

Why Do Income Thresholds Persist? **

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Abstract

Many previous studies have demonstrated the existence of “income thresholds,” which are said to lead to working hours adjustment among women in Japan’s labor supply. This paper develops a simulation model for married women’s labor supply and conducts sensitivity analyses of the effects of potential policy changes including spousal tax deductions, social insurance premium deductions for dependents, and the basic deduction for income tax. We also assess the quantitative impacts of these policies by comparing them with the effects of shifts in social norms and demographic trends. The simulation is based on the income-targeting hypothesis, which assumes that secondary earners, who face severe time constraints and whose income constitutes a minority share of household income, set their labor supply to supplement the household’s required income. This approach produces an income distribution close to the observed data and results in a pronounced threshold around ¥1 million. Our results suggest that the so-called ¥1.03 million income threshold is not primarily driven by the income tax liability threshold or the spousal tax deduction. Instead, it appears to stem from social norms regarding employment based on income targets, as well as conservative reductions in labor supply to avoid exceeding the ¥1.30 million threshold for social insurance premium deductions.

Keywords: women, labor supply, income threshold, working hours adjustment, simulation

JEL Classification: J12, J22, H24

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I. Introduction

I-1. Motivation

The term “annual income threshold” refers to the benchmark annual income level at which tax and social insurance contributions become applicable (Nakazato 2023). Primarily, these include resident tax (which varies by municipality but ranges from ¥960,000 to ¥1,000,000), income tax (¥1,030,000), and the spouse deduction and special spouse deduction (to qualify for the full deduction, the threshold was ¥700,000 from 1987 to 2003, ¥1,050,000 from 2004 to 2017, and ¥1,500,000 from 2018 onward), and the social insurance premium deduction (¥1.3 million until September 2016; ¥1.06 million for companies with 501 or more employees from October 2016 onward, 101 or more employees from October 2022 onward, and 51 or more employees from October 2024 onward). “Working hour adjustment” refers to the practice of adjusting working hours and other factors to ensure that income does not exceed the so-called “annual income threshold.”

Working hour adjustment has been noted in Japan since the 1990s. The underlying issue behind this phenomenon is that the after-tax income of households whose income slightly exceeds the threshold ends up being lower than that of households whose income falls slightly below the threshold. This has been viewed as problematic because it restricts the labor supply of women and undermines neutrality in work-style choices. In recent years, rapid increases in the minimum wage have raised hourly wages for part-time workers, meaning that even within typical part-time working hours, their income often reaches the “annual income threshold.” As a result, more part-time workers are reducing their working hours toward the end of the year. Combined with labor shortages, this situation has led employers such as the Japan Chain Stores Association to call on the government to take measures to address the “annual income threshold.”

Taxes and social insurance premiums are thus closely linked to the labor supply of women. Many studies have revealed the existence of so-called “income thresholds,” as well as the practice of adjusting working hours to stay below them. This paper examines the prevalence of income thresholds among married women in Japan and, through simulation, explores the causes underlying these income thresholds and adjustments to working hours.

I-2. Income Tax and the Female Labor Supply

First, we provide an overview of the income tax system, which can have a significant impact on the female labor supply. In many countries, individual taxation is the standard approach (Borella, De Nardi, and Yang 2023). Currently, joint taxation is limited to a few countries such

as Germany, Denmark, Belgium, the United States, and France. Prior to World War II, Japan's income tax system was based on household-level taxation, but it was changed to individual-level taxation in 1949 based on the Shoup Recommendations. Before the war, when farming households were prevalent, individual-level taxation was technically difficult to implement. However, as the number of wage earners increased, individual taxation became feasible. Today, Japan's system is, in principle, based on individual taxation. However, it also includes exceptions to this principle, such as the spouse deduction and the special spouse deduction.

Based solely on the tax unit, the tax system should be neutral with respect to women's labor supply. However, when progressive taxation is combined with joint taxation, married secondary earners face higher marginal tax rates than single individuals (Keane 2022). As a result, secondary earners may choose to reduce their labor supply. For example, consider a household with a primary earner earning ¥9 million annually and a secondary earner earning ¥1 million annually, where the secondary earner's income increases to ¥1.1 million. Under progressive individual taxation, a lower tax rate would apply to the additional ¥100,000 in income. However, under progressive joint taxation, the tax rate would be higher than it would be under individual taxation.

In the United States, where joint taxation is the norm, both a marriage penalty (where married couples pay higher taxes than singles) and a marriage bonus (where married couples pay lower taxes) coexist. Congressional Budget Office (CBO, 1997) reports that 42% of couples experienced a marriage penalty and 51% enjoyed a marriage bonus in 1996. The extent of these effects varies depending on income. Among couples with an annual income of \$20,000 or less, 12% face a marriage penalty, while 63% receive a marriage bonus. In contrast, among couples with an annual income of \$20,000 to \$50,000, more receive a marriage bonus than face a marriage penalty. Meanwhile, among couples with an annual income exceeding \$50,000, slightly more face a marriage penalty than receive a marriage bonus. Under these circumstances, the labor supply of women decreases, particularly among high-income couples.

It is also well known that the labor supply elasticity of married women is high, meaning hourly wages have a significant impact on their labor supply. This is because the time of married women is highly substitutable with market goods in household production, such as child-care. While taxes do not significantly affect the working hours of married men or unmarried women, they have a significant impact on married women (Bick and Fuchs-Schündeln 2018). Several studies have analyzed the impact on female labor supply using tax reform events.¹ These studies examine the effects of changes from joint taxation to separate taxation (or vice versa) and changes in tax rates on female labor supply. The results reveal that joint taxation,

¹ LaLumia (2008) and Eissa (1996) used tax reform events in the United States, while Crossley and Jeon (2007) used those in Canada to examine the impact of changes in income tax rates on women's labor supply.

when applied alongside progressive taxation, acts as a significant disincentive to the labor supply of married women. Bick and Fuchs-Schündeln (2017) suggest that eliminating these factors is a promising policy if the goal is to increase the labor supply of married women.

Immervoll et al. (2011) suggest, based on the microsimulations of tax reforms across 15 European countries, that lowering tax rates for secondary earners relative to primary earners leads to significant welfare gains in all countries. Bick et al. (2019) argue that labor income taxes are a key driver of the increased labor supply among women. However, they note that labor income taxes account for only part of the gradual rise in the employment rate of married women from the 1980s to the early 1990s, suggesting that factors not considered in their study play a significant role.

I-3. The “Annual Income Threshold” in Japan

Since the 1990s, it has been recognized in Japan that married women working part-time face the challenge of adjusting their working hours to keep their annual income within the limits that would prevent them from being classified as dependents under tax and social insurance systems.

Why were the Spouse Deduction and the Special Spouse Deduction introduced? In Japan, prior to World War II, most of the population consisted of farmers or self-employed individuals, so income tax was levied on a household basis. However, based on the Shoup Recommendations of 1949, the system was changed to individual taxation (Toyofuku 2017).

In 1984, the Government Tax Commission and the LDP Tax Commission considered adopting an “income-splitting method” for calculating income tax for employees.² If this method had been adopted, households with full-time homemakers would have seen their taxes reduced even if their household income remained the same. However, this proposal was ultimately rejected, and the Special Spouse Deduction system was presented as an alternative.

Additionally, around this time, a separate issue known as the “part-time worker problem” arose. This problem stemmed from the fact that if a part-time working housewife’s salary exceeded ¥900,000 annually, her husband would no longer be eligible for the spousal deduction. Consequently, near this threshold, households with slightly higher annual incomes ended up with lower net household income than those with lower incomes, leading opposition parties to demand tax cuts for part-time workers. This problem was viewed as a major issue, leading to the introduction in 1987 of the Special Spousal Deduction, which reduces the deduction amount in a step-by-step manner. It was debated in the Diet in February 1987 alongside the

² The “income-splitting method” for income tax is a household-based taxation system in which the couple’s combined income is divided by 2, the tax rate is applied to that amount to calculate the tax liability, and the result is then multiplied by 2 to determine the couple’s income tax.

introduction of a sales tax. However, while the sales tax bill was scrapped due to opposition from opposition parties, only certain tax cuts—including the Special Spousal Deduction—were enacted. In 1987, the Special Spousal Deduction was only about half the amount of the standard Spousal Deduction, but in the Diet session of December 1988, along with the introduction of the consumption tax, the maximum amount of the Special Spousal Deduction was raised to match that of the standard Spousal Deduction.

In 2004, the Special Spousal Deduction for those with an income of ¥1.03 million or less was partially abolished in order to reduce factors hindering women from working long hours. Only the deduction for income exceeding ¥1.03 million was maintained. As this coincided with parliamentary deliberations on expanding the child allowance system, it is seen as a bill that reduced benefits for salaried workers.

In this way, recent changes to the tax and social insurance systems regarding spouses have been implemented with the aim of correcting systems that had been criticized for being biased against women's working patterns. In 2018, the tax schedule was revised to address concerns that it had favored high-income earners. Specifically, even when a wife's income remained the same and the same amount was deducted from the husband's income, the deduction amount was larger because the husband's higher annual income resulted in a higher tax rate. Prior to 2018, the deduction amount gradually decreased as the spouse's (wife's) income exceeded ¥1.03 million. Since 2018, the deduction amount remains the same for a wife's income up to ¥1.5 million, and decreases in stages once it exceeds ¥1.5 million. Additionally, while there were no requirements regarding the husband's annual income prior to 2018, the 2018 tax reform established different deduction amounts based on the husband's annual income: ¥9 million or less, ¥9 million to ¥9.5 million, and ¥9.5 million to ¥10 million. The tax schedule was amended so that the spouse deduction and special spouse deduction are eliminated if the husband's income exceeds ¥10 million.

