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On within-couple time allocation: Gendered disparities in paid work and housework in Europe

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On Within-couple Time Allocation: Gendered Disparities in Paid Work and Housework in Europe

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Abstract

This paper aims to pursue a deeper understanding of gendered within-couple allocation of time into paid work and housework in heterosexual dual-earner couples. Relying on the second wave of Harmonised European Time Use Survey (HETUS) data for 10 European countries, we estimate spousal relative worktime and housework to analyse within-couple time-use arrangements. The results show that the disparity between a wife's and a husband's workhours is gradually narrowing, yet housework remains firmly gendered even in couples in which the wife works more hours than the husband. We document strong inertia in the wife's share of housework. Although it decreases as her labour market commitment increases, the decline is slow. In addition, even if it is approaching a gender-equal split, the within-couple division of housework barely passes the point at which the husband's contribution to housework surpasses that of his wife. These results suggest that gendered time division aligns broadly with traditional theories of the household, yet the role of the 'doing-gender' hypothesis is non-negligible.

Keywords: paid work; unpaid work; gender gap; intra-family decisions; labour market outcomes; European countries

JEL classification: D10, J16, J22, J24

CONTENTS

| | |
|---|----|
| Abstract..... | 5 |
| 1. Introduction..... | 9 |
| 2. Data and Sample Selection..... | 12 |
| 3. Empirical Strategy | 14 |
| 4. Results and Discussion | 17 |
| 4.1. Descriptive evidence on gender disparities in time use..... | 17 |
| 4.2. Time-allocation disparities in European couples..... | 18 |
| 4.3. Within-couple time-allocation gaps and macro-level factors..... | 20 |
| 4.4. Traditional models of the household vs. the doing-gender hypothesis regarding within-couple time allocation | 23 |
| 5. Conclusions | 31 |
| References | 33 |
| Appendix..... | 36 |

TABLES AND FIGURES

| | |
|---|----|
| Table 1 / Worktime and housework by demographic and household characteristics | 17 |
| Table 2 / Tobit regression results for the wife's relative housework and worktime, pooled sample | 24 |
| Figure 1 / Gender gaps in relative worktime and housework, by country | 19 |
| Figure 2 / Country-level correlation of the wife's relative worktime and gender-equality indicators | 21 |
| Figure 3 / Country-level correlation of the wife's relative time spent on housework (excluding childcare) and gender-equality indicators | 22 |
| Figure 4 / Gender gaps in relative employment by the wife's relative housework – Tobit regression estimates on pooled country sample | 27 |
| Figure 5 / Adjusted gender gaps in relative housework by the wife's relative worktime and by background characteristics – Tobit regression estimates on pooled country sample | 30 |
| Table A1 / Descriptive profile of the sample – household characteristics by country | 36 |
| Table A2 / Descriptive profile of the sample – female characteristics by country | 37 |
| Table A3 / Descriptive profile of the sample – male characteristics by country | 38 |
| Table A4 / Descriptive profile of the sample – within-couple disparities by country | 38 |
| Table A5 / Tobit regression results for relative worktime, by country | 39 |
| Table A6 / Tobit regression results for relative housework, by country | 41 |
| Table A7 / Sample countries macro-level indicators of gender equality over the years when HETUS wave 2 (2010) was conducted | 43 |
| Table A8 / Relative housework by relative worktime – Tobit regression estimates | 44 |
| Table A9 / Relative worktime by relative housework – Tobit regression estimates | 46 |
| Figure A1 / Wife's relative worktime and housework by number of children aged 0 to 6 in household and by country | 48 |
| Figure A2 / Wife's relative worktime and housework by number of children aged 7 to 17 in household and by country | 48 |
| Figure A3 / Wife's relative worktime and housework by household net income bands and by country ... | 49 |
| Figure A4 / Wife's relative worktime and housework by wife and husband level of education and by country | 49 |
| Figure A5 / Wife's relative worktime and housework by wife-husband education gap and by country | 50 |
| Figure A6 / Wife's relative worktime and housework by wife's and husband's type of employment and by country | 50 |
| Figure A7 / Gender gap in relative worktime by wife's relative housework by background characteristics – Tobit regression estimates on pooled country sample | 51 |

1. Introduction

Recent decades have seen a shift in the work and family roles of women, with a significant improvement of women's labour market position being at its core. Increased labour market participation (especially among mothers with small children), narrowing gender inequalities in wages, a thinning of the glass ceiling effect, and more gender equality in terms of job promotion and career progression are among the few achievements (Schröder and Burow 2016; Bertrand et al. 2015; Greig and Bohnet 2009; Albanesi and Olivetti 2009; Aguiar and Hurst 2007; Fuwa 2004; Álvarez and Miles 2003). This transformation of women's labour market position and the diminishing gendered allocation of paid work foster women's sounder employment commitment, higher career aspirations and stronger bargaining power in the workplace and within their families.

Nevertheless, despite all the improvements in the labour market, there is ample empirical evidence documenting that women still perform most of the housework and childcare in heterosexual dual-earner couples (Sánchez et al. 2021; Zamberlan et al. 2021; Lee et al. 2021; Sullivan and Gershuny 2016; Bianchi et al. 2012; Blau and Kahn 2007). Women's achievements outside the home have not translated directly into a more egalitarian division of housework and care-related chores as well as their husbands' increasing role in labour within the household (Mandel and Lazarus 2021; Fuwa 2004). Women continue to work more hours on household chores in dual-earner families, and this gendered time-allocation pattern holds across countries, across female and household profiles, and across the degree of female bargaining power, as measured by her earnings (Sevilla-Sanz et al. 2010; Gupta 2007). Furthermore, marriage and motherhood magnify the gender-uneven allocation of household work (Kimmel and Connelly 2007). The within-family division of childcare responsibilities along traditional gendered lines is extensive and persistent, with Gálvez-Muñoz et al. (2011) reporting that unpaid care work is at the core of gender inequality in all European countries.

This paper offers a new perspective on the well-documented issue of the gendered division of paid work and housework in dual-earner couples. We rely on micro-level data from the second wave (2010) of the Harmonised European Time Use Survey (HETUS) on 10 European countries to answer two research questions. First, we revisit the issue of the gendered division of work in dual-earner couples and analyse the scale and cross-country variation in within-couple gender gaps in both worktime and housework. Specifically, we seek a more empirically rigorous analysis of wife-husband disparities in time spent on employment and housework while taking into account a broad range of spousal and household characteristics as well as country-level indicators of gender equality. Second, the paper empirically tests potential theories of gendered within-couple time use. In doing so, we design an empirical setting to test traditional household theories of specialisation and bargaining against the 'doing-gender' hypothesis in addition to questioning the prevalence of a single theory explaining gendered within-couple time allocation.

This paper aims to make three contributions. First, our research takes a within-couple perspective on the analysis of gender disparities in time allocation in dual-earner couples. Specifically, we focus on the exact within-couple time-allocation patterns and estimate relative worktime and housework of both the wife and husband¹ as a share of the combined total time spent by the couple on employment and housework in a day. To the best of our knowledge, this is the first paper to analyse within-couple time allocation to employment and housework in a unified setting in the European context. The majority of earlier studies investigated the absolute gender difference in time use (Gimenez-Nadal and Molina 2020; Gimenez-Nadal and Sevilla 2012; Offer and Schneider 2011; Craig and Mullan 2010; Kalenkoski et al. 2009; Aguiar and Hurst 2007), with the rare exception of Sevilla-Sanz et al. (2010), who analysed within-couple disparities in time allocated to housework and childcare in Spain.

As time investment in employment and housework is a highly internalised decision – meaning one that stems in large part from family characteristics and specific negotiations and arrangements between the spouses – accurately analysing gender inequalities in time allocation in couples requires a within-couple perspective. This, in turn, implies that the research should focus on the exact division of worktime and housework between spouses. At the same time, a broad range of individual and household traits as well as within-couple disparities in a range of characteristics crucial for within-couple time-allocation arrangements (e.g. spousal age and education gaps and well as disparities in the types of employment contracts) need to be controlled for.

Second, our research aims to disentangle traditional theories of the household and the doing-gender hypothesis as two potential drivers of the gendered division of worktime and housework in dual-earner couples. Starting with a seminal work of Becker (1985), a vast amount of literature has proposed and tested different theories to explain the gendered division of work in the family (e.g. Himmelweit et al. 2013; Becker et al. 1990). In the context of traditional theories of the household, the uneven within-couple division of work is commonly attributed to gendered specialisation, which is driven by gender differences in productivity (Blau and Kahn 2017; Couprie et al. 2017; Angelov et al. 2016; Blau and Kahn 2007; Becker 1981; Gronau 1973). Men and women have different specialisations owing to the gender gap in returns from labour market and household production, with women having higher productivity in the home and men on the labour market. Hence, the theory goes, an allocation of work according to the relative advantage of spouses results in higher overall household efficiency, but lower equality in terms of spousal earnings and task allocation (Ruppanner et al. 2018; Frisco and Williams 2003).

Traditional economic theories of the household, including bargaining and collective models, fail to consistently predict the gendered division of housework when women's labour market outcomes improve and commitment strengthens. To comprehend persistent gender-inequality in housework, alternative theories grounded on the prevalence of traditional gender norms, stereotypes and gendered preferences (Auspurg et al. 2017; Rudman and Phelan 2010) – broadly referred to as the doing-gender hypothesis – have been developed and tested. Conceptually, our research is related to Sevilla-Sanz et al. (2010), who investigate the variation of women's relative housework and childcare over their relative earnings. Relying on Spanish Time Use Survey (STUS) data, they do not document any shift in home labour specialisation with a wife's increasing relative earnings, which is not consistent with either traditional theories of the household or the doing-gender hypothesis.

¹ Throughout this paper, 'couple' refers to heterosexual partners who are either married or living in a registered civil partnership. Hereinafter, the partners are referred to as 'wife' and 'husband'.

This paper takes a broader perspective by analysing the variation of wives' relative housework over their relative worktime. The earlier literature focused on the relationship between relative (Sevilla-Sanz et al. 2010) or absolute earnings (Gupta 2007), yet the literature on the relationship between wives' relative worktime, as a measure of their labour market commitment, and their relative housework is missing. In our setting, the wife's relative worktime captures labour market attachment, bargaining position and mere technical time constraints, as more worktime means having less time for other activities, including housework. Whereas income is a strong indicator of labour market specialisation and relative earnings help determine within-family bargaining positions (Bertrand et al. 2015), they may not be proportionally linked to the worktime, as hourly pay varies dramatically across occupations, sectors and employees' individual profiles. However, in dual-earner families, time constraints are pronounced, as both spouses need to do paid work, which leaves less time for housework, childcare or leisure (Offer and Schneider 2011). As a result, the amount of time invested in housework heavily depends on workload and, as a workload increases, there is less time left for household chores or other activities. Thus, to better account for mere time availability as a precondition for within-couple time allocation in dual-earner couples, the analysis needs to account for time spent by spouses on both employment and housework in a unified setting, which is one of the contributions of this paper.

Third, our research revisits earlier literature on the gender gaps in time allocated to employment and housework, yet with a larger sample of European countries and while taking a wider set of micro-level demographic, household and employment controls into account in its empirical estimations. Furthermore, our empirical analysis accounts for several crucial within-couple inequalities, including age, level of education, and type of employment, as those are potentially linked to asymmetric time division in couples. Additionally, the paper investigates the cross-country variation of gendered time allocation in relation to six macro-level indicators, broadly capturing the level of gender equality in a country and preconditions for women's labour market activity. Earlier studies either relied on the aggregated Eurostat statistics on the time use across two rounds of the HETUS data² (Campaña et al. 2023) or conducted an in-depth empirical assessment of the gender disparities while focusing on a single or several EU countries and relying on HETUS data or national time-use surveys (Gimenez-Nadal and Molina 2020; Gracia and Esping-Andersen 2015; Offer and Schneider 2011; Sevilla-Sanz et al. 2010). To the best of our knowledge, this paper provides the most comprehensive cross-European comparison of the gender disparities in time spent on employment and housework in terms of both country coverage and empirical rigorousness.

The rest of the paper is structured as follows: Section 2 discusses criteria for data and sample selection. Section 3 describes our empirical method. Section 4 presents empirical results on within-couple division of worktime and housework in addition to testing potential theoretical explanations for time-use disparities. Section 5 provides a summary and conclusion.

² Use of aggregated statistics for the first round of HETUS from the 2000s is largely explained by the lack of scientific-use micro-level data, which makes it impossible to conduct a consistent microeconomic comparative analysis across two rounds of the survey.

2. Data and Sample Selection

This paper uses Harmonised European Time Use Survey (HETUS) wave 2 (2010) data, which comprises 18 European countries and is based on data collected between 2008 and 2015. All participating countries followed a standardised data-collection procedure, which ensures a high degree of cross-country data comparability and harmonisation (European Commission 2020). Apart from a range of core sociodemographic, household and employment characteristics of respondents, HETUS collects information on how individuals spend their time on various activities, such as work, leisure, household chores and caregiving. Time-use data is self-recorded in a diary by all household members³ in 10-minute intervals over 24 consecutive hours, (theoretically) allowing for a very precise assessment of daily time allocation across different activities by all family members. Activities are then coded into various categories following a standardised procedure and according to the harmonised list developed by Eurostat.

Due to many missing variables across countries, the final country selection is restricted by the availability of crucial controls: gender, age group, household size, number of children aged 0 to 6 and 7 to 17, education, migration background, marital status, self-declared labour market status, being self-employed, working full-time, industry of employment, and household total income band. This leaves us with a sample of 10 countries: Belgium, Germany, Estonia, Greece, Finland, France, Luxembourg, Poland, Romania and the United Kingdom.⁴ The final sample includes one- and two-generation households (i.e. only spouses and spouses with children), with the spouses being heterosexual and in a registered marriage or partnership. We only consider households in which both spouses are between the ages of 20 and 64 as well as employed.

In exploring the gender disparities in time allocation, we focus our analysis on the time spent on paid employment and housework, which are defined in line with earlier research (Gimenez-Nadal and Molina 2020; Gimenez-Nadal and Sevilla 2012). Specifically, the time spent on employment (referred hereinafter as 'worktime') incorporates time allocated to a main job, a secondary job, job-related tasks and commuting, whereas the time spent on housework comprises various activities related to household production (e.g. cooking, cleaning, shopping, washing and gardening). However, we do not consider childcare as being part of housework for two reasons. First, to a certain extent, childcare activities are of a different nature than housework, as they comprise both routine and leisure aspects. Earlier studies, including Sevilla-Sanz et al. (2010), suggest that childcare should be addressed as a separate time-use domain. Time devoted to childcare is inherently different from the time devoted to housework, as activities performed when caring for small children vary greatly.⁵ Second, our sample includes both families with and without small children. Hence, excluding childcare ensures comparability of the housework time-use measure across these two groups of families.

³ Respondents aged over 15 were provided with time-use diaries for adults, whereas children aged 8 to 15 filled in diaries for children.

⁴ Serbia was excluded due to a very small sample size (fewer than 40 couples) without missing information.

⁵ Activities related to childcare range from feeding and basic hygiene to unsupervised play with the child(ren) and joint leisure-related pastimes.

Admittedly, restricting our sample to dual-earner couples does lead to a certain degree of sample selection, which might bias our estimates. Couples in which the husband only does paid work may be the ones in which the wife has a stronger preference for housework or adheres more strongly to traditional gender norms (Bertrand et al. 2015). If this is the case, our estimates are likely a lower bound of actual gender disparities in time allocated to employment and housework. However, we equally exclude couples in which the wife is a sole earner, for which the opposite may hold true – in other words, the husband may have a relatively stronger preference for housework, whereas the wife has a stronger labour market commitment. Under this assumption, true gender disparities may be smaller than the ones estimated.⁶

Apart from a relatively high degree of data censoring,⁷ we should acknowledge several other data limitations. First, the reliability and representativeness of self-reported time-use diary data, including HETUS datasets, pose some concerns. Even if robust survey-design principles and sampling techniques are applied, the act of recording time usage within short intervals demands significant commitments of time and effort, which implies that respondents who agree to participate in the study may possess distinct characteristics that render them atypical within the broader population. Second, since respondents may have limited abilities to interrupt their daily activities at 10-minute intervals for the purposes of diary completion, most of them are likely to complete their diaries at a later time. Third, the precision of time-use reporting, especially concerning accurate reporting of employment-related and housework time use, may pose concerns. Furthermore, the coding of activities may be subjective and dependent on the judgment of the coder, which can introduce some degree of variation into the data (Sturgis 2004).⁸ Nevertheless, these limitations do not bias our estimates if there are no systematic gendered patterns in misreporting or misinterpreting time use as well as no systematically biased coding patterns.

⁶ Hence, the direction and strength of the bias is subject to debate, yet one should acknowledge that our findings cannot be generalised to all couples.

⁷ Several important sociodemographic and employment controls, including exact age, occupation and individual net income band, are not available for the majority of the survey countries.

⁸ Given that the raw data is processed by many coders, subjective judgments when coding the activities may lead to random variation and should therefore not bias our estimates.

3. Empirical Strategy

To measure within-couple disparities in time allocation, we estimate spousal relative worktime and housework as a share of a wife's or a husband's hours in the total hours spent by both spouses on employment and household work, respectively. Hence, we estimate the following ratio $\rho_{ik} = \frac{T_{ik}^{own}}{T_{ik}^{own} + T_{ik}^{partner}}$, where T_{ik}^{own} and $T_{ik}^{partner}$ denote, respectively, one's own and one's partner's time spent on activity k by individual i , with $k = 1$ denoting housework and $k = 2$ employment. We refer to estimated ratios as the wife's or the husband's relative worktime and housework.

