

**BARGAINING OR BELONGING? : ANALYZING GENDERED
HOUSEHOLD TIME USE AMONG TURKISH COUPLES**

by
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HOUSEHOLD TIME USE AMONG TURKISH COUPLES**

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ABSTRACT

BARGAINING OR BELONGING? : ANALYZING GENDERED HOUSEHOLD TIME USE AMONG TURKISH COUPLES

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This thesis investigates the tension between economic bargaining power and the sociological pressure of “doing gender” by examining the division of time use within households in Türkiye. Drawing on data from the 2014–2015 Turkey Time Use Survey, the study adopts a two-stage approach that combines econometric analysis with a theoretical model. The empirical findings indicate that an increase in women’s relative income is associated with a reduction in their share of housework, in line with bargaining theory. However, this effect is substantially weakened among dual-earner couples. The theoretical model further demonstrates how deeply ingrained preferences, such as aversion to housework shaped by gender norms, can constrain the outcomes of economic bargaining. Overall, the findings suggest that while both bargaining and belonging influence how couples allocate their time, gender norms often set the limits on the power of economic negotiation.

ÖZET

PAZARLIK MI, AİDİYET Mİ? : TÜRKİYE'DEKİ ÇİFTLERDE TOPLUMSAL CİNSİYETE DAYALI HANEHALKI ZAMAN KULLANIMININ ANALİZİ

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Anahtar Kelimeler: hanehalkı, pazarlık, cinsiyeti ifa etme, zaman kullanımı, Türkiye

Bu tez, Türkiye'deki hanehalkı içinde zaman kullanımının bölüşümünü inceleyerek, ekonomik pazarlık gücü ile "cinsiyeti ifa etme"nin sosyolojik baskısı arasındaki gerilimi araştırmaktadır. 2014-2015 Türkiye Zaman Kullanım Anketi verilerinden yararlanılan bu çalışma, ekonometrik analiz ile teorik bir modeli birleştiren iki aşamalı bir yaklaşım benimsemektedir. Ampirik bulgular, kadınların görece gelirindeki artışın, pazarlık teorisiyle uyumlu olarak, ev işlerindeki paylarında bir azalmayla ilişkili olduğunu göstermektedir. Ancak, bu etki çift gelirli çiftler arasında önemli ölçüde zayıflamaktadır. Teorik model ayrıca, toplumsal cinsiyet normları tarafından şekillendirilen ev işinden kaçınma gibi yerleşikleşmiş tercihlerin, ekonomik pazarlığın sonuçlarını nasıl kısıtlayabildiğini göstermektedir. Genel olarak bulgular, çiftlerin zamanlarını nasıl bölüştüğünü hem pazarlığın hem de aidiyetin etkilediğini, toplumsal cinsiyet normlarının genellikle ekonomik müzakerenin gücüne sınırlar koyduğunu göstermektedir.

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*for all the women
whose stories were left unfinished*

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1. INTRODUCTION

In many developed countries, despite significant changes in women’s roles in the economy, the structure of the division of labor within the household has been relatively slow to change. Women have increased their labor force participation and relative earnings over the past few decades. Despite this, they continue to perform the majority of unpaid work at home (Sevilla-Sanz 2010). From the 1960s to the early 2000s, a woman working full-time was still expected to devote an additional twenty to thirty hours per week to housework and six to twelve hours to childcare (Aguiar and Hurst 2007; Gauthier, Smeeding, and Furstenberg Jr. 2004). This situation is often referred to as the “second shift.” The fact that men’s contribution to household chores has not increased significantly suggests that the basic structure of the division of labor remains largely unchanged (Gershuny 2003; Robinson and Godbey 2010).

This unequal distribution of unpaid labor poses a critical issue for policymakers and researchers because it can have significant negative consequences. For women, this dual burden can harm their career development by limiting their ability to invest in human capital (Becker 1985; Mincer 1974). Research has repeatedly shown that the conflict between work and home responsibilities leads to wage penalties for women (Hersch and Stratton 2000; Sigle-Rushton and Waldfogel 2007). Beyond individual economic consequences, this imbalance can also impact broader societal trends. It can contribute to lower fertility rates, reduced female labor force participation, and delayed household formation. This is particularly evident in some Southern European countries (Feyrer, Sacerdote, and Stern 2008; Sevilla-Sanz, Gimenez-Nadal, and Fernández 2010). Therefore, understanding how this inequality persists is critical for economic policies that address these societal trends.

The persistence of this unbalanced division of labor poses a puzzle for traditional economic theories of household. Models based on specialization or bargaining power predict that as a woman’s human capital and income increase relative to her husband’s, she will have greater bargaining power to reduce the burden of unpaid work

within the household. This should result in a more equitable distribution of time at home (Becker, Murphy, and Tamura 1990; McElroy and Horney 1981). However, the discrepancy between theoretical expectations and reality has led researchers to seek alternative explanations.

The main debate in the literature has focused on the concept of social norms and gender identity, that is, the notion of "doing gender" (Coltrane 2000). According to this perspective, when a household deviates from traditional gender roles, for example, when a woman earns more than her husband, a "gender norm violation" occurs (Coltrane 1989). To compensate for this deviation, one or both partners may attempt to reaffirm their gender identity by adopting more traditional behavioral patterns in other areas, such as the division of household labor (Akerlof and Kranton 2000). This creates a tension between the economic logic of bargaining power and the sense of belonging to traditional gender roles.

While this debate is well-established in the international literature, the dynamics specific to Turkish households have not been examined to the same depth. This creates a clear research gap. Recent research on Turkey confirms that the gendered division of labor persists even when women are employed (Özdemir 2023). Another study found that a woman's higher earnings compared to her husband can negatively impact men's happiness, demonstrating the influence of gender norms in the Turkish context (Karakaş Aydımbakar 2024). However, these important studies do not directly test how a woman's relative income affects the time women and men devote to domestic labor. Research using detailed time-use data is needed to test whether the bargaining power theory or the "doing gender" hypothesis holds true in the contemporary Turkish context. Therefore, this thesis provides a direct empirical test of this relationship.

This thesis has two primary objectives.

First, to empirically document the relationship between women's relative earnings and household time allocation using a nationally representative dataset. Second, to develop a theoretical model that can explain the observed empirical patterns.

The first part of the thesis consists of an econometric analysis based on the 2014-2015 Turkey Time Use Survey. This analysis will examine the relationship between women's relative income and their share of housework. The aim is to determine whether the burden of housework consistently decreases as women's relative income increases, thus supporting bargaining theories. Alternatively, it will also test whether this decrease slows, stops, or reverses after the woman exceeds her husband's income, which could provide evidence for the "doing gender" hypothesis. The second part of the thesis develops a theoretical model of household decision-making

processes. By incorporating both the effects of bargaining power and gender norms into individuals' utility functions, this model allows for analysis of which factor is more dominant under which conditions. This theoretical study aims to provide a deeper understanding of the mechanisms behind the empirical results obtained in the first part.

This thesis contributes to the literature on household economics and gender studies in two ways.

First, its empirical contribution is that it is a direct test of the "doing gender" hypothesis in the Turkish context. By analyzing the relationship between women's relative income and the time they devote to unpaid labor, it provides new evidence on the question of whether bargaining power or social norms is more decisive. This is crucial in a country like Turkey, where modern and traditional social structures coexist. Second, its theoretical contribution is the development of a formal model that incorporates both bargaining power and gender norms. This model goes beyond simply presenting correlations and offers a structural analysis of why these patterns might exist.

The remainder of this thesis is structured as follows. Chapter 2 provides a review of the relevant theoretical and empirical literature, covering both economic models of the household and empirical studies on the division of unpaid work. Chapter 3 describes the data from the Turkish Time Use Survey, explains the sample selection process, and presents the econometric strategy. Chapter 4 presents the results of the empirical analysis and discusses their implications. It also highlights the limitations of a purely econometric approach and explains the need for a theoretical model. Chapter 5 develops the theoretical model of household labor division, including both bargaining power and gender norms. Chapter 6 explains the calibration strategy for the model's parameters and presents the simulation results, showing how the model can replicate the empirical findings. Finally, Chapter 7 combines the empirical and theoretical findings to discuss policy recommendations, assesses the general limitations of the study, and presents the conclusion.

2. LITERATURE REVIEW

The distribution of unpaid labor within the household is a central topic in both economics and sociology. While women's participation in the labor market is increasing, the fact that women still undertake the majority of housework and childcare has deepened debates in this area.

Two main theoretical approaches have emerged to explain how this distribution is determined: economic models based on resources and bargaining power, and sociological models focusing on gender identity and norms. While these approaches offer different explanations, they are not mutually exclusive; they can interact in complex ways (Pollert 1996).

Early economic approaches, often referred to as "economistic" theories, argue that division of labor is a rational outcome based on resources and efficiency. According to these theories, the spouse with more resources has more power in the relationship and therefore does less housework (Becker 1991; Blood Jr. and Wolfe 1960). The unitary model is based on the concept of comparative advantage (Becker, Murphy, and Tamura 1990). According to this model, the spouse with lower opportunity costs (e.g., lower market earning potential or higher household productivity) specializes in housework. By this logic, as a woman's human capital and market income increase, the amount of housework time is expected to decrease.

In contrast to the unitary model, intra-household bargaining models view the family as a place of both cooperation and conflict. These theories suggest that the division of labor results from a negotiation between partners. The outcome depends on each partner's "threat point," which is what they would receive if the partnership failed (for example, through divorce). Under these models, a woman's bargaining position gets stronger as her economic opportunities outside the home increase (Manser and Brown 1980; McElroy and Horney 1981). This greater power should allow her to negotiate for a smaller share of household production. Therefore, both unitary and traditional bargaining models predict that a woman's share of housework should decrease as her relative income increases.

However, the inability of economic models to fully explain reality has led researchers to question the idea of gender-neutral decision-making and led to the development of approaches focused on gender norms. The most notable of these approaches is the concept of "doing gender" (Coltrane 2000). From this sociological perspective, housework is not simply a set of tasks but an activity through which individuals express and affirm their gender identities (West and Zimmerman 1987). The perception of housework as "women's work" is a consequence of strong cultural beliefs about femininity and masculinity.

According to this approach, if a household deviates from traditional gender roles—for example, if a woman earns more than a man—a "gender norm violation" occurs. To "balance" this deviation, one or both partners may adopt more traditional roles within the household. (Akerlof and Kranton 2000) identity economics model offers an economic version of this idea. According to this model, a man may lose "identity utility" if his wife earns more than him, as this violates the social expectation that men are responsible for providing for the family. This loss can be compensated for by women doing more housework—that is, fulfilling the traditional role assigned to women. Unlike bargaining models, theories based on gender norms argue that as women's relative income increases, the decline in housework may cease or even reverse. In other words, this relationship may follow a non-linear (or curvilinear) pattern rather than a linear one.

Empirical studies testing these competing theories have produced a complex and sometimes contradictory body of evidence, with results often varying by country and methodology. Several influential studies have found support for the "doing gender" hypothesis. An early study using U.S. data found a curvilinear relationship: a woman's share of housework falls as her earnings approach her husband's, but rises again after she becomes the main breadwinner (Brines 1994). Similarly, another U.S. study argued that both economically dependent men and breadwinning women "neutralize" their non-traditional economic roles by adopting more traditional behaviors at home, meaning men do less housework and women do more (Greenstein 2000).