The 2025 tax reform also revised the “¥1.03 million income threshold for income tax.” Since this is an amendment to the income tax system, it applies regardless of gender or marital status. Specifically, while the basic deduction for income tax was previously ¥480,000, it has been raised to ¥950,000 for those with salary income of ¥2 million or less. For those with salary income exceeding ¥2 million, the basic deduction has also been raised from ¥480,000 to ¥580,000. Additionally, limited to fiscal years 2025 and 2026, the basic deduction has been raised to ¥880,000 for those with salary income between ¥2 million and ¥4.75 million, to ¥680,000 for those with salary income between ¥4.75 million and ¥6.65 million, and to ¥630,000 for those with salary income between ¥6.65 million and ¥8.5 million.

Although this series of tax reforms was designed to eliminate the “income threshold” for the spousal deduction, this has not actually occurred in practice. According to Kondo and Fukai (2023), even among women who married between 2018 and 2020, the most common

amount of salary income reported in the year following their marriage was ¥1.03 million.

Regarding social insurance premiums, the eligibility requirements for “Category 3 insured persons”³ underwent significant changes in 2016. Prior to 2016, workers were required to enroll in the Employees’ Pension Insurance if their annual income was at least ¥1.3 million and their working hours were generally three-quarters of those of a regular employee, or at least 30 hours per week. However, in 2016, for large companies with more than 500 regular employees, workers with an annual income of at least ¥1.06 million and scheduled working hours of at least 20 hours became eligible for the Employees’ Pension Insurance. The company size requirements were subsequently expanded. As of October 2022, the criteria of an annual income of ¥1.06 million or more and scheduled working hours of 20 hours or more per week apply to workers at companies with more than 100 regular employees, and as of October 2024, apply to workers at companies with more than 50 regular employees. As a result, some individuals who were previously Category 3 insured persons have been reclassified as Category 2. Due to the combination of the annual income threshold for large companies being lowered from ¥1.3 million to ¥1.06 million and the rise in the minimum wage, the number of part-time workers engaging in work hour adjustments at year-end increased. Consequently, the “Annual Income Threshold Support Enhancement Package” introduced in October 2023 established a system providing up to ¥500,000 per employee to companies that effectively cover employees’ social insurance premiums—such as by raising wages—to address the ¥1.06 million threshold. The Pension System Reform Bill submitted to the Diet in May 2025 includes provisions to abolish the annual income requirement. If this bill is enacted, only the working hours requirement will remain, and it is expected that year-end adjustments to working hours driven by concerns about the “annual income threshold” will cease. Additionally, the size requirement for companies—which has been set at 51 or more employees—will be phased out, and by 2035, even companies with 10 or fewer employees will be eligible for enrollment.

To eliminate the “annual income threshold” for female part-time workers caused by taxes and social insurance, the threshold at which these deductions apply must either be raised significantly or brought closer to zero. Recent changes to the spouse deduction and special spouse deduction have raised the threshold and smoothed out the previously stairstep structure. In contrast, while social insurance premium deductions have been revised since 2016 to lower the threshold and expand the number of eligible workers, the 2023 “Annual Income Threshold and Support Enhancement Package” actually narrowed the scope of application. However, revisions to expand eligibility again are currently under consideration for 2025.

³ Category 3 insured persons are a classification of insured persons under the National Pension System, referring to spouses aged 20 or older but under 60 who are dependents of salaried employees or civil servants (Category 2 insured persons). Full-time homemakers and women working part-time jobs fall under this category. The most significant feature is that even though they do not need to pay premiums themselves (it is free), they are treated as having paid premiums when calculating their pension benefits.

Thus, while the tax system has been revised to increase the number of eligible workers in order to eliminate the “annual income thresholds,” the social insurance system has been revised in different directions—increasing, decreasing, and then increasing the number of eligible individuals—with each amendment.

I-4. Contributions of This Study

Many existing studies have examined how Japan’s tax and social insurance spousal deduction systems have affected the labor force participation of married women.

Several studies have identified thresholds at ¥1.03 million and ¥1.3 million in the distribution of women’s annual income. Kondo and Fukai (2023) confirm the existence of “annual income thresholds” at ¥1.03 million and ¥1.3 million using municipal individual resident tax assessment records. Kodama (2022) compares annual income distributions using 30 years of data from the Basic Survey on Wage Structure. According to Kodama (2022), although the 2004 tax reform partially abolished the Special Spousal Deduction, the ¥1.03 million threshold has persisted since then, and the ¥1.3 million threshold has become even higher than before.

Abe and Otake (1995), Oishi (2003), Akabayashi (2006), and Takahashi (2010) estimate elasticity with respect to labor supply using Japanese data. In Abe and Otake (1995), the labor supply behavior of DINKs (Double Income, No Kids) is compared with that of unmarried women, and it is pointed out that the spousal (special) deduction system, the salary income deduction, spousal allowances, and the social security system cause part-time workers to adjust their working hours. Oishi (2003) reveals that tax and social security systems discourage married women from working, and that this tendency is more pronounced as the husband’s income increases. According to Akabayashi (2006) and Takahashi (2010), using structural estimation, the elasticity of married women’s labor supply with respect to hourly wages is positive, indicating that the labor-suppressing effects of the spousal deduction and social security systems on married women are far smaller than those found in previous reduced-form estimates. Takahashi (2010) points out that estimates based on the reduced form may be interpreting the labor-suppressing effect as a change in preferences.

Yokoyama (2018) and Yokoyama and Kodama (2016) use the Keio University Household Panel Survey—a panel data set of individuals—to show that, following the partial abolition of the Special Spousal Deduction in 2004, the annual income and weekly working hours of married women decreased. Since the Spouse Deduction and the Special Spouse Deduction tend to discourage married women from working long hours, the partial abolition of the Special Spouse Deduction was expected to increase their working hours. However, the results were the opposite of what was expected. Regarding the reason for this, they point to the possibility of an income effect resulting from an increase in husbands’ incomes that occurred

during the same period.

Studies have also examined whether employers have adjusted working hours in response to recent minimum wage increases. According to Mori and Okudaira (2025), while hourly wages have risen due to minimum wage hikes, annual income has not increased to the same extent. Kodama and Momoda (2024) reveal that workers with marginally higher hourly wages work fewer hours, and that the extent of this reduction does not vary significantly based on hourly wage levels. They suggest that the reason for negative labor-hour elasticity may lie in factors other than taxes and social insurance premiums—such as personal preferences or family circumstances—which may be causing workers to limit their working hours.

Many existing studies have revealed the existence of the “annual income threshold” and the actual practices surrounding adjustments to working hours. However, the reasons behind these phenomena have not always been clearly identified. For example, even if a cluster is observed at ¥1.03 million, factors other than the spousal deduction—such as income tax thresholds or potential spousal allowances offered by employers—may also influence this. Furthermore, despite reforms to tax and social insurance systems aimed at mitigating the “annual income threshold,” the observed threshold remains firmly in place. It is possible that people’s perceptions play a greater role than institutional factors such as tax and social insurance systems, or that there is a time lag in the policy effects becoming apparent. In this paper, we construct a simulation model of married women’s labor supply and use sensitivity analysis to examine the effects of policy changes, such as adjustments to the spousal deduction, social insurance premiums, and the basic income tax deduction. Furthermore, by comparing these effects with those resulting from work norms and demographic trends, we provide a relative assessment of the magnitude of changes to tax and social insurance systems.

II. Data

We use the “Comprehensive Survey on the Status of Part-Time Workers (Part-Time Worker Survey)” conducted by the Ministry of Health, Labour and Welfare. This survey is conducted every five years. This study employs the 2021 survey.