The paper conducts a two-step empirical analysis. First, we investigate general patterns of within-couple division of worktime and housework by estimating adjusted and unadjusted gender gaps in relative worktime and housework across sample countries. In doing so, we rely on single-country samples of both spouses and employ weighted maximum-likelihood tobit regression in the following form:

$$\rho_{ik} = \alpha_k W_i + \beta_k D'_i + \gamma_k H'_i + \delta_k FE'_j + \epsilon_{ik} \quad (1)$$

where W_i stands for wife identifier; D'_i denotes a vector of individual i 's characteristics, including five-year age group, being foreign-born, education level, industry of employment, and full-time work; H'_i stands for a vector of household characteristics of individual i , including household size, number of children aged 0 to 6, number of children aged 7 to 17, and household net income band; FE'_j stands for a set of fixed effects, including year, month and day of the week when the time diary was filled in; and ϵ_{ik} is a random error term. The dependent variable, which is individual relative worktime or housework, is censored at zero and one owing to the frequent occurrence of husbands' spending no time at all on housework as well as to the non-negligible, albeit dramatically smaller share of households in which the wife does not spend any time on housework.⁹ Coefficient α_k captures the major effect of interest: an estimation of the gender gap in the husband's and the wife's relative contribution to the couple's combined total worktime and housework. We report weighted estimates, which account for a combined individual response and day-of-the-week weight.

Second, using several empirical tests, we aim to disentangle the doing-gender hypothesis and traditional household models as potential drivers of gendered within-couple division of worktime and housework. The first empirical test aims to identify the prevailing theory behind gender inequality in spousal time allocation. In doing so, we employ a specification similar to that of (1) as well as a similar methodological approach (i.e. a weighted maximum-likelihood tobit regression), although in this case we do so on a couple level and with a modified set of controls. We estimate the following regression relying on a pooled-country sample of wives and following the approach of Sevilla-Sanz et al. (2010), with specification (2) assuming relative housework and specification (3) assuming relative worktime as a dependent variable:

$$(\rho_{ik}|k = 1) = \theta_1 e_{1i} + \theta_2 e_{2i} + \vartheta_k D'_i + \mu_k H'_i + \sigma_k WHG'_i + \tau_k FE'_i + \epsilon_{ik} \quad (2)$$

⁹ The shares of such households are 9.2% and 1.2%, respectively.

$$(\rho_{ik}|k = 2) = \varphi_1 h_{1i} + \varphi_2 h_{2i} + \vartheta_k D'_i + \mu_k H'_i + \sigma_k WHG'_i + \tau_k FE'_i + \varepsilon_{ik} \quad (3)$$

Variables e_{1i} and e_{2i} respectively identify wives who perform the same amount of or more worktime than their husbands, with the base categories being wives who perform less housework than their husbands; h_{1i} and h_{2i} respectively identify wives who have the same or more housework hours than their husbands, with the base category being wives who work fewer hours than their husbands; D'_i includes a vector of a wife's individual characteristics, including five-year age group, being foreign-born, education level and industry of employment; H'_i is identical to specification (1); WHG'_i denotes a vector of wife-husband gaps, including spousal age and education gaps as well as type-of-employment (full- or part-time) disparity; FE'_i stands for a set of fixed effects, including couples' combined total of worktime and housework time in addition to country and the year, month and day of the week when the time diary was filled in; and ε_{ik} is a random error term.

Comparing coefficients θ_1 and θ_2 allows us to identify whether gendered within-couple time division aligns with the traditional theories of the household. Our general interpretation follows the approach of Sevilla-Sanz et al. (2010), with both coefficients θ_1 and θ_2 expected to be negative under the household theories of comparative advantage and traditional bargaining. The latter implies decreasing time investment in housework with increasing workhours of the wife relative to the workhours of her husband. However, $|\theta_1| \geq |\theta_2|$ would indicate that relative housework fails to further decrease once the wife's relative workhours reach a certain level, which suggests that a lower threshold for the wife's housework time persists even for those wives who work significantly more (paid) hours than their husbands.

Grounded in gender identity and traditional norms, the doing-gender hypothesis predicts strongly uneven within-couple allocation of housework regardless of the wife's relative worktime. One should expect $\theta_1 \geq 0$ and $\theta_2 \geq 0$ if the doing-gender hypothesis holds, which implies that wives who work the same number of or more hours than their husbands do increasingly more housework. Consequently, a wife's relative housework fails to decrease and may even increase once her relative worktime exceeds a certain level. Moreover, as a couple moves away from an equal worktime split and the wife's relative workhours exceed those of her husband, the doing-gender effect may reinforce the wife's increasingly higher relative amount of housework, which would be captured by the following constellation of coefficients: $\theta_2 > \theta_1$. The latter appears as an extreme case of the doing-gender hypothesis, with couples attempting to counterbalance violation of the traditional gender norms on the labour market by strictly adhering to the norm in the division of housework. As a result, women try to compensate for their dominant worktime by doing increasingly more hours of housework. Comparison of coefficients φ_1 and φ_2 from specification (3) provides supplementary evidence for testing theories behind gendered within-couple division of work, with the interpretation of coefficients φ_1 and φ_2 being like that of coefficients θ_1 and θ_2 .

As within-couple time-allocation decisions are complex in nature and subject to multiple internalised factors (e.g. preferences), a single theory may fail to accurately explain them. Although we expect a single theory to prevail in explaining gendered time division in couples, it does not rule out the validity of other theories. To empirically test for the degree of alignment with a single theory identified in the estimations of specifications (2) and (3), we conduct three additional empirical tests. First, we consider estimation results from specifications (2) and (3) and evaluate how many background controls are significantly associated with women's relative housework and worktime, respectively. Fewer significant associations for women's relative housework, as compared to relative worktime, would imply higher robustness and a

lower degree of variability in women's relative housework across individual and household characteristics, which can be interpreted as validating the doing-gender hypothesis.

Second, we replicate specification (1) with (i) gender gaps in relative housework estimated across the wife's relative worktime distribution and (ii) gender gaps in relative worktime estimated across the wife's relative housework distribution. The former allows us to trace the evolution of gender disparity in (i) relative housework across the wife's varying contribution to the couple's combined total worktime and (ii) relative worktime across the wife's varying contribution to the couple's combined total time spent on housework. To test the validity of the doing-gender hypothesis, we identify at which level the wife's relative worktime gender gap in housework switches from husband- to wife-favouring – that is, when the husband's contribution to the couple's combined total housework exceeds that of the wife. Then, we evaluate the magnitude of gender disparities in housework on the tails of the wife's relative worktime distribution – in couples in which the wife has dramatically fewer and dramatically more workhours than her husband. In both tests, the doing-gender hypothesis would predict a certain degree of inertia in the housework gender gap. It can manifest itself through (i) a gender gap in relative housework persisting even for couples in which the wife does more than half of couple's combined workhours and (ii) the speed of the decrease in the relative housework gap that is not proportional to the growth in the wife's relative workhours. Comparing the dynamic of the gender gap in relative housework with the dynamic of the gender gap in relative worktime will provide supporting evidence for interpreting the results on alignment with different theories.

4. Results and Discussion

4.1. DESCRIPTIVE EVIDENCE ON GENDER DISPARITIES IN TIME USE

We start by estimating the descriptive time-use profile of dual-earner couples in a pooled sample of European countries. Table 1 depicts the average time spent by wives and husbands on employment and housework across a set of core demographic and household characteristics, along with the wife's average relative worktime and housework. Detailed descriptive profiles of couples across sample countries, including average household characteristics, wife and husband profiles, and within-couple disparities in core demographic and employment attributes, are found in Tables A1 through A4 in the Appendix.

Table 1 / Worktime and housework by demographic and household characteristics

| Time use in minutes | Worktime | | | Housework | | |
|---------------------------------------|----------|---------|-----------------------|-----------|---------|-----------------------|
| | Wife | Husband | Wife's relative share | Wife | Husband | Wife's relative share |
| Total time per day | 557 | 634 | 0.47 | 171 | 99 | 0.63 |
| By household size | | | | | | |
| 2 persons | 593 | 642 | 0.48 | 162 | 103 | 0.61 |
| 3 persons | 554 | 634 | 0.47 | 167 | 95 | 0.64 |
| 4 persons | 536 | 627 | 0.46 | 173 | 95 | 0.65 |
| 5 or more persons | 537 | 634 | 0.46 | 186 | 109 | 0.63 |
| By # of children aged 0 to 6 | | | | | | |
| No children | 578 | 636 | 0.48 | 175 | 102 | 0.63 |
| 1 child | 515 | 628 | 0.45 | 157 | 85 | 0.65 |
| 2 or more children | 463 | 625 | 0.43 | 157 | 95 | 0.62 |
| By household net income band | | | | | | |
| <P20* | 489 | 585 | 0.46 | 210 | 131 | 0.62 |
| P20 to <P40 | 557 | 645 | 0.46 | 173 | 91 | 0.66 |
| P40 to <P60 | 581 | 615 | 0.49 | 160 | 108 | 0.60 |
| P60 to <P80 | 593 | 635 | 0.48 | 144 | 100 | 0.59 |
| >P80** | 606 | 644 | 0.48 | 131 | 93 | 0.58 |
| By employment type | | | | | | |
| Part-time | 502 | 557 | 0.47 | 197 | 133 | 0.60 |
| Full-time | 600 | 638 | 0.48 | 149 | 97 | 0.61 |
| By within-couple age gap | | | | | | |
| Same five-year age group | 563 | 635 | 0.47 | 165 | 101 | 0.62 |
| Husband older | 519 | 623 | 0.45 | 190 | 107 | 0.64 |
| Husband younger | 561 | 636 | 0.47 | 170 | 94 | 0.64 |
| By within-couple education gap | | | | | | |
| Same education level | 560 | 636 | 0.47 | 169 | 95 | 0.64 |
| Husband more educated | 537 | 647 | 0.45 | 181 | 95 | 0.66 |
| Wife more educated | 554 | 614 | 0.47 | 160 | 115 | 0.58 |

Notes: The estimates account for combined individual response and day weight. * = First income quintile group. ** = Fifth income quintile group.

Source: HETUS wave 2 (2010) data, own calculations.

In line with earlier studies (Gimenez-Nadal and Molina 2020; Gálvez-Muñoz et al. 2011), we document a systematic specialisation pattern, with wives spending less time on employment and more time on housework. On average, wives invest 557 minutes in paid work per day, whereas husbands work for 634 minutes. These figures yield a wife's average worktime of 0.47, implying that the average wife's share of a couple's combined total worktime is 47%. The allocation of time to housework reveals the opposite pattern: While husbands do an average of 99 minutes of housework per day, wives do around 171 minutes, or 63% of the combined total housework.

Further disaggregation of time-use patterns uncovers several unambiguous observations. Whereas the wife's relative worktime in dual-earner couples converges to the 50% point, which corresponds to spousal worktime balance, couples with a child or children aged 0 to 6 as well as couples in which the husband is older or more educated than his wife achieve notably less gender equality in worktime allocation. For the latter types of couples, the wife's relative worktime ranges between 43% and 45% of the couple's combined total worktime. In all other types of households, wives perform between 46% and 49% of the couple's combined total worktime.

However, all types of couples appear very far from within-couple gender equality in housework, as the wife's relative housework remains above 0.58 for all types of households, implying that at least 58% of a couple's housework is performed by the wife. Household income level appears to be detrimental to the wife's time spent on housework, as women in households from the fourth and fifth income quantiles respectively spend 144 and 131 minutes on housework per day, whereas women from lower income groups spend between 210 and 160 minutes. The detrimental effect of income on the absolute amount of housework as well as the within-couple division of household chores has been widely addressed in earlier literature (Lachance-Grzela and Bouchard 2010). The latter may relate to housework outsourcing and the availability of home appliances, which lower the amount of time spent on various household chores. High-income households are also the ones achieving the most wife-husband equality in housework time, along with those couples in which the wife has a higher level of formal education than her husband.

4.2. TIME-ALLOCATION DISPARITIES IN EUROPEAN COUPLES

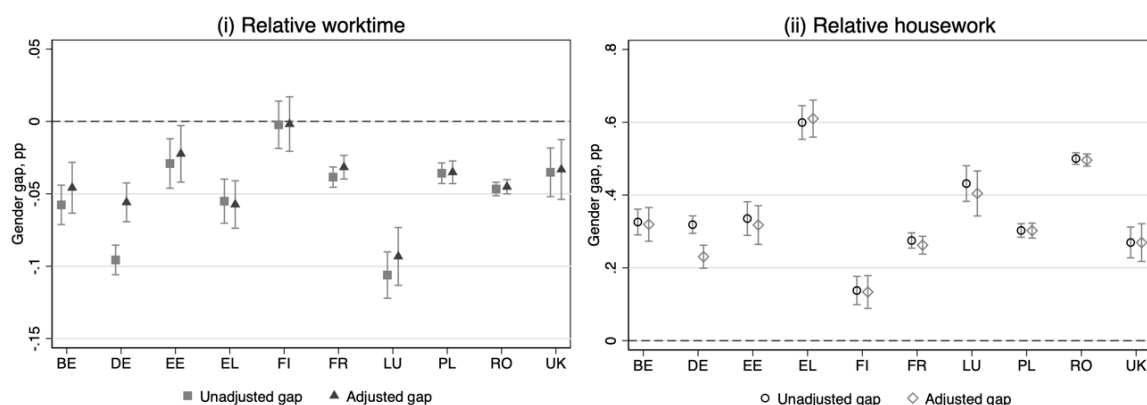
Next, we investigate cross-country variation in within-couple time-use disparities, measured as a wife's relative worktime and housework.¹⁰ Figure 1 plots estimated unadjusted and adjusted gender gaps in relative worktime and housework following empirical specification (1). Unadjusted gaps represent raw within-couple gender disparity in time use, estimated while controlling for year, month and day-of-the-week fixed effects.¹¹ Adjusted gender gaps in relative worktime and housework are estimated employing a full set of demographic, household and employment controls, including age group, education level, migration status (i.e. being born in the survey country), household size, number of children aged 0 to 6, number of children aged 7 to 17, household net income band, full-time employment and industry of employment as well as year, month and day of the week.

¹⁰ For a more detailed inference, in Figures A1 through A6 in the Appendix, we disaggregate the wife's average worktime and housework across countries and a set of background characteristics, including: (i) number of children aged 6 and under; (ii) number of children aged 7 to 17; (iii) household income band; (iv) the wife's and husband's level of educational achievement; (v) the spousal education gap; and (vi) the spousal type of employment, respectively.

¹¹ Complete tobit regression estimation results are found in Tables A5 and A6 in the Appendix.

As documented in earlier studies and suggested by the descriptive estimates from Table 1, on average, husbands invest more time in employment, while wives invest more in housework even in dual-earner couples in almost all the countries in our sample. However, there are several crucial observations. Finland appears to be the most gender-equal country in terms of time allocated to employment, as both unadjusted and adjusted gaps relative to employment range around zero (see panel i). However, in Estonia, the gender disparity in relative worktime turns statistically insignificant upon controlling for a full set of individual and household characteristics. The latter indicates that, in Finland and Estonia, the worktime gap between wives and husbands in dual-earner couples stems from observed disparities in individual demographic and employment profiles, with the type of employment contract (part- or full-time) likely being among the major drivers (see Tables A1 and A2 in the Appendix). In all other countries, wives tend to perform dramatically fewer worktime hours than their husbands, even with comparable demographic and employment profiles, with adjusted gender gaps in relative worktime ranging between 9.3 percentage points in Luxembourg (implying that the husband's adjusted average share of worktime is 54.7% and the wife's is 45.3%) and around 3 percentage points in France, Poland and the UK (51.5% and 48.5% average worktime shares of husbands and wives, respectively).

Figure 1 / Gender gaps in relative worktime and housework, by country



Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. The dependent variable is relative worktime (panel i) and relative housework (panel ii) censored at 0 and 1. The point estimates are reported with 95% confidence intervals. The unadjusted gap is estimated controlling for gender and year, month and day-of-the-week fixed effects. The adjusted gap is estimated controlling for gender, age group, education level, migration status (being born in the survey country), household size, number of children aged 0 to 6, number of children aged 7 to 17, household net income band, full-time employment and industry of employment as well as year, month and day-of-the-week fixed effects. The estimates account for combined individual response and day weight.

Panel (ii) of Figure 1 reveals even stronger gender segregation. In all sample countries, the amount of time that wives invest in housework surpasses that invested by their husbands by far even when demographic, employment and household characteristics are comparable. Although cross-country variation in the magnitude of the gender gap in housework is dramatic, no country appears gender-equal in terms of within-couple allocation of time to housework. In Finland – the country with zero gender gap in relative worktime – wives invest, on average, 13.4 percentage points more time in housework than their husbands, implying that the within-couple share of wives' housework time is around 56.7% and the husbands' is around 43.3%. In Estonia – the other country posting a non-significant adjusted gender gap in relative worktime – the adjusted gender disparity in relative housework is even higher, at 31.9 percentage points, meaning that 66% of a couple's combined total housework time is performed by the wife and the remaining 34% by the husband. The absolute largest within-couple gender inequality in

housework is recorded in Greece, where 80.5% of the combined housework time of dual-earner couples is performed by the wife, whereas the husband only contributes 19.5%. These findings indicate that, even if women achieve equality in terms of their labour market commitment and work hours comparable to those of their husbands, like in Finland, they still invest significantly more time in housework.