Evidence from outside the U.S. provides a more detailed picture. A study of Australian couples found that when a woman earns more than her partner, it is the woman's housework time that increases, not the man's that decreases (Bittman et al. 2003). The authors suggested this is due to cultural factors that made female breadwinning more "deviant" in Australia at the time. A study comparing Sweden and the United States found that the "doing gender" effect was observed only among American women. This suggests that the effect is stronger in societies where women are more economically dependent on their husbands (Evertsson and Neramo 2004).

However, these findings are not undisputed. Some studies support the economic bargaining model more directly. For example, a study using British Household Panel Survey data found that when a woman's income exceeds a man's, the proportion of housework does not increase, meaning that a return to traditional distribution is not achieved (Kan 2008). Other quantitative analyses also show that as a woman's income increases, the male partner contributes more to housework, thus yielding results consistent with the economic model (Coltrane 2000; Harkness 2003). There are also studies that question the reliability of the curvilinear relationship. For example, (Brines 1994) findings become linear when a few outliers are removed (Gupta 1999). More recent research argues that the curvilinear relationship is an artifact of statistical techniques and that the woman's absolute, not relative, income is more determinative (Gupta and Ash 2008).

Finally, the discussion has also shifted from "doing gender" to "undoing gender" (Butler 2004; Deutsch 2007). This perspective focuses on how individuals might actively challenge and resist traditional gender norms in their daily interactions (Gatrell 2005). Qualitative studies suggest that while women who earn more still do a larger share of housework, they are also more likely to be aware of the inequality and actively challenge their partners' lack of contribution. This suggests that the household is a site of ongoing negotiation and potential change, even if that change is slow (Sullivan 2004).

In summary, it can be said that while economic bargaining dynamics are certainly important, they do not operate in a social vacuum. How domestic work is valued and divided is still largely shaped by gender norms. This thesis aims to contribute to this debate in the Turkish context. Through both empirical analysis and theoretical modeling, it will examine which of these two forces—bargaining or belonging—plays the more dominant role.

3. DATA AND EMPIRICAL STRATEGY

This section provides a detailed explanation of the dataset and methodology used in the empirical analysis of this thesis. First, the 2014-2015 Turkey Time Use Survey is introduced, followed by an explanation of the research methodology and sample selection process. Second, descriptive statistics are included to provide a first impression of the data. Finally, the econometric model and detailed empirical strategy used to test the study's main hypotheses are presented.

3.1 Data Source and Sample Selection

3.1.1 Data Source

This analysis uses data from the 2014-2015 Turkey Time Use Survey. This survey was conducted by the Turkish Statistical Institute (TÜİK). The survey is part of the Time Use Surveys (HETUS) project, initiated by Eurostat and harmonized across European countries. This ensures the consistency of the survey methods and comparability with similar surveys conducted in other European countries.

The survey employed a two-stage stratified cluster sampling method. This method was implemented to obtain a representative sample of all private households in Türkiye. The survey planned to interview 11,440 households, and 9,073 of this target were successfully completed.

Three primary tools were used for data collection: the Household Survey, the Individual Survey, and Time Diaries. The most important of these tools were the diaries, which allow individuals to record their activities. In each household, all individuals aged 10 and older were asked to record all their activities during a 24-hour day in 10-minute intervals. Many studies in the literature argue that this detailed diary method is more reliable than surveys that ask general questions like "How much

time do you usually spend on housework?" (Juster and Stafford 1991; Robinson and Godbey 2010), as diary data more accurately reflects how people actually spend their time.

The research's microdata is quite comprehensive. In addition to detailed activity codes classified according to the HETUS system, it also includes personal information about individuals such as gender, age, education level, and employment status, as well as information about households such as total income and housing characteristics.

A key variable in our analysis is the wife's relative earnings, which was constructed for this thesis. In the dataset, income information is provided as a categorical variable, with values ranging from 1 (lowest income bracket) to 5 (highest income bracket). We assigned a value of 0 to individuals who were not employed and reported no income. Then, for every married couple in our sample, we compared the wife's income category to the husband's income category to create our three analytical groups: "Wife earns less than husband," "Wife earns same as husband," and "Wife earns more than husband." These categorical variables are essential for both the descriptive statistics and the OLS models that follow.

3.1.2 Sample Selection

The 2014-2015 Time Use Survey contains data from 25,109 individuals (aged 10 and older) successfully interviewed in 9,073 households. For the empirical analysis, we narrow down this dataset in several steps, following standard practices in the literature, and create a more focused and relevant sample.

First, our sample only includes people who are married and are between 20 and 65 years old. We chose this age range because it is the primary working-age for most people. This step helps us focus our analysis on couples during the main years of their careers and family lives.

From this group of married couples, we create two different samples for our analysis. Our primary sample includes all married couples where at least one person earns income. This larger sample allows us to conduct a general analysis of the division of labor and specialization in Turkish families. After making these selections, this sample has 4,803 couples.

We create a second, smaller sample to specifically test the "bargaining" and "doing gender" approaches. So, our second sample is limited to dual-earner couples, which means both the husband and wife earn an income. This smaller sample is very

important for testing theories about how relative income affects the division of labor. This final sample has 1,065 couples.

Both samples will be analyzed in this thesis. This will provide a more complete picture: The first sample reveals general patterns in the division of household labor, while the second, more focused sample will allow for direct testing of our primary hypotheses regarding relative earnings.

3.2 Descriptive Statistics

This section provides a first look at the data on time use in Turkish households, focusing on gendered patterns of housework.

Table 3.1 Composition of married couples

Sample Criteria	Number of Couples (N)
All married couples	5,868
Married couples with at least one wage-earner	4,803
Wife earns less than husband	3,965
Wife earns same as husband	585
Wife earns more than husband	253
Dual-earner couples	1,065
Wife earns less than husband	443
Wife earns same as husband	536
Wife earns more than husband	86

Source: TURKSTAT, Time Use Survey 2014 - 2015

Table 3.1 presents the composition of married couples in the survey. The sample, which includes couples in which at least one spouse is a wage earner, broadly reflects the traditional structure of family formation in Turkey. In approximately 80% of these households, the wife earns less than her husband. However, when the analysis is limited to dual-earner couples, the distribution shifts slightly: in nearly half of these cases, women report earning the same amount as their husbands.

Table 3.2 Housework by relative earnings among married couples with at least one wage-earner

Net monthly earnings	Husband	Wife	Ratio	Obs.
Daily minutes of housework				
Wife earns less than husband	86.41 (1.1)	335.84 (1.95)	0.79 (0.002)	3965
Wife earns same as husband	96.14 (2.32)	258.65 (4.97)	0.71 (0.005)	585
Wife earns more than husband	105.76 (4.1)	236.62 (2.37)	0.68 (0.009)	253

Source: TURKSTAT, Time Use Survey 2014 - 2015

Table 3.2 shows the average daily housework time spent by the woman relative to the man for married couples where at least one spouse earns an income, categorized by the woman's earnings level. The most striking finding is the large and persistent difference in the amount of work done. In every category, women spend significantly more time on housework than men.

The table also shows how this division of labor changes as women's relative income increases. On average, the time women spend on housework decreases when they earn more than their husbands, falling from 335.84 minutes to 236.62 minutes. Contamperaneously, the time men spend on housework increases, rising from 86.41 minutes to 105.76 minutes. Consequently, women's share of total housework, as indicated by the "Ratio" heading in the table, decreases from 79% to 68%. However, it is important to note that even when women earn more than their husbands, they still do more than half of the total housework.

Table 3.3 Housework by relative earnings among dual-earner couples

Net monthly earnings	Husband	Wife	Ratio	Obs.
Daily minutes of housework				
Wife earns less than husband	89.7 (2.74)	238.31 (5.43)	0.713 (0.007)	443
Wife earns same as husband	96.28 (2.41)	251.92 (5.06)	0.714 (0.005)	536
Wife earns more than husband	93.1 (6.31)	213.45 (10.92)	0.69 (0.014)	86

Source: TURKSTAT, Time Use Survey 2014 - 2015

For dual-earner couples, the main trends are similar. The amount of time women spend on housework decreases as their relative earnings increase (from 238.31 minutes to 213.45 minutes). Women’s share of total housework also decreases slightly (from 71.3% to 69%).

An interesting difference, however, is that the amount of housework performed by men remains roughly the same in this smaller sample. We do not observe the significant increase in men’s housework time seen in the larger sample. This may suggest that the decrease in women’s housework time is not due to their husbands doing more housework, but rather to their ability to hire cleaners or other external assistance, thanks to the family’s increased income.

However, the basic story remains the same: women, regardless of their earnings, continue to do most of the housework.

Table 3.4 Distribution of time spent on household and family care activities by gender and employment status, (2014-2015) (%)

Activities	Employed (%)			Unemployed (%)			Total (%)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Unspecified household and family care	0.5	1.4	1.0	0.8	2.0	1.9	0.6	1.9	1.7
Food management	15.1	46.5	35.6	19.5	44.5	42.2	17.0	44.9	40.4
Household upkeep	10.7	21.8	17.9	12.4	23.3	22.3	11.4	23.0	21.1
Textile production and care	0.8	6.2	4.3	0.9	7.1	6.6	0.9	6.9	6.0
Gardening and animal care	15.0	3.7	7.6	23.9	2.9	4.8	18.8	3.1	5.6
Construction and repairs	5.9	0.3	2.2	4.2	0.1	0.5	5.2	0.2	1.0
Shopping and services	25.8	5.6	12.6	24.0	5.0	6.7	25.0	5.1	8.3
Household management	0.8	0.1	0.3	0.4	0.1	0.1	0.6	0.1	0.2
Childcare	23.1	13.4	16.8	9.1	14.2	13.7	17.2	14.1	14.5
Helping an adult family member	2.2	1.1	1.5	4.8	0.8	1.2	3.3	0.9	1.3
Total (%)	100	100	100	100	100	100	100	100	100

Source: TURKSTAT, Time Use Survey 2014 - 2015

An overview of the time spent on different household activities reveals a clear gendered division of labor in Turkey. Table 3.4 shows that women and men generally specialize in different types of tasks. Whether employed or not, women spend the vast majority of their time on routine, "female-type" tasks: meal preparation and management (44.9%), house cleaning and organization (23.0%), and textile work (6.9%). In contrast, men's contributions are concentrated in more sporadic, "male-type" tasks: shopping and service work (25.0%), gardening and animal care (18.8%), and repair and construction work (5.2%).

For the purposes of this thesis, our definition of "housework" is limited to a set of core domestic tasks which include: food management, household upkeep, making and care for textiles, gardening and pet care, construction and repairs, and shopping and services. We intentionally exclude care work, such as childcare and adult care. This choice is made for methodological reasons because care work has different dynamics compared to other household tasks. For example, unlike cleaning or cooking, childcare can be seen as both work and an enjoyable activity. Furthermore, the division of childcare is strongly shaped by social norms that view motherhood as a primary duty for women. Because childcare is often perceived not as a negotiable task but as an "indispensable responsibility," the division of this work may not change even as a woman's economic bargaining power increases. By excluding these categories, we can better analyze where the boundaries of economic bargaining end and the logic of "doing gender" begins.