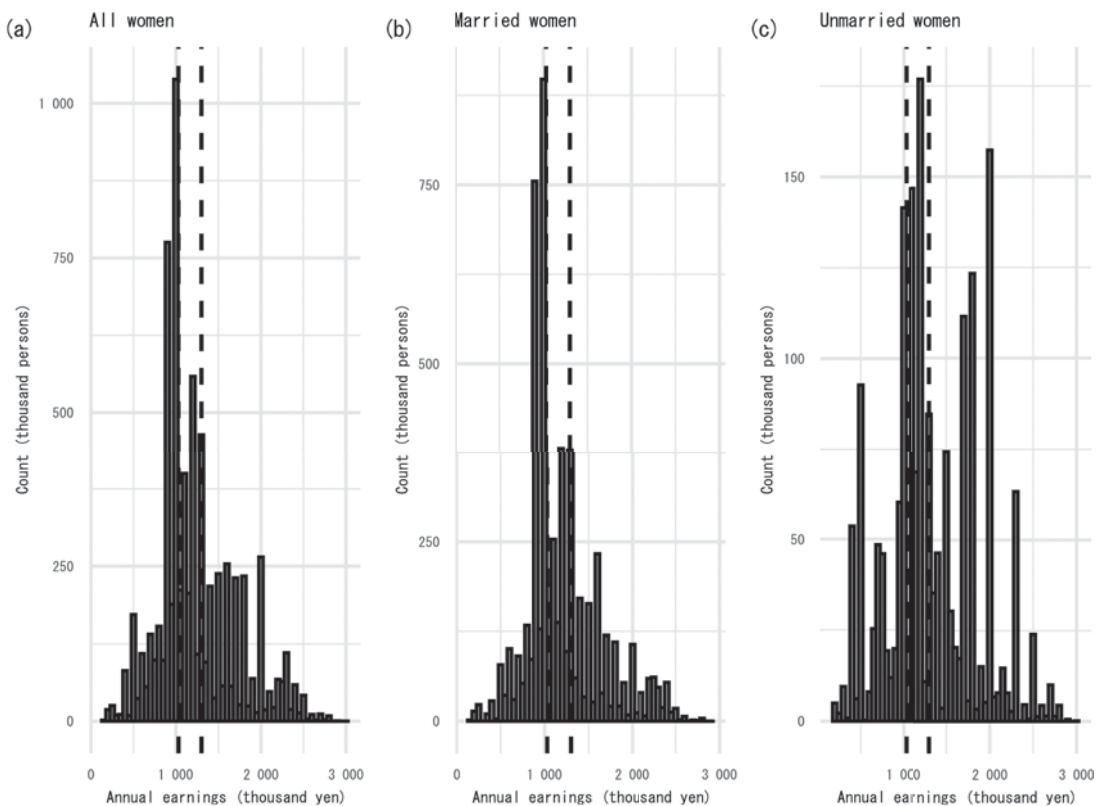
The Part-Time Worker Survey employs a two-stage stratified random sampling method, with industry (19 categories) and establishment size (5 categories) as strata. Specifically, establishments are selected in the first stage, and individuals are selected from within the selected establishments. The sample size is approximately 15,000, all of whom are part-time workers. The survey asks part-time workers about their personal attributes (gender, age, educational background, etc.), tenure, working hours, marital status, spouse’s employment status and annual income, household family members, reasons for working, reasons for choosing their current employment status, annual income, employment insurance and social insurance

enrollment status, and whether they have adjusted their working hours and why.

The data used in this study pertain to female part-time workers earning an annual income of ¥3 million or less. The Part-Time Worker Survey includes a question asking about income for the previous full year (January 1 to December 31) in increments of ¥10,000. Panels (a), (b), and (c) in Figure 1 show the annual income distributions in increments of ¥50,000 for all women, married women, and unmarried women, respectively.

The dotted lines represent income levels of ¥1.03 million and ¥1.3 million. Among unmarried women in Panel (c), no evidence of employment adjustment at the ¥1.03 million or ¥1.3 million income thresholds is observed. In Panel (b) for married women, a bunching of workers is observed around the ¥1.03 million level, suggesting that married women adjust their employment to avoid exceeding this income threshold. Panel (a) shows the income distribution for all women, and the income threshold observed here reflects the behavior of married women.

Figure 1: Income Distribution of Female Part-Time Workers



Note: Used only data for female part-time workers with annual income below ¥3 million. Panels (a), (b), and (c) show the income distribution for all women, married women, and unmarried women, respectively, in ¥50,000 increments.

Source: The authors' calculations using the Part-Time Worker Survey (2021)

Table 1: Questions for the Part-Time Worker Survey

No.	Reason for Adjusting Working Hours
(1)	Because exceeding the personal income tax exemption threshold (¥1.03 million) means you must pay taxes.
(2)	Because exceeding a certain amount eliminates the spouse deduction for tax purposes and reduces the special spouse deduction.
(3)	Because exceeding a certain amount means you can no longer receive the spouse's allowance from your spouse's company.
(4)	If you exceed a certain amount (¥1.3 million), you will no longer be considered a dependent on your spouse's health insurance or employee pension insurance, and you will have to enroll yourself.
(5)	If you exceed a certain number of working hours, you will have to pay premiums for employment insurance, health insurance, and employee pension insurance.
(6)	The company is arranging things, so you don't meet the requirements for enrollment in employment insurance, health insurance, or employee pension insurance.
(7)	To minimize the reduction rate or avoid a reduction in the pension currently being paid.
(8)	Other reasons

Note: This table reports the reasons for adjusting working hours among respondents who answered “Yes” to the question, “Have you adjusted your working hours (or annual income) in the past year?” The answer options to this initial question were “Yes,” “No,” and “Don’t know.”

Source: From the Part-Time Worker Survey (2021) questionnaire

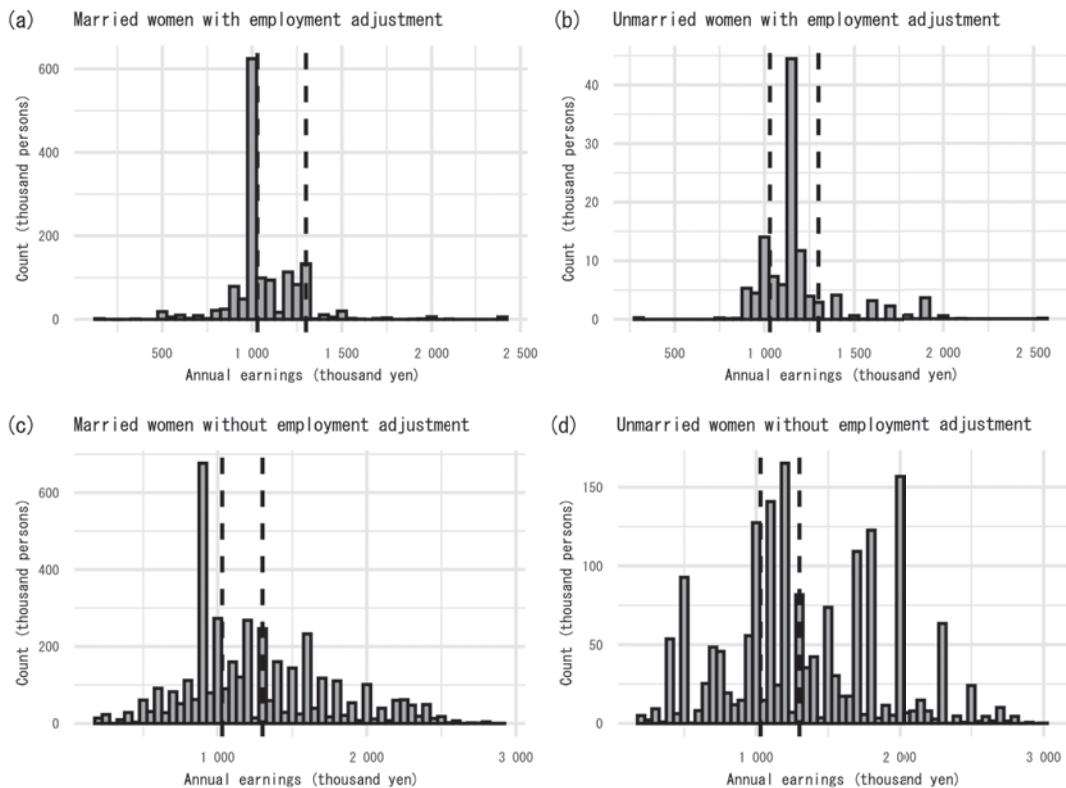
The Part-Time Worker Survey directly asks about work hour adjustments. Table 1 shows the relevant question and response options. Respondents first select whether they adjust their work hours. Those who answer “yes” then select reasons from multiple options. One option lists institutional factors such as income tax and social insurance premiums. Respondents selecting this option are therefore presumed to be adjusting their working hours due to the tax or social insurance system.

The proportion of workers adjusting their working hours based on marital status is approximately 21% overall, about 27% for married women, and 6% for unmarried women. Figure 2 shows the income distribution by marital status and whether working hours are adjusted. In Panel (a), the income distribution for married women who adjust their working hours shows a sharp drop in the number of subjects exceeding both the ¥1.03 million and ¥1.3 million annual income thresholds, suggesting working hours are adjusted. In contrast, Panel (b) for unmarried women who adjust their working hours does not show such characteristics in the income distribution. Panel (c) shows the income distribution for married women not adjusting their working hours. While incomes cluster around the ¥0.9 million, no distinct differences in distribution are observed around the ¥1.03 million or ¥1.3 million income thresholds. Panel (d) for unmarried women not adjusting their working hours shows a large number of incomes around ¥1 million, but no bunching is observed at the income thresholds.

Figure 2 shows that the income distribution of female part-time workers exhibits two

characteristics. First, regardless of whether working hours are adjusted, the income bracket around ¥1 million is the most common. Second, for married women who adjust their working hours, the ¥1.03 million threshold exerts a stronger constraint on women's decisions to adjust working hours than the ¥1.3 million threshold.