4.3. WITHIN-COUPLE TIME-ALLOCATION GAPS AND MACRO-LEVEL FACTORS

Without a doubt, the magnitude of gender inequalities in within-couples time allocation associate to certain extent with the overall level of gender equality on the labour market and in the particular society. Earlier studies recorded significant associations between country-specific macro-level factors and the level of gender equality in time use (Mandel and Lazarus 2021; Grunow 2019; Fuwa 2004), with several studies outlining the importance of the prevailing religious and cultural background to gender equality in time use (Burda et al. 2013).

Since our sample covers a selection of European countries that vary in terms of their degrees of gender equality, religious backgrounds and adherence to gender norms,¹² we focused on six macro-level indicators that broadly capture the level of gender equality in a country as well as the preconditions for female labour market activity. Specifically, we employ the following labour market and education indicators: (i) gender gap in employment, measured as the difference between the employment rates of men and women aged 20 to 64; (ii) gender gap in part-time employment, defined as the difference between the share of part-time employment in total employment of women and men aged 20 to 64; (iii) unadjusted gender wage gap, measured as the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees; (iv) childcare enrolment, defined as the percentage of children (under 3 years old) cared for by formal arrangements other than by the family; (v) female representation in top management positions, defined as the share of female board members and executives in the largest publicly listed companies; and (vi) female representation in executive government positions, defined as the proportion of women in national parliaments and national governments.¹³

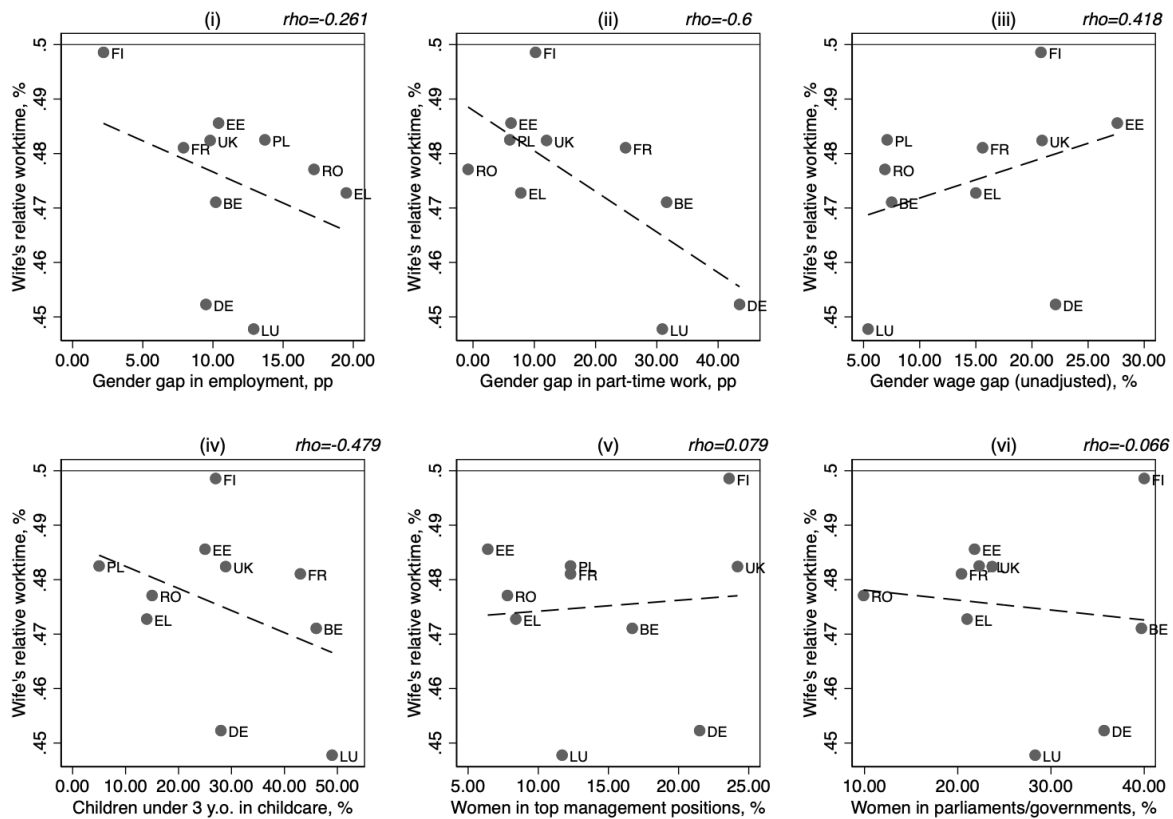
Figure 2 plots country-average estimates of the wife's relative worktime against the macro-level indicators. The results suggest that the overall gender gap in part-time employment is the sole macro-level indicator from our selection that has a strong negative association with the wife's average relative worktime (Spearman's correlation coefficient $\rho = 0.6$, $p < 0.1$), implying that the average contribution of the wife to a couple's combined total worktime is lower in countries with a higher prevalence of female part-time employment. All other macro-level characteristics have statistically weak associations with a within-couple gap in worktime. At the same time, one must acknowledge that the sample size of 10 countries may be too small to identify a statistically strong correlation between macro-level factors and the wife's average relative worktime. Given the economic significance of correlation coefficient, the gender wage gap ($\rho = 0.418$) and the share of children aged under 3 in preschool education ($\rho = 0.479$)

¹² According to wave 6 (2010-2014) of the World Value Survey, only 19% of respondents in Estonia find religion important in their lives, whereas 52% of respondents in Romania do. Similarly, adherence to gender norms varies dramatically, as, for instance, only 38% of respondents in Estonia see no problem in having the wife's income surpass that of her husband, while the respective share of respondents is 65% in Poland. For more detail, see www.worldvaluessurvey.org/WVSONline.jsp.

¹³ Indicators are found in Table A7 of the Appendix.

could have a significant association with the wife's average relative worktime, yet we lack statistical power to precisely estimate it.

Figure 2 / Country-level correlation of the wife's relative worktime and gender-equality indicators

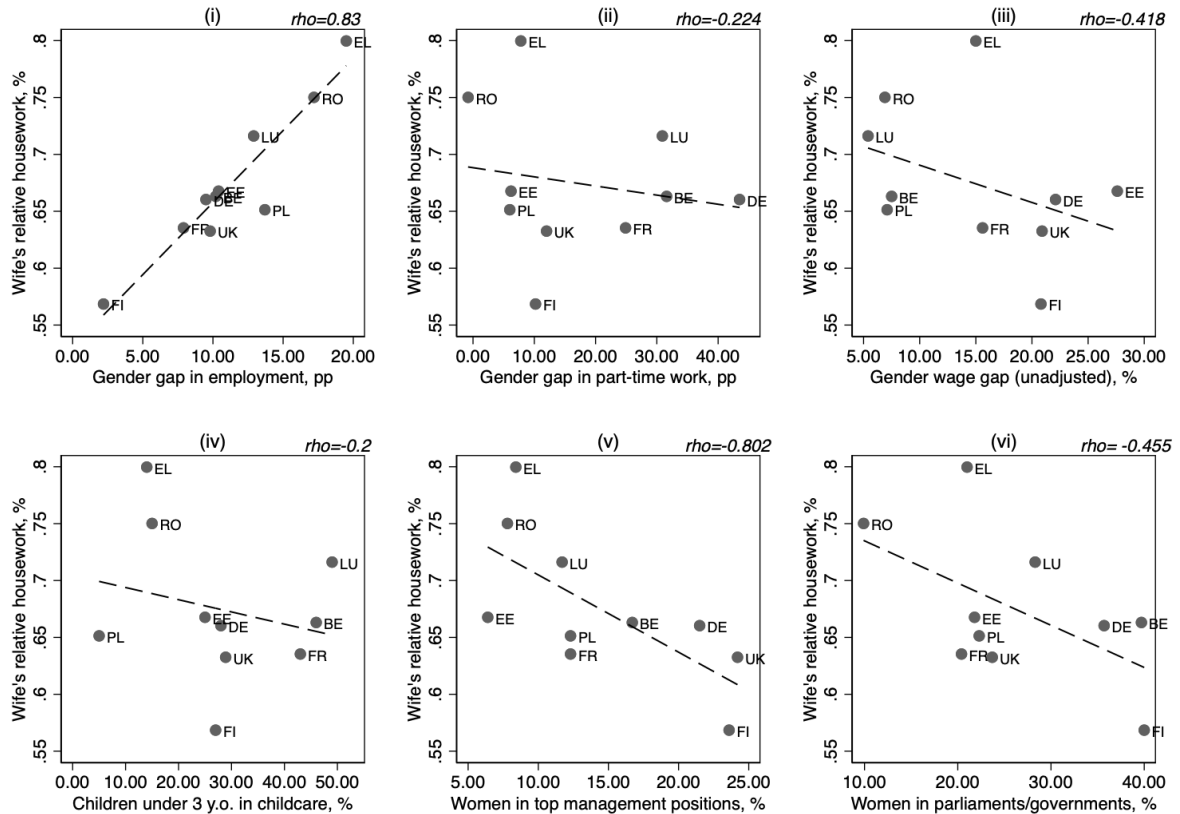


Notes: Correlation between relative worktime and macro indicators is estimated using Spearman's rank correlation coefficient (ρ). Each panel depicts country-level correlation between the average female within-couple relative worktime and: (i) male-female gap in employment; (ii) female-male gap in part-time employment; (iii) male-female unadjusted wage gap; (iv) percentage of children (under 3 years old) cared for by formal arrangements other than by the family; (v) share of female board members and executives in the largest publicly listed companies; and (vi) proportion of women in national parliaments and national governments.

Source: Macro-level indicators are available at <https://ec.europa.eu/eurostat/web/main/data/database>. Average estimates of the wife's relative worktime are estimated using HETUS wave 2 (2010) data.

Figure 3 plots the same associations but this time for the wife's average relative housework. Two out of six macro-indicators have a significant association with the country's average share of housework performed by the wife. A gender gap in employment is strongly and positively related to within-couple housework disparity ($\rho = 0.83$, $p < 0.01$), as the wife's share of time invested in housework increases with a widening gender disparity in employment. A similar association between women's labour market participation and the average gap in housework was documented by Mandel and Lazarus (2021). However, the association has grown weaker in recent decades, which suggests that the position of women in within-couple bargaining over housework is strengthening even if their relative advantage on the labour market is not seeing any major improvement.

Figure 3 / Country-level correlation of the wife's relative time spent on housework (excluding childcare) and gender-equality indicators



Notes: Correlation between relative worktime and macro indicators is estimated using Spearman's rank correlation coefficient (ρ). Each panel depicts country-level correlation between the average female within-couple relative time spent on housework, excluding childcare, and: (i) male-female gap in employment; (ii) female-male gap in part-time employment; (iii) male-female unadjusted wage gap; (iv) percentage of children (under 3 years old) cared for by formal arrangements other than by the family; (v) share of female board members and executives in the largest publicly listed companies; and (vi) proportion of women in national parliaments and national governments.

Source: Macro-level indicators are available at <https://ec.europa.eu/eurostat/web/main/data/database>. Average estimates of the wife's relative worktime are estimated using HETUS wave 2 (2010) data.

Furthermore, we document an important correlation between the share of women in top-level management positions in a country and the average within-couple gender gap in housework. In countries with higher representation of women in top management, the within-couple division of housework appears more even ($\rho = -0.802$, $p < 0.01$). Whereas the gender gap in employment is a direct indicator of women's labour market attachment, the share of women in top managerial positions is an indicator of a gender-unbiased labour market, meaning one that offers equal career-advancement opportunities to both men and women. Thus, the identified association signals that overall gender equality in society and the labour market reflects on couple-level arrangements related to household chores. The share of women in national governments and parliaments reveals an economically meaningful, yet statistically weak association with the wife's average relative housework ($\rho = -0.455$) due to the insufficient sample size. Nonetheless, the direction and strength of the identified association appears sufficient to argue that the representation of females in legislatures and executive government bodies captures the level of female emancipation on the societal level, and it may be conducive for strengthening women's position in within-couple housework arrangements.

4.4. TRADITIONAL MODELS OF THE HOUSEHOLD VS. THE DOING-GENDER HYPOTHESIS REGARDING WITHIN-COUPLE TIME ALLOCATION

Next, we study theoretical explanations of gendered within-couple time allocation by empirically testing traditional household theories against the doing-gender hypothesis. Table 2 shows regression estimates following specifications (2) and (3) for housework and worktime, respectively. Estimated coefficients of the wife-husband time-use gap – meaning that the wife does (i) the same number of workhours or (ii) more workhours than her husband – in the wife’s relative housework regression are crucial indicators for disentangling two theories of household time allocation. Coefficients of the wife doing (i) the same number of housework hours or (ii) more housework hours than her husband in the wife’s relative worktime regression serve as a supplementary indicator to test the theories.

When controlling for a broad set of individual and household characteristics, we document that the wife’s share of housework decreases as her relative worktime increases (column (i) of Table 2). Specifically, the relative contribution of a wife working the same number of hours as her husband to the couple’s combined total housework is 13 percentage points lower, as compared to those of wives working fewer hours than their husbands. The relative housework of wives keeps decreasing as their worktime exceeds that of their husbands, as the additional decrease in relative housework of wives associated with working more than their husbands is around 18 percentage points. These results imply that, on average, husbands working fewer hours than their wives perform 53% of the couple’s combined total housework time, whereas those working more than their wives do as little as 22%.

Furthermore, the estimated effect of wives having more workhours than their husbands is more than two times larger than the one estimated for wives doing the same number of workhours as their husbands. Thus, we can conclude that wives’ share of housework decreases as they work increasingly more hours than their husbands. Unlike Sevilla-Sanz et al. (2010), who show that wives’ share of housework decreases as their relative earnings grow, but only up to the point where the wives start earning the same amount as their husbands, we do not document any such hindering point at which wives’ relative worktime is used as a measure of labour market commitment and the strength of their bargaining position. Quite the opposite, our results indicate a continuous decrease in wives’ relative housework for couples that have passed the point of equal worktime. This empirical result indicates that gendered time division is aligned to a greater extent with traditional models of specialisation and bargaining.¹⁴

¹⁴ Arguably, the major difference in nature between relative earnings and relative housework as two alternative proxies of labour market commitment explains the diverging results, as the latter is measured in time and, thus, falls under the same daily time constraint as the outcome variable itself. Nonetheless, it still strongly relates to relative bargaining strength and income level.

Table 2 / Tobit regression results for the wife's relative housework and worktime, pooled sample

| Dependent variable: | (i) | | (ii) | |
|---|--------------------------------------|---------|-------------------------------------|---------|
| | Wife's relative housework β | se | Wife's relative worktime β | se |
| Time use | | | | |
| Worktime (base: wife does less than husband) | | | | |
| Wife does same # of workhours as husband | -0.130*** | (0.018) | - | - |
| Wife does more workhours than husband | -0.305*** | (0.007) | - | - |
| Housework (base: wife does less than husband) | | | | |
| Wife does same # of housework hours as husband | - | - | -0.057*** | (0.006) |
| Wife does more housework hours than husband | - | - | -0.107*** | (0.002) |
| Wife's characteristics | | | | |
| Age (base: 20 to 24) | | | | |
| 25 to 29 | -0.025 | (0.032) | 0.022** | (0.010) |
| 30 to 34 | -0.011 | (0.032) | 0.026*** | (0.010) |
| 35 to 39 | -0.014 | (0.032) | 0.029*** | (0.010) |
| 40 to 44 | -0.021 | (0.032) | 0.024** | (0.010) |
| 45 to 49 | 0.009 | (0.032) | 0.031*** | (0.010) |
| 50 to 54 | 0.030 | (0.032) | 0.029*** | (0.010) |
| 55 to 59 | -0.006 | (0.033) | 0.035*** | (0.010) |
| 60 to 64 | -0.000 | (0.037) | 0.019 | (0.012) |
| Migration status (base: foreign-born) | | | | |
| Born in the survey country | -0.021 | (0.016) | 0.004 | (0.005) |
| Education (base: low) | | | | |
| Education medium | 0.018 | (0.014) | -0.009** | (0.004) |
| Education high | 0.009 | (0.016) | -0.018*** | (0.005) |
| Industry (base: other community, social service) | | | | |
| Agriculture, fishing, mining & quarrying, utilities | -0.021 | (0.027) | -0.016* | (0.008) |
| Manufacturing and construction | -0.040** | (0.017) | 0.010** | (0.005) |
| Wholesale and retail trade | -0.046*** | (0.017) | 0.006 | (0.005) |
| Hotels and restaurants, transport, storage | -0.088*** | (0.018) | 0.018*** | (0.006) |
| Financial intermediation, real estate, renting activities | 0.005 | (0.017) | 0.014*** | (0.005) |
| Education, health and social work | -0.017 | (0.015) | 0.006 | (0.005) |
| Public administration, defence, social security | -0.002 | (0.016) | 0.011** | (0.005) |
| Household characteristics | | | | |
| Household size (base: 2 persons) | | | | |
| 3 persons | 0.008 | (0.010) | 0.003 | (0.003) |
| 4 persons | 0.016 | (0.013) | 0.008** | (0.004) |
| 5 or more persons | 0.019 | (0.017) | 0.006 | (0.005) |
| # of children aged 0 to 6 (base: no children) | | | | |
| 1 child | -0.019* | (0.011) | -0.032*** | (0.003) |
| 2 or more children | -0.056*** | (0.017) | -0.062*** | (0.005) |
| # of children aged 7 to 17 (base: no children) | | | | |
| 1 child | -0.002 | (0.010) | 0.001 | (0.003) |
| 2 or more children | -0.000 | (0.014) | -0.015*** | (0.004) |
| Household net income band (base: <P20) | | | | |
| P20 to P40 | 0.135*** | (0.047) | -0.060*** | (0.014) |
| P40 to P60 | 0.061 | (0.042) | -0.024* | (0.013) |
| P60 to P80 | 0.067 | (0.042) | -0.025* | (0.013) |
| >P80 | 0.057 | (0.041) | -0.023* | (0.013) |

Contd.