3.3 Econometric Model and Empirical Strategy

We follow existing literature to empirically test whether bargaining power or the "doing gender" hypothesis determines the distribution of time use in Turkish households. Our model estimates the degree of specialization in housework as a function of the wife's relative earnings, while controlling for various household- and individual-level characteristics. The model is specified as follows:

$$(3.1) \quad h_{ik} = \beta_0 w_{i0k} + \beta_1 w_{i1k} + \gamma_k X_{ik} + \epsilon_{ik}$$

In this equation, the dependent variable, h_{ik} , represents the wife's share of housework in a given household. It is calculated as the ratio of the wife's total minutes in housework ($H_{i,f}$) to the combined total minutes of housework performed by both spouses ($H_{i,f} + H_{i,m}$). The main independent variables of interest are the dummy variables that capture the wife's relative income status. w_{i0k} is a dummy variable that equals 1 if the wife earns the same as her husband, and w_{i1k} is a dummy that equals 1 if she earns more than her husband. The reference (or base) category is women who earn less than their husbands. The coefficients on these dummies, β_0 and β_1 respectively, will allow us to test our central hypotheses.

The two main theories predict different outcomes for these coefficients. According to traditional bargaining explanation, an increase in a woman's relative earnings should consistently decrease her share of housework. This would mean that the coefficients β_0 and β_1 should both be negative, with the effect being stronger for women who earn more than their husbands (i.e., β_1 would be more negative than β_0). In contrast, the "doing gender" hypothesis predicts that this effect will weaken or reverse at higher relative incomes. Under this framework, the coefficient for women earning more than their husbands (β_1) would be less negative than β_0 , or potentially insignificant, suggesting that women do not fully translate their higher earnings into less housework.

To test these hypotheses, our empirical strategy involves estimating a series of OLS models that gradually add control variables.

Our first and simplest model includes only dummy variables representing the woman's relative income. This model provides a basic estimate of the raw correlation between relative income and the division of housework, without considering any household or individual characteristics.

The second model adds total household income as a control variable. This control is necessary to account for the household's overall economic resources, which may affect the affordability of outsourcing for household production.

The third model includes demographic controls, adding both the woman's and the man's age to the model. This is important for accounting for life-cycle effects, as the division of labor may change as couples age.

The fourth model includes measures of human capital by controlling for the education level of both spouses. Education can influence both income potential and attitudes toward gender roles. Therefore, not controlling for education level could bias the results of the relative income variable.

The fifth model adds factors that directly influence the amount of housework by controlling for the number of children and the logarithm of household size. The presence of children and a larger household increase the amount of housework required.

The sixth model includes variables related to household production efficiency. This model controls for household technologies (e.g., the presence of a dishwasher, clothes dryer, or microwave) and the availability of outsourcing (e.g., cooking). These factors can directly reduce the amount of housework a couple must do.

Finally, the seventh specification helps us directly study the effect of ideas about gender roles. Because the survey does not directly ask about individuals' attitudes, this study creates an indirect measure (proxy) using behavioral data. If a woman's share of housework time devoted to "female-type" tasks is above the average share for her income group, she is defined as "traditional." For this study, "female-type" tasks are: unspecified household and family care, food management, household upkeep, and textile production and care. In the same way, we define a man as "traditional" if the share of his total housework time spent on 'male-type' tasks is higher than the average share for men in his income group. For this study, "male-type" tasks are: gardening and animal care, construction and repairs, shopping and services, and household management.

The results of these different specifications will be presented and discussed in the next chapter.

4. EMPIRICAL RESULTS AND LIMITATIONS

This chapter presents the results from the econometric analysis outlined in Chapter 3. First, we will present and interpret the results from the OLS regression models for both our broad sample of all married couples and our specific sample of dual-earner couples. Second, we will discuss the broader implications of these findings in the context of the "bargaining" versus "doing gender" debate. Finally, this chapter will address the limitations of this empirical approach and explain why a theoretical model is necessary to more deeply understand the behavioral mechanisms at play.

4.1 Empirical Results

This section details the results of the seven OLS regression specifications that were estimated for our two samples. The dependent variable in all models is the wife's share of total housework time.

Table 4.1 The division of housework for married couples with at least one wage-earner

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wife earns same as husband = 1	-0.07*** (0.005)	-0.06*** (0.005)	-0.07*** (0.005)	-0.06*** (0.005)	-0.06*** (0.005)	-0.06*** (0.005)	-0.05** (0.005)
Wife earns more than husband = 1	-0.11*** (0.005)	-0.10*** (0.008)	-0.10*** (0.008)	-0.09*** (0.008)	-0.09*** (0.008)	-0.09*** (0.008)	-0.07*** (0.01)
<i>Household Income</i>							
£1081 - 1550		0.009* (0.005)	0.007 (0.005)	0.006 (0.005)	0.006 (0.005)	0.004 (0.005)	0.005 (0.005)
£1551 - 2170		-0.007 (0.005)	-0.008 (0.005)	-0.007 (0.006)	-0.007 (0.006)	-0.01* (0.06)	-0.01* (0.05)
£2171 - 3180		-0.02*** (0.005)	-0.02*** (0.005)	-0.01*** (0.06)	-0.01*** (0.06)	-0.02*** (0.006)	-0.02*** (0.006)
≥ 3180		-0.03*** (0.005)	-0.03*** (0.005)	-0.02*** (0.007)	-0.02*** (0.007)	-0.02*** (0.007)	-0.03*** (0.007)
<i>Wife's Age Group</i>							
25 - 29			0.005 (0.01)	0.008 (0.01)	0.006 (0.01)	0.005 (0.01)	0.002 (0.01)
30 - 34			0.01 (0.01)	0.01 (0.01)	0.009 (0.01)	0.009 (0.01)	0.005 (0.01)
35 - 39			0.005 (0.01)	0.006 (0.01)	0.002 (0.01)	0.003 (0.01)	0.001 (0.01)
40 - 44			0.005 (0.01)	0.005 (0.01)	0.004 (0.01)	0.004 (0.01)	0.002 (0.01)
45 - 49			0.001 (0.01)	0.007 (0.01)	0.001 (0.01)	0.001 (0.01)	0.008 (0.01)
50 - 54			0.009 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
55 - 59			0.01 (0.01)	0.009 (0.01)	-0.002 (0.01)	-0.002 (0.01)	-0.004 (0.01)
<i>Husband's Age Group</i>							
25 - 29			0.04 (0.02)	0.04 (0.02)	0.04 (0.02)	0.03 (0.02)	0.03 (0.02)
30 - 34			0.05* (0.02)	0.05* (0.02)	0.04 (0.02)	0.03 (0.02)	0.04 (0.02)

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Table 4.1 – *Continued from previous page*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
35 - 39			0.05*	0.04*	0.03	0.02	0.03
			(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
40 - 44			0.04	0.04	0.03	0.02	0.03
			(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
45 - 49			0.04	0.04	0.03	0.02	0.02
			(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
50 - 54			0.04	0.03	0.02	0.01	0.02
			(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
55 - 59			0.03	0.02	0.02	0.01	0.02
			(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
<i>Wife's Education Level</i>							
Primary School				0.01	0.01***	0.01***	0.01***
				(0.006)	(0.006)	(0.006)	(0.005)
Junior High School				0.01	0.02**	0.01**	0.01**
				(0.008)	(0.008)	(0.008)	(0.007)
High School				0.001	0.01	0.008	0.01
				(0.007)	(0.008)	(0.008)	(0.007)
University				−0.02***	−0.008	−0.008	−0.01
				(0.009)	(0.009)	(0.009)	(0.009)
<i>Husband's Education Level</i>							
Primary School				0.01	0.02**	0.01*	0.02**
				(0.01)	(0.01)	(0.01)	(0.009)
Junior High School				0.01	0.01*	0.01	0.02**
				(0.01)	(0.01)	(0.01)	(0.01)
High School				0.007	0.01	0.009	0.01
				(0.01)	(0.01)	(0.01)	(0.01)
University				0.003	0.009	0.005	0.01
				(0.01)	(0.01)	(0.01)	(0.01)
<i>Other Controls</i>							
Number of children					0.009***	0.009***	0.01***
					(0.002)	(0.002)	(0.02)
Log number of family members					0.02***	0.02***	0.02***
					(0.006)	(0.006)	(0.006)
Microwave oven = 1						−0.001	−0.001
						(0.004)	(0.004)

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Table 4.1 – *Continued from previous page*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Deep freezer = 1						0.002 (0.003)	0.001 (0.003)
Dishwasher = 1						0.01*** (0.005)	0.01*** (0.004)
Drying machine = 1						0.01 (0.01)	0.01 (0.009)
Outsourcing of food preparation = 1						−0.04*** (0.006)	−0.03*** (0.006)
<i>Interaction Terms</i>							
woman earns more than husband × traditional wife							0.02 (0.01)
woman earns more than husband × traditional husband							−0.006 (0.01)
Constant	0.79*** (0.002)	0.8*** (0.004)	0.75*** (0.02)	0.73*** (0.02)	0.70*** (0.02)	0.71*** (0.02)	0.65*** (0.02)
Observations	4803	4803	4803	4803	4803	4803	4803
R-squared	0.06	0.07	0.09	0.10	0.10	0.11	0.20

Notes: Table provides OLS estimation results. The dependent variable is degree of specialization (woman's share of housework). The analysis is based on Time Use Survey Micro Data Set 2014 – 2015. Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married, where at least one of the spouses work in the market and report positive earnings.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: TURKSTAT Time Use Survey 2014-15 (Turkish Statistical Institute 2015).

Table 4.1 presents the regression results for the broad sample of 4,803 married couples where at least one partner reports positive earnings. In our first and most basic specification, which only includes the relative earnings dummies, we find that both coefficients are negative and statistically significant. The coefficient for "Wife earns same as husband" is (-0.07), and the coefficient for "Wife earns more than husband" is (-0.11). This initial result suggests that as a woman's relative income increases, her share of housework decreases, and this effect is stronger when she is the primary breadwinner. This provides preliminary support for bargaining power theory.

As we move from Specification 2 to Specification 6, we progressively add control variables for household income, age, education, household composition, and technology. Across these models, the coefficients for our main variables of interest remain remarkably stable and statistically significant. The coefficient for "Wife earns same" stays around (-0.06), while the coefficient for "Wife earns more" moves slightly from (-0.11) to (-0.07). In all these specifications, the results continue to suggest that women's share of housework decreases as their relative earnings rise, consistent with the predictions of bargaining power theory.

In Specification 7, where we introduce the behavioral proxy for traditional gender attitudes, the model in which we add a behavioral proxy for traditional gender attitudes, the coefficient for "Woman earns more than her husband" shrinks to (-0.07) and approaches closely the coefficient for "Woman earns the same as her husband" (-0.05). This may offer some support for the "doing gender" hypothesis.

