labor share in Japan.

3.3. Can mixed income be considered labor income from the self-employed?

In Sections 3-2, the labor share is calculated by considering all mixed income as labor income. However, mixed income may include capital income, which is capital remuneration provided by the self-employed. Therefore, following previous studies, we estimate the self-employed labor income by assuming that the hourly wage of the self-employed is equal to the hourly wage of the employees in the respective industry. Following this approach, we calculate the labor share adjusted with self-employed labor income.

$$\text{(labor share adjusted with self-employed labor income)} = \frac{\text{(compensation of employees)} + \text{(self-employed labor income)}}{\text{GDP}}$$

where (self-employed labor income)

$$= \sum_i \frac{L_i^s H_i^s}{L_i^p H_i^p} (\text{compensation of employees in industry } i).$$

L_i^s is the total number of self-employed individuals in industry i ; H_i^s is the average number of hours worked per self-employed individual in industry i ; L_i^p is the total number of employees in industry i , and H_i^p is the average number of hours worked per employee in industry i . Data

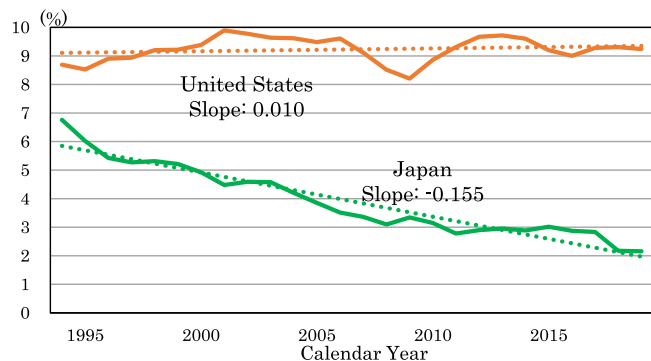


Fig. 4. Mixed income to GDP ratio: Comparisons with the United States. Source: National Accounts Statistics, OECD.Stat. Note: The slope of the time trend is estimated between 1994 and 2019.

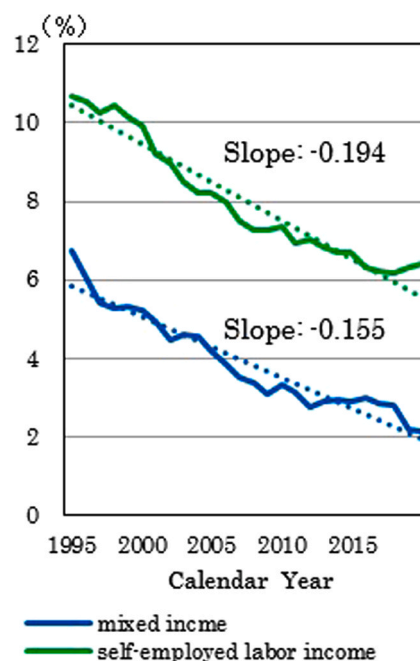


Fig. 5. Self-employed labor income. Source: National Accounts Statistics. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

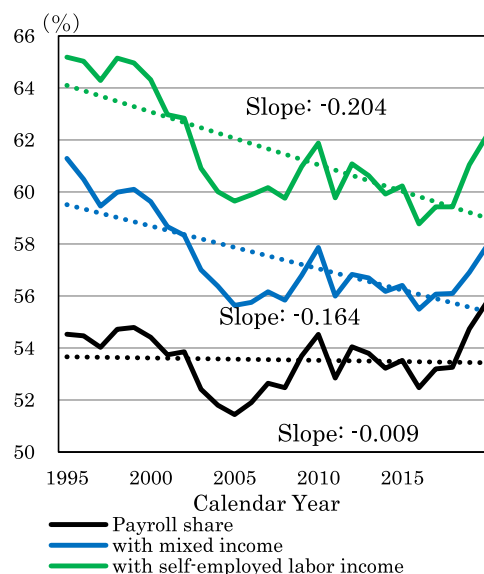


Fig. 6. Labor share adjusted with self-employed labor income. Source: National Accounts Statistics. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

are obtained from Japan's National Accounts Statistics "Annual Report on National Accounts for 2019" and "Reference series for the number of hours worked by employed persons."

In 1994, the ratio of estimated self-employed labor income to GDP was 11% and then declined rapidly to 6% in 2019 (Fig. 5), approximately 4% points higher than the ratio of mixed income to GDP over the period. Hence, labor share adjusted by self-employed labor income is approximately 4% points higher than labor share with mixed income (Fig. 6). The slope of the downward trend of labor share adjusted with self-employed labor income is -0.204, which is larger than the slope of

labor share with mixed income.

If we assume that the self-employed labor income estimate is the correct value of labor income, then self-employed capital income would have continued to have a large negative income-to-GDP ratio of -4% (around 20 trillion yen). This is not a realistic assumption. Moreover, when converting mixed income into income per self-employed person per hour, it was recently reported at approximately 800–1000 yen per hour. This is almost the same level as the minimum wage. In Japan, it is reasonable to assume that the mixed income of the self-employed is almost equivalent to labor income, that is, capital income is close to zero.

4. Labor share in non-financial corporations based on the National Accounts Statistics and the “Financial Statements Statistics of Corporations”

4.1. Labor share based on the National Accounts Statistics

We calculate the labor share in non-financial corporations based on the National Accounts Statistics as estimated using the method in Sections 2–3. In Japan, the labor share in non-financial corporations declined from 1998 to 2004 and has since rebounded slightly, but the extent of the rebound has been small. A clear downward trend has been observed over the entire study period (see Fig. 7). The slope of the time trend line between 1994 and 2019 is -0.092 (a decline of 0.092% per year). The slope is greater than the slope of the payroll labor share for the total economy (-0.009), but less than the slope of the labor share with mixed income (-0.164).

Comparing this result with that for the United States, the United States has a large trend slope of -0.275 , indicating a clear downward trend. In Japan, the trend slope is smaller in magnitude than that observed for the United States (Fig. 8). According to Smith et al. (2022), in the United States, the tax-induced impact, such as reincorporation and pass-through taxation, accounts for one-third of the decline in the labor share of the corporate sector from 1978 to 2017. Even after excluding these tax-induced effects, the declining labor share trend is likely to be more gradual in Japan than in the United States.

4.2. Consistency between the payroll labor share in the total economy and the labor share in non-financial corporations

As shown in Fig. 7, a large discrepancy exists between the payroll labor share in the total economy and the labor share in non-financial corporations in terms of the level and slope of the time trend. The

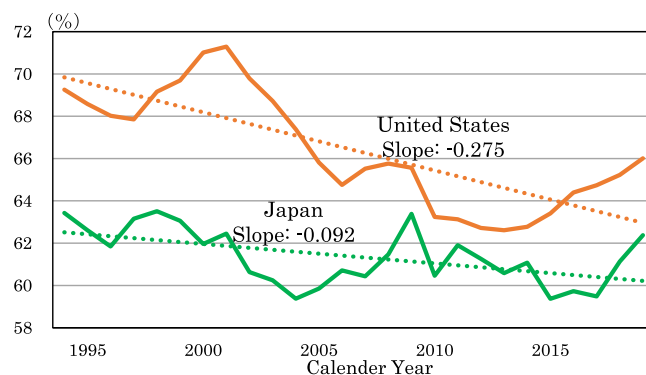


Fig. 8. Labor share in non-financial corporations: Comparisons with the United States.

