

# Disaggregating Housework: An International Comparison of Gendered Segregation of Household Labor\*

Junya Tsutsui<sup>†</sup> and Maki Takeuchi<sup>‡</sup>

## Abstract

Most studies on the division of household labor aggregate various types of housework and estimate the differences between wives' and husbands' responsibilities. However, the way couples allocate their domestic labor may vary based on the type of housework. This possibility of gendered segregation of housework is investigated from an internationally comparative perspective. We found a marked variation in the way couples allocate their labor to each housework type. Our analysis also suggests that gendered segregation of housework varies in different societies, indicating national variations in cultural meaning of housework. Another important finding is that the different ways of allocating domestic labor to each housework type do not change much depending on different working hours of wives. This suggests towards an alternative explanation that skills needed to produce qualified housework are not so different. Considering the existence of gendered segregation of housework, the latter explanation seems more plausible.

## 1 Gendered segregation of housework

Sexual division of labor usually refers to the situation where “men work outside and women work inside the household”. On the other hand, occupational sex segregation means that different sex composition in occupations (Tomaskovic-Devey et al., 2006; Tomaskovic-Devey and Skaggs, 2002; Chang, 2000; England et al., 1988). Although these two issues have drawn due scholarly attention, the gendered segregation of household labor has not. Most studies on housework, including those using internationally comparable data, aggregate the frequencies of housework done by husbands and wives, thereby ignoring the heterogeneity of various types of housework.

Investigating gendered segregation of housework, or “disaggregating housework” is important because we cannot aggregate various kinds of housework simply based on the fact that they are done inside the household. They may differ in the extent of the needs they fulfill and show different distribution according to the availability of alternate sources of supply (e.g., the state and the

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<sup>†</sup>Associate Professor, Ritsumeikan University, Japan. (junya\_tsts@nifty.com)

<sup>‡</sup>Graduate School of Sociology, Ritsumeikan University, Japan. (ma.kit0311@gmail.com)

market). These factors can reflect in different ways various housework types are allocated between wives and husbands. Once disaggregated, we may find diversity in terms of how couples in various societies allocate these housework types.

If we grasp housework in a broad sense, a series of studies investigates the allocation of daily domestic chores and child rearing. The difference between normal housework like preparing meals or laundry and child rearing has a special political implication. Generous public support for child care may rather strengthen couples' sexual division of labor. Because of the childcare leaves, most of which are taken by women, women can handle the toughest times without continuous support from men. Estes et al. (2007) tested this possibility only with geographically limited empirical data from Midwestern areas in the United States and found no support for it. This study focused on normal domestic housework and did not cover child care burdens, even though the allocation of normal housework can be thought as a more proper reflection of latent "true" gender differences than the one of child rearing or elderly care.

The main question of this research is to find out whether there is unignorable variation in allocation of various types of housework and, if there is, whether there are differences in factors that determine the allocation of them to wives and husbands. If we find such a variance, it can be argued that we should not aggregate household tasks without due consideration, which would be an important suggestion for future research on household labor.

The other question would be to see if there are national characteristics of couples' allocation of housework tasks. If there are, we go on to interpret these national level differences.

## 2 Previous research and theoretical expectations

Research so far has documented that division of housework is determined by both micro and macro level factors. Commonly considered micro level factors are time availability and income gap (Shelton and John, 1996; Shelton and Firestone, 1989). These have been proven to have effects on housework allocation across countries (Geist, 2005; Fuwa and Cohen, 2007). These micro level factors, though, affect division of household labor in a different way depending on the country (Fuwa, 2004).

Geist (2005) demonstrated, using Esping-Andersen's categorization of advanced welfare society (Esping-Andersen, 1990), that women's share of housework is higher in conservative countries like Japan, Italy, and Austria, than in liberal (Australia, New Zealand, Great Britain, USA, Canada) or in social democratic (Sweden, Norway) countries. Although this research emphasizes the importance of incorporating macro level settings into household labor study, how the macro level factors, either institutional or social structural, influence domestic labor allocation has not received sufficient consideration yet.

Members of a society share not only institutional arrangements like public support or regulations for family life and female labor, but also structural settings like industrial structure and demographic composition. Each of these factors can have an impact on allocation of domestic labor. Roughly formulating, institutional arrangements can have impacts on "temporal" domestic tasks like childrearing and elderly care, while structural factors are related with "constant" domestic labor, the main focus of this study. A society with easy access to family members other than the spouse may reduce daily household burdens. Domestic needs of family members can be culturally

different as well. Some members of a society may view particular housework as women's or men's task, while others have different ideas. The way of formation of necessary skills for each housework type may vary among societies. In a certain cultural setting the composition of a meal means less than in other settings.