Table 4.2 The division of housework for dual-earner couples

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wife earns same as husband = 1	0.0007 (0.009)	−0.016* (0.009)	−0.017* (0.009)	−0.02** (0.009)	−0.02** (0.009)	−0.02** (0.009)	−0.01** (0.009)
Wife earns more than husband = 1	−0.015 (0.016)	−0.006 (0.016)	−0.006 (0.016)	−0.009 (0.016)	−0.006 (0.016)	−0.006 (0.016)	−0.05* (0.003)
<i>Household Income</i>							
£1081 - 1550		−0.008 (0.02)	−0.01 (0.02)	−0.009 (0.02)	−0.002 (0.02)	−0.003 (0.02)	0.02 (0.01)
£1551 - 2170		−0.51*** (0.017)	−0.05*** (0.017)	−0.05*** (0.018)	−0.04** (0.018)	−0.04** (0.018)	−0.001 (0.01)
£2171 - 3180		−0.08*** (0.017)	−0.08*** (0.017)	−0.07*** (0.019)	−0.07*** (0.019)	−0.07*** (0.019)	−0.02 (0.014)
≥ 3180		−0.08*** (0.016)	−0.08*** (0.016)	−0.08*** (0.02)	−0.07*** (0.02)	−0.08*** (0.02)	−0.03*** (0.015)
<i>Wife's Age Group</i>							
25 - 29			0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.002 (0.02)
30 - 34			0.01 (0.03)	0.01 (0.03)	0.005 (0.03)	0.004 (0.03)	−0.007 (0.02)
35 - 39			−0.01 (0.03)	−0.007 (0.03)	−0.01 (0.03)	−0.01 (0.03)	−0.019 (0.02)
40 - 44			0.01 (0.03)	0.01 (0.03)	0.01 (0.03)	0.01 (0.03)	0.01 (0.02)
45 - 49			0.02 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.02 (0.02)
50 - 54			0.04 (0.03)	0.04 (0.03)	0.05 (0.03)	0.05 (0.03)	0.04 (0.02)
55 - 59			−0.06 (0.05)	−0.05 (0.05)	−0.04 (0.05)	−0.04 (0.05)	−0.05 (0.03)
<i>Husband's Age Group</i>							
25 - 29			0.07 (0.06)	0.06 (0.06)	0.05 (0.06)	0.04 (0.06)	−0.05 (0.04)
30 - 34			0.11* (0.06)	0.1* (0.06)	0.08 (0.06)	0.07 (0.06)	0.008 (0.04)

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Table 4.2 – *Continued from previous page*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
35 - 39			0.12*	0.11*	0.09	0.07	0.002
			(0.06)	(0.06)	(0.06)	(0.06)	(0.04)
40 - 44			0.11*	0.1	0.08	0.06	0.04
			(0.06)	(0.06)	(0.06)	(0.06)	(0.04)
45 - 49			0.10	0.09	0.07	0.05	−0.01
			(0.06)	(0.06)	(0.06)	(0.06)	(0.04)
50 - 54			0.11	0.09	0.08	0.06	−0.01
			(0.06)	(0.06)	(0.06)	(0.06)	(0.04)
55 - 59			0.08	0.07	0.06	0.04	−0.01
			(0.07)	(0.07)	(0.07)	(0.07)	(0.05)
<i>Wife's Education Level</i>							
Primary School				0.01	0.02	0.02	0.01
				(0.02)	(0.02)	(0.02)	(0.01)
Junior High School				0.02	0.03	0.02	0.01
				(0.02)	(0.02)	(0.02)	(0.01)
High School				0.009	0.01	0.01	−0.008
				(0.02)	(0.02)	(0.02)	(0.01)
University				0.02	0.03	0.03	0.007
				(0.02)	(0.02)	(0.02)	(0.01)
<i>Husband's Education Level</i>							
Primary School				−0.08	−0.09*	−0.1**	−0.04
				(0.05)	(0.05)	(0.05)	(0.03)
Junior High School				−0.08	−0.08*	−0.1**	−0.04
				(0.05)	(0.05)	(0.05)	(0.03)
High School				−0.11**	−0.12**	−0.13**	−0.06*
				(0.05)	(0.05)	(0.05)	(0.03)
University				−0.1*	−0.1**	−0.12**	−0.05
				(0.05)	(0.05)	(0.05)	(0.03)
<i>Other Controls</i>							
Number of children					0.02***	0.02***	0.01***
					(0.006)	(0.006)	(0.004)
Log number of family members					0.02	0.02	−0.008
					(0.018)	(0.018)	(0.012)
Microwave oven = 1						−0.006	−0.001
						(0.009)	(0.006)

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Table 4.2 – *Continued from previous page*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Deep freezer = 1						−0.003 (0.008)	−0.004 (0.006)
Dishwasher = 1						0.02* (0.012)	0.01** (0.009)
Drying machine = 1						0.016 (0.017)	0.015 (0.012)
Outsourcing of food preparation = 1						−0.004*** (0.013)	−0.01* (0.009)
<i>Interaction Terms</i>							
woman earns more than husband × traditional wife							0.06** (0.03)
woman earns more than husband × traditional husband							0.005 (0.03)
Constant	0.71*** (0.006)	0.78*** (0.016)	0.67*** (0.06)	0.69*** (0.06)	0.72*** (0.08)	0.75*** (0.08)	0.63*** (0.06)
Observations	1065	1065	1065	1065	1065	1065	1065
R-squared	0.01	0.04	0.07	0.08	0.10	0.11	0.17
<i>Notes:</i> Table provides OLS estimation results. The dependent variable is degree of specialization (woman's share of housework). The analysis is based on Time Use Survey Micro Data Set 2014 – 2015. Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market and report positive earnings. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. <i>Source:</i> TURKSTAT Time Use Survey 2014-15 (Turkish Statistical Institute 2015).							

The findings for this group are quite different and present a more nuanced picture. In the initial specifications, the coefficients for the variables related to relative earnings are mostly not statistically significant. For example, the coefficient for the variable "Woman earns more than her husband" is not significantly different from zero until the final specification. This suggests that a simple bargaining model is inadequate to explain the division of household labor for dual-earner families. The effect of relative income appears to be much weaker or more complex in this group.

The results from Specification 7, which includes the traditionality proxy and interaction terms, are particularly insightful. Here, the coefficient for the *woman earns more than husband* $\times$ *traditional wife* interaction term is positive (0.06) and statistically significant. It may suggest that while earning more than their husband may reduce a wife's housework share, this effect is significantly counteracted if the wife holds traditional gender role attitudes (as proxied by her behavior). In other words, traditional women who are also the primary breadwinners do not reduce their housework as much as bargaining theory would predict, providing some support of the "doing gender" hypothesis for this group.

The results from our econometric analysis provide a nuanced answer to our research question. We can interpret our findings in the following way: both bargaining and "doing gender" dynamics are at play, but their importance differs depending on the population being studied.

For the sample of all married couples, the results at first seem to support the bargaining theory. As a woman's income increases compared to her husband's, her share of housework goes down.

However, it's important to clarify what this means in practice. This "all couples" sample consists predominantly of single-earner families, and in this case, the man is usually the earner. Therefore, women who are not employed are frequently compared with women who are employed. In this context, the most decisive effect is what we call the "wide margin"—the difference in whether they work or not. This effect is far more dominant than the "narrow margin" (earnings differences among employed women).

The evidence for the "doing gender" hypothesis is much stronger when we look at dual-earner couples. In this group, the effect of the woman earning more than her husband is weaker per se. The significant interaction effect in Table 4.2 suggests that women who earn more and also embrace traditional gender roles engage in a form of "gender deviance neutralization." While these women may assume an unconventional role economically, they attempt to compensate by maintaining a more traditional role within the household. Consequently, no significant decrease in their domestic

workload is observed. This finding suggests that in families where both spouses work, gender norms may override pure economic bargaining logic.

4.2 Limitations of the Empirical Approach and Motivation for a Theoretical Model

While our empirical results indicate significant and interesting correlations, it is necessary to acknowledge some limitations of the OLS regression approach. These limitations prevent us from definitively drawing causal conclusions and highlight the need for a theoretical model developed in the next section of this thesis.

First and foremost, our analysis shows *correlation*, not *causation*. We have found a strong statistical relationship between a woman's relative income, her gender attitudes, and her share of housework. However, we cannot prove that higher income *causes* a change in housework, or that traditional attitudes *cause* women to do more housework. There could be unobserved factors that influence all of these variables simultaneously.

This leads to the second major limitation: endogeneity due to a potential selection problem. It is possible that the couples in our sample were not randomly selected. For example, women who are career-oriented or less willing to engage in housework may tend to work in higher-earning jobs. They may also be more likely to prefer more egalitarian male partners. If this assumption is true, the regression coefficients we obtain for relative income will be inaccurate because they reflect not only the effect of income but also the influence of these pre-existing, unobserved trends and preferences.

To properly address this endogeneity issue, more advanced econometric techniques are required. For example, the Difference-in-Differences (Diff-in-Diff) approach can examine changes over time, but this requires panel data, which is not available in this study. Alternatively, the Instrumental Variable (IV) method can be applied. For this method to work, a valid instrumental variable must be found that is related to the woman's relative income but does not directly affect household workload. However, this is one of the major challenges in this area, and such a variable was not detected in our data set.

Finally, even with the inclusion of interaction terms, our empirical model cannot fully distinguish behavioral mechanisms. We see a statistical pattern that could be described as "doing gender," but we cannot directly observe household decision-

making processes. We cannot clearly distinguish the extent to which a change in bargaining power or a concern for maintaining gender identity contributes to these outcomes.

To overcome these limitations and examine behavioral mechanisms in more depth, a different approach is necessary. Empirical analysis reveals what the relationships look like in the Turkish data, while a theoretical model helps us understand why these relationships might exist. In the next section, we will develop a theoretical household model that explicitly includes both bargaining power and concerns about gender norms. This allows us to simulate how these two forces interact and test whether this interaction can explain the complex patterns we observe in the empirical findings.

5. A THEORETICAL MODEL OF HOUSEHOLD LABOR DIVISION

The previous section presented empirical evidence on the division of household labor in Turkey, demonstrating a complex relationship that cannot be fully explained solely by bargaining power theory or the "doing gender" hypothesis. It also highlighted the limitations of econometric analyses, such as the inability to establish causality or clearly isolate behavioral mechanisms. To overcome these limitations, this section develops a theoretical model of household decision-making. The primary purpose of this model is to formally represent the interaction between economic bargaining power and concerns about gender norms, helping us understand why the empirical patterns observed in Chapter 4 might have emerged.

5.1 Model Setup

We consider a household consisting of two members, a wife (w) and a husband (h). The household makes collective decisions to allocate time to housework in order to maximize its overall well-being. This well-being is a linear combination of the weighted individual utilities of the wife and husband.

The household faces a time constraint. To simplify the problem, we assume a fixed total amount of required household time, denoted by κ . This total work must be completed by the wife (d_w), the husband (d_h), or by outsourcing the labor to a third party (d_o). Therefore, the household's time constraint is:

$$d_w + d_h + d_o = \kappa$$

The household's consumption is determined by their joint income minus the cost of any outsourced labor. If w_w and w_h are the wages of the wife and husband, and θ is the monetary cost per unit of outsourced housework, then total consumption (C)

is:

$$C = w_w + w_h - \theta d_o$$

In this model, we make the strong assumption that wages are fixed and are not affected by the household's decisions about housework. This is a necessary simplification to keep the problem tractable. While this assumption is necessary for our current model, incorporating the labor supply decision (how many hours to work) into the framework would be an interesting extension for future research.

5.2 Incorporating Gender Norms

To test the hypotheses of our research question, we construct utility functions that explicitly incorporate gender norms. Each individual's utility depends on factors such as household consumption, the psychological feelings associated with adhering to or deviating from gender norms, and the physical effort involved in performing household chores.

5.2.1 The Wife's Utility Function

The wife's utility function is composed of three parts:

$$U_w = \ln(C) + \Pi_w - \eta_w d_w^2$$

Utility from Consumption ($\ln(C)$): This is the standard logarithmic utility from household consumption, where a higher consumption level increases utility.

Disutility from Gender Norms (Π_w): This term, $\Pi_w = -\gamma_w \cdot \max(1 - Trad_w, 0)^2$, represents the psychological cost (disutility) the wife feels if she deviates from traditional female roles.