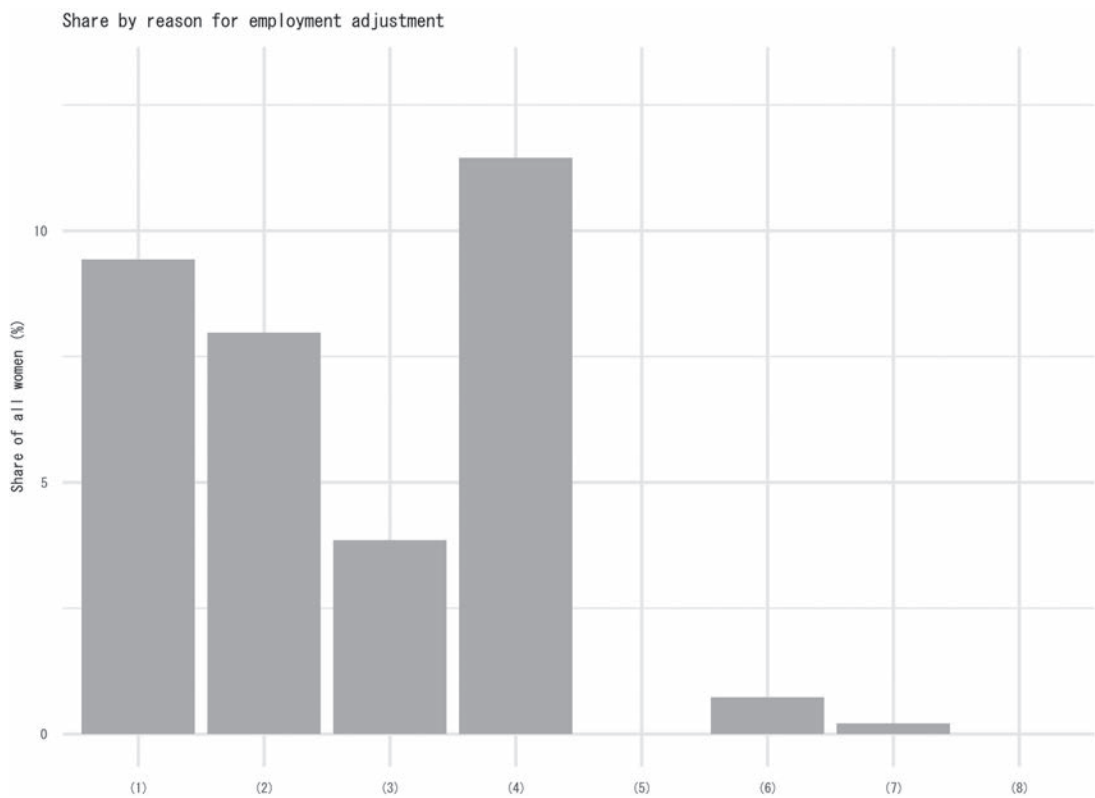
Figure 2: Income Distribution by Marital Status and Whether Working Hours are Adjusted



Note: Used only data for female part-time workers with annual income below ¥3 million. Panel (a) shows the income distribution for married women who adjust their working hours, (b) for unmarried women who adjust their working hours, (c) for married women who do not adjust their working hours, and (d) for unmarried women who do not adjust their working hours.

Source: The authors' calculations using the Part-Time Worker Survey (2021)

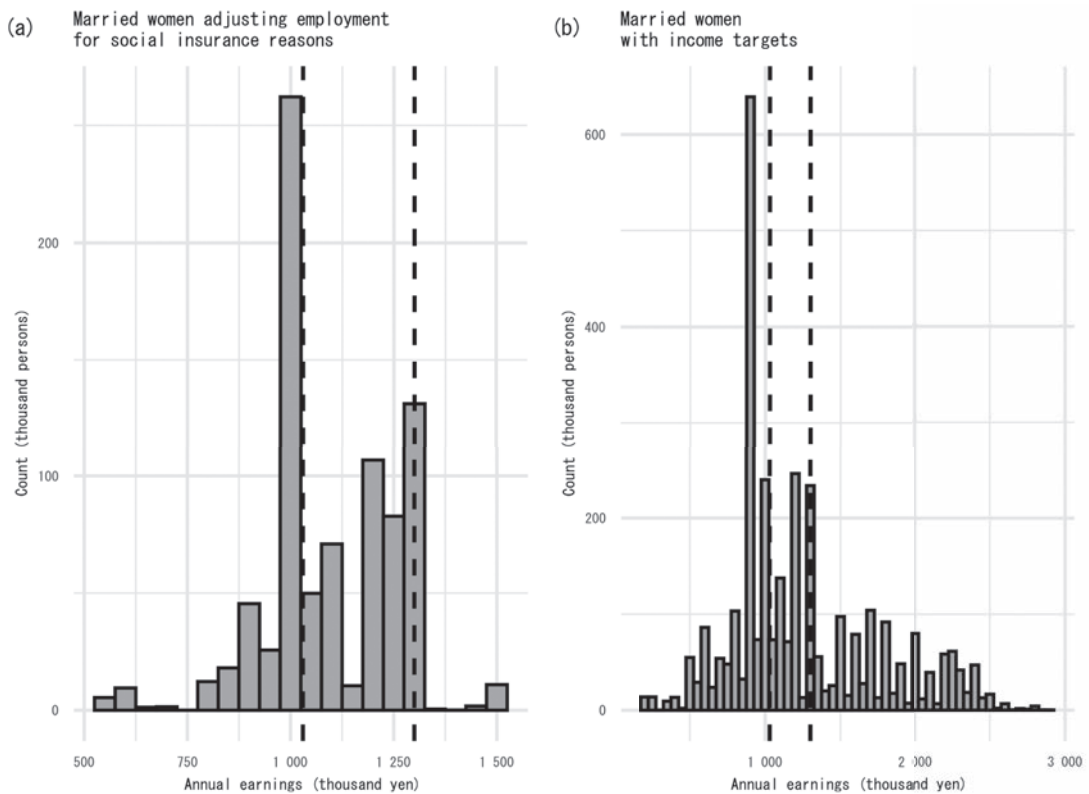
Figure 3: Percentage by Reason for Working Hours Adjustment



Note: The numbers on the horizontal axis correspond to the response options for reasons for adjusting working hours listed in Table 1.

Source: The authors' calculations using the Part-Time Worker Survey (2021)

Figure 4: Income Distribution by Reason for Adjusting Working Hours



Note: Used only data for female part-time workers with annual income below ¥3 million. Panel (a) shows the income distribution of women who reported adjusting their working hours due to social insurance premium payments. Panel (b) shows the income distribution of women who did not cite social insurance premium payments as a reason for adjusting their working hours but reported having an income target.

Source: The authors' calculations using the Part-Time Worker Survey (2021)

Figure 3 shows the percentage of respondents who selected each reason for adjusting their working hours. The numbers (1)–(8) on the horizontal axis correspond to the response option numbers listed in Table 1. Among the reasons for adjusting working hours, social insurance premiums corresponding to the ¥1.3 million threshold account for the highest share of responses, followed by income tax and the spouse deduction corresponding to the ¥1.03 million threshold.

The most frequently cited reason for adjusting working hours was “4. Social insurance premiums (to address the ¥1.3 million threshold),” followed by “1. Income tax (to address the ¥1.03 million threshold)” and “2. Spouse deduction (to address the ¥1.03 million threshold).” The spouse deduction system was changed in 2018 such that the combined amount of the spouse deduction and the special spouse deduction gradually decreased from ¥1.51 million

to ¥2.01 million. Figure 4 Panel (a) shows the income distribution of those adjusting working hours for social insurance premiums. While respondents stated they adjust to stay below ¥1.3 million, it is evident they flexibly adjust income between ¥1 million and ¥1.3 million, rather than precisely at ¥1.3 million. This is likely because workers do not know their exact income at the time of working and thus adjust conservatively.

Figure 2 shows that many women who report not adjusting their working hours are working to earn an annual income of approximately ¥1 million. Even without constraints from the tax or social insurance system, they may be limiting their working hours for some reason. Kodama et al. (2025) point out that income targets are one such factor. We define female part-time workers who are not the primary earners but choose to work for any of the following reasons as workers with income targets: i) essential for sustaining living expenses, ii) to supplement children's education or support costs, iii) to contribute to mortgage repayments, iv) to supplement other household income. When working for these reasons, most of the household income is typically covered by the income of other household members (such as a spouse). The income earned by these workers is considered to be intended to supplement the amount necessary to cover household expenditures, hence defining them as income-targeted. Approximately 72% of these workers have income targets. Figure 4(b) shows the income distribution of married women with income targets who do not adjust their working hours due to taxes or social insurance. A cluster is observed around ¥900,000, but the distribution is generally normal otherwise.

Table 2 shows descriptive statistics for the part-time worker survey. The marriage dummy variable is 1 if married, 0 otherwise. The work hour adjustment dummy variable is 1 if respondents reported adjusting work hours, 0 otherwise. The income target dummy variable is 1 if an income target is defined, 0 otherwise. Income is expressed in units of ¥1,000. Spouse's income is categorized into the following brackets: ¥0–¥1 million, ¥1–¥2 million, ¥2–¥3 million, ¥3–¥4 million, ¥4–¥5 million, ¥5–¥6 million, ¥6–¥8 million, and ¥8–¥10 million. Each figure represents the average for all women, married women, and unmarried women, respectively, for each variable, with the standard deviation shown in parentheses.

Since the sample is limited to part-time workers, the proportion of married individuals is high at 74%. Among female part-time workers, 21% reported adjusting their working hours, indicating that, at least in the part-time worker survey, few respondents stated they had adjusted their hours. Looking at the distribution in Figure 1, many earn between ¥0.9 million and ¥1.3 million without adjusting their working hours. Meanwhile, about two-thirds (64%) of all women appear to have income targets. Regarding spouses' income, it is widely distributed from ¥3 million to ¥10 million, with the proportion in each income bracket ranging from 9% to 18%.

