

Changing Wealth Inequality in Japan

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1. Introduction

The aim of this study is to investigate the historical change in wealth inequality over a thirty-year period in Japan from 1984 to 2014. Equality is a key value in modern society, and people have been interested in how much equality has been achieved and how much remains in their society. Thus, the change in socioeconomic inequality over time is one of the most crucial issues in social sciences (Killewald et al. 2017). Socioeconomic inequality can be measured by various variables, most notably income (Spilerman 2000). In addition to changes in income inequality, the historical change in wealth inequality has been studied in several countries (Alvaredo et al. 2018; Atkinson 2015; Piketty 2013). However, there is a lack of research on socioeconomic inequality in Japan from a historical perspective. This study aims to broaden current knowledge of the historical change in wealth inequality in Japan through a new analysis of Japanese governmental statistics. This analysis revealed two important facts. First, people with higher incomes had increased wealth, while people with low incomes did not. Second, capital income made up an increasing share of total household income, but the vast majority of these gains, in real terms, accrued to those with the highest incomes and the gap with the rest of the population was maintained.

2. Historical Changes in Socioeconomic Inequality

2-1. Measurement of Socioeconomic Inequality

The level of socioeconomic inequality in a society is measured by the distribution of socioeconomic resources, most notably income or wealth. When measuring income or wealth inequality, social scientists have primarily relied on the Gini coefficient or the share of income or wealth by percentile, such as to the top decile or top one percentile. The Gini coefficient is a value that indicates the level of inequality for a given distribution. While the Gini coefficient summarizes the level of inequality in a single value, it lacks detailed information about the distribution of resources. In recent years, influential social scientists such as Piketty (2013) have preferred to calculate the shares of income or wealth by percentiles. The process of calculation of top decile or percentile are as follows: First, a distribution is sorted from the lowest value to highest value. Then, the values are summed, both for the total value and the value for a given percentile range, and the amount of wealth or income for a given percentile range is divided by the total, which results in the share of resources. By this method, we can calculate the share for the top decile and the top one percentile. The share of resources held or accruing to those at the top percentiles is useful because it directly shows how much of income or wealth is concentrated among the richest people. As explained in Section 3, the concept of deciles is also important in this study.

2-2. Historical Changes in Income Inequality

Compared to wealth, the distribution of income has more widely been studied (Atkinson, Piketty, and Saez 2011). This is simply because income data are more widely available

than data on wealth. The World Inequality Database (WID), a large database of socioeconomic inequality maintained by social scientists all over the world, contains data on the historical change in income inequality going back many years. **Figure 1** provides the historical change in the share of income for the top one percentile in the US, France, China, Taiwan, Korea, and Japan, retrieved from the WID.