- $Trad_w$ is her "traditionalism score," which measures if her share of female-type tasks (food management, household upkeep and textile care) meets or exceeds the societal average for her income group.
- γ_w is a parameter that shows how much she cares about adhering to these social norms.

- The $\max(1 - Trad_w, 0)$ function means that a penalty only occurs if she is "untraditional" ($Trad_w \leq 1$). If she is "traditional" ($Trad_w > 1$), this term becomes zero, and she feels no psychological disutility from this source.

Disutility from Physical Effort ($-\eta_w d_w^2$): This term captures the physical cost or dislike of doing housework. d_w is the time she spends on housework, and η_w measures her personal aversion to this effort.

5.2.2 The Husband's Utility Function

The husband's utility function has a similar structure:

$$U_h = \ln(C) + \Pi_h - \eta_h d_h^2$$

His utility is also based on consumption, his own psychological feeling about adhering to male gender norms (Π_h), and his aversion to the physical cost of doing housework (η_h). The norm adherence term, Π_h , specifically relates to his performance of "male-type" tasks, which in our model include shopping and services, gardening and pet care, and construction and repairs.

5.2.3 Household Bargaining

The model incorporates bargaining power by assuming the household maximizes a weighted sum of the two individual utility functions:

$$\text{Maximize } W = \lambda U_w + (1 - \lambda) U_h$$

In this equation, λ represents the wife's bargaining power. It is a weight between 0 and 1. We assume that her bargaining power is a function of her relative wage, meaning it increases as her contribution to the total household income rises. Formally, this relationship is expressed as:

$$\lambda = f\left(\frac{w_w}{w_w + w_h}\right)$$

This setup allows us to see how a woman's economic position, based on her relative earning, influences time-use decision-making within the household.

5.3 Model Equilibrium

The equilibrium of the model is found by solving the household's constrained optimization problem. The household chooses the optimal allocation of housework time for the wife (d_w), the husband (d_h), and outsourcing (d_o) to maximize its collective well-being, subject to the time constraint $d_w + d_h + d_o = \kappa$.

We can formalize this problem using a Lagrange equation ($\mathcal{L}$), where μ is the Lagrange multiplier for the time constraint:

$$\mathcal{L} = \lambda U_w + (1 - \lambda)U_h + \mu(\kappa - d_w - d_h - d_o)$$

The equilibrium conditions, or First-Order Conditions (FOCs), are derived by taking the partial derivatives of the Lagrange function with respect to the choice variables (d_w , d_h , and d_o). By solving this system of equations, we find the optimal levels for d_w for each of the four possible scenarios based on the couple's adherence to gender norms.

5.4 Equilibrium Conditions in Each Scenario

Scenario 1: Traditional Wife ($T_w > 1$) & Traditional Husband ($T_h > 1$)

- **FOC for Wife's Housework (d_w):**

$$\lambda(-2\eta_w d_w) = \mu$$

- **FOC for Husband's Housework (d_h):**

$$(1 - \lambda)(-2\eta_h d_h) = \mu$$

- **FOC for Outsourced Housework (d_o):**

$$-\frac{\theta}{w_w + w_h - \theta d_o} = \mu$$

Trade-off between Wife's and Husband's Time:

$$\lambda(2\eta_w d_w) = (1 - \lambda)(2\eta_h d_h)$$

In this scenario, the household balances the weighted marginal costs of physical effort. On the left is the woman's marginal disutility, weighted by her bargaining power (λ). On the right is the man's marginal utility loss. As the woman's aversion to do housework (η_w) increases, the left-hand side grows for any fixed level of d_w . To restore this equality, the household must reduce the woman's housework time (d_w) or increase the man's housework time (d_h) until the marginal costs are equal again.

Scenario 2: Traditional Wife ($T_w > 1$) & Untraditional Husband ($T_h \leq 1$)

- **FOC for Wife's Housework (d_w):**

$$\lambda(-2\eta_w d_w) = \mu$$

- **FOC for Husband's Housework (d_h):**

$$(1 - \lambda) \left(2\gamma_h \frac{M_h}{d_h^2 \bar{H}_h} - 2\eta_h d_h \right) = \mu$$

- **FOC for Outsourced Housework (d_o):**

$$-\frac{\theta}{w_w + w_h - \theta d_o} + (1 - \lambda) \left(2\gamma_h \frac{M_h}{d_h^2 \bar{H}_h} \right) = \mu$$

Trade-off between Wife's and Husband's Time:

$$\lambda(2\eta_w d_w) = (1 - \lambda) \left(2\eta_h d_h - 2\gamma_h \frac{M_h}{d_h^2 \bar{H}_h} \right)$$

The equilibrium now balances the wife's physical cost against the husband's *total* marginal cost. The husband's total marginal cost (right-hand side) consists of two parts: the physical disutility resulting from the effort and the marginal psychological disutility resulting from deviating from the gender norm. This additional psychological cost increases for each unit of housework he performs if his sensitivity to the norm (γ_h) increases. This makes his time more "expensive" to the household, tipping the balance toward him doing less housework (d_h) and more housework (d_w) than his wife.

Scenario 3: Untraditional Wife ($T_w \leq 1$) & Traditional Husband ($T_h > 1$)

- **FOC for Wife's Housework (d_w):**

$$\lambda \left(2\gamma_w \frac{F_w}{d_w^2 \bar{H}_w} - 2\eta_w d_w \right) = \mu$$

- **FOC for Husband's Housework (d_h):**

$$(1 - \lambda)(-2\eta_h d_h) = \mu$$

- **FOC for Outsourced Housework (d_o):**

$$-\frac{\theta}{w_w + w_h - \theta d_o} = \mu$$

Trade-off between Wife's and Husband's Time:

$$\lambda \left(2\eta_w d_w - 2\gamma_w \frac{F_w}{d_w^2 \bar{H}_w} \right) = (1 - \lambda)(2\eta_h d_h)$$

Here, the household balances the wife's total marginal cost against the husband's simple physical cost. The wife's total cost (left-hand side) is the physical disutility resulting from effort and the psychological disutility resulting from deviating from gender norms. If her sensitivity to norms (γ_w) is high, the relief from reducing this disutility is significant, making her more willing to perform housework. This effectively reduces the wife's total marginal cost of her time for the household, leading to an equilibrium with higher d_w and lower d_h .

Scenario 4: Untraditional Wife ($T_w \leq 1$) & Untraditional Husband ($T_h \leq 1$)

- **FOC for Wife's Housework (d_w):**

$$\lambda \left(2\gamma_w \frac{F_w}{d_w^2 \bar{H}_w} - 2\eta_w d_w \right) = \mu$$

- **FOC for Husband's Housework (d_h):**

$$(1 - \lambda) \left(2\gamma_h \frac{M_h}{d_h^2 \bar{H}_h} - 2\eta_h d_h \right) = \mu$$

- **FOC for Outsourced Housework (d_o):**

$$-\frac{\theta}{w_w + w_h - \theta d_o} + (1 - \lambda) \left(2\gamma_h \frac{M_h}{d_h^2 \bar{H}_h} \right) = \mu$$

Trade-off between Wife's and Husband's Time:

$$\lambda \left(2\eta_w d_w - 2\gamma_w \frac{F_w}{d_w^2 \bar{H}_w} \right) = (1 - \lambda) \left(2\eta_h d_h - 2\gamma_h \frac{M_h}{d_h^2 \bar{H}_h} \right)$$

In the most complex situation, the household balances the total marginal costs of both spouses. The final allocation depends on the interaction of all parameters. For example, even if a woman has high bargaining power, her strong sensitivity to gender norms may lead her to do more housework than her economic power would suggest. Conversely, a husband with a very high sensitivity to gender norms may do very little housework, regardless of his wife's bargaining power.

5.5 Overall Model Intuition from these FOCs

To understand the model's behavior, we can look at how the spouse's housework time (d_w) and share of the housework change when key parameters such as individual wages and total household income are changed. The figures below show the results of these simulations for four different scenarios.

Figure 5.1 Effect of wife's wage on her housework time

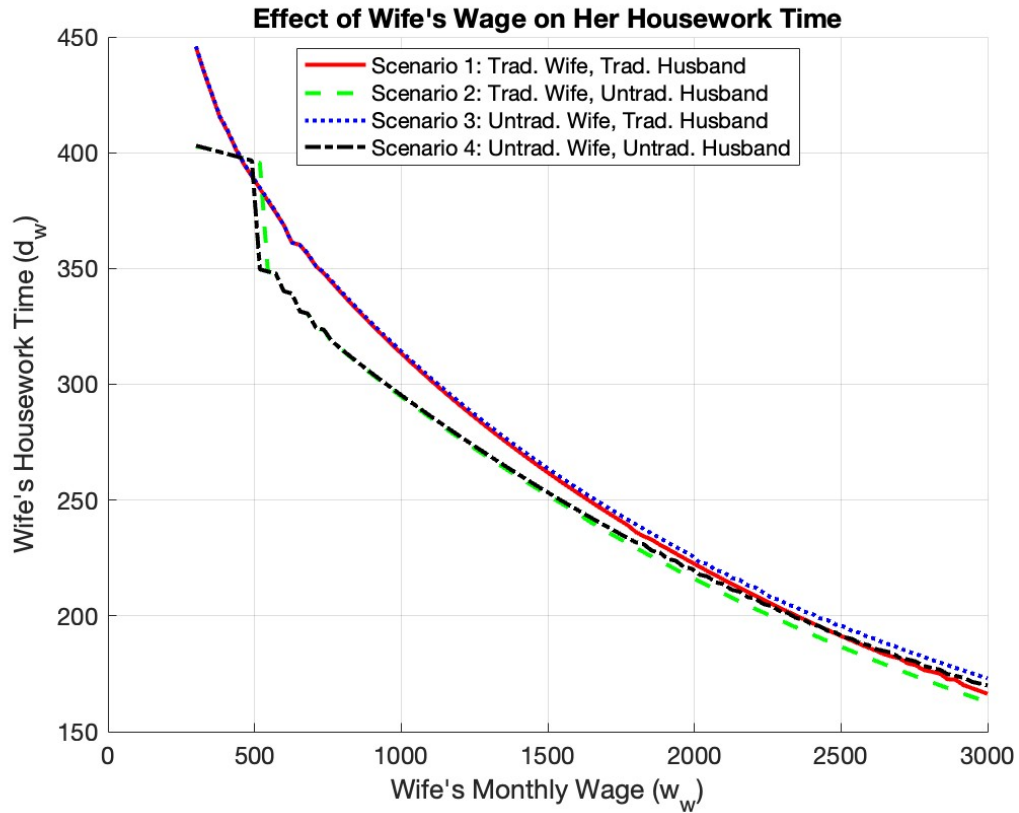


Figure 5.1 shows that as the wife's wage increases, the amount of housework she does decreases in all scenarios. This demonstrates a standard bargaining effect. It

also clearly shows that the husband's attitude is very important: when the husband is untraditional (Scenarios 2 and 4), the wife performs less housework.

Figure 5.2 Effect of husband's wage on wife's housework time



Figure 5.2 illustrates that as the husband's wage (d_h) increases, the wife's housework time (d_w) also tends to increase. This suggests that a higher-earning husband may lead to more specialization within the household. Again, the husband's traditionalism separates the scenarios into two distinct groups.

Figure 5.3 Effect of total income on wife's housework time



Figure 5.3 shows a clear negative relationship between total household income ($Y = w_w + w_h$) and the wife's housework time. For all four scenarios, as the total income of the couple goes up, the wife's housework burden goes down. This suggests that higher income allows the household to outsource more domestic work.