Gendered segregation of housework labor has been demonstrated in several studies. Many of these use the concept of "female-typed" and "male-typed" housework (Estes et al., 2007; Blair and Lichter, 1991). Estes et al. (2007) categorizes cleaning, preparing meals, doing dishes as "female-typed", and yard work, repairs of the house and the automobile as "male-typed" jobs. Coltrane (2000) and Noonan (2001) categorize shopping, managing household finances, and taking out garbage as gender neutral tasks.

The total share of domestic services that needs to be done by household members is partly determined by the extent of public support and availability of services in the market. In Japan, it has been reported that implementation of elderly care insurance in 2000 has reduced wives' responsibilities. On the other hand, different allocation of domestic labor force to housework has been explained mainly by the characteristics of each housework task. It can be difficult to carry out a type of housework that needs to be conducted on a daily basis by one with long working hours, while a housework task that can be done on weekends is not. A type of housework that needs high level skills is likely to be allocated to a partner who has those skills.

The "skill" explanation and the "time" explanation could bring different configurations to housework allocation. If skills matter, wives' responsibilities may not decrease in spite of her additional working hours, since her partner needs time to learn how to do that housework well enough to produce a certain level of quality. If timing matters, the allocation is likely to change.

The theoretical expectation would be that preparing meals and doing laundry is covered more by females because these tasks need more "female-typed" skills. Compared to these, cleaning and shopping needs fewer skills and are liable to change according to couples' working conditions.

If the cultural variation in domestic needs matters as well, the categorization of "female-typed" or "male-typed" housework might be different depending on the country. One guess is that in East Asian societies, preparing meals can be more demanding in terms of both skills and time, and require more women's work than men's.

How the institutional, structural, and cultural factors affect the allocation of couples' domestic labor to each housework task is basically an open question. We include observations in Japan and Taiwan to see if there are any cultural differences. Within western countries, we follow the argument by Geist (2005) that sexual division of housework varies in different welfare regimes. Respondents from Germany (the former West Germany area) and France are used to represent conservative societies. Similarly, we include the United Kingdom as a liberal, and Sweden as a social democratic country <sup>1</sup>.

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<sup>1</sup>Using the data from the United States seems to suit better to represent a liberal regime, but a different set of choices to the main response variable was adopted in the United States survey, thus making comparability questionable.

### 3 Data and Method

Data used is from the International Social Survey Programme 2002 (Family and Changing Gender Roles III).

The response variable is the answer to the question, “In your household who does the following things?: laundry, repairs, cares for sick family members, shops for groceries, cleaning, prepares the meals”. The precoded choices are “always me, usually me, about equal or both together, usually spouse or partner, always spouse or partner”. The distribution of answers themselves is ordinal and not normal, but the distribution of model residuals is approximately normal, so we do not use estimation models for categorical variables in the analysis. Five answers are coded from -2 to 2, the highest point represents more responsibilities carried out by the wife.

The answers about the different types of housework are merged to constitute a response variable, whose variance is explained by dummy variables indicating housework types. Observations of “repairs” are omitted from the analysis, because they are almost exclusively done by males and incorporating them makes the comparability among other housework tasks difficult. That leaves us five different types of housework: “meals”, “laundry”, “care”, “shopping”, and “cleaning”.

In addition to these dummies, several covariates are added into the model. The main explanatory variables are wives’ and husbands’ working hours per week. These figures are divided by 10 in order to make estimated coefficients more readable. Other covariates are age and sex of respondents, respondents’ educational backgrounds which is coded into three categories (primary, middle, tertiary), household income (recoded into quantiles within each country), number of children (up to 5 or 6 years old) in the household, and respondents’ attitude toward sexual division of labor, measured by the question “To what extent do you agree or disagree with the opinion: A man’s job is to earn money; a woman’s job is to look after the home and the family?”.

The basic statistics of relevant variables are shown in Appendix table A.

Since we take a modeling strategy of merging responses to five similar questions into one response, there is a possibility of intra-household correlation in errors: a couple which allocates the wife’s labor disproportionately to a certain type of housework is likely to have inegalitarian allocation for other types of housework as well. In order to avoid the underestimation of the error variance caused by this error correlation, random effects models with maximum likelihood estimation are used. The estimation equation is

$$Y = \beta_0 + (\beta_1HD_1 + \dots + \beta_4HD_4)\beta_5WHour + \sum \beta Cov + u + e \quad (1)$$

where  $Y$  denotes the housework allocation, HDs are the dummies for housework types (except for the one of “meals”, which is a reference category),  $WHour$  is the wife’s working hours per week,  $Covs$  are other covariates,  $u$  and  $e$  are errors of inter-individual level and intra-individual (housework) levels, respectively. If coefficient  $\beta_1$  to  $\beta_4$  is significantly different from the reference category, corresponding housework is allocated relatively more or less to a partner comparing to “meals”.