Table 2 / Continued

| Dependent variable: | (i) | | (ii) | |
|--|---------------------------|---------|--------------------------|---------|
| | Wife's relative housework | | Wife's relative worktime | |
| | β | se | β | se |
| Within-couple disparities | | | | |
| Age (base: in the same five-year age category) | | | | |
| Husband older | -0.015** | (0.007) | 0.000 | (0.002) |
| Husband younger | -0.013 | (0.010) | -0.014*** | (0.003) |
| Education (base: same level) | | | | |
| Husband more educated | 0.010 | (0.009) | -0.011*** | (0.003) |
| Husband less educated | -0.009 | (0.009) | 0.011*** | (0.003) |
| Employment type (base: both full-time) | | | | |
| Wife full-time, husband part-time | -0.068*** | (0.021) | 0.038*** | (0.007) |
| Wife part-time, husband full-time | 0.027*** | (0.008) | -0.018*** | (0.002) |
| Both part-time | -0.041* | (0.021) | 0.024*** | (0.007) |
| Pseudo R ² | 0.212 | | -0.545 | |
| N | 7535 | | 7535 | |

Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. The dependent variable is the wife's relative housework (model 1) and the wife's relative worktime (model 2) censored at 0 and 1. Both models additionally control for the couple's combined total worktime and housework time (in 20% quantiles) as well as year, month, day-of-the-week and country-fixed effects. The estimates account for combined individual response and day weight.

As for other characteristics related to the within-couple allocation of housework, the number of children aged 0 to 6 reveals a significant, although economically small association. In families with two or more children aged under 6, the wife's relative share of housework is roughly 6 percentage points lower than in families without any children aged under 6 (62% vs. 68%, respectively), which implies that husbands perform a larger share of the housework in families with two or more small children. This result may appear surprising, as one could expect the housework burden of mothers with small children to increase. However, our measure of housework excludes childcare, and since earlier studies prove that mothers play a dominant role in caregiving (Domínguez-Amorós et al. 2021; Kalenkoski et al. 2009; Kimmel and Connelly 2007), we expect declining relative housework to stem from a substitution effect between housework and childcare for young mothers and fathers, with the former performing more childcare and the latter a larger share of the household chores.

As expected, the wife-husband disparity in job-contract type relates strongly to the wife's relative share of housework. In couples in which the wife works full-time and the husband works part-time, the wife's relative share of housework is, on average, 7 percentage points lower than in couples in which both spouses work part-time (60% vs. 67%, respectively). At the same time, wives do around 70% of all the housework when they have a part-time contract and their husbands have a full-time job. However, the results indicate that even if a wife's share of the housework decreases as she attains a relative advantage on the labour market by working more hours and having a full-time job, she still invests more time in housework than her husband, although the gap does narrow.

Next, we turn to the estimation results for the wife's share of worktime (column (ii) of Table 2). The variation of the wife's share of worktime across her relative contribution to housework mirrors the pattern documented for housework. More specifically, wives who do less housework than their husbands tend to have about 11 percentage points higher relative worktime than those doing more housework than their husbands, with the average relative worktime being 44% vs. 55%, respectively. This empirical evidence

is rather foreseeable and provides additional support to our earlier conclusion on the alignment of the within-couple time allocation with traditional theories of the household.

Our results reveal a systematic and economically unambiguous association between the wife's share of worktime and her demographic traits, including age and education. Age appears to be positively associated with the wife's relative worktime, suggesting that women aged 20 to 24 appear to have the fewest hours of paid work relative to their husbands. The wife's level of education shows a non-trivial association with the within-couple allocation of worktime, as the wife's contribution to the couple's combined total worktime is highest for women with less education. Holding a higher-education degree is associated a wife's relative worktime being 1.8 percentage points lower compared to wives with less education (45% vs. 48% for wives with low- and high-education degrees, respectively). Previous evidence on the association between female education level and the within-couple division of paid work and housework is rather mixed, with some research suggesting a more gender-equal division of work in couples in which the wife holds a higher-education degree (Bianchi et al. 2012; Coltrane 2000). At the same time, another strand of empirical literature documents that highly educated women face a more gendered allocation of worktime (Gimenez-Nadal and Molina 2020).

The presence of a child or children aged under 6 has a stronger relation to the within-couple allocation of worktime than housework, which is consistent with the evidence on the diverging worktime dynamic of young parents, with the mother's employment being hampered and the father's benefiting (Craig and Mullan 2010; Lundberg and Rose 2000). In families with two or more children under 6, the wife's relative worktime is down by 6 percentage points compared to families with no small children (41% vs. 47%, respectively). The wife's notable reduction in relative worktime is likely compensating for the increased amount of time she spends on childcare (Kalenkoski et al. 2005), which is also reflected by the average time-use estimates in Table 1.

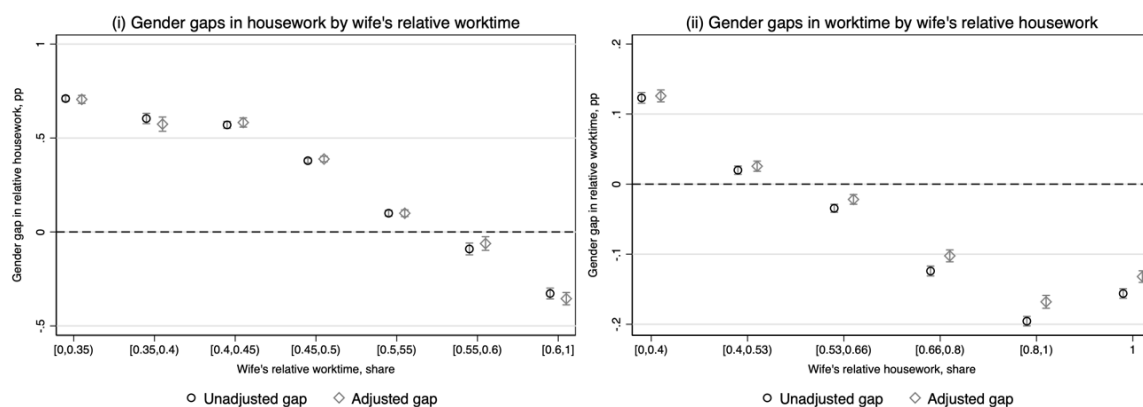
One stark observation relates to the number of characteristics that have a significant association with relative worktime as compared to relative housework. In our empirical specification, only a few factors reveal a significant association with the wife's relative amount of housework. However, the wife's relative worktime is strongly associated with demographic traits, such as her age, education level and the within-couple education gap – characteristics which have little to no economic or statistical association with the wife's relative housework. This empirical observation suggests that the relative worktime of wives appears more flexible and more systematically responsive to various personal traits (e.g. age, education), her employment profile (e.g. industry, type of contract) and family traits (e.g. income level, number of children, some within-couple inequalities). The documented persistence of a within-couple housework gap signals a substantial degree of inertia in the wife's housework dynamic, which in turn suggests that traditional theories alone fail to explain gendered time division. Although a general tendency in within-couple time allocation aligns with traditional household models, the observed inertia in the division of housework in dual-earner couples indicates a certain level of interference of the doing-gender effect in decisions related to time allocation.

Since our earlier results showed the relevance of both theories, with a prevailing association with traditional household models, we conducted a second empirical test to take a more detailed look at the persistence of a gender gap in housework across different levels of a wife's relative worktime and vice versa. Figure 4 depicts tobit regression estimates of the unadjusted and adjusted within-couple gender

gap in housework performed by the wife relative to worktime (panel i) and in worktime of the wife relative to housework (panel ii) following empirical specification (1).¹⁵

While the results in Table 2 focus on the general association between the wife's relative housework and worktime, the following analysis aims to shed light on the convergence of within-couple gaps in time allocation across two time-use domains. We document a major variation in the within-couple gender gap in housework across the wife's relative worktime distribution and in the within-couple gender gap in worktime across the wife's relative housework distribution, largely reflecting a strong inverse interdependence of relative worktime and relative housework. The latter was already documented in Table 2, yet empirical estimates depicted in Figure 4 allow us to additionally trace the absolute levels of gender disparities and their convergence as well as to confirm that the general pattern of this interdependence is consistent with traditional theories of the household. At the same time, this general alignment does not rule out a certain degree of the doing-gender effect, which can be elicited from two empirical observations: (i) the point at which the gender gaps cross the zero line and (ii) the dynamic of (i) gender gap in relative housework on the tails of relative worktime distribution and (ii) gender gap in relative worktime on the tails of relative housework distribution.

Figure 4 / Gender gaps in relative employment by the wife's relative housework – Tobit regression estimates on pooled country sample



Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. The dependent variable is relative worktime censored at 0 and 1. The point estimates are reported with 95% confidence intervals. The unadjusted gap is estimated controlling for gender and year, month, day-of-the-week and country-fixed effects. The adjusted gap is estimated controlling for gender, age group, education level, migration status (being born in the survey country), household size, number of children aged 0 to 6, number of children aged 7 to 17, household net income band, full-time employment and industry of employment as well as year, month, day-of-the-week and country-fixed effects. The estimates account for combined individual response and day weight.

In couples in which the wife's relative worktime ranges below 0.45, the gender gap in relative housework fluctuates between 0.6 and 0.7 percentage points, implying that the wife does between 80% and 85% of the total housework performed by both spouses (panel i) in terms of time. A notable decrease in the wife's relative share of housework starts when her relative worktime approaches 50%. The results indicate that the gender gap in relative housework converges to zero (i.e. the point indicating equal spousal workhours) in couples in which the wife does between 55% and 60% of the combined total

¹⁵ Complete tobit regression estimates for housework and worktime gaps are found in Tables A8 and A9 of the Appendix, respectively.

housework. Thus, husbands only invest more time in housework than their wives in couples in which the wife's relative worktime exceeds around 60% of the couples' combined worktime. The development of gender gaps in worktime (panel ii) reversely mirrors the dynamic of the housework gap. The results show that the switching point for the within-couple gender gap in worktime is when the wife's share of the combined total housework ranges between 53% and 66%, when the gap switches from being positive (wife-favouring) to negative (husband-favouring). Both empirical observations signal a certain effect of the gender-identity theory in gendered within-couple time allocation, as the wives keep doing a dominant share of the housework in a notable share of couples even though they work more (paid) hours than their husbands.

Once it crosses the zero line and turns wife-favouring, the dynamic of the gender gap in housework is notably more inert than on the upper (i.e. husband-favouring) half of the scale, which is in keeping with the gender-identity theory rather than with traditional theories of the household. Specifically, the speed of the decrease in the gender gap in relative housework is not proportional to the growth in relative workhours. In couples in which the wife does less than 35% of the couple's combined total worktime, she does around 85% of the combined total housework in terms of time invested, whereas the husband does around 67% of the housework in terms of time in couples in which the wife does over 60% of the couple's combined total worktime.¹⁶ However, the absolute levels attained by gender gaps in worktime in the positive and negative parts of the scale do not differ as dramatically as they do in panel (i). Specifically, in couples in which the wife does the lowest relative share of the housework (below 40%), they perform, on average, 57% of the combined total worktime, whereas in couple in which the wives do over 80% of the housework, their relative worktime ranges between 42% and 44%. This empirical observation signals less inertia in the convergence of the within-couple gender gap in worktime as compared to the case with housework. In addition to appearing dramatically larger in absolute scale, the latter also appears to be more resilient even in couples in which the wife works significantly more (paid) hours than her husband.

The final set of empirical results disaggregates panel (i) of Figure 4 across a set of individual and household characteristics to identify heterogeneities in the dynamic of within-couple gender gaps in housework over the wife's relative worktime.¹⁷ Several stark observations arise. First, education appears detrimental to the dynamic of the gender gap in housework. Whereas the results in Table 2 do not provide any evidence of the existence of a significant association between education level and the wife's share of housework, panel (i) of Figure 5 reveals an unambiguous pattern. The amount of time allocated to housework appears most uneven in couples in which both spouses have lower levels of education regardless of the wife's actual contribution to the couple's combined total worktime. However, the education effect is the strongest on the right tail of the wife's relative worktime distribution – that is, in couples in which the wife's contribution to the couple's combined total worktime exceeds 60%, the wife's relative housework stands at around 57% if both spouses have low levels of education and at 31% if both spouses are highly educated.

¹⁶ Assuming a symmetric scale of relative housework distribution is empirically problematic, as the share of couples in which the wife's relative worktime exceeds 65% is around 4%, while the share of couples in which the wife's relative worktime is below 35% is around 10%. Hence, to ensure sufficient statistical power for regression estimates, we considered the relative housework distribution as displayed on the x-axis of panel (i) in Figure 4.

¹⁷ A similar disaggregation for panel (ii) of Figure 4 is provided in Figure A7 in the Appendix.

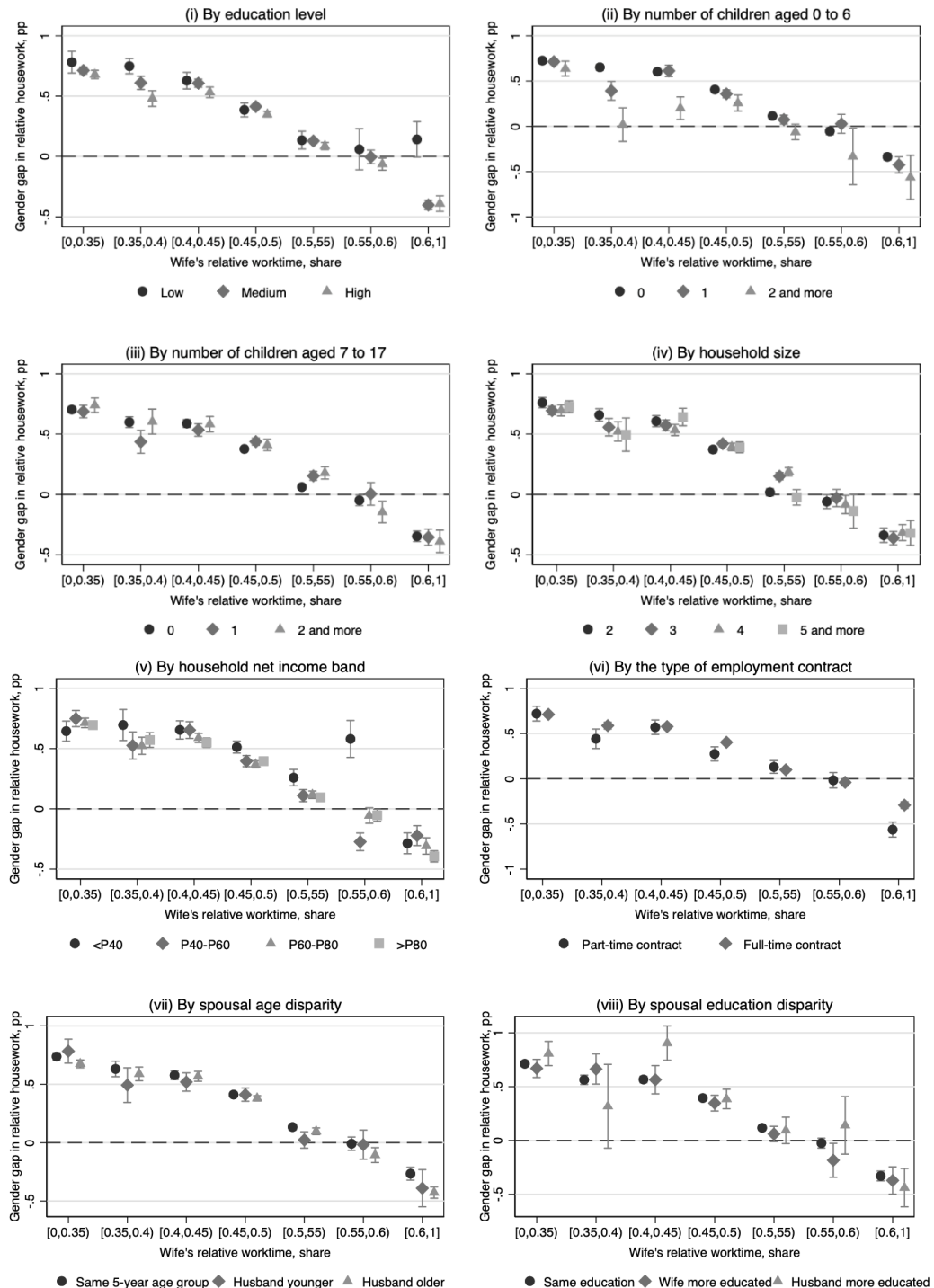
Second, the association between the within-couple gender gap in housework and the wife's relative worktime diverges depending on the number of children aged under 6 in the family. As the results in Table 2 indicate, there is a significant association between the wife's share of the housework and the presence of young children, and panel (ii) of Figure 5 provides additional evidence that this association persists regardless of the wife's share of the combined total worktime. As discussed above, the observed dynamic is likely driven by the dominant contribution of mothers to childcare, and the latter is most pronounced in families with small children. In couple with two or more children aged under 6, the gender gap in housework is the smallest, which implies that the relative contributions of the wife and husband to the housework is more equal. This association is most evident in couples in which the wife's relative worktime ranges between 35% and 45%. In this case, in couples with no children under the age of 6, the wife's share of the housework time ranges between 80% and 83%, whereas in couples with two or more children under the age of 6, the wife's relative housework falls between 50% and 60%. A difference of the same magnitude is observed in couples in which the wife's relative worktime is between 55% and 60%. However, due to the very small sample size,¹⁸ the statistical significance of this difference is ambiguous.