Figure 5.4 Effect of wife's wage on her share of housework

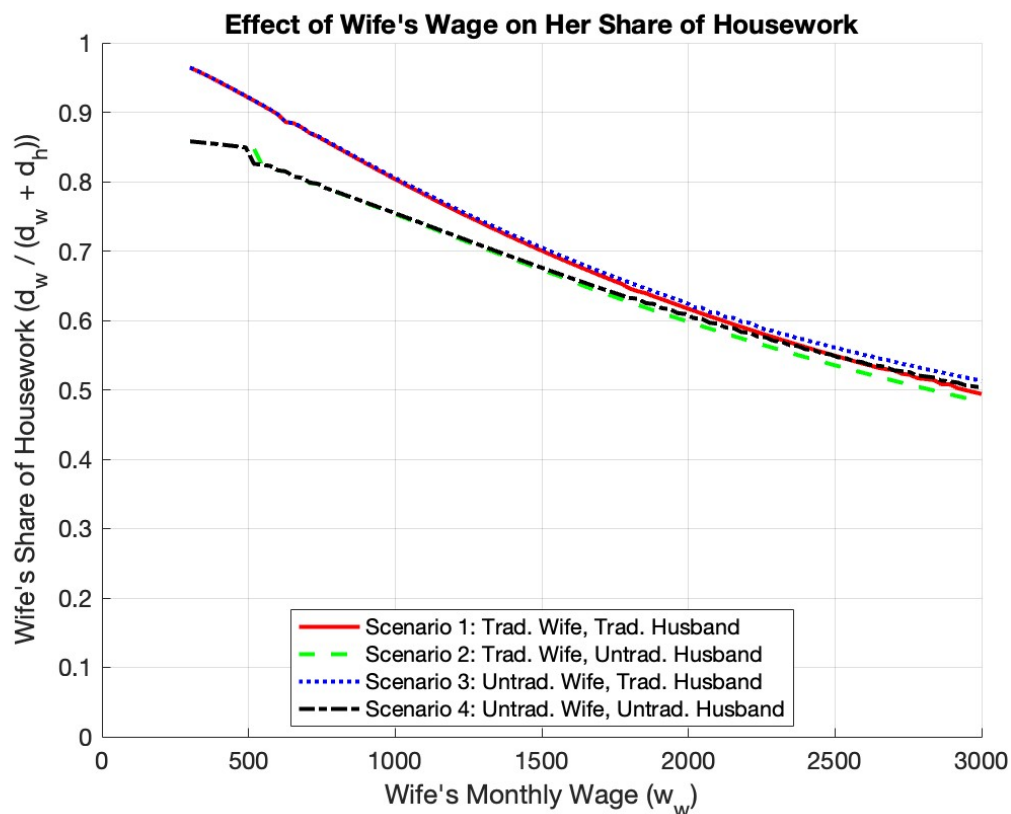
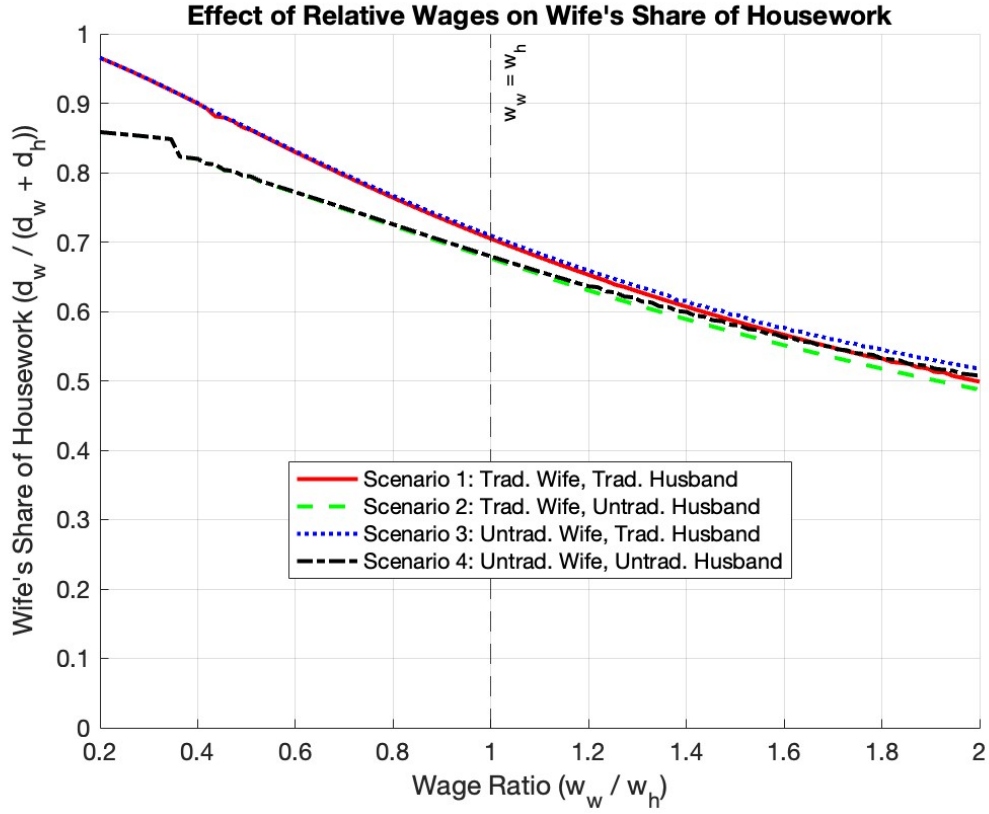


Figure 5.4 focuses on the wife's *share* of the total housework ($d_w/(d_w + d_h)$). The graph shows that as the wife's absolute wage increases, her share of the housework consistently decreases. This highlights how an increase in her economic power leads to a more balanced division of labor.

Figure 5.5 Effect of relative wages on wife's share of housework



Finally, Figure 5.5 shows the effect of the *relative wage* between the spouses (w_w/w_h). As the wife's wage increases relative to her husband's (moving right on the x-axis), her share of housework declines. This provides strong visual support for the bargaining power mechanism in the model. However, it is important to note that even when their wages are equal (at a wage ratio of 1.0), the wife's share remains well above 50% in all scenarios.

In the next chapter, we will explain the strategy for calibrating these parameters using key moments from our empirical data and then use the calibrated model to see how well it reflects the patterns observed in Türkiye.

6. CALIBRATION AND MODEL RESULTS

In this section, we estimate the model’s parameters. First, we describe the strategy used to calibrate the model’s parameters. Second, we present the results from simulations of this calibrated model and assess how well it reflects the underlying patterns in the distribution of housework time use observed in our empirical analysis.

6.1 Calibration Strategy

To make our theoretical model specific to the Turkish context, we need to choose realistic values for its parameters. This calibration process involves a combination of methods: some parameters are calculated directly from our 2014-2015 Time Use Survey dataset, some are taken from other relevant data sources like the World Values Survey, and others are estimated by solving the model’s own equilibrium conditions.

This process is performed separately for our two different samples: (1) Married Couples with at Least One Wage-Earner, and (2) Dual-Earner Couples.

6.1.1 Parameters for Married Couples with At Least One Wage-Earner

For our broad sample, the key target moments are the observed average daily housework hours for the wife ($d_w = 5.35$), the husband ($d_h = 1.48$). The parameters used to achieve this are set as follows.

Exogenous parameters derived from external data sources are summarized in Table 6.1. The cost of outsourcing (θ) is approximated using official records. The parameters for norm adherence preferences (γ_w, γ_h) are extracted from the World Values Survey, Waves 6 (2010-2014) and 7 (2017-2022), for Turkey. All other parameters

in this group, including wages and task shares, are calculated as averages from our Time Use Survey dataset. The parameters for aversion to housework (η_w, η_h) are internally calibrated by solving the First-Order Condition from our model using predetermined exogenous parameters. These are presented in Table 6.2.

Table 6.1 Exogenous parameters for married couples with at least one wage-earner

Parameter	Notation	Value	Source
Monthly wage of the wife	w_w	344.21	TURKSTAT TUS (2014 - 2015)
Monthly wage of the husband	w_h	1,476.64	TURKSTAT TUS (2014 - 2015)
Cost per hour of outsourcing	θ	5.31	SGK Records (2014 - 2015)
Wife's time on female-type tasks	F_w	4.93	TURKSTAT TUS (2014 - 2015)
Husband's time on male-type tasks	M_h	0.42	TURKSTAT TUS (2014 - 2015)
Societal norm for female task share	$\overline{H}_{w,g}$	0.92	TURKSTAT TUS (2014 - 2015)
Societal norm for male task share	$\overline{H}_{h,g}$	0.18	TURKSTAT TUS (2014 - 2015)
Wife's norm adherence intensity	γ_w	0.62	World Values Survey for Turkey (Wave 6 and 7)
Husband's norm adherence intensity	γ_h	0.69	World Values Survey for Turkey (Wave 6 and 7)
Wife's bargaining power	λ	0.19	TURKSTAT TUS (2014 - 2015)
Total required housework time	κ	7.16	TURKSTAT TUS (2014 - 2015)

Table 6.2 Internally calibrated parameters for married couples with at least one wage-earner

Parameter	Notation	Value	Target
Wife's physical cost aversion	η_w	0.001437	the observed amount of d_w
Husband's physical cost aversion	η_h	0.001218	the observed amount of d_h

6.1.2 Parameters for Dual-Earner Couples

For the sample of dual-earner couples, the target moments are a lower housework time for the wife ($d_w = 4.05$), a slightly higher time for the husband ($d_h = 1.55$). The parameters are re-calibrated to reflect the different characteristics of this group.

As shown in Table 6.3, the average wages for both spouses are higher, and the wife's bargaining power (λ) increases significantly to 0.43. Parameters related to broad societal factors, such as the cost of outsourcing and norm adherence intensities, remain the same. The aversion parameters (η_w, η_h) are re-calibrated for this sample and are presented in Table 6.4.

Table 6.3 Exogenous parameters for dual-earner couples

Parameter	Notation	Value	Source
Monthly wage of the wife	w_w	1,352.46	TURKSTAT TUS (2014 - 2015)
Monthly wage of the husband	w_h	1,853.22	TURKSTAT TUS (2014 - 2015)
Cost per hour of outsourcing	θ	5.31	SGK Records (2014 - 2015)
Wife's time on female-type tasks	F_w	3.71	TURKSTAT TUS (2014 - 2015)
Husband's time on male-type tasks	M_h	0.36	TURKSTAT TUS (2014 - 2015)
Societal norm for female task share	$\bar{H}_{w,g}$	0.92	TURKSTAT TUS (2014 - 2015)
Societal norm for male task share	$\bar{H}_{h,g}$	0.18	TURKSTAT TUS (2014 - 2015)
Wife's norm adherence intensity	γ_w	0.62	World Values Survey for Turkey (Wave 6 and 7)
Husband's norm adherence intensity	γ_h	0.69	World Values Survey for Turkey (Wave 6 and 7)
Wife's bargaining power	λ	0.43	TURKSTAT TUS (2014 - 2015)

Table 6.4 Internally calibrated parameters for dual-earner couples

Parameter	Notation	Value	Source
Wife's physical cost aversion	η_w	0.000476	the observed amount of d_w
Husband's physical cost aversion	η_h	0.000939	the observed amount of d_h

6.2 Model Simulation and Results

After calibrating the model, we use it to run simulations. This section presents the results, focusing on two key areas: (1) how well the model's predictions match the real-world data (model performance), and (2) which factors have the biggest influence on the division of labor (dominance analysis).