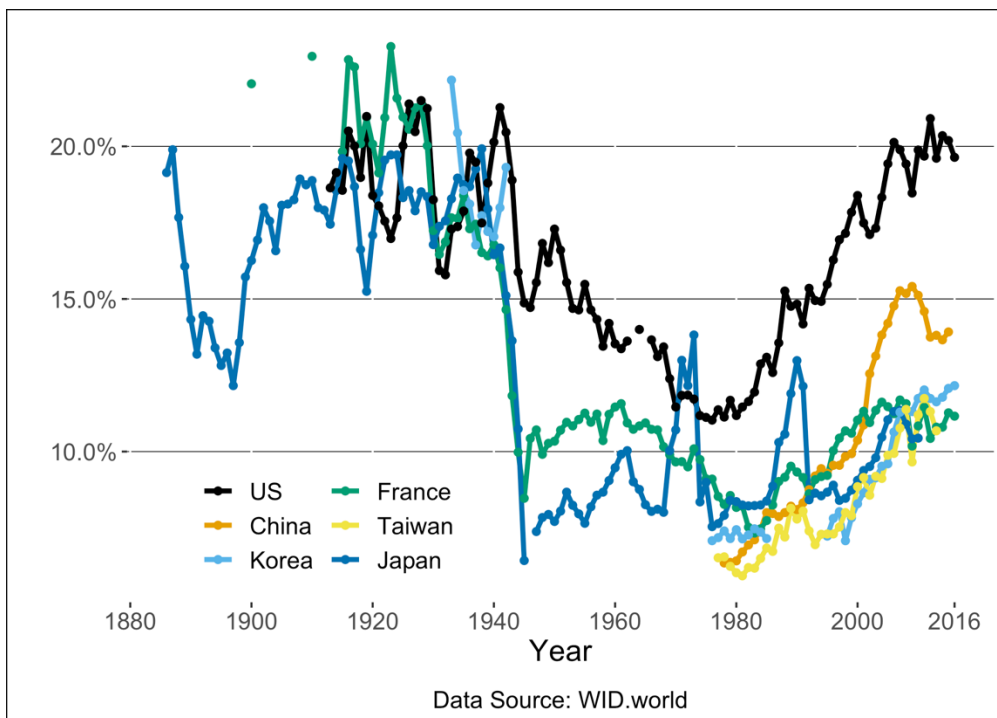


Figure 1: Historical change in the share of income earned by the top one percentile by country

Note: Income is calculated as pre-tax personal income for Japan and Korea, pre-tax household income for China, France, and the US, and pre-tax tax-unit income for Taiwan.

Historically, the share of income earned by the top one percent decreased until around 1980. However, since then, the share has increased in every country. This increase of income inequality is caused by several factors. McCall and Percheski (2010) reviewed

the sociological studies on income inequality and pointed out the four following factors as causes of rising income inequality: changes in family formation practices, increased earnings by entrepreneurs and workers in managerial positions, political reforms that reversed redistributive policies, and the weakening power of labor unions.

Among the six countries shown in **Figure 1**, Japan experiences a unique pattern of how its income distribution changed for top earners. Before 1940, Japan had the same level of income inequality as the US and France, but then the top income share decreased rapidly in the early 1940s. Although such a decrease was also seen in other countries, it was most pronounced in Japan. This visible decrease was due to the relatively high tax burden on higher income groups for war expenditure (Moriguchi and Saez 2008). Other noteworthy changes in Japan's income inequality are the significant increases in the share of income earned by the top one percent in the late 1970s and in the late 1980s. No other countries in **Figure 1** experienced such increases, which were likely caused by temporary increases in property values.

Figure 1 also indicates the pattern of the change of income inequality in other countries. In recent years, the US has had the most unequal income distribution among the six countries. China also shows a relatively high level of concentration of income in the richest people. East Asian countries excluding China and western European countries are still relatively equal in their income distributions.

2-3. Historical Changes of Wealth Inequality

Alongside income, wealth can also be used as a measure of socioeconomic inequality. **Figure 2** shows the historical change in the share of wealth held by the top one percentile in the US and France compared with the share of income earned by the same group. These

two countries were selected because the availability of wealth data is relatively high.

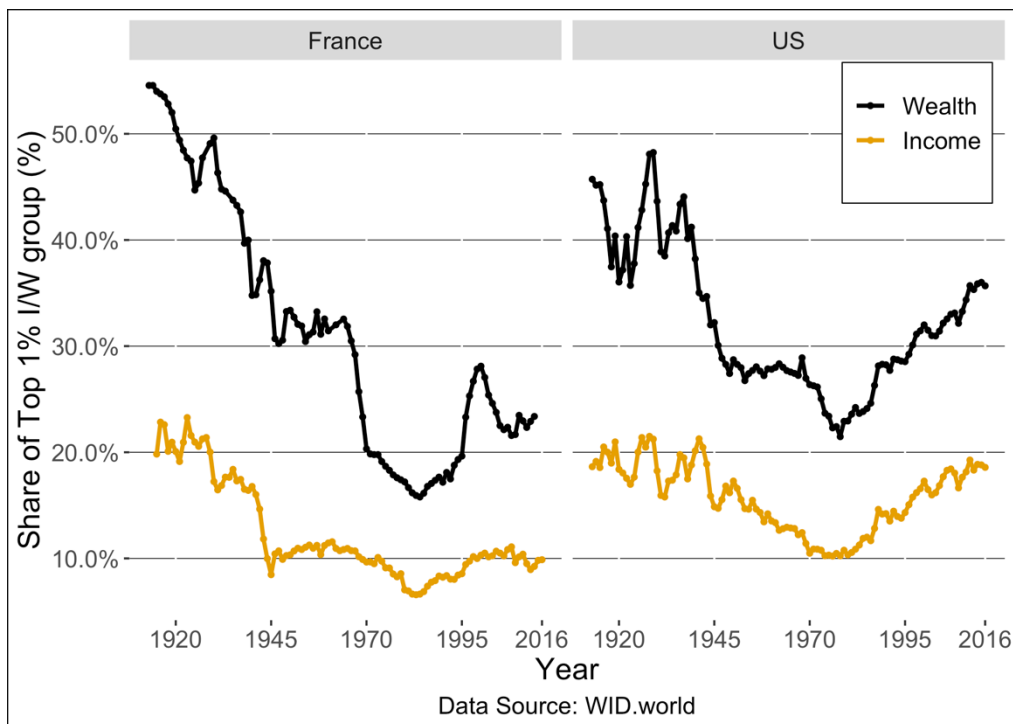


Figure 2: Historical change in the share of wealth and income of the top one percentile in France and the US