Third, panel (iii) indicates that the observed association between the gender gap in housework and the number of children does not hold when children aged over 6 are concerned. If anything, we document a marginally larger within-couple gender gap in housework in couples with two or more children over 6 years old, especially for those couples in which the wife works more hours than her husband. The latter result may stem from a decreasing childcare need with older children, which leads to an increase in the wife's housework given the time she has gained by not having to provide childcare. Lastly, when looking at other couple characteristics (panels iv through viii of Figure 5), we do not document any systematic differences in the evolution of within-couple gender gaps in housework over the wife's relative worktime.

These results indicate that the general pattern of interrelation between the gender gap in relative housework and the wife's relative worktime observed on Figure 4 panel (i) holds for couples with different profiles and individual characteristics. This dynamic is generally consistent with traditional models of the household. However, there is a persistently high share of gender disparity in housework for couples in which the wife works somewhat more hours than her husband, and the asymmetry in relative housework across wives and husbands doing the absolute majority of workhours in their families signals the admittedly limited, yet still non-negligible relevance of the doing-gender hypothesis. Furthermore, some couple characteristics, such as a lower level of education, are associated with a stronger doing-gender effect. We cannot rule out a more prevailing doing-gender effect in couples with two and more children aged under 6. A gendered division of childcare is aligned with the doing-gender hypothesis, and since childcare is excluded from our measure of housework time, we cannot speculate about the reinforcement of the doing-gender effect in couples with small children.

¹⁸ Our sample of couples with two or more children aged under 6 included only 30 couples in which the wife's relative worktime ranged between 55% to 60% as well as 33 couples in which the wife's relative worktime exceeded 60%.

Figure 5 / Adjusted gender gaps in relative housework by the wife's relative worktime and by background characteristics – Tobit regression estimates on pooled country sample



Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. The dependent variable is relative housework censored at 0 and 1. The point estimates are reported with 95% confidence intervals. The gender gaps are estimated controlling for gender, age group, education level, migration status (being born in the survey country), household size, number of children aged 0 to 6, number of children aged 7 to 17, household net income band, full-time employment and industry of employment as well as year, month, day-of-the-week and country-fixed effects. The estimates account for combined individual response and day weight.

5. Conclusions

This paper analysed patterns and drivers of the within-couple allocation of time to employment and housework in Europe. Relying on micro-level data of the Harmonised European Time Use Survey (HETUS) for 10 European countries, we pursue a two-fold research objective. First, we evaluate the magnitude and cross-country variation in within-couple gender gaps in worktime and housework. In doing so, we estimate the relative contributions of both spouses to the couple's combined total time spent on employment and housework. Furthermore, we test the economic and statistical significance of gender gaps in relative worktime and housework across sample countries and evaluate potential macro-level determinants aligned with greater within-couple equality in time use. Second, we investigate theoretical explanations for gendered within-couple time allocation by empirically testing traditional household theories of specialisation and bargaining against the doing-gender hypothesis. Within-couple decisions regarding time allocation are complex in nature, as they stem from specific negotiations and arrangements between spouses in addition to relative specialisation and intrinsic preferences. Hence, we question the prevalence of a single theory explaining gendered within-couple time allocation.

Our results suggest that within-couple gendered disparity in worktime is narrowing and, in some European countries, including Finland and Estonia, it turns insignificant once spousal and housework characteristics are controlled for. This finding indicates that the discrepancy between the wife's and the husband's workhours is gradually vanishing, and that the wife's labour market attachment is strengthening. Nevertheless, housework remains divided along traditionally gendered lines within a couple, with the wife assuming a larger share of the household chores even in dual-earner couples in all the sample countries. Thus, if women achieve equality in terms of their labour market commitment, as is the case in Finland and Estonia, they still perform a larger share of the household chores. However, within-couple housework disparity does appear to be smaller in countries with higher female labour market attachment and higher degrees of overall gender equality on the labour market and in the society.

Narrowing within-couple disparities in worktime and the persistent gap in housework largely align with the doing-gender hypothesis, which posits that the wife's contribution to housework does not decline or can even grow as her worktime and/or earnings increase. We test this theory further and empirically disentangle traditional household models versus the doing-gender hypothesis by analysing (i) gender gaps in relative housework across the wife's relative worktime distribution and (ii) gender gaps in relative worktime across the wife's relative housework distribution. Our results show that the within-couple division of housework grows more egalitarian as the wife's relative workhours increase to the point that they exceed those of her husband. The latter appears most pronounced for couples in which both spouses hold a higher education degree. This finding seems rather reassuring in the research debate on persistent within-couple time-use disparities, and it rules out the doing-gender hypothesis as the only valid theory regarding the gender-uneven time use of spouses.

However, our results identify three empirical observations that collectively signal a high degree of inertia in the within-couple gender gap in housework and do not allow us to speculate about the irrelevance of the doing-gender hypothesis. The first observation relates to the very few demographic and household traits that have a significant association with the within-couple allocation of time to housework. The latter

implies a significant robustness of the within-couple housework disparity across various characteristics, which appear detrimental for the within-couple division of worktime.

The second observation concerns the average wife's relative worktime at which the gender gap in housework passes the zero level and turns wife-favouring. Our empirical results suggest that husbands invest more time in housework than their wives in couples in which the wife's relative worktime exceeds 60% – in other words, when the wife contributes 60% or more to the couple's combined total worktime. Hence, we record a wife-favouring housework gap for a small fraction of couples in which the wife's workhours are much greater than those of her husband.

The third empirical observation is linked to a dramatic asymmetry in gender disparity in housework on the tails of the wife's relative workhours distribution – that is, in couples where the wife does either (i) a very small share of the combined worktime or (ii) a very large share of the combined worktime. More specifically, in couples in which the wife does less than 35% of the couple's combined total worktime, the wife's average relative housework is 85%, whereas in couples in which the wife does over 60% of the couple's combined total worktime, the husband's relative housework is around 67%. Hence, the disparity in relative housework across wives and husbands with low relative worktime is non-negligible.

However, when empirically testing two theories regarding uneven within-couple time allocation, one cannot disentangle the exact mechanism behind the declining relative share of housework with the available data. The observed pattern can stem from both the wife's increased within-couple bargaining position resulting from her strengthened labour market position as well as from a mere technical constraint, as working longer hours leaves a wife less time for housework (or any other activity) in a day. Nonetheless, this shortcoming does not interfere with our empirical conclusions on the validity of traditional theories of the household and the doing-gender hypothesis. The latter posits that none of the above-mentioned mechanisms matter when it comes to the within-couple allocation of time and that the wife's contribution to the housework will remain largely unchanged even if she has more bargaining power or simply less time to perform household chores upon finishing her (paid) work.

Thus, our empirical results indicate that while gender equality on the labour market has resulted in a certain degree of progress in the absolute majority of European countries, there is still a long way to go before gender equality is achieved in terms of housework. A single theory fails to explain the gendered time division. The observed dynamic in the evolution of the gender gap in housework over the wife's relative worktime is largely aligned with traditional models of specialisation and bargaining, yet inertia in the housework gap in couples in which the wife works more hours than her husband suggests a somewhat limited, yet unambiguous validity of the doing-gender hypothesis. Understanding the underlying theory driving gendered time division within a couple proves essential in tailoring effective policy steps aimed at achieving gender equality both on the labour market and in the family. Increasing the role that husbands play in performing household chores and caregiving duties, coupled with policies that aim to strengthen female labour market commitment and to foster the labour market participation of mothers, would be of great benefit. The latter would boost women's earnings and narrow within-family income gaps while at the same time unburdening women from excessive household and caregiving duties in addition to promoting spousal equality not only in terms of gainful employment, but also in terms of unpaid housework. On the country level, strengthening women's labour market commitment would increase the labour supply in the face of growing shortages of skilled labour as well as foster an increase in overall labour productivity.

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Appendix

Table A1 / Descriptive profile of the sample – household characteristics by country

| | BE | DE | EE | EL | FI | FR | LU | PL | RO | UK |
|--------------------------------------|------|------|------|------|------|------|------|------|------|------|
| <i>Household size, %</i> | | | | | | | | | | |
| 2 persons | 17.0 | 33.3 | 24.0 | 22.9 | 41.9 | 23.7 | 20.9 | 16.8 | 17.3 | 29.5 |
| 3 persons | 22.2 | 25.5 | 30.2 | 27.1 | 19.7 | 26.9 | 30.8 | 33.0 | 39.6 | 22.6 |
| 4 persons | 41.8 | 33.4 | 35.8 | 43.9 | 25.7 | 34.0 | 30.1 | 36.3 | 31.7 | 37.7 |
| 5 or more persons | 19.0 | 7.8 | 9.9 | 6.1 | 12.6 | 15.5 | 18.3 | 14.0 | 11.4 | 10.2 |
| <i># of children aged 0 to 6, %</i> | | | | | | | | | | |
| No children | 82.1 | 75.3 | 78.1 | 76.2 | 76.6 | 69.6 | 70.7 | 61.9 | 79.5 | 69.2 |
| 1 child | 9.6 | 16.3 | 19.5 | 13.0 | 16.4 | 24.0 | 21.9 | 29.9 | 17.6 | 16.8 |
| 2 or more children | 8.3 | 8.4 | 2.4 | 10.7 | 7.1 | 6.4 | 7.3 | 8.1 | 2.9 | 14.0 |
| <i># of children aged 7 to 17, %</i> | | | | | | | | | | |
| No children | 54.1 | 63.4 | 53.6 | 62.7 | 57.5 | 50.7 | 54.8 | 55.1 | 63.0 | 62.5 |
| 1 child | 21.5 | 19.5 | 32.3 | 16.9 | 21.5 | 26.5 | 27.1 | 30.9 | 28.6 | 22.4 |
| 2 or more children | 24.5 | 17.0 | 14.1 | 20.4 | 21.0 | 22.8 | 18.0 | 14.0 | 8.4 | 15.1 |
| <i>Household net income band, %</i> | | | | | | | | | | |
| <P20* | 0.7 | 0.0 | 13.0 | 0.5 | 0.0 | 0.0 | 3.5 | 0.8 | 3.3 | 1.8 |
| P20 to <P40 | 3.5 | 0.7 | 21.6 | 0.6 | 0.6 | 0.6 | 15.2 | 7.8 | 1.3 | 7.7 |
| P40 to <P60 | 15.0 | 4.7 | 14.4 | 10.8 | 2.4 | 9.2 | 22.5 | 25.8 | 7.4 | 17.5 |
| P60 to <P80 | 35.5 | 35.7 | 29.3 | 34.7 | 26.5 | 38.0 | 23.0 | 39.5 | 22.3 | 31.5 |
| >P80** | 45.3 | 58.9 | 21.8 | 53.4 | 70.5 | 52.2 | 35.8 | 26.1 | 65.7 | 41.6 |

* First income quintile group

** Fifth income quintile group

Source: HETUS wave 2 (2010) data, own calculations. The estimates account for combined individual response and day weight.

Table A2 / Descriptive profile of the sample – female characteristics by country

| | BE | DE | EE | EL | FI | FR | LU | PL | RO | UK |
|--|------|------|------|------|------|------|------|------|------|------|
| <i>Age group, %</i> | | | | | | | | | | |
| 20-24 | 2.6 | 0.9 | 2.4 | 1.3 | 0.7 | 0.8 | 1.1 | 15.6 | 1.5 | 0.2 |
| 25-29 | 6.0 | 8.6 | 5.3 | 1.8 | 7.7 | 8.3 | 13.2 | 34.4 | 10.6 | 8.4 |
| 30-34 | 10.2 | 8.7 | 13.8 | 18.9 | 9.5 | 14.3 | 14.6 | 39.9 | 20.4 | 17.2 |
| 35-39 | 14.3 | 16.0 | 15.5 | 20.7 | 17.1 | 15.3 | 21.8 | 40.7 | 17.3 | 12.3 |
| 40-44 | 18.2 | 18.1 | 18.7 | 17.9 | 19.2 | 19.3 | 15.9 | 36.0 | 25.7 | 16.0 |
| 45-49 | 21.1 | 19.2 | 17.2 | 23.8 | 18.0 | 19.2 | 16.2 | 31.6 | 11.0 | 20.2 |
| 50-54 | 20.0 | 17.4 | 12.2 | 10.3 | 13.4 | 14.6 | 14.9 | 30.8 | 9.7 | 10.6 |
| 55-59 | 6.9 | 7.4 | 13.8 | 5.4 | 10.5 | 7.2 | 2.2 | 22.5 | 3.5 | 12.0 |
| 60-64 | 0.6 | 3.7 | 1.2 | 0.0 | 3.9 | 0.9 | 0.0 | 6.6 | 0.3 | 3.1 |
| <i>Education level, %</i> | | | | | | | | | | |
| Low | 15.8 | 2.2 | 1.5 | 17.7 | 8.7 | 19.8 | 46.7 | 16.0 | 5.2 | 1.8 |
| Medium | 38.8 | 56.4 | 43.9 | 42.1 | 34.7 | 60.7 | 43.8 | 50.0 | 67.3 | 51.3 |
| High | 45.4 | 41.4 | 54.6 | 40.2 | 56.6 | 19.6 | 49.6 | 50.0 | 27.5 | 46.9 |
| <i>Born in survey country, %</i> | | | | | | | | | | |
| | 93.9 | 95.7 | 81.5 | 86.5 | 99.1 | 96.5 | 42.7 | 99.9 | 99.9 | 93.7 |
| <i>Working full-time, %</i> | | | | | | | | | | |
| | 40.9 | 37.9 | 88.3 | 83.0 | 91.0 | 68.6 | 49.7 | 28.7 | 98.6 | 60.6 |
| <i>Industry, %</i> | | | | | | | | | | |
| Agriculture, fishing, mining, utilities supply | 1.7 | 2.1 | 2.4 | 0.7 | 0.5 | 0.6 | 4.2 | 15.6 | 3.6 | 1.4 |
| Manufacturing and construction | 8.1 | 10.5 | 18.3 | 7.3 | 6.2 | 11.3 | 23.6 | 38.2 | 30.0 | 6.1 |
| Wholesale and retail trade | 8.4 | 9.4 | 11.3 | 23.8 | 12.2 | 12.2 | 30.2 | 37.0 | 24.1 | 10.3 |
| Hotels and restaurants, transport, storage | 6.7 | 7.9 | 8.6 | 11.5 | 9.0 | 6.9 | 28.0 | 26.6 | 7.5 | 5.5 |
| Financial intermediation, real estate, renting and business activities | 15.4 | 12.9 | 12.0 | 7.7 | 10.7 | 11.3 | 43.8 | 34.5 | 7.1 | 12.1 |
| Education, health and social work | 46.1 | 28.9 | 36.5 | 30.3 | 44.8 | 40.2 | 43.4 | 45.4 | 17.9 | 52.8 |
| Public administration, defence, social security | 11.6 | 22.1 | 7.3 | 12.3 | 11.2 | 12.2 | 34.3 | 28.9 | 6.9 | 9.8 |
| Other community, social and personal services | 2.1 | 6.2 | 3.6 | 6.3 | 5.4 | 5.3 | 31.6 | 18.8 | 3.0 | 2.0 |

Source: HETUS wave 2 (2010) data, own calculations. The estimates account for combined individual response and day weight.