Source: Author’s estimation and OECD.Stat. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

total economy consists of five sectors: non-financial corporations, financial corporations, general government, households, and NPISH. Households can be further divided into two subsectors: the self-employed and imputed rents of owner-occupied dwellings. We calculate the labor share in the total economy excluding the self-employed and that in the total economy excluding the self-employed and imputed rent of owner-occupied dwellings (Fig. 9). When the self-employed are excluded from the total economy, the downward trend slope of the labor share (-0.113) is larger, and much closer to that of the labor share in non-financial corporations (-0.092).

This result indicates that whether the self-employed is included in the calculation of the labor share has a significant impact on the slope of the trend of the labor share. Furthermore, when the imputed rent of owner-occupied dwellings with zero labor share, in addition to the self-employed, is excluded from the total economy, the labor share shifts upward and becomes almost equal to the level of the labor share in non-financial corporations. This result indicates that the self-employed and imputed rent of owner-occupied dwellings, which constitute households, are the major factors contributing to the large discrepancy between the payroll labor share in the total economy and the labor share in non-financial corporations.

We further examine the reasons for the discrepancy in the slope of the trend between the payroll labor share in the total economy and the labor share in non-financial corporations. This is because the GDP share of non-financial corporations with a high labor share has increased and

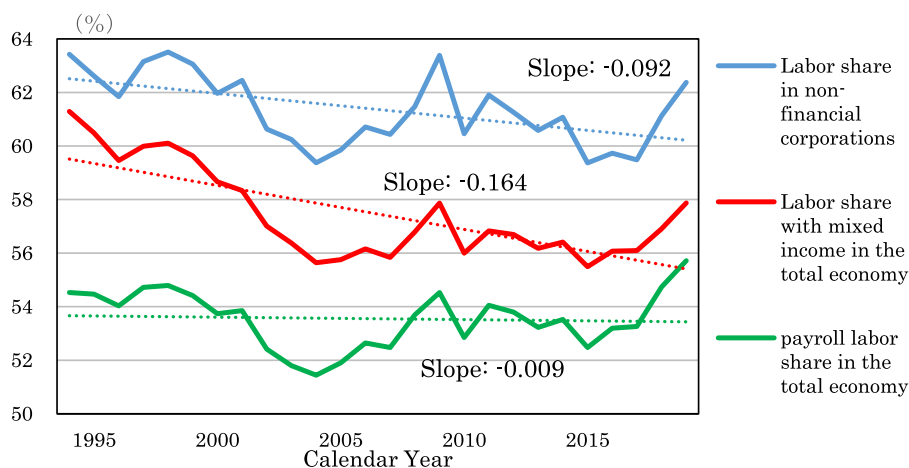


Fig. 7. Labor share in non-financial corporations based on the National Accounts: Comparison with the labor shares in the total economy.

Source: Author’s estimation and National Accounts Statistics. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

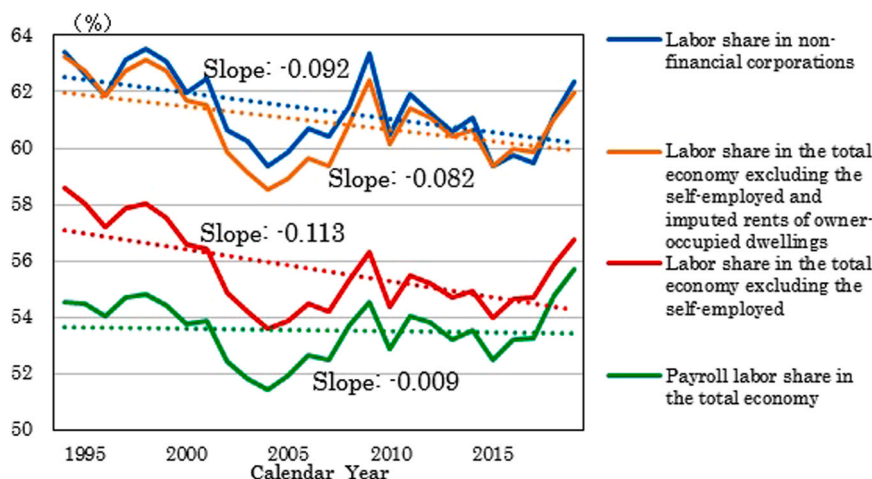


Fig. 9. Labor share for the total economy excluding the self-employed and for the total economy excluding the self-employed and imputed rent of owner-occupied dwellings. Source: Author’s estimation and National Accounts Statistics. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

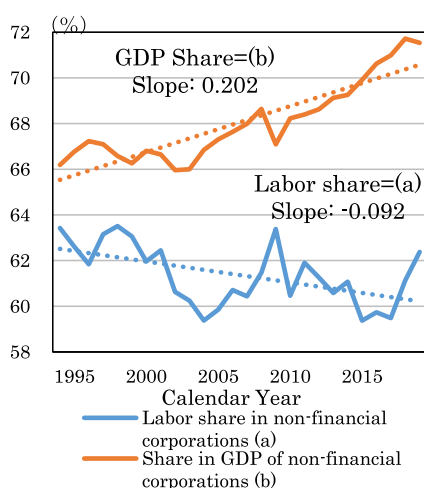


Fig. 10. Labor share and GDP share in non-financial corporations. Author’s estimation and National Accounts Statistics. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

the share of self-employed has greatly decreased during this period. The GDP share of non-financial corporations has increased from 66% in 1994 to 72% in 2019 because the share of self-employed individuals has greatly decreased from 10% in 1994 to 4% in 2019 (Fig. 10). The contribution of non-financial corporations to the payroll labor share in the total economy is calculated as follows.

(Contribution of non-financial corporations to payroll labor share in the total economy <c>) = (Labor share in non-financial corporations <a>) x (GDP share of non-financial corporations).

The results are shown in Fig. 11. The slope of the time trend of the contribution by non-financial corporations is + 0.061, which is a small upward trend. The downward trend in the labor share of non-financial corporations (−0.092) is offset by the increase in the GDP share of non-financial corporations (+0.202). This result confirms that the flat trend of the payroll labor share in the total economy is consistent with the downward trend of the labor share of non-financial corporations.