Wealth is net personal wealth and income is pre-tax personal income.

Figure 2 shows that wealth is distributed more unequally than income in both countries. Higher inequality in wealth can be explained in several ways. One possible explanation focuses on the fact that wealth can be increased through investment returns. In other words, the more wealth people have at first, the more returns on investment they can acquire over time and the wealth disparity becomes wider. Another possible explanation highlights the fact that wealth can be inherited from parents to children. The more wealth parents have, the more wealth their children can acquire. What is important is that children of rich parents also have a higher possibility of receiving relatively high

income¹ and thus having more savings or financial wealth. Simply put, the higher income people have, the more wealth they could acquire by themselves and the more wealth they could inherit from their parents. This relationship indicates the mechanisms by which income inequality based on the disparity of wage can also expand into wealth inequality.

2-4. Definition of Wealth in This Study

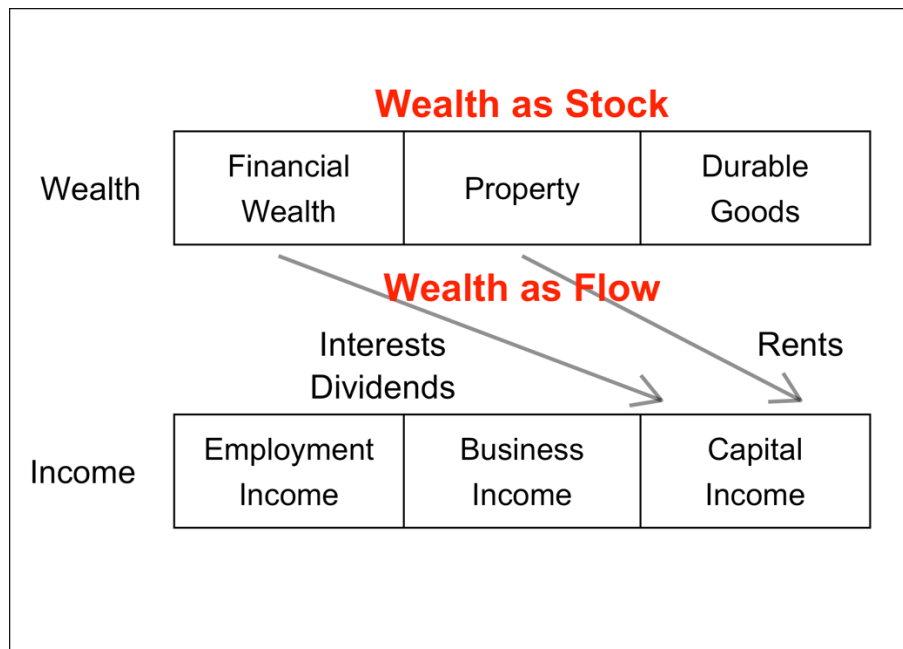


Figure 3: Definition of Wealth in This Study

Although the word “wealth” has frequently appeared in this paper, the definition of wealth

¹ This relationship, widely known in sociology (Blau and Duncan 1967), can be explained as follows: First, children whose parents achieved higher income levels tend to spend more years on education because those parents have more socioeconomic resources that can be used for their education. Second, persons with more education are more likely to be employed in a position with a higher wage. Consequently, the income of parents and children are correlated.

has not yet been given. What is wealth? Wealth consists of various kinds of assets, including financial wealth, such as savings and stocks, property, and durable goods (**Figure 3**). Income can also be decomposed into three following components: employment income, business income, and capital income.