Table A3 / Descriptive profile of the sample – male characteristics by country

| | BE | DE | EE | EL | FI | FR | LU | PL | RO | UK |
|--|------|------|------|------|------|------|------|------|------|------|
| <i>Age group, %</i> | | | | | | | | | | |
| 20-24 | 0.0 | 0.2 | 0.5 | 0.0 | 0.3 | 0.6 | 0.3 | 10.6 | 0.4 | 0.1 |
| 25-29 | 4.3 | 3.8 | 7.1 | 7.4 | 4.7 | 4.5 | 6.4 | 29.5 | 5.3 | 4.0 |
| 30-34 | 8.5 | 4.4 | 8.0 | 32.3 | 11.0 | 11.7 | 13.2 | 38.1 | 18.7 | 18.0 |
| 35-39 | 8.3 | 16.3 | 16.4 | 43.3 | 15.9 | 14.0 | 19.0 | 40.2 | 15.7 | 8.4 |
| 40-44 | 18.6 | 19.1 | 15.7 | 38.4 | 14.8 | 21.7 | 18.5 | 37.0 | 25.7 | 16.4 |
| 45-49 | 24.6 | 18.9 | 17.0 | 38.1 | 18.6 | 16.5 | 21.0 | 35.1 | 12.7 | 21.0 |
| 50-54 | 24.0 | 13.7 | 18.7 | 36.9 | 16.7 | 17.8 | 13.7 | 31.9 | 12.1 | 15.8 |
| 55-59 | 10.1 | 14.5 | 11.3 | 31.5 | 12.9 | 11.3 | 7.3 | 25.6 | 8.3 | 11.3 |
| 60-64 | 1.6 | 9.1 | 5.3 | 5.3 | 5.2 | 1.8 | 0.5 | 14.2 | 1.1 | 5.2 |
| <i>Education level, %</i> | | | | | | | | | | |
| Low | 28.0 | 1.7 | 5.1 | 42.0 | 13.0 | 17.5 | 37.2 | 19.0 | 3.2 | 2.7 |
| Medium | 36.9 | 48.8 | 62.3 | 47.2 | 47.1 | 64.9 | 25.9 | 47.0 | 71.4 | 52.3 |
| High | 35.1 | 49.5 | 32.7 | 49.8 | 39.9 | 17.6 | 36.9 | 45.5 | 25.4 | 45.0 |
| <i>Born in survey country, %</i> | | | | | | | | | | |
| | 91.9 | 95.8 | 82.8 | 87.5 | 98.6 | 96.5 | 37.0 | 99.9 | 99.9 | 92.3 |
| <i>Working full-time, %</i> | | | | | | | | | | |
| | 89.6 | 93.9 | 97.6 | 21.7 | 98.2 | 94.1 | 97.1 | 14.7 | 99.6 | 94.0 |
| <i>Industry, %</i> | | | | | | | | | | |
| Agriculture, fishing, mining, utilities supply | 2.8 | 5.6 | 12.7 | 15.4 | 5.0 | 3.5 | 3.8 | 29.4 | 11.1 | 3.5 |
| Manufacturing and construction | 31.5 | 32.9 | 33.2 | 36.7 | 35.3 | 32.0 | 33.2 | 48.6 | 38.4 | 25.8 |
| Wholesale and retail trade | 12.1 | 6.0 | 12.9 | 37.6 | 13.4 | 12.6 | 6.0 | 31.4 | 12.0 | 14.1 |
| Hotels and restaurants, transport, storage | 15.9 | 12.6 | 18.3 | 38.9 | 11.8 | 17.0 | 16.0 | 34.0 | 12.8 | 16.5 |
| Financial intermediation, real estate, renting and business activities | 11.0 | 9.5 | 7.9 | 21.8 | 13.3 | 10.1 | 15.7 | 28.6 | 7.7 | 12.9 |
| Education, health and social work | 10.9 | 10.8 | 4.8 | 33.0 | 10.2 | 9.2 | 7.5 | 25.7 | 5.0 | 16.3 |
| Public administration, defence, social security | 13.6 | 19.4 | 8.1 | 44.5 | 8.0 | 12.6 | 15.4 | 30.2 | 10.9 | 7.8 |
| Other community, social and personal services | 2.3 | 3.2 | 2.1 | 13.5 | 3.0 | 3.0 | 2.4 | 12.3 | 2.3 | 3.1 |

Source: HETUS wave 2 (2010) data, own calculations. The estimates account for combined individual response and day weight.

Table A4 / Descriptive profile of the sample – within-couple disparities by country

| | BE | DE | EE | EL | FI | FR | LU | PL | RO | UK |
|---|------|------|------|------|------|------|------|------|------|------|
| <i>Education, %</i> | | | | | | | | | | |
| Same education | 60.7 | 58.7 | 63.3 | 68.8 | 56.2 | 64.6 | 70.4 | 68.4 | 83.1 | 75.2 |
| Wife more educated | 29.1 | 16.7 | 30.5 | 16.1 | 31.1 | 17.5 | 19.4 | 25.3 | 8.5 | 13.8 |
| Husband more educated | 10.2 | 24.6 | 6.2 | 15.1 | 12.7 | 17.9 | 10.2 | 6.3 | 8.3 | 11.0 |
| <i>Type of employment contract, %</i> | | | | | | | | | | |
| Both work full-time | 35.8 | 34.9 | 86.7 | 79.3 | 89.5 | 65.0 | 56.3 | 89.2 | 98.4 | 58.0 |
| Both work part-time | 5.3 | 3.0 | 0.7 | 1.3 | 0.3 | 2.7 | 2.3 | 0.6 | 0.1 | 3.2 |
| Wife works part-time, husband full-time | 26.9 | 28.6 | 5.5 | 7.9 | 4.1 | 13.8 | 19.6 | 3.1 | 0.6 | 17.5 |
| Wife works full-time, husband part-time | 2.6 | 0.9 | 0.8 | 1.8 | 0.7 | 1.8 | 0.3 | 0.6 | 0.1 | 1.3 |
| <i>Gender gap in time allocation, minutes per day</i> | | | | | | | | | | |
| Employment | -66 | -108 | -41 | -69 | -8 | -50 | -127 | -43 | -56 | -44 |
| Housework | 81 | 77 | 72 | 123 | 27 | 61 | 102 | 61 | 88 | 51 |

Source: HETUS wave 2 (2010) data, own calculations. The estimates account for combined individual response and day weight.

Table A5 / Tobit regression results for relative worktime, by country

| Country | (1) BE | (2) DE | (3) EE | (4) EL | (5) FI | (6) FR | (7) LU | (8) PL | (9) RO | (10) UK |
|--|-----------------------------|-----------------------------|----------------------------|-----------------------------|--------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Gender gap | -0.046*** (0.009) | -0.056*** (0.007) | -0.022** (0.010) | -0.057*** (0.008) | -0.002 (0.010) | -0.032*** (0.004) | -0.093*** (0.010) | -0.035*** (0.004) | -0.045*** (0.003) | -0.033*** (0.011) |
| <i>Age (base: 20-24)</i> | | | | | | | | | | |
| 25-29 | -0.011 (0.037) | 0.007 (0.037) | 0.026 (0.041) | -0.015 (0.062) | 0.012 (0.066) | -0.008 (0.023) | -0.009 (0.051) | -0.025* (0.015) | -0.003 (0.013) | 0.022 (0.109) |
| 30-34 | 0.025 (0.038) | 0.026 (0.038) | 0.054 (0.040) | -0.075 (0.052) | 0.014 (0.066) | -0.017 (0.023) | -0.044 (0.050) | -0.020 (0.015) | 0.015 (0.013) | 0.010 (0.108) |
| 35-39 | 0.016 (0.037) | 0.048 (0.037) | -0.007 (0.040) | -0.050 (0.052) | 0.057 (0.065) | -0.018 (0.023) | -0.019 (0.050) | -0.022 (0.015) | 0.019 (0.013) | -0.011 (0.109) |
| 40-44 | 0.012 (0.037) | 0.040 (0.037) | 0.004 (0.040) | -0.047 (0.052) | 0.063 (0.065) | -0.013 (0.023) | 0.023 (0.051) | -0.027* (0.015) | 0.014 (0.013) | 0.024 (0.108) |
| 45-49 | -0.012 (0.037) | 0.037 (0.037) | 0.013 (0.040) | -0.053 (0.052) | 0.056 (0.065) | -0.017 (0.023) | -0.001 (0.051) | -0.021 (0.015) | 0.012 (0.013) | 0.003 (0.108) |
| 50-54 | 0.007 (0.037) | 0.046 (0.037) | 0.006 (0.040) | -0.050 (0.052) | 0.043 (0.065) | -0.017 (0.023) | 0.003 (0.051) | -0.015 (0.015) | 0.008 (0.013) | -0.003 (0.109) |
| 55-59 | 0.001 (0.037) | 0.049 (0.037) | 0.001 (0.041) | -0.045 (0.054) | 0.034 (0.065) | -0.019 (0.023) | -0.043 (0.054) | -0.021 (0.016) | 0.010 (0.013) | 0.007 (0.108) |
| 60-64 | 0.027 (0.049) | 0.013 (0.038) | -0.001 (0.046) | -0.041 (0.117) | 0.040 (0.065) | -0.028 (0.027) | 0.115 (0.092) | -0.048** (0.020) | -0.023 (0.019) | -0.001 (0.110) |
| <i>Migration status (base: foreign-born)</i> | | | | | | | | | | |
| Born in country | -0.001 (0.016) | -0.006 (0.013) | -0.007 (0.012) | 0.012 (0.014) | 0.073* (0.040) | -0.002 (0.010) | 0.023** (0.010) | -0.003 (0.062) | 0.008 (0.033) | -0.014 (0.018) |
| <i>Household size (base: 2 persons)</i> | | | | | | | | | | |
| 3 persons | 0.002 (0.013) | 0.010 (0.008) | -0.006 (0.015) | -0.016 (0.018) | -0.005 (0.017) | -0.000 (0.006) | 0.009 (0.016) | 0.002 (0.006) | -0.002 (0.004) | 0.005 (0.015) |
| 4 persons | 0.003 (0.014) | 0.009 (0.011) | -0.002 (0.017) | -0.022 (0.021) | -0.013 (0.024) | 0.003 (0.008) | 0.003 (0.017) | 0.002 (0.007) | -0.002 (0.004) | 0.003 (0.018) |
| 5 or more persons | 0.013 (0.018) | 0.011 (0.015) | 0.003 (0.024) | -0.023 (0.030) | -0.008 (0.033) | 0.002 (0.010) | 0.011 (0.023) | 0.004 (0.009) | -0.003 (0.005) | 0.009 (0.026) |
| <i>Education (base: low)</i> | | | | | | | | | | |
| Education medium | 0.009 (0.010) | 0.001 (0.019) | 0.030 (0.025) | -0.043*** (0.013) | -0.027* (0.015) | -0.003 (0.005) | -0.021* (0.012) | 0.013 (0.010) | 0.011* (0.006) | 0.011 (0.030) |
| Education high | 0.009 (0.011) | 0.015 (0.019) | 0.003 (0.026) | -0.031** (0.014) | -0.018 (0.016) | 0.013** (0.007) | 0.006 (0.013) | 0.012 (0.011) | 0.001 (0.007) | 0.010 (0.030) |
| <i># of children aged 0 to 6 (base: 0)</i> | | | | | | | | | | |
| 1 child | -0.014 (0.015) | 0.004 (0.009) | -0.013 (0.016) | 0.009 (0.015) | 0.009 (0.017) | -0.004 (0.006) | 0.008 (0.014) | 0.004 (0.005) | 0.002 (0.004) | -0.001 (0.016) |
| 2 or more children | -0.017 (0.019) | 0.008 (0.015) | -0.019 (0.035) | 0.031 (0.025) | 0.015 (0.028) | 0.000 (0.011) | 0.015 (0.020) | 0.009 (0.009) | 0.002 (0.008) | 0.008 (0.022) |
| <i># of children aged 7 to 17 (base: 0)</i> | | | | | | | | | | |
| 1 child | -0.004 (0.012) | 0.002 (0.009) | 0.000 (0.013) | 0.009 (0.015) | -0.000 (0.017) | -0.003 (0.006) | -0.010 (0.012) | -0.001 (0.005) | -0.004 (0.003) | -0.005 (0.015) |
| 2 or more children | -0.011 (0.015) | 0.005 (0.012) | 0.006 (0.020) | 0.020 (0.019) | -0.000 (0.025) | -0.001 (0.009) | -0.014 (0.018) | -0.001 (0.008) | -0.003 (0.005) | -0.004 (0.021) |
| <i>Household net income band (base: <P20)</i> | | | | | | | | | | |
| P20 to P40 | 0.014 (0.048) | 0.022 (0.031) | 0.000 (0.017) | -0.014 (0.075) | 0.061 (0.062) | 0.022 (0.023) | -0.007 (0.026) | -0.010 (0.021) | 0.002 (0.012) | -0.002 (0.039) |
| P40 to P60 | 0.010 (0.046) | 0.004 (0.013) | 0.006 (0.018) | -0.010 (0.059) | 0.034 (0.033) | 0.003 (0.007) | -0.015 (0.025) | -0.013 (0.020) | 0.001 (0.008) | -0.011 (0.037) |
| P60 to P80 | -0.001 (0.046) | 0.007 (0.006) | 0.005 (0.017) | -0.001 (0.058) | 0.006 (0.011) | 0.003 (0.004) | -0.012 (0.025) | -0.013 (0.020) | -0.002 (0.007) | -0.015 (0.037) |
| >P80 | -0.003 (0.046) | 0.000 (.) | 0.005 (0.021) | -0.003 (0.059) | 0.000 (.) | 0.000 (.) | -0.025 (0.025) | -0.014 (0.021) | -0.001 (0.007) | -0.013 (0.036) |

Contd.

Table A5 / Continued

| Country | (1) BE | (2) DE | (3) EE | (4) EL | (5) FI | (6) FR | (7) LU | (8) PL | (9) RO | (10) UK |
|---|---------------------|---------------------|--------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| <i>Employment type (base: part-time)</i> | | | | | | | | | | |
| Full-time | 0.027*** (0.009) | 0.061*** (0.007) | 0.037** (0.018) | 0.020 (0.015) | 0.058*** (0.020) | 0.022*** (0.005) | 0.032*** (0.012) | 0.030*** (0.009) | 0.060*** (0.013) | 0.029** (0.012) |
| <i>Industry (base: other community, social & personal services)</i> | | | | | | | | | | |
| Agriculture, fishing, mining & quarrying, utility supply | 0.039 (0.033) | -0.030* (0.018) | 0.044 (0.031) | -0.021 (0.038) | -0.003 (0.033) | -0.015 (0.015) | -0.017 (0.033) | -0.020 (0.014) | -0.010 (0.009) | -0.055 (0.039) |
| Manufacturing and construction | 0.070*** (0.025) | -0.009 (0.013) | 0.012 (0.028) | -0.011 (0.025) | 0.003 (0.023) | 0.000 (0.010) | 0.008 (0.020) | -0.007 (0.012) | -0.004 (0.008) | -0.023 (0.030) |
| Wholesale and retail trade | 0.062** (0.026) | -0.019 (0.015) | 0.035 (0.029) | 0.013 (0.025) | 0.022 (0.024) | 0.015 (0.010) | 0.043* (0.022) | 0.001 (0.013) | 0.000 (0.008) | -0.043 (0.031) |
| Hotels and restaurants, transport, storage and communication | 0.022 (0.026) | 0.000 (0.014) | 0.051* (0.029) | 0.038 (0.025) | 0.005 (0.025) | -0.011 (0.010) | 0.044** (0.021) | -0.013 (0.013) | -0.006 (0.008) | -0.038 (0.030) |
| Financial intermediation, real estate, renting and business activities | 0.050* (0.026) | -0.011 (0.014) | 0.064** (0.029) | 0.038 (0.027) | 0.032 (0.024) | -0.001 (0.010) | 0.033 (0.021) | -0.008 (0.013) | -0.001 (0.009) | -0.035 (0.031) |
| Education, health and social work | 0.054** (0.025) | -0.027** (0.013) | 0.027 (0.028) | 0.028 (0.024) | 0.011 (0.022) | -0.011 (0.010) | 0.009 (0.021) | -0.013 (0.012) | -0.011 (0.008) | -0.012 (0.029) |
| Public administration, defence, social security, extra-territorial bodies | 0.036 (0.026) | -0.022 (0.013) | 0.045 (0.031) | -0.019 (0.025) | 0.021 (0.025) | -0.001 (0.010) | 0.015 (0.021) | -0.017 (0.013) | 0.006 (0.008) | -0.013 (0.032) |
| N | 790 | 1632 | 632 | 420 | 600 | 2992 | 426 | 3132 | 3752 | 694 |
| Pseudo R-sq | -0.095 | -0.192 | -0.067 | -0.135 | -0.038 | -0.048 | -0.265 | -0.029 | -0.061 | -0.043 |

Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. Dependent variable is relative housework censored at 0 and 1. All models additionally control for year, month and day-of-the-week fixed effects. The estimates account for combined individual response and day weight.