Table 2: Descriptive Statistics

Variables	All Women	Married Women	Unmarried Women
married	0.74 (0.44)		
annual income (¥1,000)	1,239.73 (466.96)	1,206.30 (436.04)	1,336.92 (535.30)
Dummy with working hour adjustments	0.21 (0.41)	0.27 (0.44)	0.06 (0.24)
Income Target (Dummy)	0.64 (0.48)	0.81 (0.39)	0.17 (0.38)
Spouse's Income (¥10,000)			
0		0.12 (0.32)	
0–100		0.02 (0.15)	
100–200		0.05 (0.22)	
200–300		0.13 (0.34)	
300–400		0.15 (0.35)	
400–500		0.13 (0.33)	
500–600		0.16 (0.37)	
600–800		0.14 (0.35)	
800–1,000		0.10 (0.29)	

Note: Used only data for female part-time workers with annual income below ¥3 million.

Source: The authors' calculations using the Part-Time Worker Survey (2021)

III. Simulation

This section constructs a simulation model for the labor supply of married women that aligns with the data characteristics identified in the previous section. It examines the effects of the following policy changes within this model: Case (i): Absence of the income tax spouse deduction system, Case (ii): A ¥470,000 increase in the income tax basic deduction, Case (iii): Absence of social insurance premium payments, Case (iv): No social insurance premiums or spousal deduction, Case (v): All individuals paying social insurance premiums, Case (vi): All individuals paying social insurance premiums with no spousal deduction, Case (vii): Social insurance premiums starting at ¥3 million, and Case (viii): Social insurance premiums starting at ¥3 million with no spousal deduction.

Furthermore, to assess the magnitude of the impact, simulations were also conducted for the following cases: Case (ix): No income target, Case (x): Marriage rate the same as in 2000, and Case (xi): Employment status distribution by marital status the same as in 2000. For Cases (x) and (xi), the labor input of full-time workers is extrapolated from the Basic Survey on Employment Structure, and the labor input of women in the overall economy is calculated using the proportion of female workers by employment status obtained from the Population Census.

III-1. Simulation Model

In the simulation model used in this section, the labor input of married women is determined by solving the following optimization problem.

$$\begin{aligned} \max_{h>0} u(c, h) &= \frac{c^{1-\sigma}}{1-\sigma} - \psi \frac{(1+h)^{1-\phi} - 1}{1-\phi} \\ \text{s.t. } c &= [wh - T(wh - SI(wh)) - SI(wh)] + [y_s - T(y_s - D(wh) - SI(y_s)) - SI(y_s)] \end{aligned}$$

The worker's utility function is additively separable in utility from consumption, c , and disutility from labor input, h . The parameter $\sigma > 0$ denotes the inverse of the elasticity of substitution in consumption. The disutility-of-labor function is normalized by $1 + h$ so that it is continuous as $h \rightarrow 0$. The parameter ψ is a scale parameter for the disutility of labor. The worker chooses labor input by considering the sum of her own disposable income and that of her spouse. Each disposable income is defined as labor income net of income tax, T , and social insurance premiums, SI . The worker's labor income, wh , is given by the exogenous wage, w , multiplied by labor input, h . Income tax is modeled to reflect the Japanese income tax system as of 2021, in which tax rates rise progressively with income. Social insurance premiums are also modeled to reflect the Japanese system, in which a fixed premium rate is imposed on the worker's entire labor income once earnings exceed a certain threshold. Social insurance premiums paid are deductible for income tax purposes. The spouse is subject to the same income tax and social insurance premiums on exogenous labor income, y_s . However, the spouse deduction, D , is applied depending on the worker's labor income, wh .

The income tax function for a given level of taxable income, y_{tax} , is expressed by the threshold vector $Tcutoff$ and the marginal tax rate vector $Trate$. When taxable income satisfies $cutoff(i) < y_{tax} < cutoff(i + 1)$, the tax liability, $T(y_{tax})$, is given by

$$\begin{aligned} T(y_{tax}) &= [Tcutoff(1) - 0] \times Trate(1) + [Tcutoff(2) - Tcutoff(1)] \times Trate(2) + \\ &\quad \dots + [y_{tax} - Tcutoff(i)] \times Trate(i). \end{aligned}$$

Here, parentheses attached to a vector denote its elements. Taxable income, y_{tax} , is defined as labor income, y , net of the earned income deduction, $ID(y)$, and the basic deduction, b .

$$y_{tax} = y - ID(y) - b$$

Here, b and $ID(y)$ are set to match the Japanese system. The basic deduction, b , is a fixed value. For each income bracket, $ID(y)$ is defined using the slope vector $IDSlope$, the intercept vector $IDint$, and the threshold vector $IDcutoff$ as

$$ID(y) = IDslope(i) \times y + IDint, \text{ if } IDcutoff(i) \leq y < IDcutoff(i + 1).$$

The social insurance premium function for a given level of labor income, y , denoted by $SI(y)$, is expressed by the threshold $SIcutoff$ and the social insurance premium rate $SIrate$ as follows:

$$SI(y) = \begin{cases} 0 & , \text{ if } wh < SIcutoff \\ SIrate \times y & , \text{ if } wh \geq SIcutoff. \end{cases}$$

Finally, the spouse deduction is expressed by the lower threshold $Dcutoff_{min}$, the upper threshold $Dcutoff_{max}$, and the maximum deduction amount, D_{max} , as follows:

$$D(y) = \begin{cases} D_{max}, & \text{if } y \leq Dcutoff_{min} \\ S(y), & \text{if } Dcutoff_{min} < y \leq Dcutoff_{max} \\ 0 & , \text{if } y \geq Dcutoff_{max} \end{cases}$$

Here, $S(y)$ is a cubic spline function that decreases smoothly from D_{max} to 0 as y increases.

Further constraints on the worker's labor input decision are imposed by the following two assumptions.

【Assumption 1】 Some workers face an upper bound on labor input.

【Assumption 2】 Workers who adjust their working hours because of social insurance premiums reduce their labor input conservatively.

The constraint in Assumption 1 reflects the tendency, shown in Figure 4(b) in the previous section, for workers to have income targets and to work so as not to exceed them, apart from taxes and social insurance premiums. Not all workers are assumed to face such an upper bound, rather, only a proportion (P_{IT}) of workers are subject to this constraint. Moreover, because income targets are intended to supplement the shortfall in household income not covered by the primary earner, they are assumed to differ across workers. Specifically, income targets are assumed to follow a normal distribution with mean μ_{IT} and standard deviation σ_{IT} , truncated between ¥0.6 million and ¥3 million.

III-2. Simulation Method for the Income Distribution

As shown in Table 2 (Descriptive Statistics), there is heterogeneity in spouses' income. In this study, the spouse's income is assumed to be uniformly distributed between ¥3 million and ¥8 million. In the simulation, the grid width for spouses' income is set at ¥5,000, and at each grid point, 30 samples of the upper bound on labor income are generated from a truncated normal distribution, $N(\mu_{IT}, \sigma_{IT})$, over the range from ¥0.6 million to ¥3 million. Since the wage rate is assumed to be constant across workers, this upper bound on labor income corre-

sponds to an upper bound on labor input. Among the generated upper bounds, the constraint is applied only to a proportion (P_{IT}) of workers, and not to the others. Each worker determines labor input by comparing the optimal level of labor input, given the spouse's income and the wage rate, with this upper bound. In addition, because of the kink in the budget constraint created by social insurance premiums, workers who adjust their labor income so as not to exceed SI_{cutoff} determine their labor input according to a truncated normal distribution, $N(\mu_{EA}, \sigma_{EA})$, over the range from ¥1 million to ¥1.3 million.

III-3. Parameters

The parameters used in this model are set as shown in Table 3. The spouse's income, y_s , is assumed to be uniformly distributed between 0.6 and 1.6, with 1.0 corresponding to ¥5 million, that is, between ¥3 million and ¥8 million. Havránek (2015) reviews 169 papers and estimates the elasticity of substitution in consumption to be 0.5. We therefore set σ , its inverse, equal to 2.0. The scale parameter for the disutility of labor, ψ , is normalized to 1. The distributional parameters μ_{IT} , σ_{IT} , μ_{EA} , and σ_{EA} are determined from the income distributions shown in Figure 4 (a) and (b). The parameters ϕ and w are set so that the simulated income distribution matches the income distribution shown in Figure 2. The parameters for income tax are chosen to match the Japanese tax system. To reflect the income thresholds at which marginal tax rates change, we set

$$T_{cutoff} = (-1.0, 0.00, 0.39, 0.66, 1.39, 1.80, 3.60, 8.00)$$

and

$$Trate = (0.00, 0.05, 0.10, 0.20, 0.23, 0.33, 0.40, 0.45)$$

When taxable income is 0.206, that is, up to ¥1.03 million, the income tax rate is zero and no income tax is imposed. This reflects the fact that, under the Japanese system as of 2021, the sum of the basic deduction of ¥480,000 and the earned income deduction of ¥550,000, or ¥1.03 million in total, is deducted from labor income when taxable income is calculated. For social insurance premiums, we set SI_{cutoff} equal to 0.26, that is, ¥1.3 million, and SI_{rate} equal to 0.135. Although the social insurance premium rate differs across prefectures, the health insurance premium rate is approximately 13 to 14 percent. For the spouse deduction, ¥380,000 is deducted from the spouse's income as long as the worker's labor income does not exceed ¥1.5 million, and the deduction amount gradually declines to zero when labor income reaches ¥2.01 million. To capture this system, we set $D_{max} = 0.076$, $D_{cutoff_{min}} = 0.3$, and $D_{cutoff_{max}} = 0.4$.