Wealth is usually defined as a stock of resources, represented by the overall value of financial wealth, property, and durable goods a household possesses. The historical change in wealth inequality in the US and France, shown in **Figure 2**, was also based on stock data. At the same time, wealth can be measured by capital income, the portion of household income that is generated from household wealth. For instance, financial wealth produces interests or dividends and property produces rents. This study calls capital income “wealth as flow” (**Figure 3**). Since the data on capital income are relatively easy to access compared with the data on wealth stock, the measurement of wealth inequality by capital income is widely used. Since Japan is a country where access to detailed wealth stock data is difficult, this study relies on the capital income data as a proxy for wealth stock.

2-5. The Focus on Wealth Inequality in Social Sciences

While income is mainly used as a measure of socioeconomic inequality, social scientists have emphasized the significance of wealth inequality in recent decades. For example, articles on wealth inequality first appeared in 2000 in *Annual Review of Sociology*, one of the most famous journals in sociology (Keister and Moller 2000; Spilerman 2000). Over the last twenty years, numerous studies on wealth inequality, including Thomas Piketty’s influential work (Piketty 2013), have been produced (Killewald et al. 2017). The reason social scientists now focus on wealth inequality is that it describes social

inequality more accurately than does income inequality. This is because wealth is usually a stock measure and is thus more suitable for representing all of the socioeconomic resources a household can use, while income is a flow measure and does not tell the amount of resources a household possesses. Consistently, wealth distribution is more unequal than is income distribution.

Studies on wealth inequality over the last twenty years seem to have two clear tendencies. First, they tend to focus on the top share of the income or wealth distribution. As mentioned above, the most influential scholars in this field, such as Thomas Piketty, Anthony Atkinson, or Emmanuel Saez, emphasize the importance of the top share as an indicator of socioeconomic inequality and have refined the methods for calculating the top share of income or wealth. Alongside these economists, sociologists also recognize the importance of the top share (Keister 2014), while some maintain that looking at the inequality among lower percentiles or deciles is also meaningful (Savage 2014). In sociology, this intensifying focus on the top share also has led to a revival of elite studies (Khan 2012).

Another trend among recent studies on wealth inequality is the investigation of the relation between wealth inequality and other forms of social inequality. It is known that the average amount of household wealth differs by ethnicity and gender. Oliver and Shapiro's famous book (Oliver and Shapiro 2006) shed light on how wealth inequality between black people and white people is generated. Chang (2010) focuses on the mechanisms behind wealth inequality by gender. Both studies pointed out that wealth inequality by ethnicity or gender is deeply connected with structural inequalities embedded in the labor market and governmental policies.

2-6. Existing Literature on Wealth Inequality in Japan

Research on the historical change in wealth inequality in Japan is ongoing, but few studies exist. Kitao and Yamada (2019) calculated Gini coefficients for financial wealth in Japan using National Survey of Family Income and Expenditure (NSFIE) data from 1984 to 2014. Although they investigated only financial wealth, not the total stock of wealth, their result (**Figure 4**) provides valuable information.

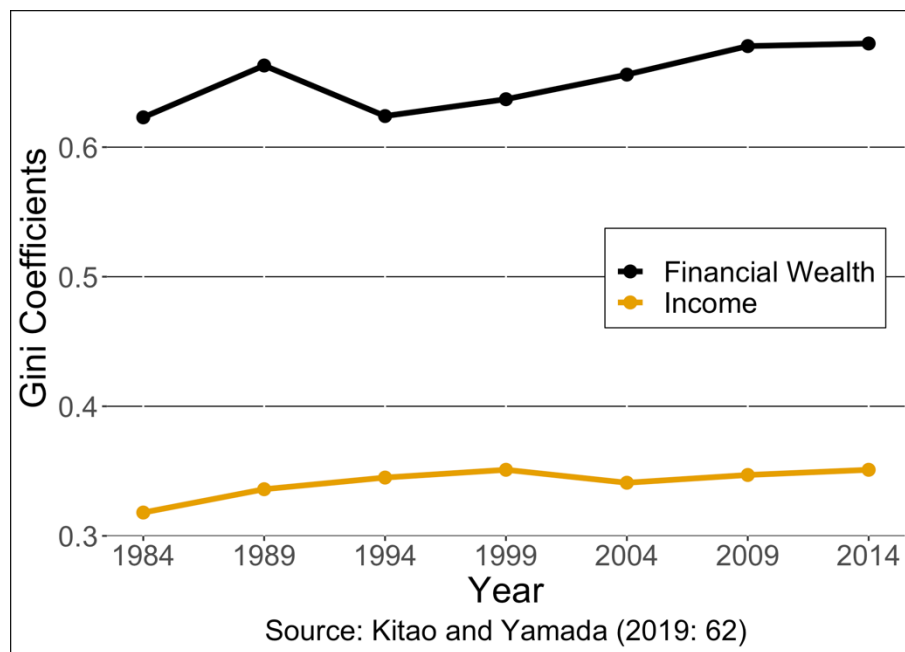


Figure 4. Historical change in the Gini coefficients of financial wealth and income in Japan