6.2.1 Model Performance

To check the model's performance, we compare its predictions for the wife's housework time and her share of housework against the actual data from our survey for both samples.

For the "Married Couples with At Least One Wage-Earner" sample, Figure 6.1 shows a strong positive relationship between the model's predictions for the wife's house-

work time (d_w) and the observed data, with a correlation of (0.81). Figure 6.2 shows a weaker but still positive correlation of (0.44) for the wife's *share* of housework. This indicates that the model successfully captures the general trends in the data for the broader population.

Figure 6.1 Model performance for d_w (married couples with at least one wage-earner)

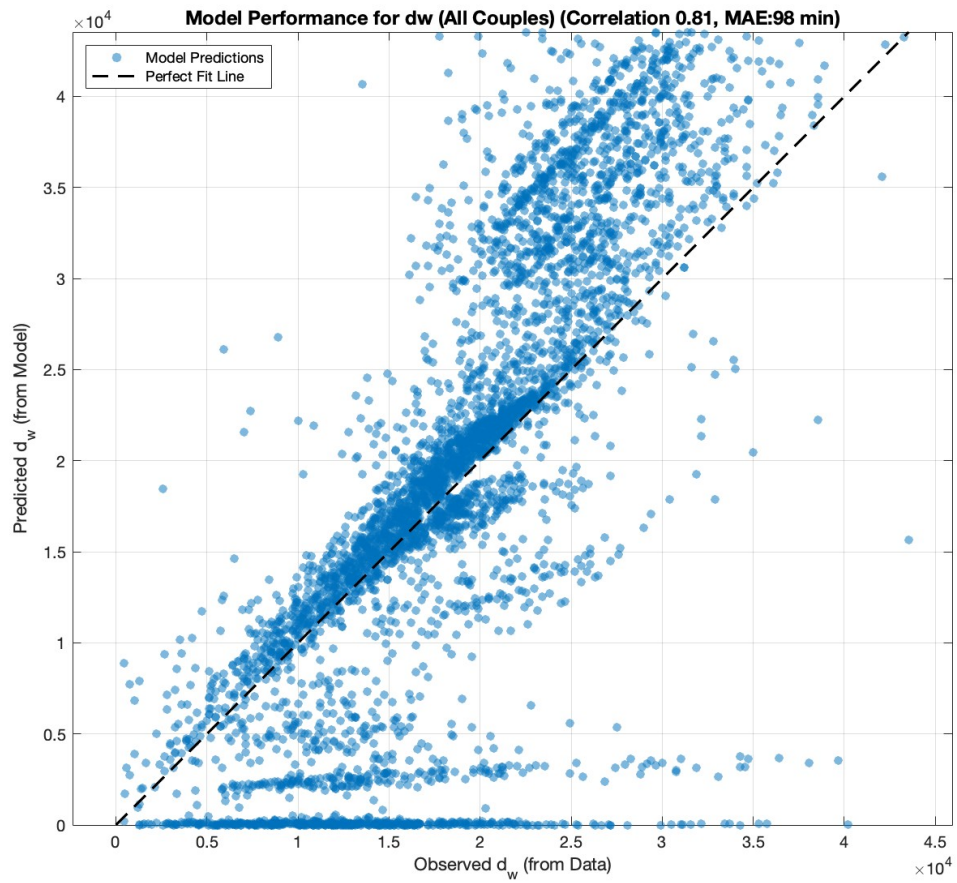
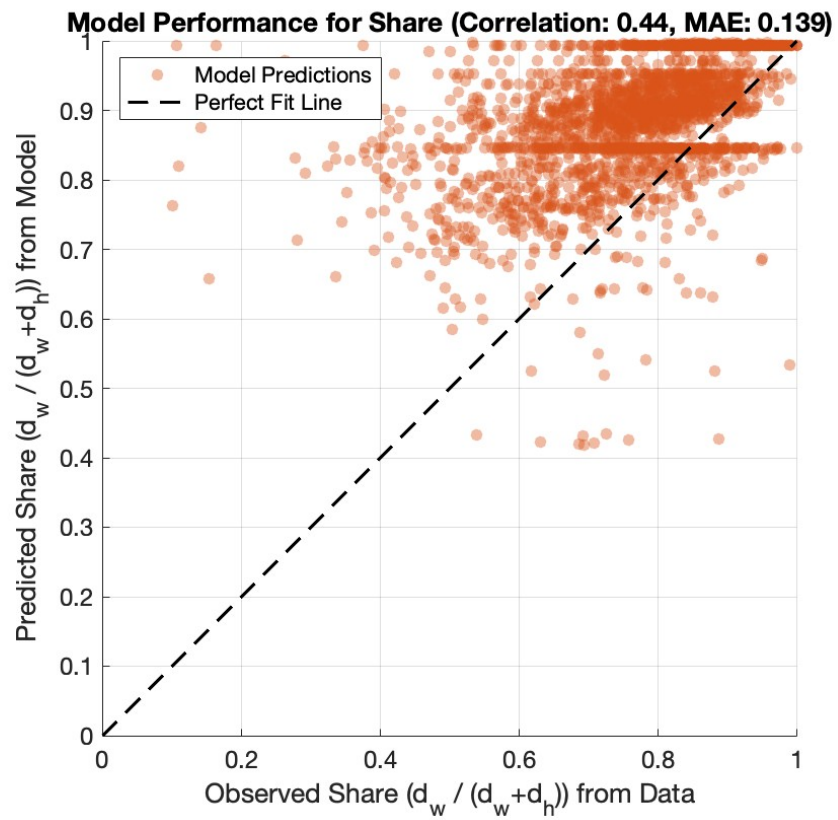


Figure 6.2 Model performance for share (married couples with at least one wage-earner)



Next, we evaluate the model's performance for the "Dual-Earner Couples" sample. As shown in Figure 6.3, the model again demonstrates a strong positive correlation (0.74) between the predicted and observed values for the wife's housework time. For the wife's *share* of housework, Figure 6.4 shows a correlation of (0.33). While weaker, this still shows that the model is able to capture the correct direction of the relationship for this group.

Figure 6.3 Model performance for d_w (dual-earner couples)

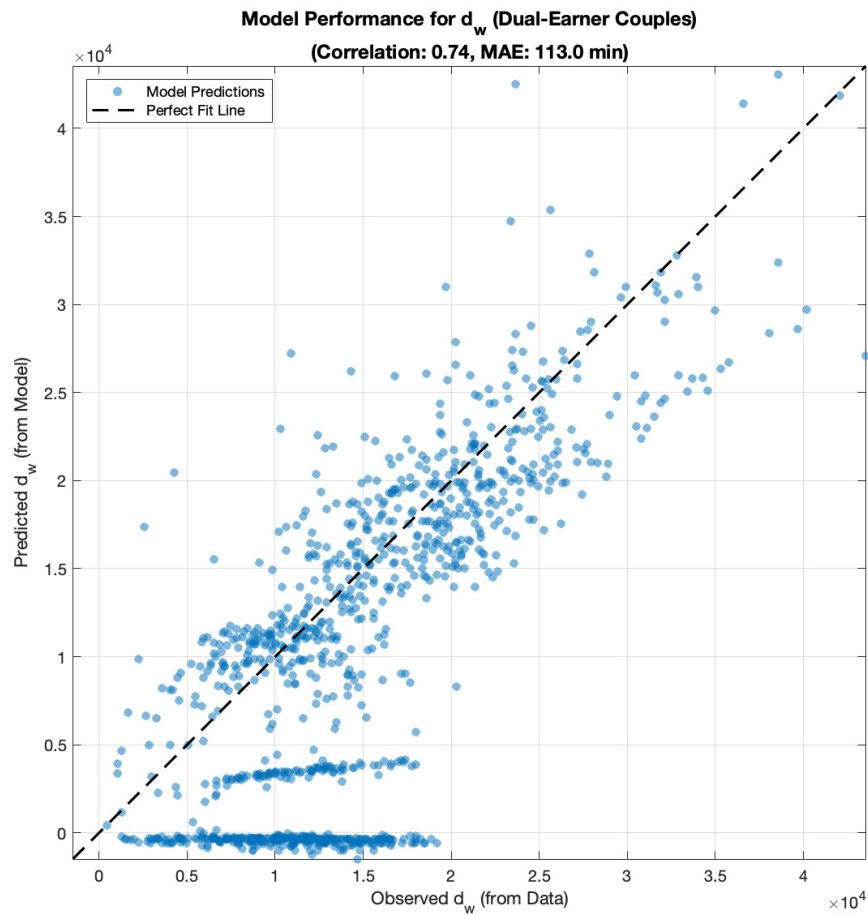
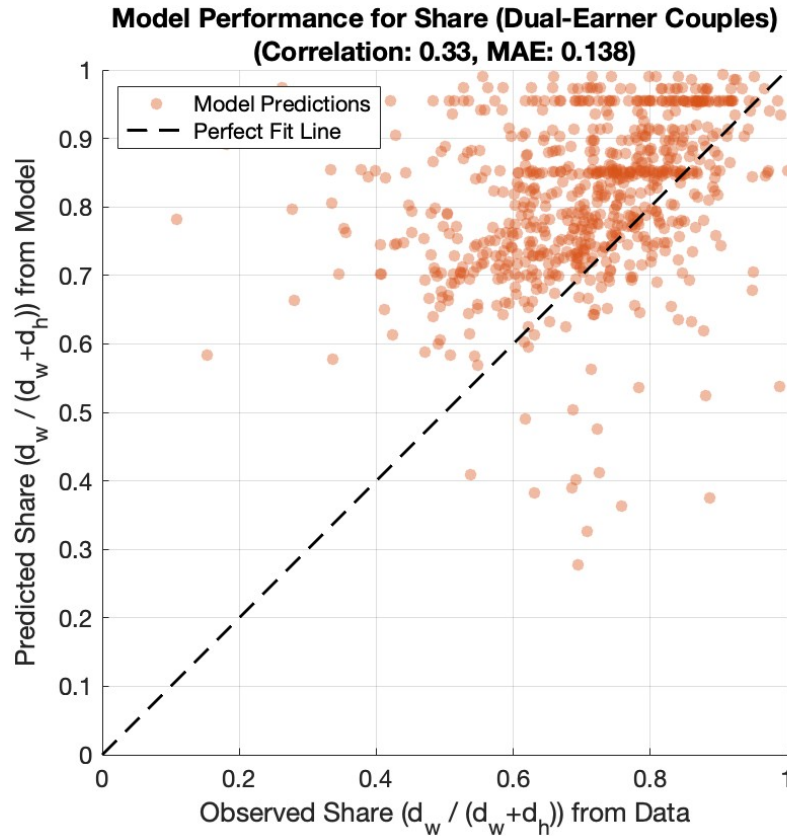


Figure 6.4 Model performance for share (dual-earner couples)