Figure 5 (a) overlays the kernel density function of the income distribution generated by the model with the kernel density function of the income distribution shown in Figure 2. Figure 5 (b) overlays the kernel density function of the income distribution generated without

imposing either Assumption 1 or Assumption 2 with that of the baseline income distribution. These figures show that, in the simulation, there is bunching around the ¥1.3 million level and a hollow in the distribution between ¥1.3 million and slightly above ¥2 million. This implies that, for workers whose optimal labor input in the absence of the social insurance system would generate income between ¥1.3 million and slightly above ¥2 million, it becomes optimal under that system to adjust labor input to reduce labor income to ¥1.3 million. Within this range, there is also the threshold associated with the spouse deduction, which begins to phase in at ¥2 million and reaches its maximum at ¥1.5 million. However, these levels do not appear explicitly as working-hour adjustments. That said, workers who adjust their income to levels slightly above ¥2 million do consider the benefits of the spouse deduction when making working-hour adjustments. By imposing Assumptions 1 and 2, we obtain an income distribution that replicates the data, as shown in Figure 5 (b). We refer to this as the baseline model.

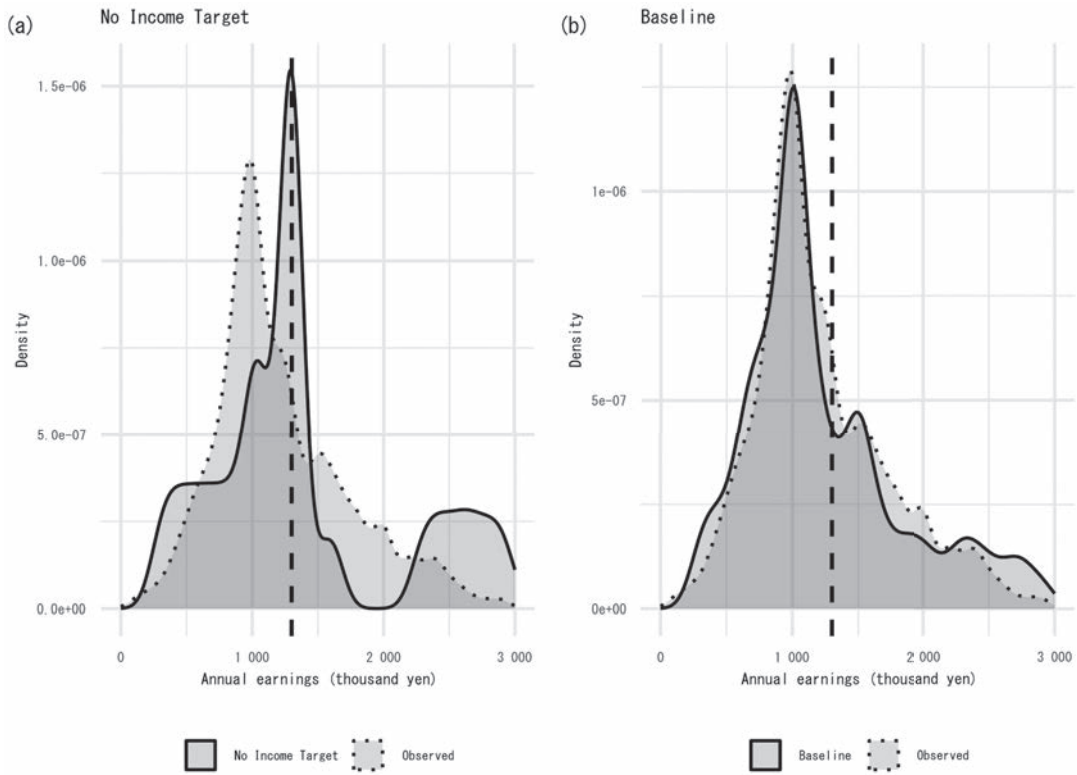
Table 3: Parameters in the Simulations

γ_s	[0.6, 1.6]	$Tcutoff$	(−1.0, 0.00, 0.39, 0.66, 1.39, 1.80, 3.60, 8.00)
σ	2.0	$Trate$	(0.00, 0.05, 0.10, 0.20, 0.23, 0.33, 0.40, 0.45)
ψ	1.0	$IDslope$	(0.11, −0.02, 0.016, 0.088, 0.22, 0.39)
ϕ	0.5	$IDint$	(0, 0.4, 0.3, 0.2, 0.1, 0)
w	1.6	$IDcutoff$	(0.0, 0.325, 0.36, 0.72, 1.32, 1.7)
μ_{IT}	0.2	$Slcutoff$	0.26
σ_{IT}	0.2	$Slrate$	0.135
μ_{EA}	0.2	D_{max}	0.076
σ_{EA}	0.15	$Dcutoff_{min}$	0.3
		$Dcutoff_{max}$	0.4

Note: Parameters are based on Havránek (2015), the Japanese income tax and social insurance systems as of 2021, and the calibration procedure described in the text.

Source: The authors' calibration

Figure 5: Simulation Results: Baseline

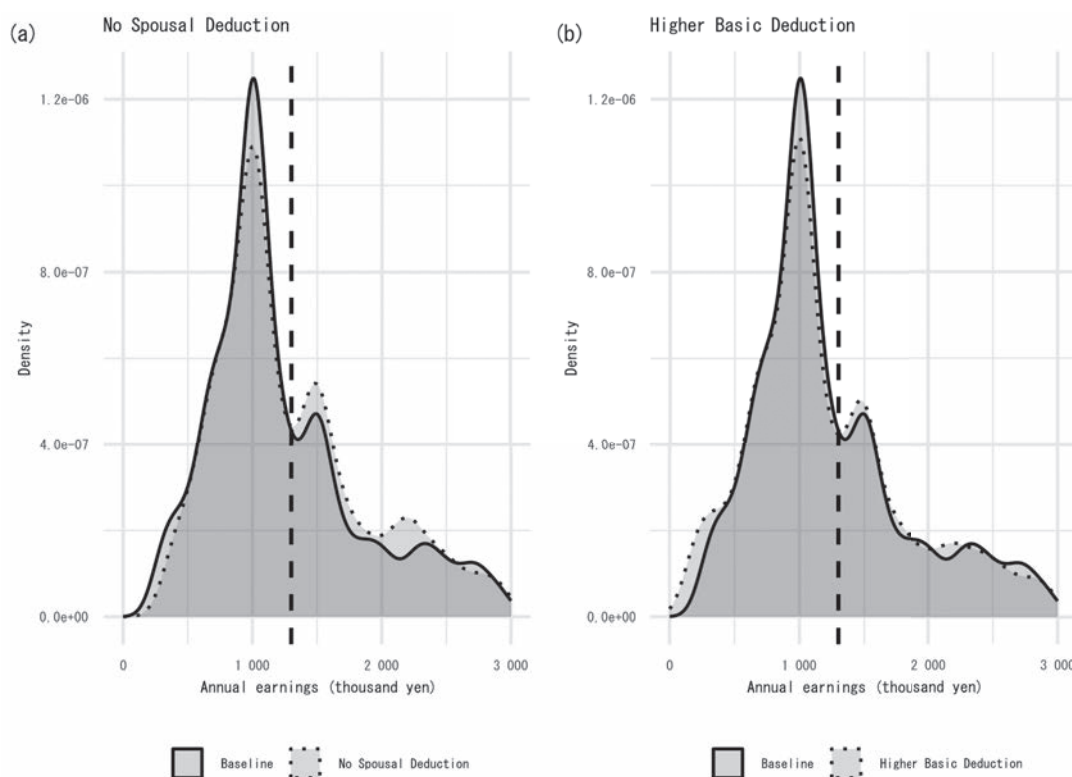


Source: The authors' calculations using the Part-Time Worker Survey (2021)

III-4. Effects of Policy Change

Using this model, we simulate eight policy changes including variations in the income tax spouse deduction and special spouse deduction, the income tax basic deduction, and social insurance premiums. Additionally, we compare and evaluate the relative magnitude of the effects of tax and social insurance premium changes against the effects of changes in work norms and demographic trends. The policy changes examined are: Case (i) Absence of a spouse deduction system; Case (ii) A ¥470,000 increase in the income tax basic deduction (equivalent to the 2025 tax reform increase from ¥480,000 to ¥950,000 for salary income below ¥2 million); Case (iii) Absence of social insurance premium payments (equivalent to all individuals not paying social insurance premiums); Case (iv) No social insurance premiums or spouse deduction; Case (v) All individuals paying social insurance premiums; Case (vi) All individuals paying social insurance premiums with no spouse deduction; Case (vii) Social insurance premiums starting at ¥3 million (equivalent to only part-time workers not paying

Figure 6: Simulation Results: Cases (i) and (ii)



Note: These simulation results are for Case (i) Absence of a spouse deduction system, and Case (ii) A ¥470,000 increase in the income tax basic deduction (equivalent to the 2025 tax reform increase from ¥480,000 to ¥950,000 for salary income below ¥2 million). The dotted lines indicate the simulated kernel density distributions for the policy scenarios.