Table A6 / Tobit regression results for relative housework, by country

| Country | (1) BE | (2) DE | (3) EE | (4) EL | (5) FI | (6) FR | (7) LU | (8) PL | (9) RO | (10) UK |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Gender gap | 0.319*** (0.024) | 0.231*** (0.016) | 0.318*** (0.027) | 0.610*** (0.026) | 0.134*** (0.023) | 0.262*** (0.012) | 0.404*** (0.032) | 0.302*** (0.010) | 0.496*** (0.009) | 0.269*** (0.026) |
| <i>Age (base: 20-24)</i> | | | | | | | | | | |
| 25-29 | -0.166* (0.096) | 0.090 (0.088) | -0.161 (0.111) | 0.066 (0.193) | -0.046 (0.157) | 0.022 (0.069) | 0.290* (0.158) | -0.009 (0.039) | -0.063 (0.044) | -0.175 (0.273) |
| 30-34 | -0.137 (0.099) | 0.073 (0.089) | -0.024 (0.109) | 0.143 (0.163) | 0.034 (0.157) | 0.055 (0.068) | 0.422*** (0.156) | -0.003 (0.038) | -0.099** (0.043) | -0.098 (0.272) |
| 35-39 | -0.138 (0.097) | 0.064 (0.087) | 0.046 (0.108) | 0.037 (0.162) | -0.035 (0.156) | 0.036 (0.069) | 0.368** (0.155) | -0.000 (0.039) | -0.087** (0.043) | -0.046 (0.272) |
| 40-44 | -0.145 (0.097) | 0.051 (0.087) | 0.045 (0.108) | 0.068 (0.161) | -0.049 (0.155) | -0.011 (0.068) | 0.244 (0.157) | -0.005 (0.039) | -0.096** (0.043) | -0.156 (0.271) |
| 45-49 | -0.081 (0.098) | 0.065 (0.087) | 0.057 (0.109) | 0.045 (0.162) | -0.010 (0.156) | 0.024 (0.068) | 0.342** (0.158) | 0.017 (0.039) | -0.074* (0.044) | -0.115 (0.271) |
| 50-54 | -0.085 (0.096) | 0.056 (0.087) | -0.026 (0.108) | 0.084 (0.162) | -0.008 (0.155) | 0.048 (0.068) | 0.339** (0.158) | -0.021 (0.040) | -0.084* (0.044) | -0.024 (0.272) |
| 55-59 | -0.127 (0.098) | 0.003 (0.088) | 0.029 (0.110) | 0.124 (0.166) | -0.017 (0.156) | 0.019 (0.069) | 0.464*** (0.166) | -0.004 (0.041) | -0.098** (0.046) | -0.075 (0.271) |
| 60-64 | -0.103 (0.129) | 0.082 (0.089) | -0.047 (0.124) | -0.107 (0.363) | -0.006 (0.156) | 0.049 (0.081) | 0.025 (0.285) | 0.012 (0.053) | -0.047 (0.064) | -0.083 (0.275) |
| <i>Migration status (base: foreign-born)</i> | | | | | | | | | | |
| Born in country | 0.050 (0.041) | 0.050* (0.030) | 0.000 (0.033) | 0.006 (0.044) | -0.195** (0.096) | -0.005 (0.030) | -0.035 (0.032) | -0.020 (0.163) | 0.021 (0.114) | -0.012 (0.044) |
| <i>Household size (base: 2 persons)</i> | | | | | | | | | | |
| 3 persons | -0.007 (0.034) | -0.024 (0.019) | -0.010 (0.040) | 0.015 (0.055) | 0.006 (0.041) | 0.006 (0.018) | -0.046 (0.050) | -0.010 (0.016) | 0.001 (0.013) | -0.006 (0.037) |
| 4 persons | -0.026 (0.037) | -0.032 (0.026) | -0.030 (0.047) | 0.004 (0.064) | 0.021 (0.057) | 0.002 (0.024) | -0.041 (0.052) | -0.017 (0.019) | 0.003 (0.015) | -0.001 (0.045) |
| 5 or more persons | -0.034 (0.048) | -0.028 (0.035) | -0.032 (0.065) | 0.003 (0.092) | 0.026 (0.078) | 0.001 (0.031) | -0.062 (0.072) | -0.023 (0.023) | 0.006 (0.019) | -0.026 (0.065) |
| <i>Education (base: low)</i> | | | | | | | | | | |
| Education medium | 0.032 (0.027) | -0.054 (0.045) | -0.019 (0.068) | 0.048 (0.041) | 0.017 (0.036) | 0.015 (0.015) | 0.045 (0.036) | -0.048* (0.026) | -0.002 (0.021) | -0.026 (0.074) |
| Education high | 0.013 (0.030) | -0.086* (0.045) | 0.077 (0.070) | 0.003 (0.045) | 0.016 (0.037) | -0.043** (0.020) | -0.018 (0.042) | -0.060** (0.028) | 0.008 (0.022) | -0.018 (0.074) |
| <i># of children aged 0 to 6 (base: 0)</i> | | | | | | | | | | |
| 1 child | 0.035 (0.038) | -0.006 (0.022) | 0.032 (0.043) | -0.003 (0.047) | -0.006 (0.040) | 0.002 (0.018) | 0.005 (0.042) | 0.010 (0.014) | -0.002 (0.013) | 0.016 (0.039) |
| 2 or more children | 0.053 (0.051) | -0.012 (0.035) | 0.022 (0.095) | -0.023 (0.076) | -0.020 (0.067) | 0.007 (0.032) | 0.013 (0.063) | 0.003 (0.024) | -0.008 (0.027) | 0.017 (0.055) |
| <i># of children aged 7 to 17 (base: 0)</i> | | | | | | | | | | |
| 1 child | 0.017 (0.032) | -0.008 (0.021) | -0.019 (0.036) | 0.005 (0.045) | -0.012 (0.041) | 0.010 (0.018) | 0.028 (0.038) | -0.001 (0.013) | 0.003 (0.011) | 0.017 (0.037) |
| 2 or more children | 0.035 (0.040) | -0.010 (0.029) | -0.026 (0.054) | -0.001 (0.060) | -0.011 (0.060) | 0.017 (0.026) | 0.057 (0.056) | 0.006 (0.020) | 0.000 (0.018) | 0.039 (0.053) |
| <i>Household net income band (base: <P20)</i> | | | | | | | | | | |
| P20 to P40 | 0.005 (0.126) | -0.036 (0.073) | -0.015 (0.046) | 0.013 (0.234) | 0.043 (0.149) | -0.040 (0.069) | 0.037 (0.079) | 0.017 (0.055) | 0.001 (0.042) | 0.034 (0.097) |
| P40 to P60 | -0.014 (0.122) | -0.003 (0.030) | -0.027 (0.050) | -0.005 (0.184) | -0.035 (0.080) | -0.008 (0.021) | 0.041 (0.076) | 0.014 (0.054) | -0.003 (0.027) | 0.024 (0.093) |
| P60 to P80 | -0.006 (0.121) | -0.013 (0.014) | -0.027 (0.046) | -0.013 (0.181) | -0.000 (0.026) | -0.020 (0.012) | 0.025 (0.078) | 0.022 (0.054) | 0.003 (0.024) | 0.024 (0.092) |
| >P80 | -0.009 (0.122) | 0.000 (.) | -0.035 (0.056) | 0.013 (0.184) | 0.000 (.) | 0.000 (.) | 0.057 (0.078) | 0.022 (0.054) | 0.002 (0.023) | 0.018 (0.090) |

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Table A6 / Continued

| Country | (1) BE | (2) DE | (3) EE | (4) EL | (5) FI | (6) FR | (7) LU | (8) PL | (9) RO | (10) UK |
|--|-------------------|----------------------|-------------------|-------------------|--------------------|---------------------|---------------------|-------------------|---------------------|---------------------|
| <i>Employment type (base: part-time)</i> | | | | | | | | | | |
| Full-time | -0.020 (0.024) | -0.130*** (0.017) | -0.032 (0.050) | -0.039 (0.045) | 0.005 (0.049) | -0.032** (0.015) | -0.051 (0.037) | -0.032 (0.023) | -0.065 (0.044) | -0.028 (0.031) |
| <i>Industry (base: other community, social & personal services)</i> | | | | | | | | | | |
| Agriculture, fishing, mining & quarrying, utility supply | 0.007 (0.088) | 0.024 (0.042) | -0.064 (0.085) | 0.092 (0.119) | -0.054 (0.079) | 0.066 (0.046) | -0.099 (0.103) | 0.040 (0.035) | -0.025 (0.029) | 0.256*** (0.099) |
| Manufacturing and construction | -0.061 (0.066) | 0.019 (0.031) | -0.026 (0.076) | 0.081 (0.077) | -0.027 (0.055) | 0.027 (0.029) | -0.077 (0.061) | -0.009 (0.032) | -0.038 (0.026) | 0.020 (0.075) |
| Wholesale and retail trade | -0.107 (0.068) | 0.028 (0.036) | -0.045 (0.079) | 0.020 (0.078) | -0.026 (0.058) | -0.051* (0.031) | -0.026 (0.069) | -0.038 (0.033) | -0.061** (0.027) | -0.054 (0.076) |
| Hotels and restaurants, transport, storage and communication | -0.047 (0.068) | -0.008 (0.034) | -0.096 (0.079) | -0.018 (0.077) | -0.057 (0.059) | 0.021 (0.031) | -0.143** (0.065) | -0.000 (0.033) | -0.050* (0.028) | -0.005 (0.076) |
| Financial intermediation, real estate, renting and business activities | -0.083 (0.068) | 0.054 (0.033) | -0.124 (0.080) | -0.067 (0.083) | 0.003 (0.058) | 0.003 (0.031) | -0.097 (0.064) | 0.002 (0.033) | -0.017 (0.029) | 0.013 (0.076) |
| Education, health and social work | -0.070 (0.065) | 0.054* (0.031) | -0.089 (0.076) | -0.036 (0.076) | 0.000 (0.053) | 0.048* (0.029) | -0.073 (0.064) | 0.021 (0.033) | -0.015 (0.028) | 0.004 (0.073) |
| Public administration, defence, social security, extra-territorial bodies | -0.052 (0.068) | 0.054* (0.031) | -0.042 (0.084) | 0.038 (0.078) | -0.109* (0.060) | 0.019 (0.031) | -0.049 (0.065) | 0.002 (0.034) | -0.070** (0.029) | 0.025 (0.080) |
| N | 790 | 1632 | 632 | 420 | 600 | 2992 | 426 | 3132 | 3752 | 694 |
| Pseudo R-sq | 0.541 | 0.761 | 0.323 | 0.700 | 0.446 | 0.189 | 0.809 | 0.475 | 0.643 | 0.361 |

Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. Dependent variable is relative housework censored at 0 and 1. All models additionally control for year, month and day-of-the-week fixed effects. The estimates account for combined individual response and day weight.

Table A7 / Sample countries macro-level indicators of gender equality over the years when HETUS wave 2 (2010) was conducted

| Country | Year | Gender gap in employment, pp | Gender gap in part-time employment, pp | Children under 3 y.o. in childcare, % | Women in top management positions, % | Women in top governmental positions, % | Unadjusted gender wage gap, % |
|---------|------|------------------------------|--|---------------------------------------|--------------------------------------|--|-------------------------------|
| BE | 2013 | 10.20 | 31.60 | 46.00 | 16.70 | 39.70 | 7.50 |
| DE | 2013 | 9.50 | 43.50 | 28.00 | 21.50 | 35.70 | 22.10 |
| EE | 2009 | 10.40 | 6.20 | 25.00 | 6.40 | 21.80 | 27.60 |
| EL | 2013 | 19.50 | 7.80 | 14.00 | 8.40 | 21.00 | 15.00 |
| FI | 2009 | 2.20 | 10.20 | 27.00 | 23.60 | 40.00 | 20.80 |
| FR | 2010 | 7.90 | 24.90 | 43.00 | 12.30 | 20.40 | 15.60 |
| LU | 2014 | 12.90 | 30.90 | 49.00 | 11.70 | 28.30 | 5.40 |
| PL | 2013 | 13.70 | 6.00 | 5.00 | 12.30 | 22.30 | 7.10 |
| RO | 2012 | 17.20 | -0.80 | 15.00 | 7.80 | 9.90 | 6.90 |
| UK | 2014 | 9.80 | 12.00 | 28.90 | 24.20 | 23.70 | 20.90 |

Notes: The indicators are defined as (i) male-female gap in employment; (ii) female-male gap in part-time employment; (iii) male-female unadjusted wage gap; (iv) the percentage of children (under 3 years old) cared for by formal arrangements other than by the family; (v) share of female board members and executives in the largest publicly listed companies; and (vi) the proportion of women in national parliaments and national governments.

Sources: Macro-level indicators are available at <https://ec.europa.eu/eurostat/web/main/data/database>

Table A8 / Relative housework by relative worktime – Tobit regression estimates

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|--|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|----------------------|
| <i>Wife's relative worktime:</i> | [0,0.35] | [0.35-0.4] | [0.4-0.45] | [0.45-0.5] | [0.5-0.55] | [0.55-0.6] | [0.6,1] |
| Gender gap in relative housework | 0.706*** (0.011) | 0.574*** (0.019) | 0.583*** (0.013) | 0.388*** (0.007) | 0.100*** (0.009) | -0.062*** (0.019) | -0.355*** (0.017) |
| <i>Age (base: 20-24)</i> | | | | | | | |
| 25-29 | 0.062 (0.040) | -0.101 (0.082) | -0.102 (0.073) | -0.108** (0.049) | 0.062 (0.045) | -0.040 (0.178) | -0.028 (0.107) |
| 30-34 | 0.042 (0.039) | -0.174** (0.079) | 0.026 (0.071) | -0.108** (0.049) | 0.067 (0.044) | 0.191 (0.178) | 0.054 (0.107) |
| 35-39 | 0.051 (0.039) | -0.097 (0.078) | 0.024 (0.070) | -0.106** (0.049) | 0.102** (0.044) | -0.001 (0.177) | 0.001 (0.105) |
| 40-44 | 0.021 (0.040) | -0.155** (0.078) | -0.001 (0.070) | -0.106** (0.048) | 0.051 (0.044) | -0.002 (0.177) | -0.001 (0.106) |
| 45-49 | 0.027 (0.040) | -0.121 (0.078) | -0.012 (0.071) | -0.115** (0.048) | 0.102** (0.043) | 0.023 (0.176) | 0.037 (0.104) |
| 50-54 | 0.030 (0.041) | -0.121 (0.079) | 0.015 (0.071) | -0.057 (0.048) | 0.072 (0.044) | -0.003 (0.176) | -0.009 (0.105) |
| 55-59 | 0.033 (0.042) | -0.219*** (0.082) | -0.017 (0.071) | -0.132*** (0.049) | 0.062 (0.044) | 0.003 (0.176) | 0.030 (0.105) |
| 60-64 | 0.094** (0.046) | -0.144* (0.087) | -0.030 (0.076) | -0.030 (0.050) | 0.091* (0.049) | 0.021 (0.178) | -0.041 (0.110) |
| <i>Migration status (base: foreign-born)</i> | | | | | | | |
| Born in country | 0.004 (0.019) | 0.032 (0.037) | 0.030 (0.025) | -0.024 (0.016) | 0.074*** (0.020) | 0.073 (0.052) | -0.138*** (0.046) |
| <i>Education (base: low)</i> | | | | | | | |
| Education medium | -0.014 (0.019) | -0.022 (0.033) | -0.012 (0.022) | 0.015 (0.013) | -0.012 (0.016) | 0.051* (0.029) | 0.018 (0.030) |
| Education high | -0.021 (0.020) | 0.040 (0.035) | -0.043* (0.023) | 0.002 (0.015) | -0.022 (0.018) | 0.001 (0.032) | -0.009 (0.033) |
| <i>Household size (base: 2 persons)</i> | | | | | | | |
| 3 persons | 0.003 (0.015) | 0.019 (0.024) | -0.008 (0.017) | 0.002 (0.010) | -0.001 (0.013) | 0.007 (0.027) | -0.018 (0.025) |
| 4 persons | 0.000 (0.019) | -0.006 (0.033) | -0.020 (0.021) | 0.002 (0.012) | -0.006 (0.016) | 0.010 (0.036) | -0.022 (0.030) |
| 5 or more persons | -0.004 (0.024) | -0.005 (0.041) | -0.009 (0.026) | -0.001 (0.016) | -0.002 (0.022) | 0.011 (0.047) | -0.029 (0.041) |
| <i># of children aged 0 to 6 (base: 0)</i> | | | | | | | |
| 1 child | -0.007 (0.014) | -0.003 (0.024) | 0.001 (0.016) | 0.014 (0.011) | 0.011 (0.015) | -0.032 (0.029) | 0.016 (0.028) |
| 2 or more children | -0.002 (0.021) | -0.027 (0.039) | 0.010 (0.028) | 0.027 (0.019) | 0.022 (0.023) | -0.032 (0.047) | 0.003 (0.043) |
| <i># of children aged 7 to 17 (base: 0)</i> | | | | | | | |
| 1 child | 0.007 (0.013) | -0.013 (0.025) | 0.001 (0.015) | 0.003 (0.010) | 0.006 (0.013) | 0.003 (0.028) | 0.007 (0.023) |
| 2 or more children | 0.008 (0.019) | 0.004 (0.034) | 0.008 (0.021) | 0.015 (0.015) | 0.001 (0.018) | 0.004 (0.039) | 0.022 (0.034) |
| <i>Household net income band (base: <P20)</i> | | | | | | | |
| P20 to P40 | 0.020 (0.079) | 0.039 (0.165) | -0.017 (0.131) | -0.006 (0.046) | -0.005 (0.051) | -0.055 (0.178) | 0.021 (0.103) |
| P40 to P60 | 0.006 (0.076) | 0.015 (0.161) | -0.006 (0.129) | 0.010 (0.037) | -0.020 (0.048) | -0.011 (0.140) | -0.004 (0.089) |
| P60 to P80 | 0.001 (0.075) | 0.003 (0.160) | -0.004 (0.128) | 0.007 (0.036) | -0.025 (0.046) | -0.026 (0.138) | -0.002 (0.087) |
| >P80 | 0.004 (0.075) | 0.012 (0.160) | -0.002 (0.128) | 0.005 (0.036) | -0.022 (0.046) | -0.024 (0.138) | -0.002 (0.087) |

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Table A8 / Continued

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|-------------------|---------------------|--------------------|-------------------|-------------------|---------------------|----------------------|
| <i>Wife's relative worktime:</i> | [0,0.35] | [0.35-0.4] | [0.4-0.45] | [0.45-0.5] | [0.5-0.55] | [0.55-0.6] | [0.6,1] |
| <i>Employment type (base: part-time)</i> | | | | | | | |
| Full-time | 0.010 (0.011) | -0.047** (0.022) | 0.032** (0.014) | 0.016 (0.010) | 0.021* (0.012) | 0.015 (0.023) | -0.062*** (0.020) |
| <i>Industry (base: other community, social & personal services)</i> | | | | | | | |
| Agriculture, fishing, mining & quarrying, utility supply | 0.005 (0.025) | 0.111** (0.053) | -0.010 (0.036) | 0.010 (0.023) | -0.041 (0.031) | 0.108 (0.076) | -0.040 (0.066) |
| Manufacturing and construction | -0.009 (0.018) | 0.024 (0.040) | -0.001 (0.023) | -0.001 (0.018) | -0.018 (0.026) | 0.086* (0.050) | 0.012 (0.048) |
| Wholesale and retail trade | -0.017 (0.020) | 0.093** (0.043) | -0.037 (0.026) | -0.009 (0.020) | -0.040 (0.027) | -0.036 (0.053) | -0.063 (0.050) |
| Hotels and restaurants, transport, storage and communication | -0.030 (0.019) | -0.021 (0.045) | -0.002 (0.026) | -0.031 (0.020) | -0.035 (0.028) | 0.060 (0.052) | -0.019 (0.048) |
| Financial intermediation, real estate, renting and business activities | 0.008 (0.019) | 0.093** (0.044) | 0.011 (0.025) | -0.017 (0.019) | 0.031 (0.027) | 0.017 (0.051) | 0.049 (0.050) |
| Education, health and social work | 0.014 (0.017) | 0.039 (0.041) | 0.014 (0.023) | -0.013 (0.019) | 0.008 (0.026) | 0.043 (0.047) | 0.014 (0.047) |
| Public administration, defence, social security, extra-territorial bodies | -0.003 (0.019) | 0.070* (0.042) | -0.004 (0.023) | -0.006 (0.019) | -0.030 (0.026) | 0.132*** (0.050) | -0.008 (0.048) |
| N | 1477 | 915 | 1758 | 4892 | 3912 | 938 | 1178 |
| Pseudo R-sq | 1.145 | 0.649 | 0.701 | 0.454 | 0.063 | 0.127 | 0.297 |

Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. Dependent variable is relative housework censored at 0 and 1. All models additionally control for year, month, day-of-the-week and country-fixed effects. The estimates account for combined individual response and day weight.