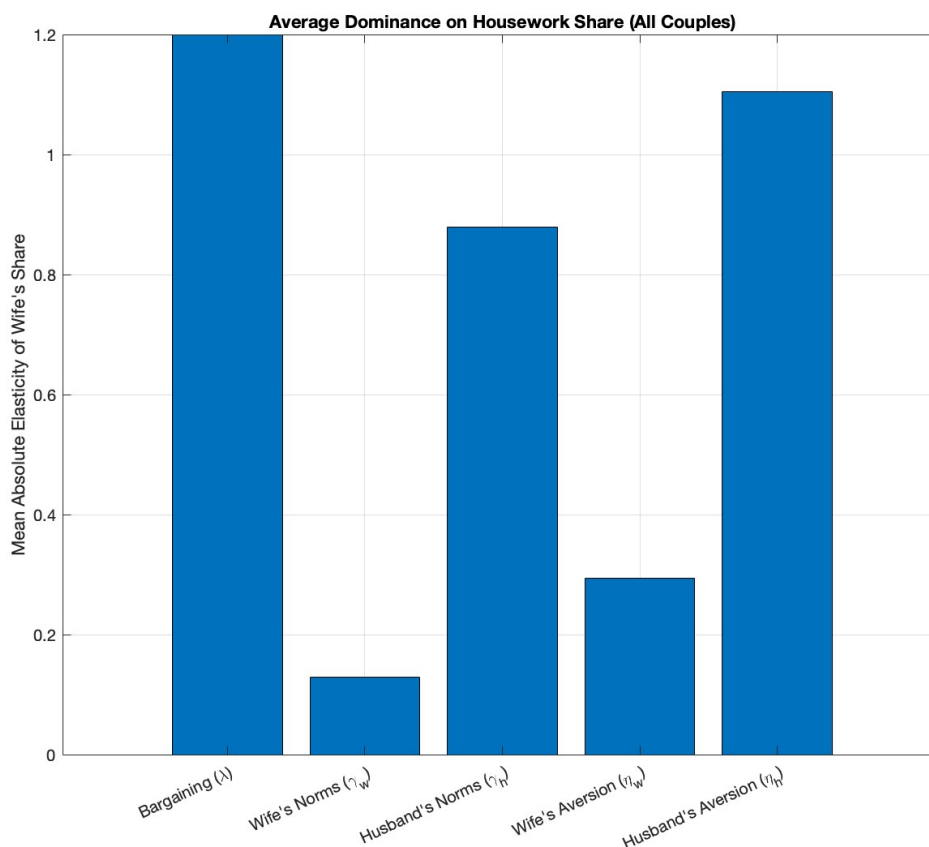


6.2.2 Dominance Analysis

To understand which mechanism—bargaining power or gender norms—is more influential, we conduct a dominance analysis using elasticity. This analysis measures how sensitive the wife’s share of housework is to a small change in each underlying parameter. The parameter with the largest elasticity is considered the most dominant factor.

For the "Married Couples with At Least One Wage-Earner" sample, Figure 6.5 clearly shows that three factors are most dominant in determining the wife’s share of housework. While bargaining power (λ) has the largest impact, the husband’s own characteristics—both his aversion to housework (η_h) and his sensitivity to social norms (γ_h)—are also quite influential. This suggests that the husband’s attitude toward norms is a significant factor, in addition to pure bargaining, shaping the final division of labor. In contrast, the wife’s own preferences (sensitivity to norms and her aversion to housework) play a much smaller role in the outcome.

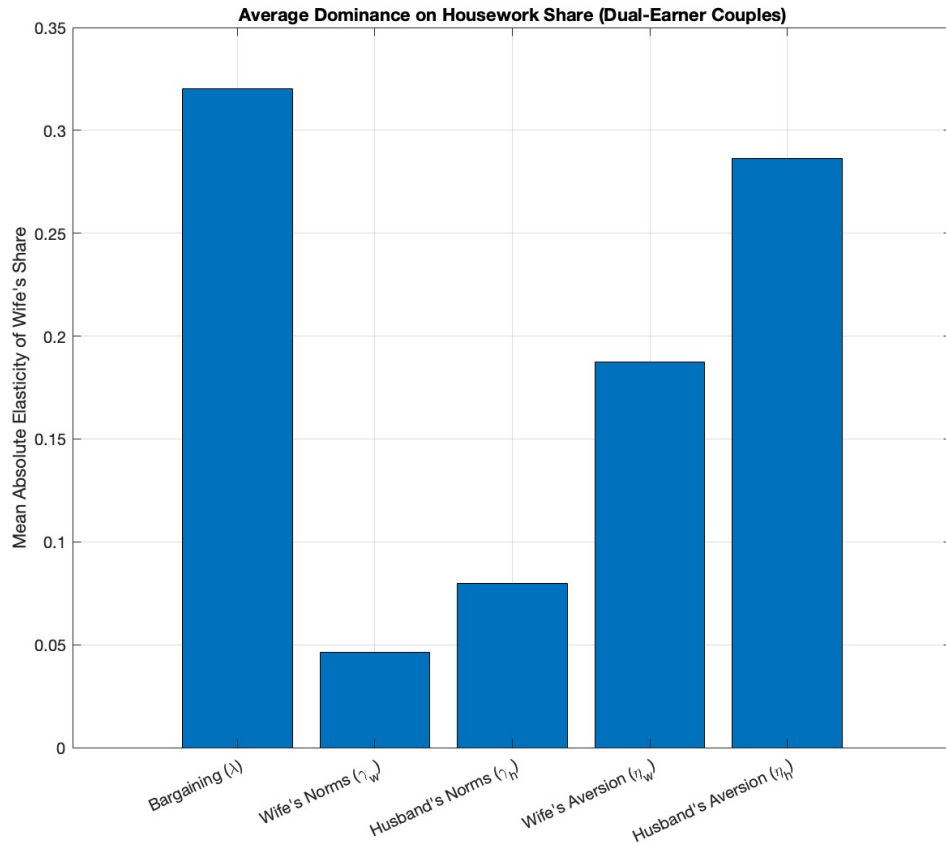
Figure 6.5 Dominance analysis on housework share (married couples with at least one wage-earner)



For the "Dual-Earner Couples" example, the situation shown in Figure 6.6 is somewhat different. Bargaining power (λ) remains the most influential factor. However, both husband and wife's personal preferences regarding the physical cost of housework become more important than social norms, whose direct impact has largely diminished in this group.

At this point, it is important to note that the husband's preference for avoiding housework, and these ingrained preferences, in particular, should be understood in relation to social norms. In this sense, rather than claiming that the theoretical model contradicts the "doing gender" hypothesis at first glance, it would be more accurate to say that it provides a more detailed picture by decomposing the overall impact of social norms.

Figure 6.6 Dominance analysis on housework share (dual-earner couples)



Overall, the calibrated model performs well in explaining the underlying dynamics of the household division of labor. The next chapter will bring these theoretical findings together with our empirical results in Section 4 to discuss the broader implications and consequences of this thesis.

7. GENERAL DISCUSSION AND CONCLUSION

This thesis began with a central question: Is the division of housework in Turkish households a matter of economic bargaining, or is it a matter of belonging to traditional gender roles? To answer this, we used a two-part methodology. First, we used an econometric analysis of Turkish Time Use Survey data to find the empirical patterns. Second, we developed and calibrated a theoretical model to understand the behavioral reasons behind these patterns. This final chapter brings together the findings from both parts of the analysis. It discusses the overall implications of the results, offers policy recommendations, highlights the study's limitations, and offers some concluding thoughts.

The combined results of our empirical and theoretical analyses show that the division of labor in Turkish households is shaped by two powerful, interacting forces.

The first key finding from our empirical analysis in Chapter 4 is that economic bargaining power consistently matters. For the sample of all married couples, as a woman's relative income increases, her share of housework reliably decreases. Our theoretical model's dominance analysis in Chapter 6 also identified bargaining power (λ) as the most influential factor. This provides strong support for the bargaining theory: economic power does translate into leverage within the household.

However, the second key finding is that the economic bargaining power is limited and shaped by gender norms. Our empirical results for dual-earner couples showed this clearly. For this group, a wife earning more than her husband was not, by itself, enough to significantly reduce her housework. We found some support of "doing gender" effect, especially for women with "traditional" attitudes, which counteracted the effect of their bargaining power.

At first, these two findings—the dominance of bargaining in the theoretical model versus the evidence of "doing gender" in the empirical data—may seem to contradict each other. However, the theoretical model actually provides a deeper explanation for the empirical results. In our empirical model, our proxy for "traditional attitudes"

is based on behavior; it identifies people who already do a high share of gender-typed tasks. This behavior is likely caused by personal preferences and dislikes. These feelings have been shaped by social norms over a long time. Our theoretical model helps us to separate these different parts. It suggests that the "doing gender" effect we see in the data is actually a mix of different factors. This means that the "belonging" part of our thesis title is not just about a direct concern for gender norms (γ). It also refers to ingrained personal preferences, especially the husband's high aversion to housework (η_h), which our model shows is strong enough to limit the results of economic bargaining.

Thus, the theoretical model does not contradict the empirical findings; rather, it clarifies them. It suggests that what we measure as "doing gender" is a powerful factor that can operate through ingrained personal preferences regarding gendered household division of labor. These preferences, in turn, shape the boundaries of economic bargaining within the household.

Based on these findings, we can offer some recommendations to policy makers who want to support a more egalitarian division of household labor and thus gender equality in general.

First, policies should not only focus on economic empowerment. Our results show that higher wages for women, while important, may not be enough to create an equal division of labor at home. Therefore, policies must also try to change ideas about social roles. Public campaigns that show men as active caregivers and educational programs in schools that challenge gender stereotypes can help to change these long-held beliefs over time.

Second, policies that encourage fathers to take a more active role in the family from the beginning can be very effective. For example, paid and nontransferable paternity leave gives fathers the opportunity to become more involved in housework.

Finally, since the amount of housework is a key issue, policies that reduce this overall burden can help ease potential conflict. This includes making high-quality public childcare and elderly care more available and affordable. Making it easier and cheaper to outsource domestic work can also help couples, especially dual-earner couples, to manage their responsibilities at home.

It is important to admit the weaknesses of this study, which also point to new opportunities for future research.

First, this study uses cross-sectional data. We cannot see how one couple's division of labor changes over many years as their incomes change. Future research could use panel data, which follows the same people over time, to study these dynamics

more effectively.

Additionally, our measure for "traditional attitudes" in the empirical chapter was based on behavior, not on direct survey questions about attitudes. This can create a circular problem where we use behavior to explain behavior. Future studies would be much stronger if they used datasets that have both detailed time-use information and direct questions about people's ideas on gender roles.

Another limitation is that our theoretical model is a simplification of real life. It does not include other important factors like differences in job flexibility or labor supply decision (how many hours to work). Future models could add these details to become more realistic.

Looking forward, an important topic for future studies is to research the idea of "undoing gender" in the Turkish context. We need to understand what helps some couples create a more equal division of labor, even when social norms are against it. This kind of research would likely need qualitative methods, like in-depth interviews, to explore the personal strategies and negotiations that these couples use.

This thesis began with the goal of understanding the dynamics of household time use allocation among Turkish couples. It asked if this situation was caused by a simple economic bargain or by a deeper need to belong to traditional gender roles. Using a two-part study that combined an econometric analysis with a theoretical model, we have shown that the answer is not simple.

We found strong evidence that bargaining power is a fundamental and consistent force pushing toward a more equal division of labor. However, we also found that this power does not operate freely. Its effects are strongly shaped and constrained by the gender norms attached to it. The answer to the question "Bargaining or Belonging?" is that both occur. Bargaining does occur, but the need to "belong" to a gender norm often determines the rules and boundaries of that bargaining.

In conclusion, focusing solely on economic factors is not enough to achieve a more equal society. We must also understand and address the cultural and psychological factors that continue to shape household division of labor.

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