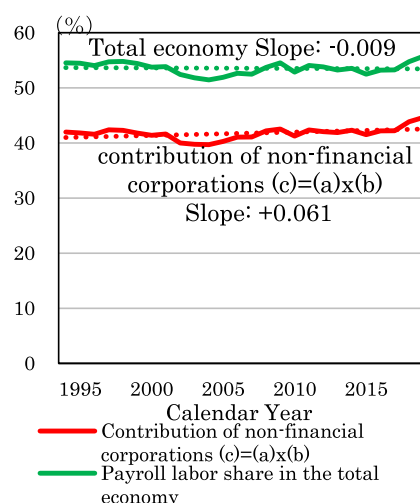


Fig. 11. Payroll labor share in the total economy and contribution of non-financial corporations. Source: Author’s estimation and National Accounts Statistics. Note: GDP excludes taxes on production and imports and includes subsidies. The slope of the time trend is estimated between 1994 and 2019.

4.3. Labor share: based on the “Financial Statements Statistics of Corporations”

Next, we examine the labor share (personnel expenses/value added) in non-financial corporations (all industries excluding finance and insurance industries and pure holding companies) based on the “Financial Statements Statistics of Corporations,” using the method described in Sections 2–4. We find a clear declining trend. The slope of the time trend line between 1994 and 2019 is − 0.183, and the slope of the trend is much larger than that of the labor share in non-financial corporations based on the National Accounts (−0.092; Fig. 12). Comparing the level of the labor share, in 1994, at the beginning of the analysis period, the labor share based on the “Financial Statements Statistics of Corporations” was 5% points higher than that based on the National Accounts. The gap between the two labor share sources gradually narrowed to 2% points by 2019, the end of the analysis period.

As described above, the level of the labor share in the “Financial Statements Statistics of Corporations” is higher than that in the National

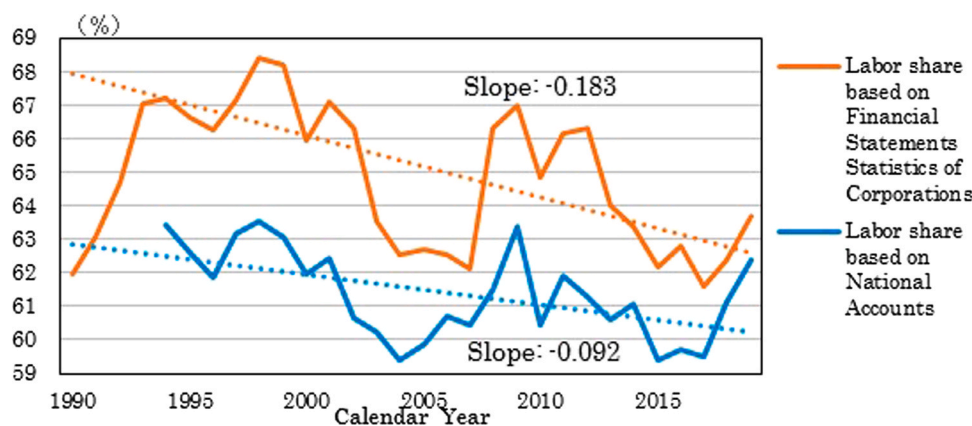


Fig. 12. Labor share in non-financial corporations based on the “Financial Statements Statistics of Corporations”.

Source: Financial Statements Statistics of Corporations by Industry, author’s estimation. Notes: The figure covers all industries except for finance and insurance industries and pure holding companies. The slope of the time trend is estimated between 1994 and 2019.

Accounts. The slope of the declining trend is larger. Meanwhile, the pattern of fluctuations, such as peaks and bottoms, is almost the same.

4.4. Correction for differences in statistical coverage and accounting standard

We examine to what extent the labor share in all industries (excluding finance and insurance industries and pure holding companies) based on the “Financial Statements Statistics of Corporations” mimics the labor share in non-financial corporations based on the “National Accounts.” We focus on the differences in the coverage of the statistics and accounting standards between the two sets as factors for the discrepancy in the labor share between them.

4.4.1. Differences in the coverage of statistics

The “Financial Statements Statistics of Corporations” covers corporations such as stock companies. It does not include private corporations other than companies, such as medical corporations. In the case of public corporations, the survey covers companies such as Nippon Telegraph and Telephone Corporation and expressway companies but does not include local public corporations, or national and local independent administrative agencies. According to the “2016 Economic Census for Business Activities” prepared by the Ministry of Internal Affairs and Communications and the Ministry of Economy, Trade, and Industry, the value added by corporations other than companies in 2015 was 39 trillion yen.⁶ This accounts for 11% of the 344 trillion-yen value added of all industries, excluding finance and insurance industries and pure holding companies. Of this amount, 27 trillion yen, excluding NPISH, is the value added in the corporate sector, of which the medical industry accounts for over 60% or 17 trillion yen. As the medical industry has a higher labor share than other industries, and the growth rate of this industry is high because of the aging population, the bias in the labor share due to the lack of coverage may be significant.

We roughly estimate the labor share when medical corporations are added to the data from the “Financial Statements Statistics of Corporations.” As no large-scale census survey has been conducted for the medical industry in the past, there is insufficient time-series data. Therefore, this estimation assumes that (i) the labor share in 2015 (82.8%), which is obtained from the latest “Economic Census for Business Activities,” remained constant from 1994 to 2019, and (ii) the value added of medical corporations increased at the same rate as that of the

⁶ The value added is calculated according to the Economic Census definition, plus depreciation expenses. This is to make the definition of value added consistent with that of GDP.

added value of the “Health and Social Services” sector described in the National Accounts Statistics. The estimated value added by medical corporations increased by 110% over the study period, from 9.0 trillion yen in 1994 to 18.8 trillion yen in 2019. This is an extremely high growth rate compared with all industries excluding finance and insurance industries and pure holding companies in the “Financial Statements Statistics of Corporations,” which increased only by 5.4% from 300 trillion yen in 1994 to 316.1 trillion yen in 2019.

4.4.2. Differences in accounting standards

Differences have always existed between the accounting standards used in the National Accounts and those in the “Financial Statements Statistics of Corporations.” With the transition of the National Accounts to the 2008 SNA, the gap between the two standards has become even wider, and this has had a significant impact on GDP (value added). With reference to Fujiwara and Ogawa’s (2016) study, we make corrections for the following five major points that have a considerable impact (Table 1).

(i) R&D investment

In the “Financial Statements Statistics of Corporations,” R&D investment is treated as an expense and not as value added. However, it is treated as capital investment and counted as GDP in the “National Accounts.”

(ii) Software investment

In corporate accounting, a portion of software investment is treated as a capital investment and counted as value added, but the rest is treated as an expense, not as value added. The ratio of each portion varies depending on the period (most were treated as an expense before 2000). By contrast, in the National

Table 1

Differences in accounting standards between the National Accounts and the Financial Statements Statistics of Corporations.

