

# 博士論文要旨

An empirical analysis of intra-household decisions:

The role of bargaining and gender identity in Japan

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This thesis is based on four papers that investigated the role of the intra-household bargaining power of the wife in comparison to her husband (also relative bargaining power) and gender identity on (1) intra-household resource allocation equality, (2) evaluation of the wife's happiness, (3) intra-household decision making, and (4) gender's different choice on consumption, labour supply and home production. Because both relative bargaining power and gender identity influence household allocations, we need to explore influence patterns in depth. These studies are important because examination results can provide evidence of useful policies on resource allocation gaps. The results can also provide alternatives for policymakers regarding what kinds of sub-policies are necessary if the government wants more married mothers to work full time in the labor market.

This thesis will clarify relative bargaining power of leading household members via the widely used collective model proposed by Chiappori (1992). This model allows researchers to explore the relation between household members' expenditures and preference heterogeneity. The collective model describes household-level decisions by maximizing the aggregate household

utility, which is the weighted sum of a member's utility. The relative bargaining power of the members comprise the weights. The members' relative bargaining powers are assumed to be determined by relative income, relative age, and other characteristics (e.g. divorce ratio). Regarding gender identity, traditional gender roles have been that husbands worked to pay for family living expenses, and wives more often took care of the home and children.

Previous research has focused more on either the intra-household resource allocation gap (Browning, Bourguignon, Chiappori, & Lechene, 1994; Chiappori, Fortin, & Lacroix, 2002; Couprie, 2007; Lise & Seitz, 2011; Cherchye, De Rock, & Vermeulen, 2012; Browning, Chiappori, & Lewbel, 2013; Lise & Yamada, 2014; Cherchye, De Rock, Lewbel, & Vermeulen, 2015) or the persistence of gender identity. Baxter and Tai (2016) notes that this gender gap in housework is common in many countries. Alvarez and Miles (2003) obtains similar results after studying Spanish households. Bertrand, Pan, and Kamenica (2013) outlines how gender identity causes married working women, who often earn more than their husbands, to do more chores and feel less satisfied, which are factors that lead to divorce in American. Only a few studies have focused on both, such as Shiu and Tang (2017), which shows that the reduction of the relative earnings gap between wives and husbands has occurred faster than the release of gender identity in Taiwan.

To explore the influence pattern of bargaining and gender roles in depth, the following chapters, via the collective model, will examine whether there is still an intra-household resource allocation gap in Japanese families, not using an assumption from previous research, which states that preferences of consumption and time use among wives and husbands are identical (Chapter 2). This research will then examine whether bargaining that is based on the collective model (the wife's income share) positively affects wives' happiness and if gender identity, as it relates to bargaining (control of the husband's income), positively affects their happiness (Chapter 3). In

addition, because preparing meals is a wife's responsibility in traditional gender identity, we will examine whether a female's preferred food consumption patterns are more likely to be observed in a household with a high level of bargaining power (Chapter 4). Finally, we will provide an examination of single male and single female choices of labor supply, leisure, consumption, and home production when provided with the same scenario.

Chapter 2 provides a new method to explore leading intra-household members' relative sharing of resources (or income) using the Japanese Household Panel Survey (JHPS) data. Unlike most previous research studies, this study utilized information about intra-household income transfer between couples, which allows for an observation of the leading adults' management of household incomes. One of the remarkable features is the absence of the specific utility function of consumption and time use upon examining the member's sharing of resources. The results show that the sharing of resources determines factors that positively (or negatively) influence a wife's sharing of resources, which affects the wife's income management portion of the total household income in the same manner. Moreover, on average, a wife shares 37% of the couple's resources, which means that her relative bargaining is weaker than that of her husband.

Chapter 3<sup>1</sup> conducts an empirical study to estimate the causal relation between household income, inter-household relative income, intra-household bargaining power and happiness of Japanese married women using the Japanese Household Panel Survey (JHPS) data conducted from 1995 and 2013. The major conclusions are as follows: First, the absolute income hypothesis is supported. The result is consistent with the previous studies for the other developed countries and the developing countries. Second, when the absolute income is controlled, the inter-household

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<sup>1</sup> This chapter is based on joint work with Professor Xinxin Ma.

relative income hypothesis is not supported; however, when the absolute income is not controlled, it is supported. Third, the income and education gap between wife and husband can negatively affect the happiness; whereas the rate of controlled husband income by wife can positively affect the happiness, and the effect is greater for working wife group than non-work wife group. Fourth, the results based on the robustness checks are consistent. Fifth, the other factors, such as wife's education, hours of husband participation in child care or homework positively affect happiness, and wife's age, youngest child age, living with parents negatively affect happiness.

Chapter 4<sup>2</sup> provides a new evidence from which to understand intra-household food allocation by examining how gendered differences in food preferences and wives' share of household income—a proxy for wives' bargaining power—influence food allocation. In a two-stage estimation in this study, single households were assessed in order to identify whether men and women have different food preferences. Households consisting of couples were then used to examine how wives' share of household income affects household food allocation. The estimation results show that an increase in wives' share of household income increases the share of expenditure on the sweet foods preferred by women and decreases the share of expenditure on the drinks and alcohol preferred by men. Regarding food eaten inside or outside the home, the share of total expenditure on eating outside the home with full-time working wives increased, while the purchase of vegetables and seafood decreased. These results suggest that a potential disadvantage of increasing the number of full-time married female workers are lower-quality household diets due to increased eating out and reduced spending on vegetables.

Chapter 5 investigates single individuals' alternative choices over time use (labor supply, home production time input, and leisure) and consumption (market consumption goods, home

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<sup>2</sup> This chapter is based on Piao (2017).

production goods). To this effect, we used the structural model of the Almost Ideal Demand System with the Cobb-Douglas home production function. The simulation results indicate that if women are paid the same hourly wages as men, they receive a similar income (98.7%) and that the market labor supply gap almost disappears. However, the gender gap persists in terms of home production, which means that women are more involved in home production than men despite a scenario of identical wages. Women's home production technology reduces the labor supply by only 1.7% compared to that of men. Overall, the results indicate that the income gap would disappear by diminishing the hourly wage gap. However, the home production gap is not likely to disappear, and it is most probably caused by gender identity. Finally, Chapter 6 offers the conclusion of this thesis.