

The Effect of Income on Household Time Allocation Among Chinese Couples

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Abstract: Gender equalization has progressed considerably in all areas but has prolonged domestic work. Previous research suggests that income is essential in the distribution of time spent on housework between couples. However, there is still debate about how income works within Chinese households. Therefore, it is necessary to study how income influences the time spent on housework by Chinese couples. This paper uses data from The China Family Panel Studies (CFPS) in 2022 and selected married two-income households aged 18-65 as our study population. Based on the results of the study and the Nash cooperative game ‘divorce-threat’ model, the hypotheses were then regressed using the Tobit model. Robustness tests were then conducted using the OLS regression model and the replacement variables method. Finally, the impact of income on the distribution of household work time of Chinese couples was analyzed, followed by conclusions. Firstly, the allocation of housework time during working days is influenced by income factors, while the distribution of housework time on rest days is not influenced by income. Secondly, individual income is negatively related to own time spent on housework, while the spouse’s income is positively associated with wife/husband time. Thirdly, the wife’s relative income is “U” shaped, and the relative gain of the husband is “inverted U” shaped.

Keywords: Household income; Household time; Tobit model

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1. Introduction

According to the latest data from the Organization for Economic Cooperation and Development (OECD), Chinese men spend far less time on household chores than that of world men average time, only 48 minutes per day on average. Previous studies showed that the inequitable distribution of household time not only hinders gender equality, but also negatively affects the stability of couples’ marriage. Therefore, it is necessary to study the factors that affects the housework time allocation among couples in China.

There has been a lot of literature on the factors affecting housework time allocation among couples. Hence, the influencing factors have been classified into three categories:

- (1) Individual level (age, gender, income, education condition, health condition);
- (2) Family level (family size);
- (3) Social level (cultural value, region).

Among them, the individual-level income factor is the one that has a more significant impact on the distribution of spouses' domestic work, which has been more abundantly studied in Europe and the United States and less so in China ^[1]. Given the different social structures and gender concepts between China, Europe, and the United States, it is necessary to study how income affects the housework time allocation of Chinese couples ^[2]. Most current studies in the field of domestic work in China use regional data, and there is a lack of studies using national survey data. Moreover, previous literature has controversial results on the impact of relative income and considers the implications of less absolute income. Lastly, existing studies have focused on the effect of income on the total time spent on housework and have rarely explored the relationship between income and time spent on workdays and rest days, respectively. This paper was organized to differentiate from these characteristics of previous literature.

2. Model introduction

The China Family Panel Studies (CFPS) is an authoritative, large-scale, comprehensive database. Specifically, it is authoritative because it is funded by Peking University's It985" project and implemented by Peking University's China Social Science Survey Centre. it has successfully conducted six waves of data collection. The target sample size is 16,000 households in 25 provinces/municipalities/autonomous regions, representing 95% of China's population. The database is more comprehensive as it includes data from multiple perspectives, from households to individuals. Therefore, considering the content and purpose of this paper, this paper selected the (CFPS) 2022 survey database for the study.

This paper examines the effect of income on allocating housework time to dual-earner couples. The dependent variable is household time (hours/day), a continuous variable. Considering its existence of a certain proportion of zero, the Tobit model is chosen instead of the OLS regression model used in most studies to make the regression more accurate.

$$y_i = \begin{cases} y_i^* = \beta_0 + \beta_{wi}lw\ income + \beta_{hi}lh\ income + \beta_{rwi}re\ w\ income + \beta_{rhi}re\ h\ income + \\ \beta_{rwi2}re\ w\ income^2 + \beta_{rhi2}re\ h\ income^2 + \eta_i X + \varepsilon_i, & \text{if } y_i^* > 0 \\ y_i^* = 0, & \text{if } y_i^* \leq 0 \end{cases}$$

X : [w age, w health, w urban, h age, h health, h urban]

3. Results and discussion

3.1. Absolute income

The results showed a causal relationship between absolute personal income and the time the wife/husband spent on housework. Firstly, an increase in the personal income of either the wife or the husband reduces the amount of time spent on housework, and the effects of the wife's income are more significant than the effects of the husband's income ^[3]. In addition, personal income has a more substantial impact on the amount of time spent on housework during the working day than on housework during the rest day. It is in line with the findings of the income theory and the individual-centred thinking of the limited time theory ^[4]. Furthermore, according to gender theory, most

women are the primary bearers of household work, while men are primarily the primary bearers of household income ^[5]. Therefore, wives' housework hours are more sensitive to changes in personal income. In addition, the impact of income on rest days is smaller than on workdays because couples' weekday time is mainly allocated to work and household chores ^[6]. In contrast, rest time is mostly given within the household. Thus, income is not affected by the time-limited theory on rest days.