	Counted as GDP in the National Accounts	Counted as value added in the Financial Statements Statistics of Corporations
(i) R&D investment	Yes	No
(ii) Software investment	Yes	Partially Yes
(iii) Interest expense (FISIM)	No	Yes
(iv) Inventory valuation adjustments	No	Yes
(v) Corporate enterprise tax	Yes	Yes, but not before 1997

Accounts, all are treated as capital investments and are counted as GDP.

(iii) **Interest expense (FISIM)**

In the “Financial Statements Statistics of Corporations,” interest expense is counted as value added, whereas in the “National Accounts,” it is treated as an intermediate input as Financial Intermediation Services Indirectly Measured (FISIM) and is not counted as GDP.

(iv) **Inventory valuation adjustments**

Valuation gains and losses on inventory items are included in value added in the “Financial Statements Statistics of Corporations,” but these are deducted from GDP as asset price changes in the “National Accounts.”

(v) **Corporate enterprise tax**

The corporate enterprise tax, which is levied on corporate income, is counted as GDP because it is not treated as an intermediate input as it is in the National Accounts. In corporate accounting, the tax is presently counted similarly as it is in the National Accounts. However, before 1997, it was treated as an expense and not counted as value added.

The data for (i) to (iv) are obtained using the National Accounts Statistics “Annual Report on National Accounts for 2019” as follows.

(i) **R&D investment**

We use the value of the research and development by non-financial corporations in the “Gross Fixed Capital Formation of Assets classified by Institutional Sectors and Economic Activities” (at current prices).

(ii) **Software investment**

For the difference between the National Accounts and “Financial Statements Statistics of Corporations,” we use the computer software value of non-financial corporations in the “Gross Fixed Capital Formation of Assets classified by Institutional Sectors and Economic Activities” (at current prices) minus the software investment value of all industries excluding finance and insurance industries and pure holding companies in the “Financial Statements Statistics of Corporations.”

(iii) **Interest expense (FISIM)**

The value of FISIM of non-financial corporations is obtained from the data of non-financial corporations in the “Income and Outlay Accounts classified by Institutional Sectors” using the following equation:

$$\text{(FISIM)} = (\text{Interest payable} <\text{FISIM unadjusted}>) - (\text{Interest payable}) + (\text{Interest receivable} <\text{FISIM unadjusted}>) - (\text{Interest receivable}).$$

To adjust the difference in coverage between the “Financial Statements Statistics of Corporations” and the National Accounts, we multiply this value by the (Interest expense of all industries excluding finance and insurance industries and pure holding companies in the “Financial Statements Statistics of Corporations”) / (Interest, payable <FISIM unadjusted> of non-financial corporations).

(iv) **Inventory valuation adjustments**

We use the value of the “Valuation Adjustment of Inventories of Private Corporations.”

(v) **Corporate enterprise tax.**

The data are obtained from the “Annual Report on Local Public Finance Statistics” prepared by the Ministry of Internal Affairs and Communications.

As a result of the adjustments in (i) through (v), to be consistent with the National Accounts, the value added each year increases from approximately 9.7 trillion to 18.8 trillion yen relative to the value added in the “Financial Statements Statistics of Corporations” (Fig. 13). The corrections of (i), (ii), and (v) show an increase in value added, whereas (iii) shows a decrease in value added, and (iv) shows a varying increase or decrease from year to year. The adjustment of accounting standards to a National Accounts basis will contribute to the decrease in the labor share as a result of the increase in value added.

4.5. Can the labor share based on the “Financial Statements Statistics of Corporations” mimic the labor share based on the National Accounts?

Fig. 14 shows three types of labor share, (a) to (c), based on the “Financial Statements Statistics of Corporations” and the labor share (d) in non-financial corporations based on the “National Accounts.” Item (a) is the baseline labor share of all industries excluding finance and insurance industries and pure holding companies. Item (b) is the labor share corrected for differences in statistical coverage by adding the medical industry to (a). The addition of the medical industry with a high labor share increases the labor share in (b). As the share of the medical industry in corporations has been increasing over time, the increase in the labor share is larger for the more recent period. Consequently, the slope of the trend of the labor share between 1994 and 2019 is reduced

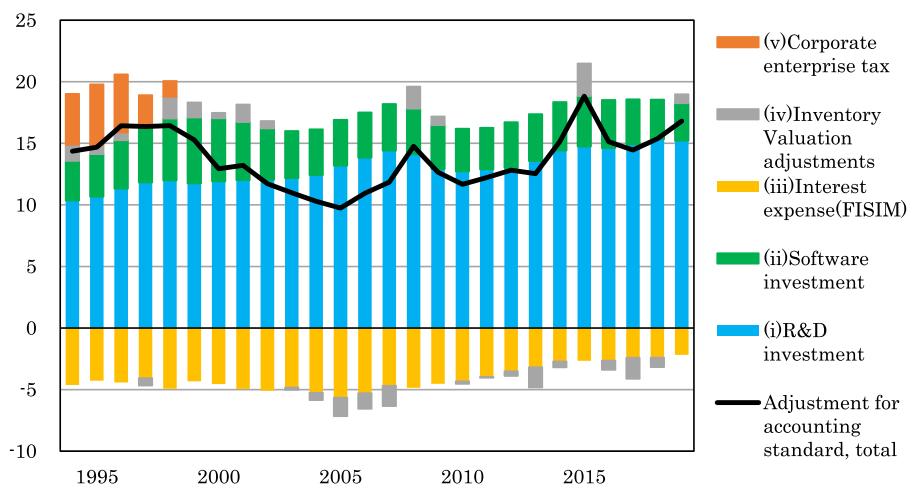


Fig. 13. Increase of the value added in the “Financial Statements Statistics of Corporations” by adjusting for differences in accounting standards to be consistent with the National Accounts (trillion yen).

Source: Author’s estimation based on the “Financial Statements Statistics of Corporations by Industry, National Accounts Statistics.” Note: The values are on a fiscal year basis.

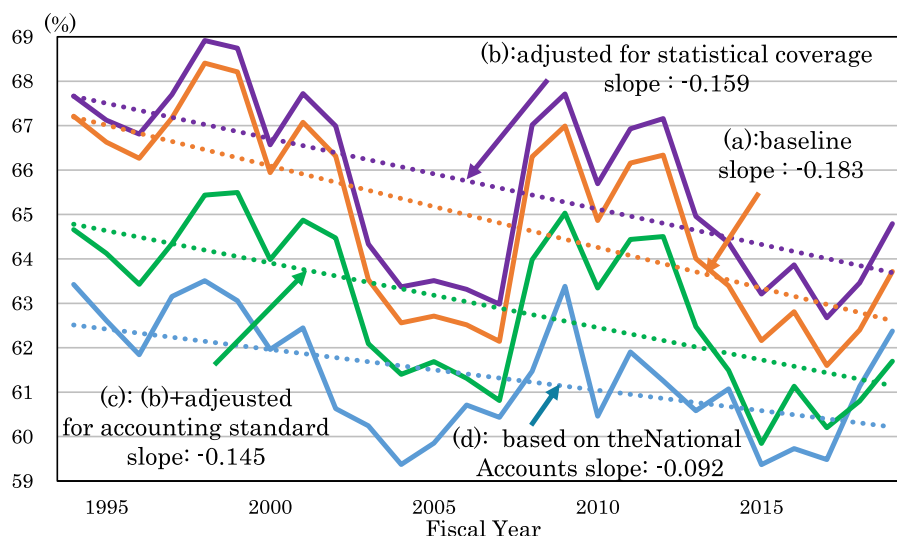


Fig. 14. Labor share in non-financial corporations, adjusted for differences in the coverage and accounting standards. Source: Author’s estimation based on the “Financial Statements Statistics of Corporations by Industry, National Accounts Statistics.” Note: Items (a), (b), and (c) are on a fiscal year basis and (d) is on a calendar year basis.