As **Figure 4** indicates, the distribution of financial wealth was much more unequal than the distribution of income. In addition, the Gini coefficients of financial wealth fluctuated more, while the Gini coefficients of income were relatively more stable. Gini coefficients of financial wealth increased from 1984 to 1989, but suddenly decreased in 1994. This pattern of fluctuation was probably due to the rapid rise and decline of property

values during this period. After 1994, it kept increasing and in 2009 surpassed its previous 1989 peak value. It can be concluded that wealth inequality is expanding in Japan. Although their findings are valuable, Gini coefficients do not provide detailed information on wealth distribution. The present study examines the historical change of the average amount of financial wealth by income deciles for further exploration of wealth inequality in Japan (**Study 1**).

Moriguchi and Saez (2008) investigated the historical change in the income share of the top one percentile in Japan from 1886 to 2005. They examined the historical change in the income composition of the top one percentile in income distribution. According to this research, the share of capital income to total income was 50% or more prior to the mid-1930s, but after this period it rapidly declined. In 1945, the share of capital income was only 11.8% of total income. This ratio had not dramatically changed in the postwar era. In 2005, capital income was 10.84% of total income. The biggest component in 2005 was employment income, which accounted for 81.22% of all income. These results indicate that in the present day having wealth is not so important for becoming rich in income, as was the case before the 1930s. This study investigates the share of capital income by income tiers. While their analysis was limited to the top one percentile of the income distribution, the present study investigates the historical change of capital income share from the 1st percentile to the 10th decile so that we can capture the historical change more completely (**Study 2**).

3. Methods

This study is divided into two parts. **Study 1** is an analysis of wealth as stock. The historical change in the average amount of household wealth by income deciles is

revealed. **Study 2** is an analysis of wealth as flow. In **Study 2** the historical change in the ratio of capital income to total annual household income is analyzed.

This study uses NSFIE data from 1984 to 2014. This survey is conducted by the National Statistics Bureau and is the largest of several national surveys that ask about wealth possession. The NSFIE has been performed once every five years since 1959, with the latest survey performed in 2019, although the results of this most recent survey are not yet available. The number of respondents is about fifty thousand and they are randomly selected from all over the country. Respondents' age is between twenty and eighty years.

It must be noted that this study has several limitations. First, because older waves of NSFIE did not have enough data on single households, the sample was limited to households with two or more people. In addition, only financial wealth data are used owing to data availability.