Interaction terms between the housework type and the wife’s working hours is are introduced in the model to see if the additional time spent by a the wife’s in the outside job contributes to her decreased responsibility of particular housework, comparing to “meals” category <sup>2</sup>.

<sup>2</sup>As Hausman (1978) notes, estimates with random-effects model can be inconsistent because of the correlation

## 4 Results

Figure 1 shows the average points of housework responsibilities according to the type of housework and the country. On average, the level of wives' responsibilities is highest in Japan, which is compatible with other studies. Taiwan, often considered to be another Confucianist society, boasts at least the same level of egalitarian sharing of housework as western countries.

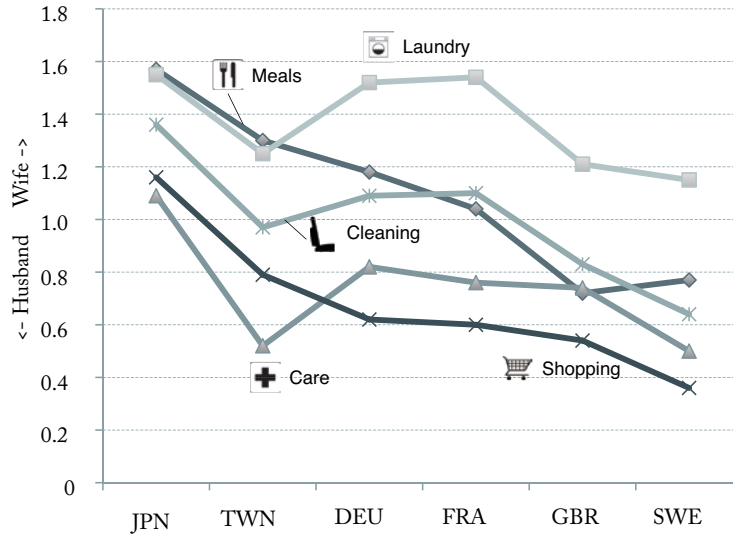


Figure 1: Average points of housework allocation by types and the country

Appendix table B contains the regression estimation results. The reference category for housework types dummies is “preparing meals” (“meals”). Figure 2 charts the predicted values, holding all explanatory variables except for wives’ working hours as their mean values, which means the results partly reflect compositional difference of covariates in each country.

Most housework type dummies are estimated to be significantly different from the reference (“meals”), therefore variation among types of housework cannot be dismissed. Thus gendered segregation of housework is found at least in these those six countries, but the way of segregation, or allocation of each housework type, is different among the countries. Six countries share the characteristics that husbands have relatively more responsibilities on of “taking care of a sick family member” (“care”) and “shopping for groceries” (“shopping”) than “laundry”.

“Cleaning” is located in the middle of those, while the levels of responsibilities for “meals” are quite different among the countries. In Japan and Taiwan, couples tend to allocate a greater

between the individual level fixed-effects and the intra-individual disturbances. Because the individual level covariates include many missing values, the fixed-effects estimation can result from a bigger number of responses and this produces different estimates in the analysis followed. But differences between coefficients in this analysis and those produced by fixed-effects models using the same responses are substantially negligible, therefore we assume the consistency of results for within-couple estimations including coefficients for interaction terms.