In addition, a spouse's income increases their household work time, and the effects of the wife's household time on the husband's income are more significant than the effects of the husband's household time on the wife's income ^[7]. The impact of weekday household work time is more effective than household work time during rest days, which is consistent with the findings of Nash game theory. Specifically, when the husband's income increases, the wife's housework time increases. Although an increase in the husband's income may improve the overall economic situation of the household and reduce the time spent on housework, an increase in the husband's 'threat point' will increase the wife's time spent on housework ^[8].

Ultimately, the significant increase in the wife's time spent on housework suggests that the 'substitution effect' of an increase in the husband's income is more potent than its corresponding 'income effect'. In addition, since most wives are secondary wage earners in the household, an increase in a wife's income makes a more negligible contribution to the household's total utility, meaning that the wife's 'threat point' is likely not to rise significantly ^[9]. Therefore, an increase in the wife's income does not significantly reduce the husband's hours of housework. Finally, and as noted above, rest day hours are less affected by income and may be influenced by other factors, so an increase in the spouse's income does not significantly increase their rest day hours.

3.2. Relative income

The results showed a causal relationship between relative income and the duration of housework on labour days. First, the wife's relative income and the period of housework showed "U" shaped characteristics ^[5]. Specifically, when the wife's income increases to a certain level of household income, her household work time does not continue to decrease as the wife's income increases ^[10]. Furthermore, the coefficient on the primary term of the wife's relative income is positive, meaning that an increase in the wife's relative income leads to a rise in housework time ^[11]. It is inconsistent with the results of other studies. It may be due to the more significant influence of "gender performance" among the higher-income women in the sample and the deeper traditional Confucianism among the lower-income women.

There is an inverted 'U' shape in the relative income of husbands and the amount of time spent on housework, which is consistent with gender display theory ^[12,13]. Specifically, these husbands who earn less than a certain household income spend less time on housework than other men due to gender performance. It means that men with lower relative incomes perform masculinity by spending less time on housework ^[14]. Also, the negative but insignificant coefficient on the primary term of relative income for husbands is due to the effect of gender theory on masculinity.

This study does not show a significant relationship between relative income and time spent on housework on rest days because the time spent on housework on rest days is not influenced by the exact mechanism as the currently dominant theory and may be affected by other factors. As this paper focuses on the effect of income on hours of housework, this paper will not explore the explanatory mechanisms for hours of housework on rest days.

4. Conclusion

This paper uses CFPS2022 national data to analyze the effect of income on the distribution of domestic work among two-earner couples in China. Regression tests were then conducted using the Tobit model and the robustness check used OLS regression models and substitution variables to ensure the reliability of the results. The conclusions were as follows:

- (1) Income affects the allocation of time for housework during the working day, but has no significant effect on the share of time for housework during the rest day;
- (2) In terms of total income, an increase in one's income reduces one's own housework time, while an increase in one's spouse's income increases one's own housework time. The wife's household time is affected to a greater extent than the husband's household time in absolute income;
- (3) Regarding relative income, the wife's relative income and household work time shows a "U" shape; the husband's relative income and household work time shows an inverted "U" shape.

The contributions of this paper are to use national data to conduct a study in China, test the controversial findings of existing studies and divide the hours of domestic work into working days and rest days to study them separately.

The findings of this paper have some limitations due to objective reasons. Specifically, due to the limitations of the survey data, this paper only considers the nuclear family structure of couples and children. It does not consider other group family structures in China, such as the prominent family and joint families, where couples live with both parents or several generations. The findings of the study may therefore be biased. On top of that, as this paper focuses on the effect of income on couples' time spent on housework, it only concludes that the impact of income on couples' time spent on housework on their rest days is not significant. And the mechanism of other factors on time spent on housework on rest days has not been studied in depth.

Based on the current status of relevant research, future research has the following directions. For instance, to conduct relevant research considering the complexity of Chinese family structure and an in-depth study on the distribution of household work time between couples on their days off.

Disclosure statement

The authors declare no conflict of interest.

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