4. Results

4-1. Study 1: Historical Change in Wealth Inequality by Stock

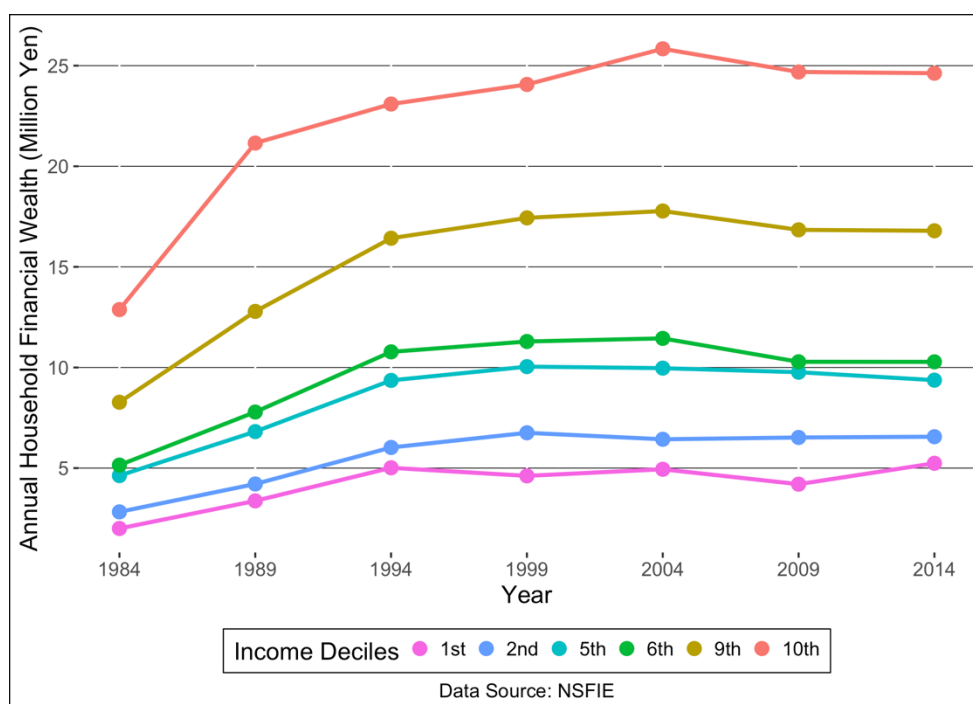


Figure 5: Historical change in annual household financial wealth by income deciles

Figure 5 shows the historical change in annual household financial wealth by income deciles. The overall pattern can be divided into two parts. First, from 1984 to 1994, all income deciles experienced an increase in financial wealth. During this period, inequality between higher deciles and lower deciles increased. Second, from 1994 to 2014, the overall pattern for most groups did not change markedly, with the exception of the highest (10th) income decile, which was the only group with a visible increase in financial wealth. In addition, the difference between the 10th and the 9th deciles and that between the 10th and the 1st deciles were both increasing in this period. The increase in both cases was about two million yen (twenty thousand US dollars). It can be concluded that the wealth inequality based on income deciles was also expanding during this period. In other words, households that were richer in income also became richer in terms of wealth, while households that were poorer in income did not get richer in wealth.

4-2. Study 2: Historical Change in Wealth Inequality by Flow

As explained above, wealth as flow is measured by using capital income. The ratio of capital income to total household income shows how much their economic situation depends on wealth rather than employment. In this section, the share of capital income to total household income by income deciles was investigated (**Figure 7**).

Figure 6 shows the historical change in annual household income by income deciles. Several deciles are omitted to keep the figure readable. In every income decile in **Figure 6**, the annual income household increased from 1984 to 1994, but then began to decrease from 1994 to 2014.