from -0.183 (a decline of 0.183% per year) in the baseline (a) to -0.159 in (b) after adjusting for the coverage. The remaining entities that have not been corrected for coverage are local public corporations and national and local independent administrative agencies. In these entities, variation in the labor share is considered small; therefore, if we were to add them to (b), the slope of the trend in the labor share would be even smaller than in (b).

Item (c) is the labor share corrected from (b) for the effect of the difference in accounting standards by the adjustments for items (i) to (v) from the “National Accounts.” The level of labor share (c) declines because of the increase in value added, and the gap between labor share (c) and (d) of non-financial corporations in the “National Accounts,” narrows by 1–2% points. In addition, the slope of the time trend between 1994 and 2019 in (c) decreases from -0.159 in (b) to -0.145 . This is because the increase in value added arising from (ii) and (v) is larger in the 1990s than that in the 2000s. However, the slope of trend (c) still has a certain degree of discrepancy with the slope of labor share (d) in

non-financial corporations in the National Accounts, which is -0.092 .

If we correct for the differences in coverage and accounting standards, the level of the labor share and the slope of the trend becomes close to those of the “National Accounts” for non-financial corporations. It is appropriate to consider the labor share of the two statistics to be consistent. However, there is a bias in that the level of the labor share in the “Financial Statements Statistics of Corporations” is somewhat higher than that in the National Accounts, and the slope of the downward trend is larger. When using the labor share in the “Financial Statements Statistics of Corporations,” it is appropriate to keep in mind that the level of the labor share will be lower, and the slope of the downward trend will be smaller if it is replaced by the labor share based on the National Accounts.

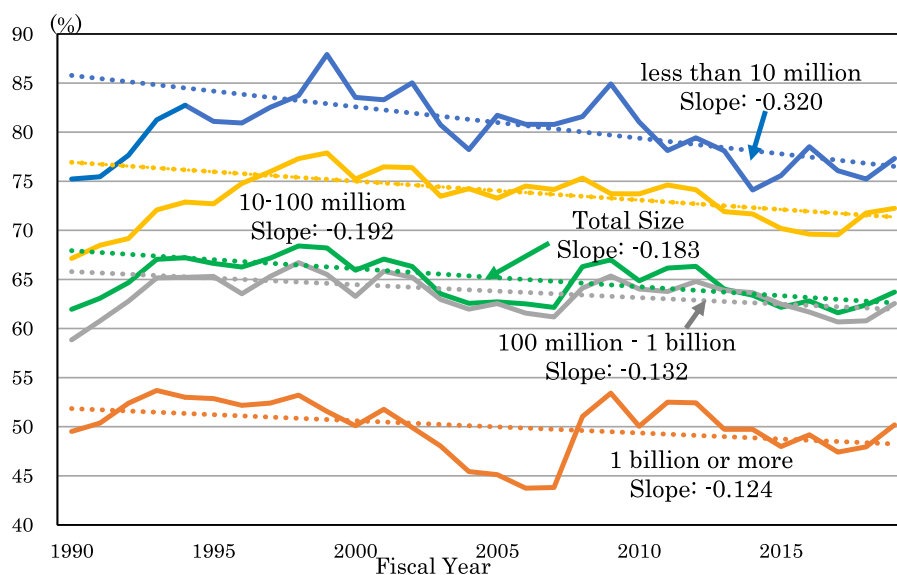


Fig. 15. Labor share by firm size. Source: Financial Statements Statistics of Corporations by Industry. Notes: The figure covers all industries except for finance and insurance industries and pure holding companies. The slope of the time trend is estimated between 1994 and 2019.

5. Labor share in non-financial corporations based on the “Financial Statements Statistics of Corporations”

5.1. Labor share in non-financial corporations, by firm size

We analyze the labor share (personnel expenses/value added) for all industries excluding finance and insurance industries and pure holding companies by firm size (capitalization class) based on the “Financial Statements Statistics of Corporations” (Fig. 15). For smaller enterprises with less than 10 million yen in capital, the slope of the downward trend between 1994 and 2019 is -0.320 (a decline of 0.320% per year), and for SMEs with 10–100 million yen in capital, the slope is -0.192 . Meanwhile, for upper-medium-sized firms with 100 million to 1 billion yen in capital, the slope is -0.132 , and for large firms with 1 billion yen or more in capital, the slope is -0.124 . The smaller the size of the enterprises, the larger the slope of the downward trend.

Considering the share of value added by capital in relation to the total size,⁷ the decline in the labor share of smaller enterprises with less than 10 million yen in capital and SMEs with 10–100 million yen in capital accounted for more than 60% of the labor share slope in the total of all enterprises (slope: -0.183). This indicates that the decline in the labor share in Japan’s non-financial corporations is led by smaller enterprises and SMEs.

Furthermore, looking at the period-to-period developments in the labor share, in the case of SMEs and smaller enterprises, the labor share increased by approximately 10% points in the 1990 s. Since the end of the 1990 s, it has been trending downward and increasing in magnitude. Meanwhile, for large firms and upper medium-sized firms, the increase in the labor share in the 1990 s was only 5% points, which was smaller than the increase observed in SMEs, and the downward trend since then has been relatively moderate.

5.2. Contribution of salaries and bonuses to employees and salaries and bonuses to executives to the labor share

Subsequently, we compare the movement of the labor share by dividing the numerator, personnel expenses, into its components: salaries and bonuses to employees, salaries and bonuses to executives, and welfare expenses. Regarding salaries and bonuses to employees (salaries and bonuses to employees/value added), the slope of the trend from 1994 to 2019 is almost zero for all sizes, indicating no downward trend in salaries and bonuses to employees (Fig. 16). By size, large companies with capital of 1 billion yen or more, and upper medium-sized companies with capital of 100 million to 1 billion yen have downward sloping trends of -0.058 and -0.039 , respectively. Meanwhile, SMEs with capital of 10–100 million yen and smaller companies with capital of less than 10 million yen show a moderate increase or remain unchanged.