Source: The authors' calculations using the Part-Time Worker Survey (2021)

premiums); Case (viii) Social insurance premiums start at ¥3 million and there is no spouse deduction. Furthermore, to evaluate the magnitude of the impact, simulations were also conducted for Case (ix) No income target; Case (x) Marriage rate same as in 2000; and Case (xi) Employment status distribution by marital status same as in 2000. Figures 6 and 7 display the kernel density functions of the income distribution after each policy change overlapping with the baseline model's income distribution.

First, Figure 6 (a) shows the results of Case (i) absence of a spouse deduction system. Without the spousal deduction, household disposable income decreases. While this leads to a slight overall increase in labor hours due to the income effect, it has little effect on the shape of income distribution.

Figure 6 (b) shows the results of Case (ii) a ¥470,000 increase in the income tax basic deduction. The income effect—where the spouse's income tax decreases and household dispos-

able income increases—reduces labor supply among low-income earners. Conversely, raising the threshold for the income tax basic deduction reduces the income tax on one's own labor, slightly increasing labor supply among high-income earners. As a result, the bunching around ¥1 million shrinks.

Panels (a)–(f) in Figure 7 show the results for Cases (iii)–(viii). All panels show kernel density distributions by annual income for the baseline (actual) case and the counterfactual case where the social insurance contribution threshold is changed. Changing the social insurance contribution threshold significantly impacts the income distribution of female part-time workers. Panels (a), (c), and (e) show the results when no one pays social insurance contributions, when everyone pays regardless of income or working hours, and when the threshold for starting social insurance contributions is set at ¥3 million, respectively. Since the spouse's income is set to follow a uniform distribution between ¥3 million and ¥8 million, setting the threshold income for social insurance contributions at ¥3 million creates a situation where the spouse pays social insurance premiums, but the female part-time worker does not. Panels (b), (d), and (f) show the results when, in addition to the conditions in Panels (a), (c), and (e), there is no spousal deduction for income tax.

Panel (a) shows the kernel density distribution by annual income for cases where no social insurance premiums were paid by anyone (Case (iii)). Compared to the baseline, the cluster around an annual income of ¥1 million is significantly smaller. Furthermore, clusters appear at the left end of the distribution because more individuals with low labor input are present. This policy change addresses cases where neither the individual nor their spouse pays social insurance premiums, leading to a substantial increase in household disposable income. Consequently, the income effect reduces labor input. Panel (b) shows the results when no one pays social insurance premiums and there is also no spousal deduction system for income tax (Case (iv)). Compared to the baseline, fewer individuals work around an annual income of ¥1.5 million. This implies that, in the absence of social insurance premium payments, workers who would otherwise adjust their hours to remain below the ¥1.3 million threshold begin instead to make working-hour adjustments around the ¥1.5 million threshold, where the spousal deduction starts to decline. Similar trends emerge in Panels (d) and (f).

Panel (c) shows the outcome when all individuals pay social insurance premiums regardless of annual income or working hours (Case (v)). Here too, the incentive to adjust to ¥1.3 million disappears, so no cluster around ¥1 million annual income is observed. Like Panel (a), the low-income segment has increased. In Panel (a) the income effect stems from the absence of social insurance contributions by spouses, whereas in Panel (c) the substitution effect arises because low-income individuals are also required to pay social insurance premiums, reducing their net wage.

Panel (e) shows the kernel density distribution by annual income for cases when the

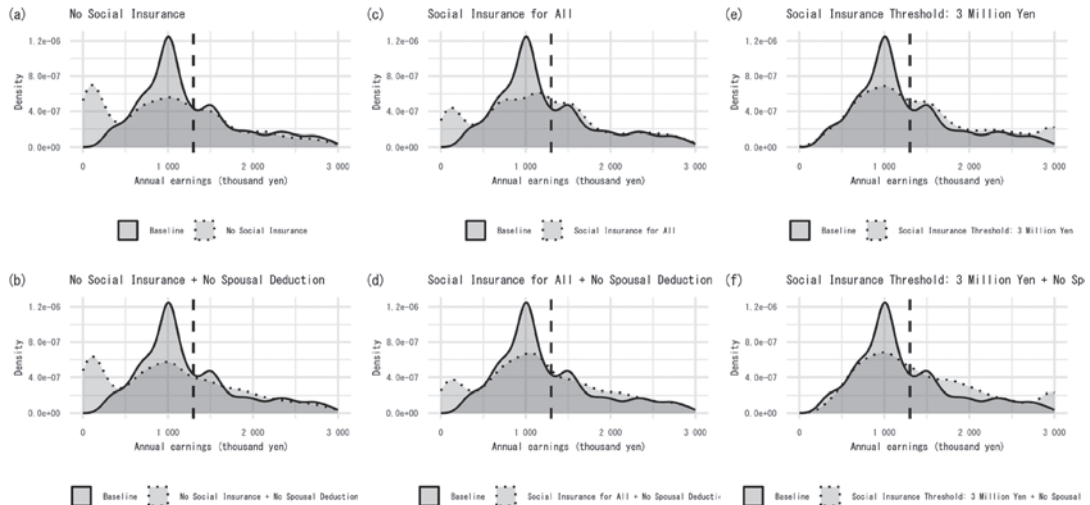
threshold for social insurance contributions is set at ¥3 million (Case (vii)). As in Panels (a) and (c), there is no incentive to adjust working hours at an annual income of ¥1.3 million, so no cluster appears around ¥1 million. For low-income workers, whether the threshold for social insurance premium payments is set at ¥3 million or the baseline setting, they do not pay social insurance premiums. Consequently, they remain unconstrained by income ceilings, and their labor input remains unchanged. The group that clustered around ¥1 million in the baseline scenario generally increases their labor input, and a small cluster emerges at the new ¥3 million threshold.

Next, we analyze the change in aggregate labor input resulting from the policy change described above. The second column of Table 4 shows the post-policy-change labor input of married female part-time workers, with baseline labor input set to 1.

In the absence of a spouse deduction or special spouse deduction (Case (i)), the labor supply of married female part-time workers is 1.02. The income effect increases the labor supply of married female part-time workers because the spouse's tax burden increases.

Case (ii) represents a scenario where the income tax basic deduction is raised by ¥470,000. This corresponds to the 2025 tax reform, which increased the basic deduction from

Figure 7: Simulation Results: Cases (iii) - (viii)



Note: Panel (a) shows the case with no social insurance premium payments (Case (iii)), (b) shows the case with no social insurance premium payments and no spouse deduction (Case (iv)), (c) shows the case where all individuals pay social insurance premiums (Case (v)), (d) shows the case where all individuals pay social insurance premiums and there is no spouse deduction (Case (vi)), (e) shows the case where social insurance premium payments start at ¥3 million (Case (vii)), and (f) shows the case where social insurance premium payments start at ¥3 million and there is no spouse deduction (Case (viii)).

Source: The authors' calculations using the Part-Time Worker Survey (2021)

¥480,000 to ¥950,000 for those with salary income of ¥2 million or less. When the income tax basic deduction is raised by ¥470,000, the labor supply of married female part-time workers becomes 0.98. There are two routes for expanding the income tax basic deduction. One is the income effect, where the spouse's income tax decreases, reducing the labor supply of married female part-time workers. The other is the substitution effect, where the individual's tax decreases, increasing the labor supply of female part-time workers. The former effect is larger than the latter, so overall, the labor supply of married female part-time workers decreases.

Cases (iii) through (viii) represent simulation results obtained by varying the social insurance premium burden. Three patterns were examined: no one pays social insurance premiums (Case (iii)), everyone pays (Case (v)), and only workers earning ¥3 million or more annually pay (Case (vii)). Each is analyzed under a scenario in which the income tax spousal deduction is absent. The order of increasing social insurance burden is: all pay > baseline (only workers earning ¥1.3 million or more pay) > only workers earning ¥3 million or more pay > no one pays. At these points, the labor input of married female part-time workers becomes 0.96, 1.00, 1.04, and 0.79, respectively. This can be explained by two effects. The substitution effect, whereby the individual subject to social insurance premiums reduces their labor input, and the income effect, where the exemption of social insurance premiums on the spouse's income means an increase in non-labor income for the woman, leading to reduced labor input. In the three cases—where everyone pays, the baseline is present, and only workers earning over ¥3 million pay—we need only consider how the amount of an individual's social insurance premiums affects their labor input. However, in the case where not everyone pays, the impact of the spouse's social insurance premium exemption must also be considered. Therefore, in cases where everyone pays, or only workers earning over ¥3 million pay, the labor input of female part-time workers increases linearly. However, in cases where not everyone pays, the reduction in labor input due to the income effect from the spouse's reduced tax payments becomes significant. Furthermore, when the annual income threshold resulting from working hour adjustments to avoid social insurance payments fails to function as an incentive, the ¥1.5 million threshold for the spouse deduction in income tax can become an incentive for working hour adjustments. The impact of the spouse deduction and the basic deduction in income tax on women's labor supply is smaller than that of social insurance premiums.