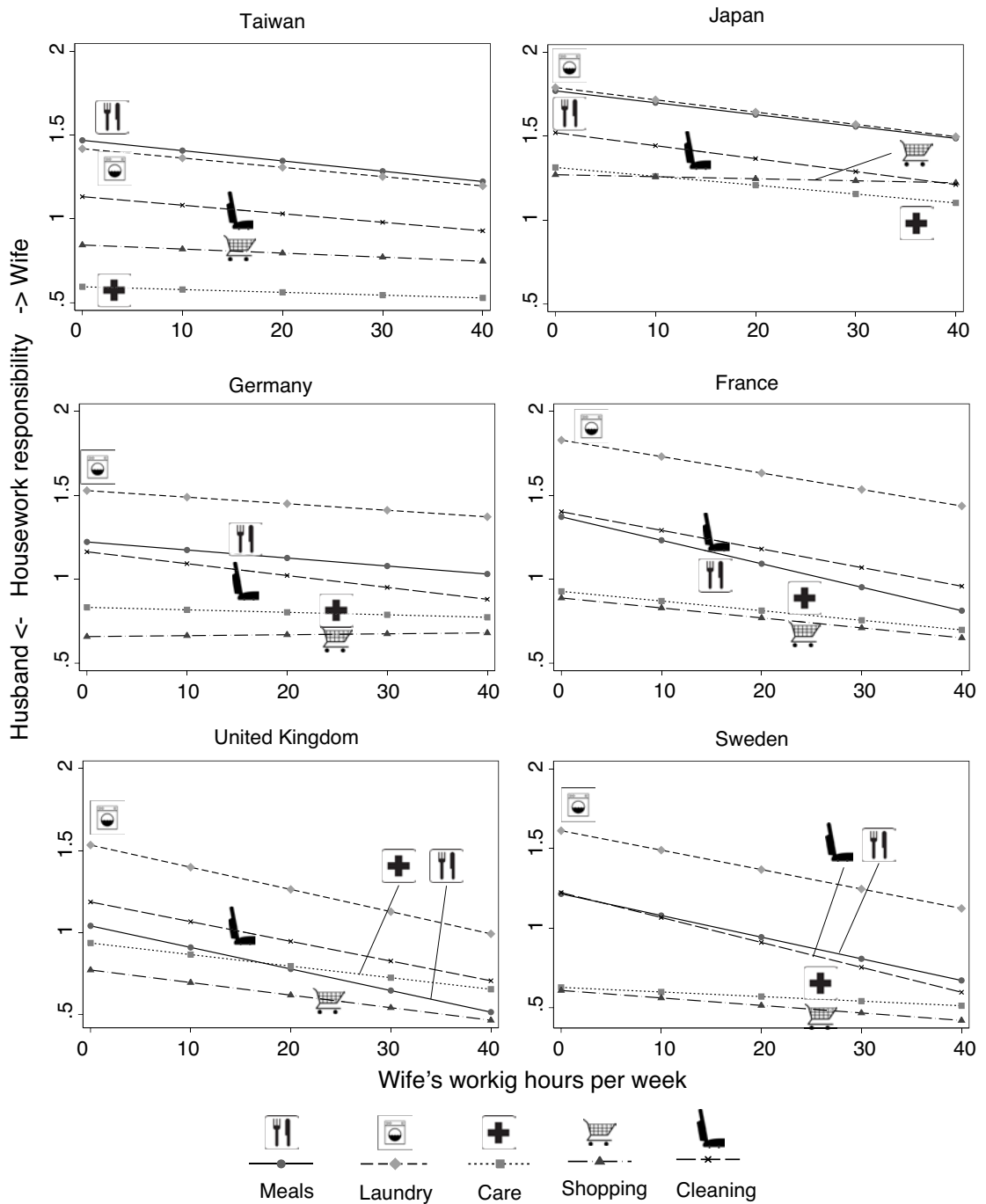


Figure 2: Predicted values of housework responsibilities by housework types and the country

responsibility of “meals” and “laundry” on women. For western countries, a typical “female job” in the household is the “laundry” rather than the “meals”.

In all countries, either working hours of wives or those of husbands have an effect on couples’ allocation of housework, but the strength of it varies by the country<sup>3</sup>. Effects of wives’ working hours also vary depending on the type of housework. In some countries, couples resist reduction of women’s responsibilities on “care” and “shopping”.

## 5 Discussion and implications

The most notable finding of the analysis in the previous section is that there is a marked variation in the way couples allocate their domestic labor force to each type of housework, and this variation is seen throughout all the countries covered in this study. Sexual segregation in household labor, which previous research found using domestic data, can be applied across countries.

Another important finding is that there are different kinds of gendered segregation of housework among different societies. The most visible difference is that in western societies laundry is the most typical “female” job while preparing meals is not. This pattern is not applicable in East Asian societies. One explanation is that the meaning of meal served in the household is different between western and East Asian cultures: preparing meals is more time consuming in the latter culture<sup>4</sup>.

Results suggest that wives’ (husbands’ in case of Germany) additional working hours leads to fewer housework responsibilities for most types of housework, but to a slightly different extent. The result that shopping resists change in spite of increase in wives’ working hours seems to contradict the theoretical expectation that a wife’s role in a type of housework allowing a flexible arrangement becomes smaller with additional working hours than in other types of housework needed to be conducted on a daily basis.

As a whole, relationship between wives’ working hours and division of household labor is not so different among various types of housework. This may make a case against the skill hypothesis if we assume the skills needed to conduct each housework differ from one another. An alternate explanation would be that skills needed to produce qualified housework are not so different among various housework types. Considering the variation of allocation by housework types, the latter explanation seems more plausible.