Looking at the labor share of salaries and bonuses to executives (salaries and bonuses to executives/value added), the time trend for all sizes is -0.113 , indicating a clear downward trend. The slope of the trend is also large, accounting for over 60% of the downward trend (-0.183) in the labor share of total personnel expenses (Fig. 17). By size, the slope of the downward trend is -0.151 for SMEs with capital of 10–100 million yen, and -0.226 for smaller enterprises with capital of less than 10 million yen, indicating a clear downward slope. In the case of SMEs and smaller enterprises, the labor share of salaries and bonuses to executives increased by between 5% and 9% points from 1990 to 2000. Since 2000, the labor share has adopted a downward trend with a

⁷ The share of value added by capital size in total size (average between 1994 and 2019) is 12% for those with less than 10 million yen in capital, 39% for those with 10 million to 100 million yen, 15% for those with 100 million to 1 billion yen, and 34% for those with 1 billion yen or more, with smaller enterprises and SMEs accounting for 50% of the total.

larger slope. Meanwhile, the slope of the trend remains almost zero for large companies with capital of 1 billion yen or more.

We decompose the cumulative changes in the labor share into cumulative contributions by personnel expense components, starting from 1994. In the total size, looking at the contribution to the change in each year, the contribution of salaries and bonuses to employees is the largest until around 2007. However, from 2008 onward, the largest contribution comes from the salaries and bonuses to executives, and the decline in the labor share in the 2010 s is mainly due to the decline in salaries and bonuses to executives (Fig. 18). This reveals that the downward trend in labor share in non-financial corporations is mainly due to the reduction of salaries and bonuses to executives, who are the owners of SMEs, and the small contribution of salaries and bonuses to employees.

5.3. Why have salaries and bonuses to SME executives had such a large impact on labor share?

In Japan, salaries and bonuses to SME executives account for a certain share of the labor share in corporate enterprises. This is because SME executives in Japan, where ownership of management and capital are not separated, reduce their tax burden by receiving remuneration in the form of labor income, such as salaries and bonuses, rather than capital income, such as dividends. This is possible as explained below.

First, the corporate tax burden is smaller for salaries and bonuses to executives than for dividends paid. This is because salaries to executives, including bonuses, can be recorded as a corporate expense and therefore are not subject to corporate tax. However, if the corporations pay dividends to executives, the dividends are paid out of residual profits after paying corporate tax. Hence, capital income that takes the form of dividends is subject to a heavier corporate tax burden.

Second, the income tax burden borne by individual executives is also smaller for salaries and bonuses. If executives receive their remuneration as salaries or bonuses, they can use the payroll tax deduction and thus pay a smaller income tax burden. If they are remunerated through dividends, the income tax rate is higher. These executives cannot use the payroll deduction; they can only avail of the smaller dividend deduction. Furthermore, for dividends from unlisted SMEs, the income tax rate is higher, as comprehensive taxation is applied rather than a separate withholding tax, which has a lower tax rate on dividend income.

These results indicate that SMEs with capital of 10–100 million yen, and smaller enterprises with capital of less than 10 million yen, where management and capital ownership are not separated, are less likely to pay remuneration to executives in the form of dividends. Instead, they pay most of the remuneration in the form of salaries and bonuses (Table 2). In other words, remuneration equivalent to capital income (to executives who originally provided capital) is also included in labor income. As a result, in Japan, changes in remuneration to SME executives have a significant impact on the labor share of the corporate sector.

5.4. Impact of the incorporation of the self-employed and exit of SMEs on the labor share

The labor share of salaries and bonuses to executives in SMEs and smaller enterprises increased from 1990 to 2000, but it has declined significantly since the early 2000 s. The following is a closer look at the causes of the change in the labor share of salaries and bonuses to executives in SMEs and smaller enterprises.

First, the increase in the labor share of salaries and bonuses to executives from 1990 to 2000 was due to the incorporation of self-employed entrepreneurs as well as the deterioration of economic conditions. The number of self-employed entrepreneurs has been consistently decreasing. By contrast, the number of company executives in SMEs and smaller enterprises with capital of less than 100 million yen increased until the early 2000 s (Fig. 19). Particularly in the 1990 s, the decline in the number of self-employed entrepreneurs and the increase in the number of company executives accelerated. Looking at the

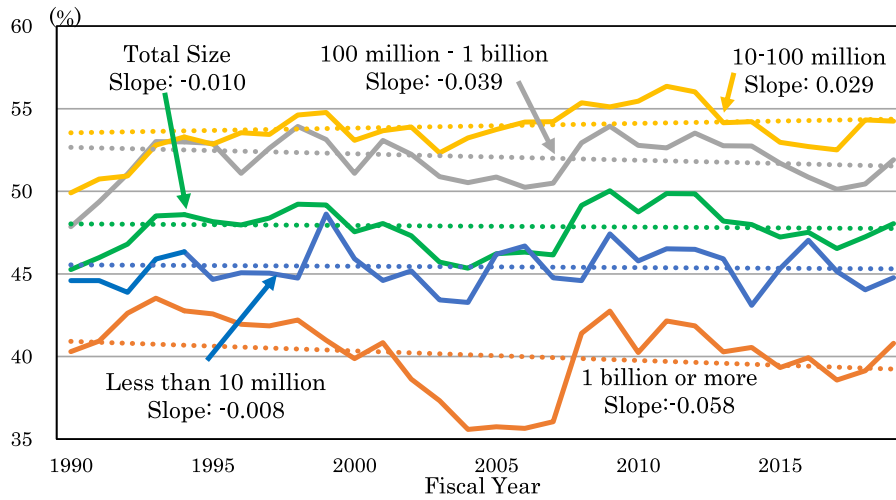


Fig. 16. Breakdown of labor share: Salaries and bonuses to employees.

Source: Financial Statements Statistics of Corporations by Industry. Notes: The figure covers all industries except for finance and insurance industries and pure holding companies. The slope of the time trend is estimated between 1994 and 2019.

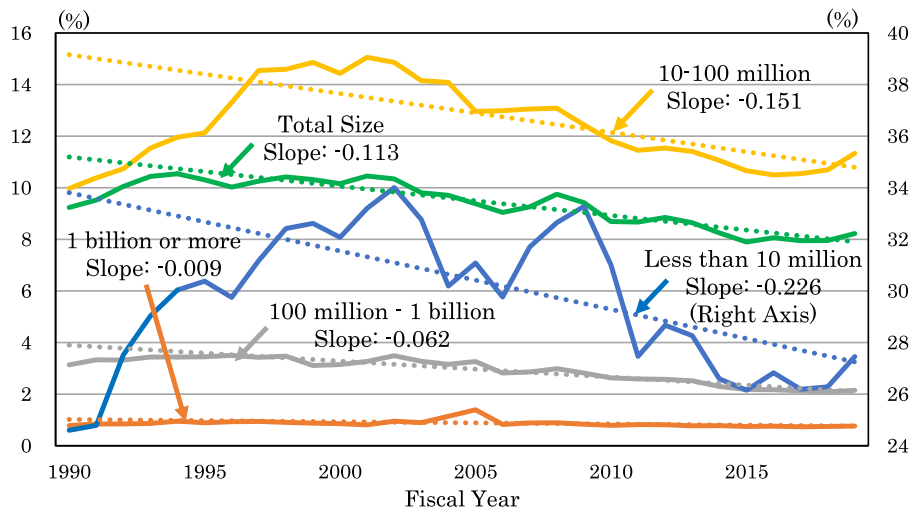


Fig. 17. Breakdown of labor shares: Salaries and bonuses to executives.