Case (ix) shows the simulation results when no income target was set. With the baseline female labor input set at 1, the labor input for married female part-time workers becomes 1.54 when no income target is set. This impact is significantly larger than that of changes to taxes and social insurance premiums.

Column 3 of Table 4 shows the total female labor input for Japan after the policy change, with the baseline labor input set as 1. The total labor input for Japan is estimated using data from the Basic Survey on Employment Structure and the Population Census. From the Basic

Survey on Employment Structure (2021), we obtained the annual working hours per worker for unmarried female regular workers, unmarried female non-regular workers, married female regular workers, and married female non-regular workers. The results were 1,403 hours, 913 hours, 1,346 hours, and 767 hours, respectively. Next, using the Population Census (2020), the proportions of unmarried female regular workers, unmarried female non-regular workers, unmarried female non-workers, married female regular workers, married female non-regular workers, and married female non-workers were calculated as 27%, 2%, 3%, 33%, 17%, and 19%, respectively (see Figure 8). Multiplying these two figures yields Japan's total labor supply. We calculate the change in Japan's total labor supply assuming that only the labor supply of married female part-time workers changed as shown in the second column of Table 4 following the policy change. We assume that the labor supply of workers other than married female part-time workers remains unchanged. The impact on Japan's total labor supply diminishes in proportion to the share of married women.

Cases (x) and (xi) in column 3 of Table 4 also simulate the effects of demographic changes over the past 20 years. Case (x) represents the counterfactual female labor supply for Japan if the marriage rate had remained the same as in 2000. Case (xi) represents the counterfactual female labor supply for Japan if the employment status distribution by marital status had remained the same as in 2000. According to the 2000 Population Census, the proportions of unmarried women in full-time employment, unmarried women in part-time employment, unmarried women not in the labor force, married women in full-time employment, married women in part-time employment, and married women not in the labor force were 20%, 2%, 3%, 23%, 19%, and 32%, respectively (see Figure 8). Over the past 20 years, the proportion of married women in full-time employment has increased significantly, while the proportion of married women not in the labor force has decreased substantially.

According to the results in Table 4, Column 3, in Case (i) where the income tax spousal deduction system is absent, and in Case (ii) where the income tax basic deduction is raised by ¥470,000, the female labor supply is 1.00, the same as the baseline. Case (iii) shows a female labor supply of 0.97 when no one pays social insurance premiums. Case (iv) shows 0.98 when no one pays social insurance premiums and there is no spouse deduction. Case (v) shows 0.99 when everyone pays social insurance premiums. Case (vi) shows 1.00 when everyone pays social insurance premiums and there is no spouse deduction. Case (vii) shows 1.00 when the social insurance payment threshold is ¥3 million, and Case (viii) shows 1.01 when the social insurance payment threshold is ¥3 million and there is no spouse deduction. In case (ix) without an income target, the female labor supply is 1.07; in case (x) with the same marriage rate as in 2000, it is 0.88; and in case (xi) with the same employment status distribution by marital status as in 2000, it is 0.82.

Table 4: Simulation Results: Aggregate Labor Supply

	Labor supply of married female part-time workers	Total female labor supply in Japan
Baseline	1	1
(i) If there were no spouse deduction	1.02	1.00
(ii) If the basic income tax deduction were raised by ¥470,000	0.98	1.00
(iii) If no one paid social insurance premiums	0.79	0.97
(iv) If no one paid social insurance premiums and there was no spouse deduction	0.82	0.98
(v) If everyone paid social insurance premiums	0.96	0.99
(vi) When all individuals pay social insurance premiums and there is no spouse deduction	0.97	1.00
(vii) When the social insurance premium payment threshold is ¥3 million	1.04	1.00
(viii) When the social insurance premium payment threshold is ¥3 million and there is no spouse deduction	1.05	1.01
(ix) When there was no income target	1.54	1.07
(x) When the marriage rate was the same as in 2000		0.88
(xi) When the employment status ratio by marital status was the same as in 2000		0.82

Source: The authors' calculation

Figure 8: Proportion by Marital Status and Employment Status (Full-time, Part-time, Non-employed) (2000, 2020)



Note: Women aged 25-64. Full-time workers are those in the labor force who are employed and primarily engaged in work; part-time workers are those in the labor force who are employed and engaged in work in addition to household duties; non-employed persons are those in the non-labor force who responded that they are engaged in housework.

Source: The authors' calculations using the Population Census (2000, 2020)

IV. Conclusion

Why Do Income Thresholds Persist? This study examines the existence of the so-called income thresholds, already evident in existing research, by mapping income distributions at each income level. Institutionally, the ¥1.3 million threshold for social insurance premiums should reduce disposable income more significantly than the ¥1.03 million threshold for taxes. However, actual data shows a major income threshold around ¥1 million for married part-time female workers who adjust their working hours. Even among married part-time women who report not adjusting their working hours, many work to earn around ¥1 million annually. This trend has persisted even after the 2004 and 2018 revisions to the spouse deduction and special spouse deduction, which aimed to expand the labor supply of women. To reduce the number of workers adjusting their hours around the ¥1.3 million threshold, the threshold for social insurance contributions was lowered to ¥1.06 million for workers at companies above a certain size starting in 2016. Despite these efforts, the so-called income threshold persists and remains observable even in the 2020s.

To investigate the causes, we constructed a simulation model and simulated eight different policy changes involving the spouse deduction, special spouse deduction, income tax basic deduction, and social insurance premiums. Additionally, we compared and evaluated the relative magnitude of the effects of changes in taxes and social insurance premiums against the effects of changes in work norms and demographics. The results revealed the following.

When there is no spouse deduction or special spouse deduction, the spouse's taxes increase. Consequently, the income effect causes the labor supply of married female part-time workers to rise. When the labor supply of women is set as the baseline at 1.00, the labor supply of married female part-time workers is 1.02, while the labor supply of all women in Japan is 1.00. The basic income tax deduction was previously ¥480,000, but the 2025 tax reform raised it to ¥950,000 for those with salary income of ¥2 million or less. An equivalent policy change (a ¥470,000 increase in the basic income tax deduction) would reduce the labor supply of married female part-time workers to 0.98, while the labor supply of all women in Japan would become 1.00. The income effect from reducing the spouse's tax burden outweighs the substitution effect from reducing the individual's tax burden. Therefore, expanding the basic income tax deduction reduces the total labor supply of married female part-time workers. Regarding social insurance premiums, if all workers are exempt, the labor supply of married female part-time workers decreases. In contrast, if only those earning less than ¥3 million annually are exempt, their labor supply increases. This paper examines four scenarios regarding social insurance contributions: the baseline scenario (contributions required only for those earning over ¥1.3 million annually), full exemption for all, full contributions for all, and contributions required only for those earning over ¥3 million annually. The order of increasing

social insurance contributions is as follows: full contributions for all > baseline scenario > contributions required only for those earning over ¥3 million annually > full exemption for all. The labor input of married female part-time workers in these scenarios is 0.96, 1.00, 1.04, and 0.79, respectively. The labor input of all women in Japan is 0.99, 1.00, 1.00, and 0.97, respectively. Across the three scenarios in which everyone pays social insurance premiums, the baseline scenario, and only workers earning at least ¥3 million annually pay social insurance premiums, the labor input of married female part-time workers increases linearly as the substitution effect weakens, that is, as the reduction in labor input among workers subject to social insurance premiums becomes smaller. In contrast, in cases where no one pays social insurance premiums, the reduction in labor supply resulting from the income effect—due to the decrease in the spouse’s premium payments—becomes more significant. Furthermore, when the annual income threshold for social insurance premiums fails to serve as an incentive, the ¥1.5 million threshold for the spousal deduction may work as an incentive to adjust working hours. The effect of the spousal deduction and income tax on female labor supply is smaller than that of social insurance premiums.

Additionally, we simulated the impact of changes in work norms, specifically regarding “income targets.” Since some workers face upper limits on their labor input, and those who adjust their working hours due to social insurance premiums tend to reduce their labor input conservatively, assuming that they adjust their working hours at an annual income of ¥1–1.3 million yields an income distribution close to the observed data, creating a significant “threshold” around an annual income of ¥1 million. In the real world, secondary earners may limit their working hours for various reasons, even without constraints from the tax or social insurance system. This can be explained by the income-target hypothesis, which posits that when the secondary earner faces severe time constraints and the primary earner’s income accounts for most of the household income, the secondary earner determines her working hours with the aim of supplementing the household’s income to reach the necessary amount. If we set the baseline level of female labor supply at 1, assuming there were no income targets, the labor supply of married female part-time workers would be 1.54, and the total female labor supply in Japan would be 1.07. This impact is significantly greater than that of changes to taxes and social insurance premiums. Furthermore, over the past 20 years, the marriage rate among women has declined, while the number of women working full-time has increased. If the marriage rate had remained the same as 20 years ago, the female labor supply would be 0.88. If the employment patterns by marital status had remained the same as 20 years ago, the female labor supply would be 0.82. This impact is greater than that of changes to taxes and social insurance premiums or the influence of work norms. Our research findings suggest that the real culprit behind the ¥1.03 million threshold is neither the income tax base nor the spousal deduction. Rather, it stems from labor norms centered on income targets, specifically

a conservative reduction in labor supply to avoid the ¥1.3 million threshold.

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