Further analyses are needed to test the conclusions here to see if they are also applicable to other societies. In order to make more precise estimations, one might need the time-use or frequency data, not the ordinal choices for measuring couples’ division of labor on each type of housework. Panel data is more favorable because it makes possible to estimate exactly what happens to couples’ division of housework with changing working arrangements.

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<sup>3</sup>The effect of working hours is not necessarily linear, but the models with squares of working hours show no marked improvement in likelihood, therefore we do not show the results with non-linear estimations.

<sup>4</sup>It is quite difficult to find quantitative data on demands for the contents of meals served home, but a dinner in an East Asian household usually consists of several smaller dishes, while a dinner in most western households is built around one main dish.

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Appendix table A: Basic statistics of used variables

	Always husband	Usually husband	About equal or both together	Usually wife	Always wife	Total
Meal	58	138	616	898	1,251	2,961
Laundry	47	83	396	762	1,716	3,004
Care	43	42	1,285	739	704	2,813
Shopping	81	148	1,170	766	843	3,008
Cleaning	43	91	786	942	1,048	2,910
<b>Total</b>	<b>272</b>	<b>502</b>	<b>4,253</b>	<b>4,107</b>	<b>5,562</b>	<b>14,696</b>

	Mean	Std. Dev.
Male	0.45	0.50
Age	44.32	11.47
Wife's working hours per week	2.52	1.96
Husband's working hours per week	4.60	1.38
Number of children under 5 or 6 years old	0.39	0.72
division of labor	3.61	1.24

Educational achievement	Freq.	Percent
Primary	645	21.78
Middle	1,255	42.38
Tertiary	1,061	35.83

income		
1st	497	16.78
2nd	693	23.40
3rd	797	26.92
4th	974	32.89

Appendix table B: Estimation results of the housework allocation

	JPN	TWN	DEU	FRA	GBR	SWE
Housework						
Meal	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)
Laundry	0.020	-0.050	0.306 ***	0.457 ***	0.493 ***	0.396
Care	-0.456 ***	-0.873 ***	-0.39 ***	-0.444 ***	-0.105	-0.587 **
Shopping	-0.5 ***	-0.624 ***	-0.564 ***	-0.483 ***	-0.269 ***	-0.606 **
Cleaning	-0.249 ***	-0.336 ***	-0.058	0.030	0.146 *	0.008
Wife's working hours per week	-0.071 ***	-0.061 ***	-0.048	-0.14 ***	-0.132 ***	-0.136 *
Wife's working hours per week						
× Meal	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)
× Laundry	-0.002	0.006	0.009	0.042	-0.004	0.014
× Care	0.018	0.045 **	0.033	0.082 **	0.061 *	0.107
× Shopping	0.059 *	0.037 *	0.053	0.080 **	0.055 *	0.089
× Cleaning	-0.006	0.010	-0.023	0.029	0.011	-0.020
Husband's working hours per week	0.042 *	0.013	0.086 **	0.129 ***	0.11 ***	0.107 **
Male	-0.296 ***	-0.103 *	-0.263 ***	-0.466 ***	-0.284 ***	-0.174 **
Age	0.004	0.020	-0.021	0.063 **	0.021	0.072 **
Age squared	-0.000	-0.000	0.000	-0.001 **	-0.000	-0.001 **
Educational achievement						
Primary	-0.108	0.132	0.071	0.028	0.033	-0.117
Middle	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)
Tertiary	-0.129 *	-0.15 *	-0.006	-0.174 **	-0.080	-0.179 **
Quantile of household income						
1st	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)	(ref.)
2nd	0.096	0.005	0.071	0.075	0.252	-0.096
3rd	0.149	-0.095	0.016	-0.015	0.369	-0.130
4th	0.074	-0.144	0.081	0.034	0.360	-0.237 *
Number of children under 5 or 6 years old	0.070	0.017	-0.050	-0.040	0.047	0.068
Attitude toward sexual division of labor	-0.068 ***	-0.037	-0.114 ***	-0.074 ***	-0.059 *	0.019
Constant	1.78 ***	1.147 ***	1.808 **	-0.015	-0.091	-0.956
Log likelihood	-2194.495 ***	-5561.5 ***	-1533.5 ***	-3362.2 ***	-3477.2 ***	-1889.9 ***
Model df	20	20	20	20	20	20
N	1,970	4,037	1,437	2,687	2,969	1,596

\* : p&lt;0.05, \*\* : p&lt;0.01, \*\*\* : p&lt;0.001