Source: Financial Statements Statistics of Corporations by Industry. Note: The figure covers all industries except for finance and insurance industries and pure holding companies. The slope of the time trend is estimated between 1994 and 2019.

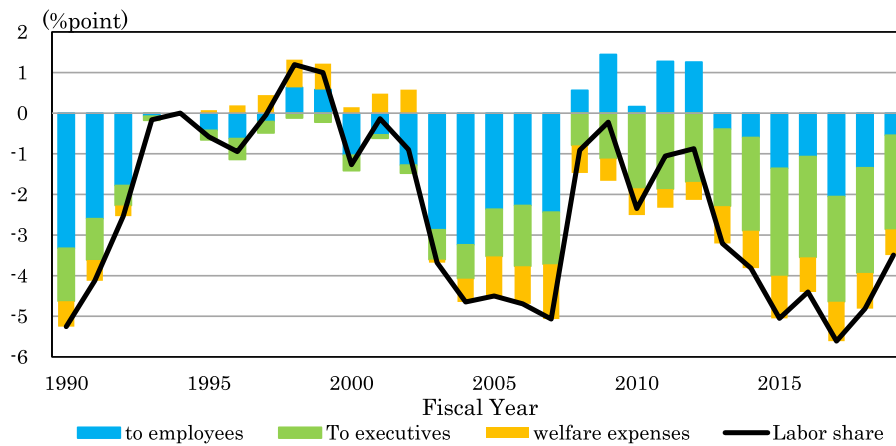


Fig. 18. Cumulative contribution to the change of labor share by personnel expenses, starting from 1994 in percentage points of the total size.

Source: Financial Statements Statistics of Corporations by Industry. Note: The figure covers all industries except for finance and insurance industries and pure holding companies.

Table 2
Salaries and bonuses to executives vs. dividends by firm size in 2019.

Capitalization class	Salaries and bonuses to executives	Dividends
1 billion or more yen	0.8 trillion yen	15.2 trillion yen
100 million to 1 billion yen	1.2 trillion yen	4.0 trillion yen
10–100 million yen	12.8 trillion yen	1.8 trillion yen
Less than 10 million yen	11.2 trillion yen	0.1 trillion yen
Total	26.0 trillion yen	21.0 trillion yen

Source: Financial Statements Statistics of Corporations by Industry.
Note: The figure covers all industries except for finance and insurance industries and pure holding companies.

number of SMEs with capital of 10–100 million yen, there was a rapid increase from approximately 400,000 in 1990 to 1.2 million in 2000 (Fig. 20 – left). This indicates that self-employed entrepreneurs changed their business form and rapidly progressed to the “incorporation” of the self-employed (Arai, 2006). The Japanese tax system provided a variety of preferential tax treatments for the self-employed until the 1980s. Specifically, under the “deemed corporate taxation system,” self-employed entrepreneurs were able to use the advantages of both business income tax returns and salary income tax returns

simultaneously. However, the advantages were gradually reduced in the late 1980s, and the system itself was abolished in 1992 because of increasing public criticism. Consequently, for self-employed entrepreneurs to benefit fully from the tax reduction by deducting salary income, they had to change their business form from self-employed to a corporate entity and receive salaries and bonuses as executives of the company. The decline in mixed income has been faster with this change, and the transfer of the self-employed to SMEs has pushed up the labor share.

Second, the decline in the labor share of salaries and bonuses to executives since the early 2000s is largely due to the reduction in per capita salaries and bonuses to corporate executives, as well as the significant decline in the number of corporate executives. This decline is a result of the increased closure and exit of SMEs and smaller enterprises brought on by deteriorating earnings. Since 1990, the overall business situation of SMEs has worsened because of the impact of the self-employed (small in scale and low in productivity) becoming a company corporation. The figure on the left in Fig. 20 shows that from 1990 to 2000, the number of SMEs with capital of 10–100 million yen increased 2.9 times; the number of corporate executives, 2.4 times; and the number of employees, 1.6 times, whereas the value added increased only 1.5 times. The figure on the right in Fig. 20 shows that value added per worker, including corporate executives and employees, declined

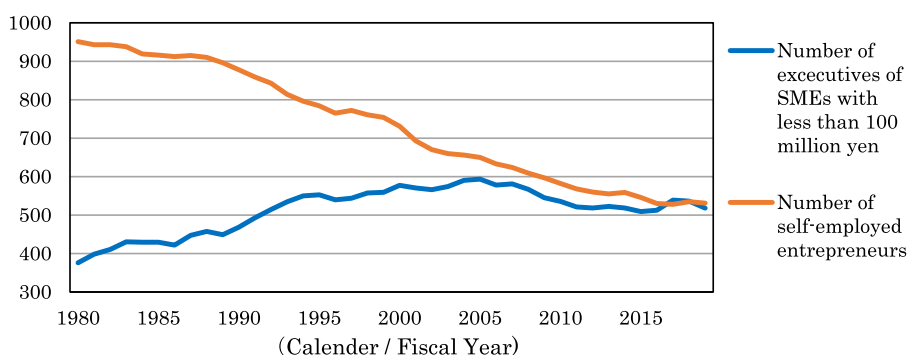


Fig. 19. Number of executives of SMEs and self-employed entrepreneurs.

Source: Financial Statements Statistics of Corporations by Industry, Labor Force Survey. Note: The number of executives is the average for the fiscal year and that of self-employed entrepreneurs is the average for the calendar year.