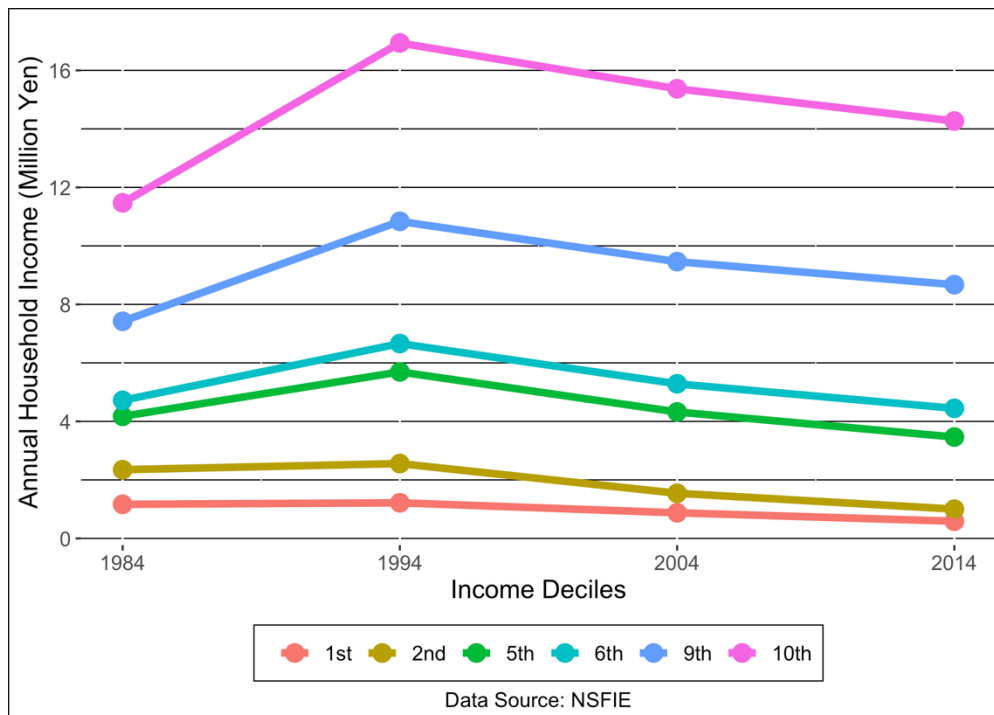


Figure 6: Historical change in annual household income by income deciles

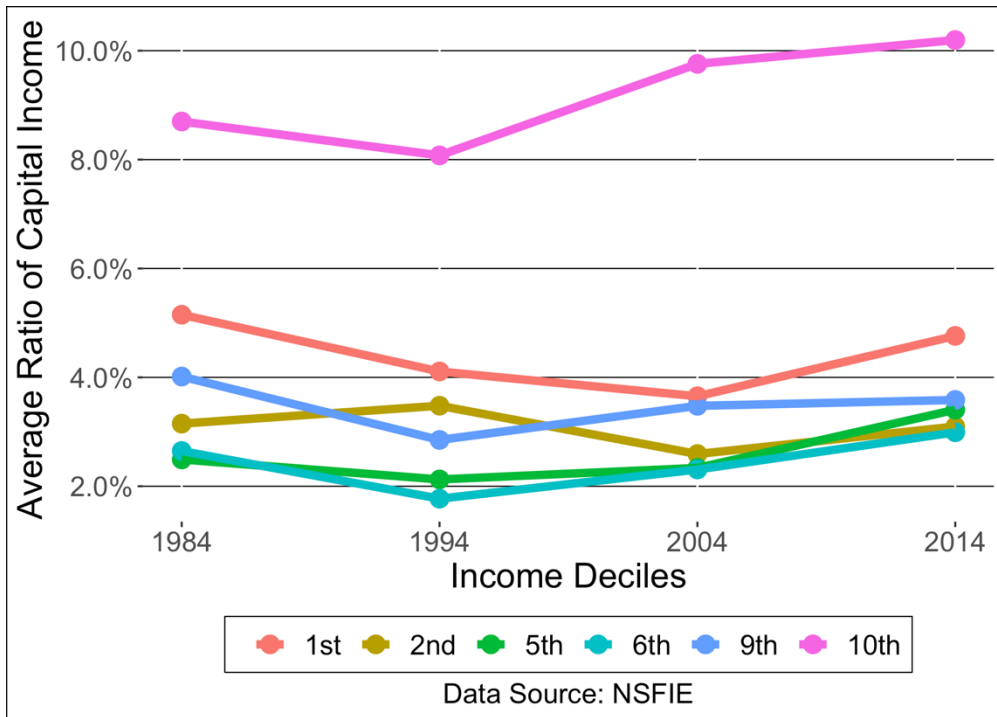


Figure 7: Historical change in the average ratio of capital income to total household income by income deciles

Figure 7 shows the average ratio of capital income to total household income. Several important facts are revealed by the comparison between **Figure 6** and **Figure 7**. First, in both figures, there is a clear increase in value from the 9th income decile to the 10th income decile. This increase shows that households that are in the top 10% in income distribution are disproportionately rich both in total income and in capital income. Considering that their income level is the highest, the capital income in real terms is also largest for the 10th income decile.

There are some differences to point out as well. The first one is the basic pattern. While the average household income by income deciles shown in **Figure 6** increases as income deciles gets higher, which is obvious by the definition of deciles, the pattern of change in **Figure 7** is more complex. In particular, the 1st income decile shows a

relatively high ratio of capital income. Although the income of households in the 1st income decile is the lowest in real number, they show a relatively high proportion of capital income produced by wealth. Surprisingly, the ratio of capital income in the 1st income decile is even higher than that in the 9th income decile. A possible explanation of this is that elderly households make up a large component of the 1st income decile. These households no longer receive employment income but have some wealth and receive a certain amount of capital income through means such as rent or dividends.

Another difference is the pattern of historical change. While the average income in **Figure 6** keeps falling in every income decile from 1994 to 2014, the pattern for the change of the ratio of capital income in **Figure 7** is not so simple. On the contrary, the ratio increased from 1994 to 2014 in all deciles except the 1st and the 2nd deciles. What explains this phenomenon? Considering the fact that the average income shown in **Figure 6** keeps decreasing, the increase in the ratio of capital income in **Figure 7** might not show an increase in the real amount of capital income. Instead, the increase in the ratio of capital income might be caused by the substantial decrease of other types of income, such as employment income.