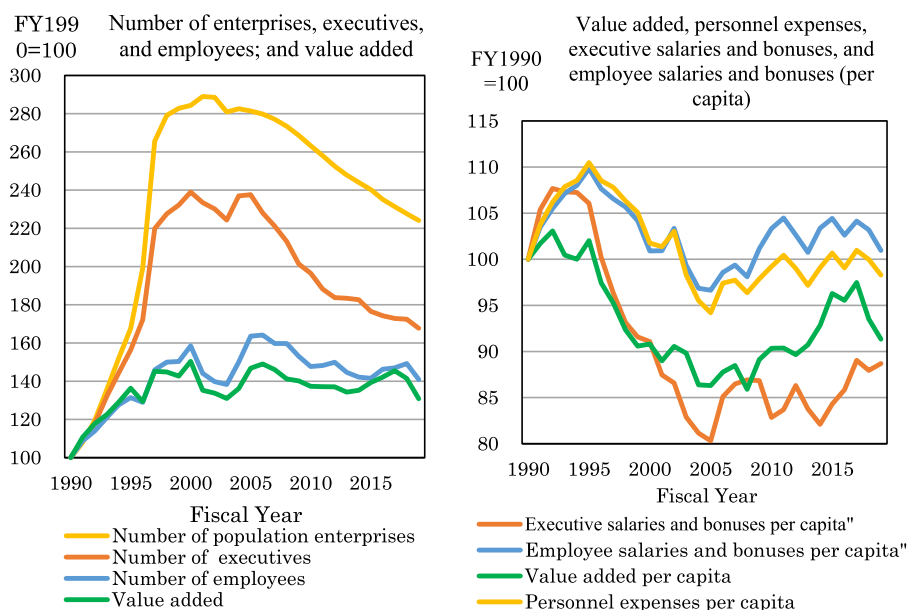


Fig. 20. Number of enterprises, corporate executives, and employees of SMEs; value added, personnel expenses, salaries, and bonuses of SMEs.

Source: Financial Statements Statistics of Corporations by Industry. Note: Data are for SMEs with capital of 10–100 million yen. The figure covers all industries except for finance and insurance industries and pure holding companies.

significantly, with a decline of 15% between 1990 and 2005. Since 2005, there has been a large increase in the closure and exit of enterprises. Among SMEs with capital of 10–100 million yen, 20% of enterprises exited between 2005 and 2019. The number of corporate executives has decreased by 30%.

In Japan, changes in remuneration to SME executives have a significant impact on the labor share of the corporate sector. This effect may be further magnified by the reduction in tax benefits for self-employed income in Japan in the late 1980s and early 1990s, thereby increasing the tax advantage of corporate enterprises. These tax-induced effects have amplified the impact of the rapid decline of SMEs on the labor share in the post-2000 period.

6. Conclusions and recommendations

In this study, we estimate the labor share using two representative statistics, the National Accounts and the “Financial Statements Statistics of Corporations,” while correcting for the differences in the coverage and accounting standards between the two sets of statistics. This confirmed a clear downward trend in Japan’s labor share since the 1990s, both in the total Japanese economy and in the corporate sector. The driving force behind the decline in the labor share is identified as the significant decrease in the income of the self-employed (mixed income) as well as in the salaries and bonuses to executives who are the owners of SMEs. This decrease is attributed to the decline in the number of self-employed individuals and SMEs. By contrast, labor income (salaries and bonuses) to employees hardly contributed to the decline in labor share. This result demonstrates that the straightforward narrative—that technological progress such as ICT, globalization such as the transfer of production overseas, and the expansion of non-regular employment have reduced labor income to employees, thus resulting in a lower labor share—does not directly apply to the Japanese economy. Our findings suggest that understanding the mechanism of the decline in Japan’s labor share requires identifying the causes and effects of the decline in the self-employed and SMEs.

Finally, we mention four remaining concerns as recommendations for future research. First, in confirming the consistency between the labor share based on the “Financial Statements Statistics of Corporations” and the “National Accounts,” the difference in coverage has not yet been fully corrected because of the lack of statistical data on medical and public corporations. In particular, the impact of the rapid “incorporation” of medical corporations from a self-employed status since the 1990s has not been measured. For completeness, it is necessary to accumulate time-series data from large-scale census surveys and detailed surveys of medical corporations. It is also essential for the Cabinet Office to compile and publish complete sectoral data from the National Accounts Statistics, especially data on corporations and the self-employed.

Second, SMEs rarely pay dividends to their executives because the executives face a heavy income tax burden for dividend income, which is subject to Japan’s comprehensive taxation. The salaries and bonuses to executives are considered to include capital income. The fact that salaries and bonuses to executives tend to have a higher share of labor costs plays a role in amplifying the impact of the decline of SMEs on the labor share. Considering that salaries and bonuses to executives make a large contribution to the downward trend of the labor share, it is necessary to remove the income from capital from the salaries and bonuses to executives.

Third, it is important to clarify what factors have caused the rapid decline in the number of self-employed individuals and the recent closures and exits of SMEs. It is necessary to examine to what extent the decline in the number of self-employed individuals and SMEs can be explained by the decline in the price of capital goods through ICT, the transfer of production overseas, and the expansion of non-regular employment.

The fourth concern is whether the labor share to employees can be

raised in the future. The driving force behind the decline in the labor share is the significant decrease in the income of the self-employed and in the salaries and bonuses to SME executives. By contrast, labor income to employees hardly contributed to the decline in labor share. This fact implies that it may be difficult to raise the labor share to employees in the future. Alternatively, it may indicate the possibility of raising the labor share to employees by reallocating the decrease in income to the self-employed and SME executives to an increase in the labor income to employees. For Japan, where raising the wages of employees is a major policy issue, it is extremely important to make this assessment.

Data availability

Data will be made available on request.

Appendix A. List of data used to calculate the labor share in Japan’s National Accounts

Data on GDP, compensation of employees, mixed income (net), operating surplus (net), consumption of fixed capital, and taxes on production and imports less subsidies are obtained from the National Accounts Statistics “Annual Report on National Accounts for 2019,” published by the Cabinet Office.

2-2. Labor share in the total economy

File names: 1) Flow, I. Integrated Accounts, 1. Gross Domestic Account

2) Flow, II. Income and Outlay Accounts classified by Institutional Sectors, 1. Total Economy 1. Generation of Income Account.

2-3. Labor share in non-financial corporations

(i) Compensation of employees in non-financial corporations (Market producer and financial corporations)

File name: Flow, V. Supporting Tables, (2) Gross Domestic Product and Factor Income classified by Economic Activities (at current prices)

(Households<self-employed>)

As compensation for employees hired by the self-employed is not available, data on the total amount of salaries paid by the self-employed to their employees are obtained from the “Statistical Survey of Actual Status for Salaries in the Private Sector,” conducted by the National Tax Agency.

(ii) GDP in non-financial corporations

The data on both operating surplus<net> and consumption of fixed capital for non-financial corporations are obtained from the following files:

File name: Flow, II. Income and Outlay Accounts classified by Institutional Sectors, 2. Non-financial corporations.

Appendix B. Data on mixed income (net) for the United States

The United States

Statistical Organizations; Bureau of Economic Analysis.

[https://apps.bea.gov/iTable/iTable.cfm?](https://apps.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey)

[reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey](https://apps.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey).

Source dataset: Table 1.13. National Income by Sector, Legal Form of Organization, and Type of Income.

Data item: the sum of 14 proprietors’ income with IVA and CCA_{adj} and 16 net interest in noncorporate business (sole proprietorships and partnerships + other private businesses).

The United States does not publish mixed income (net) in the national accounts; therefore, mixed income is obtained by summing the proprietors’ income, which is the self-employed income after interest

payments, and net interest, which is interest expense.

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