Figure 8 indicates that this speculation is probably correct. This figure shows the historical change in total household income in the 3rd, 6th, 9th, and 10th income deciles. Other income deciles were omitted for readability.

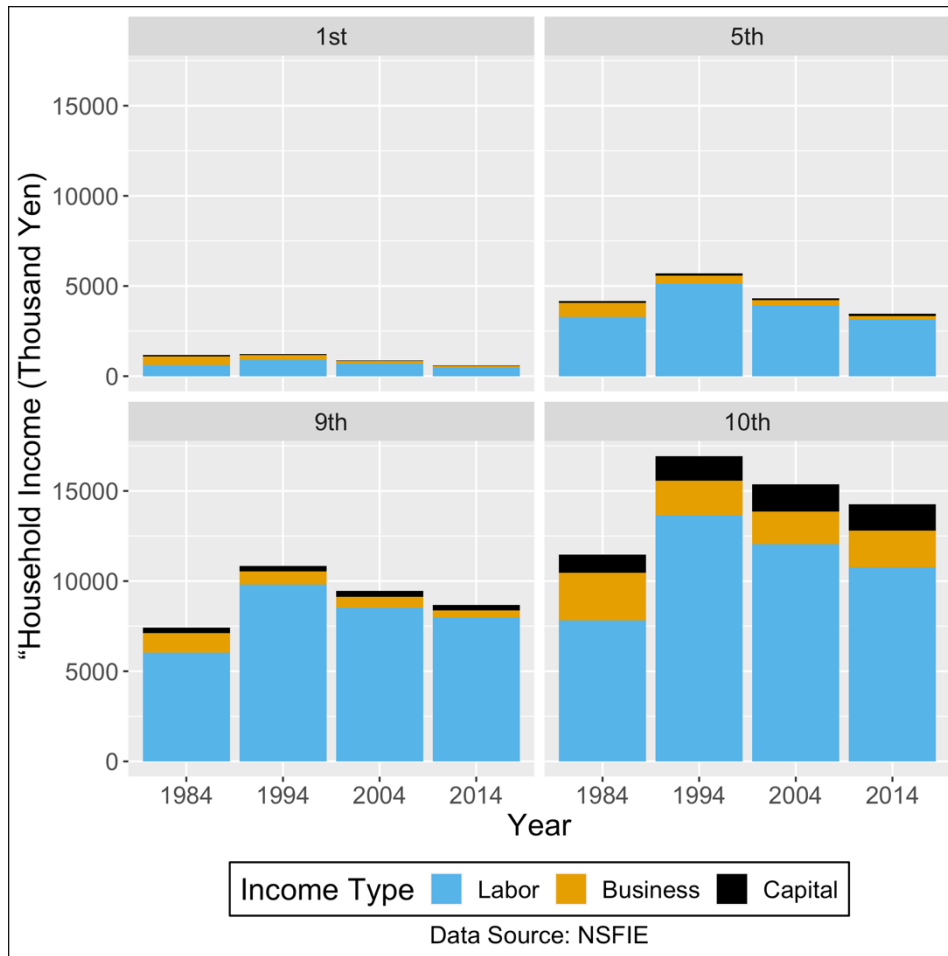


Figure 8: Historical change in household income by type of income for the 3rd, 6th, 9th, and 10th income deciles

Every income decile in **Figure 8** shows a gradual decline in employment income from 1994 to 2014. In addition, business income also appears to decrease for all deciles except the 10th income decile. In contrast to employment income and business income, the amount of capital income does not seem to change. However, given that employment income and business income both declined, the ratio of capital income increased (**Figure 7**). The decline of employment income and business income from the 1994 probably reflects the slow economic growth of this period. In other words, nominal and real wages became lower, while revenues for self-employed businesses also decreased. As a result,

both employment income and business income declined and the ratio of capital income to total household income increased.

5. Conclusion

In conclusion, this study revealed two important facts. First, households with higher incomes also became richer in wealth, while households with lower incomes did not (**Study 1, Figure 5**). Second, in the analysis of wealth as flow, we found the ratio of capital income to total household income increased in many income deciles, while the substantial difference between the 10th income decile and other income deciles was maintained (**Study 2, Figure 7**). These results indicate that the importance of wealth as an economic resource increases regardless of income level, while wealth inequality is perpetuated. It is likely that population aging and decreasing employment income and business income in the low-growth era in Japan have strengthened the role of wealth as socioeconomic resource.

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