Table A9 / Relative worktime by relative housework – Tobit regression estimates

| | (1) | (2) | (3) | (4) | (5) | (6) |
|--|----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| <i>Wife's relative housework:</i> | [0,0.4] | [0.4,0.53] | [0.53,0.66] | [0.66,0.8] | [0.8,1] | 1 |
| Gender gap in relative worktime | 0.126*** (0.004) | 0.026*** (0.004) | -0.022*** (0.004) | -0.102*** (0.004) | -0.168*** (0.005) | -0.132*** (0.004) |
| <i>Age (base: 20-24)</i> | | | | | | |
| 25-29 | 0.015 (0.021) | -0.037 (0.027) | -0.002 (0.035) | 0.018 (0.017) | 0.025 (0.022) | -0.050 (0.032) |
| 30-34 | 0.024 (0.021) | -0.009 (0.027) | -0.020 (0.035) | 0.023 (0.017) | 0.041* (0.022) | -0.035 (0.032) |
| 35-39 | 0.037* (0.020) | -0.008 (0.027) | -0.014 (0.034) | 0.032* (0.017) | 0.056** (0.022) | -0.038 (0.032) |
| 40-44 | 0.029 (0.020) | -0.016 (0.027) | -0.015 (0.034) | 0.022 (0.017) | 0.041* (0.022) | -0.031 (0.032) |
| 45-49 | 0.021 (0.020) | -0.014 (0.027) | -0.005 (0.034) | 0.019 (0.017) | 0.046** (0.022) | -0.040 (0.032) |
| 50-54 | 0.031 (0.021) | -0.005 (0.027) | -0.009 (0.034) | 0.016 (0.017) | 0.045** (0.022) | -0.032 (0.032) |
| 55-59 | 0.025 (0.021) | 0.003 (0.027) | -0.012 (0.035) | 0.028 (0.017) | 0.040* (0.023) | -0.038 (0.032) |
| 60-64 | -0.001 (0.022) | -0.025 (0.027) | -0.004 (0.035) | 0.014 (0.019) | 0.034 (0.024) | -0.086** (0.033) |
| <i>Migration status (base: foreign-born)</i> | | | | | | |
| Born in country | 0.014 (0.010) | -0.015 (0.010) | -0.004 (0.009) | -0.008 (0.009) | -0.015 (0.010) | -0.007 (0.007) |
| <i>Education (base: low)</i> | | | | | | |
| Education medium | 0.006 (0.008) | 0.002 (0.007) | 0.009 (0.006) | -0.024*** (0.007) | -0.003 (0.009) | 0.002 (0.007) |
| Education high | 0.026*** (0.009) | -0.003 (0.007) | 0.009 (0.007) | -0.005 (0.008) | -0.006 (0.010) | 0.006 (0.007) |
| <i>Household size (base: 2 persons)</i> | | | | | | |
| 3 persons | 0.008 (0.007) | -0.002 (0.005) | 0.001 (0.004) | 0.010* (0.006) | 0.002 (0.006) | -0.001 (0.006) |
| 4 persons | 0.006 (0.008) | 0.000 (0.006) | 0.005 (0.006) | 0.011 (0.008) | -0.002 (0.007) | -0.001 (0.007) |
| 5 or more persons | 0.011 (0.011) | 0.000 (0.008) | 0.003 (0.008) | 0.010 (0.010) | 0.002 (0.009) | -0.001 (0.009) |
| <i># of children aged 0 to 6 (base: 0)</i> | | | | | | |
| 1 child | -0.007 (0.007) | 0.005 (0.006) | 0.005 (0.005) | -0.003 (0.006) | 0.005 (0.006) | -0.006 (0.006) |
| 2 or more children | -0.007 (0.010) | -0.000 (0.009) | 0.009 (0.008) | -0.002 (0.010) | 0.011 (0.009) | 0.004 (0.010) |
| <i># of children aged 7 to 17 (base: 0)</i> | | | | | | |
| 1 child | -0.011* (0.006) | 0.001 (0.005) | 0.002 (0.005) | 0.003 (0.006) | 0.001 (0.006) | -0.005 (0.005) |
| 2 or more children | -0.009 (0.009) | 0.005 (0.007) | 0.004 (0.007) | 0.004 (0.008) | 0.007 (0.008) | -0.000 (0.008) |
| <i>Household net income band (base: <P20)</i> | | | | | | |
| P20 to P40 | -0.020 (0.031) | 0.004 (0.026) | 0.003 (0.022) | 0.017 (0.032) | 0.007 (0.025) | 0.007 (0.024) |
| P40 to P60 | -0.021 (0.029) | -0.002 (0.024) | 0.002 (0.019) | 0.018 (0.028) | 0.009 (0.023) | -0.007 (0.022) |
| P60 to P80 | -0.025 (0.028) | 0.003 (0.024) | 0.001 (0.019) | 0.003 (0.027) | 0.005 (0.023) | -0.008 (0.021) |
| >P80 | -0.031 (0.028) | -0.001 (0.024) | -0.000 (0.019) | -0.001 (0.027) | 0.004 (0.022) | -0.008 (0.021) |

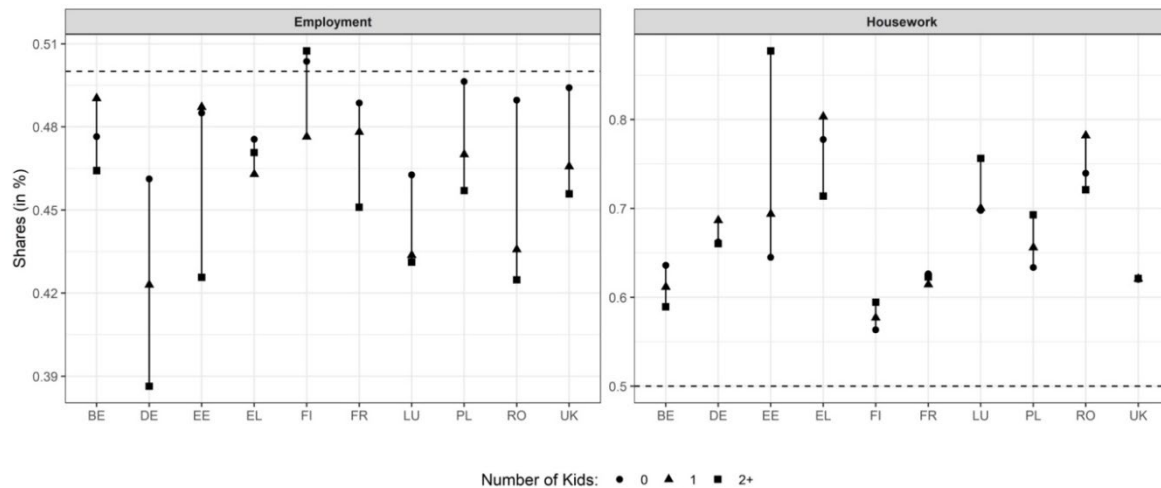
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Table A9 / Continued

| <i>Wife's relative housework:</i> | (1) [0,0.4] | (2) [0.4,0.53] | (3) [0.53,0.66] | (4) [0.66,0.8] | (5) [0.8,1] | (6) 1 |
|---|---------------------|----------------------|----------------------|---------------------|---------------------|----------------------|
| <i>Employment type (base: part-time)</i> | | | | | | |
| Full-time | 0.014*** (0.005) | 0.022*** (0.004) | 0.031*** (0.004) | 0.049*** (0.005) | 0.041*** (0.005) | 0.066*** (0.005) |
| <i>Industry (base: other community, social & personal services)</i> | | | | | | |
| Agriculture, fishing, mining & quarrying, utility supply | 0.006 (0.016) | -0.021* (0.011) | -0.039*** (0.010) | -0.020 (0.013) | 0.010 (0.013) | -0.014 (0.013) |
| Manufacturing and construction | 0.012 (0.012) | -0.018** (0.009) | -0.018** (0.007) | 0.026** (0.010) | 0.020* (0.010) | -0.014* (0.008) |
| Wholesale and retail trade | 0.004 (0.013) | -0.011 (0.010) | -0.014* (0.008) | 0.001 (0.011) | 0.003 (0.011) | -0.007 (0.009) |
| Hotels and restaurants, transport, storage | 0.012 (0.012) | -0.031*** (0.009) | -0.006 (0.008) | -0.003 (0.011) | 0.032*** (0.011) | -0.029*** (0.009) |
| Financial intermediation, real estate, renting activities | 0.025* (0.013) | -0.010 (0.010) | -0.017** (0.008) | 0.005 (0.010) | 0.002 (0.011) | -0.020** (0.009) |
| Education, health and social work | 0.016 (0.012) | -0.014 (0.009) | -0.029*** (0.008) | 0.009 (0.010) | 0.002 (0.010) | -0.021** (0.009) |
| Public administration, defence, social security | 0.007 (0.012) | -0.014 (0.009) | -0.034*** (0.008) | 0.020* (0.010) | 0.003 (0.010) | -0.018* (0.009) |
| N | 2285 | 2185 | 2544 | 2534 | 2738 | 2784 |
| Adjusted R-sq | -0.610 | -0.040 | -0.072 | -0.748 | -3.151 | -1.174 |

Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. Dependent variable is relative worktime censored at 0 and 1. All models additionally control for year, month, day-of-the-week and country-fixed effects. The estimates account for combined individual response and day weight.

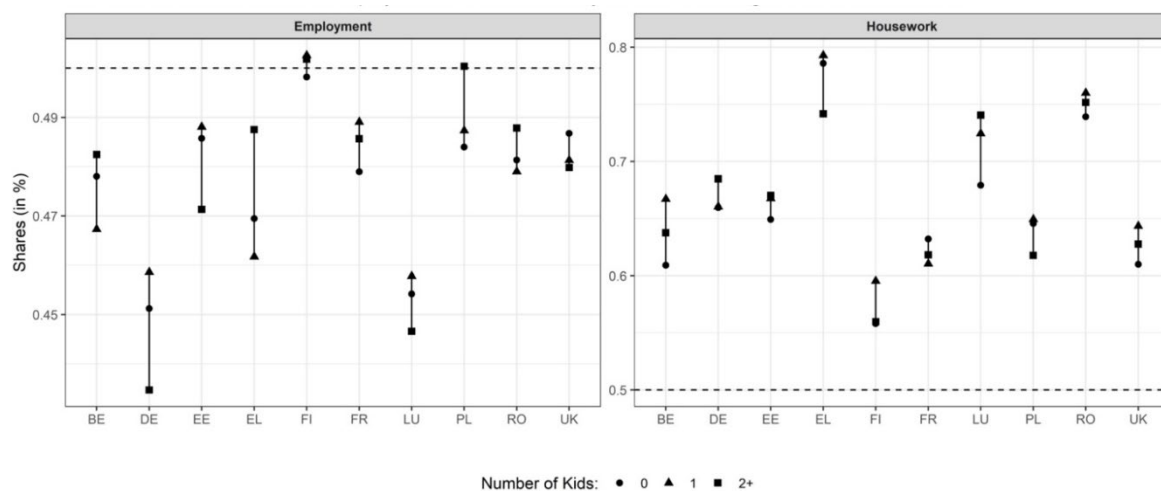
Figure A1 / Wife's relative worktime and housework by number of children aged 0 to 6 in household and by country



Notes: Relative contribution is estimated as the wife's share in the combined total time spent by both spouses on paid work and housework activities

Source: HETUS wave 2 (2010) data, own calculations

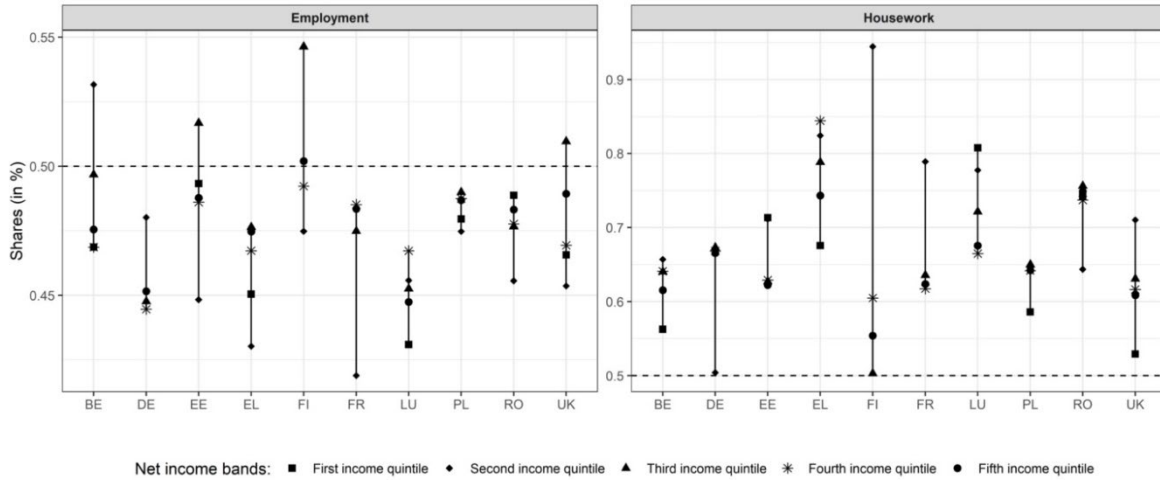
Figure A2 / Wife's relative worktime and housework by number of children aged 7 to 17 in household and by country



Notes: Relative contribution is estimated as the wife's share in the combined total time spent by both spouses on paid work and housework activities

Source: HETUS wave 2 (2010) data, own calculations

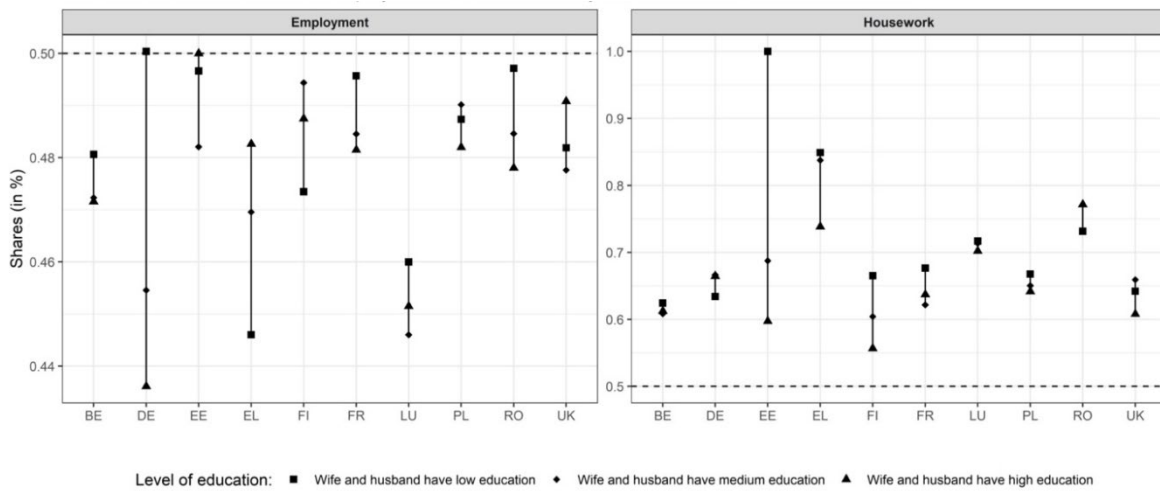
Figure A3 / Wife's relative worktime and housework by household net income bands and by country



Notes: Relative contribution is estimated as the wife's share in the combined total time spent by both spouses on paid work and housework activities

Source: HETUS wave 2 (2010) data, own calculations

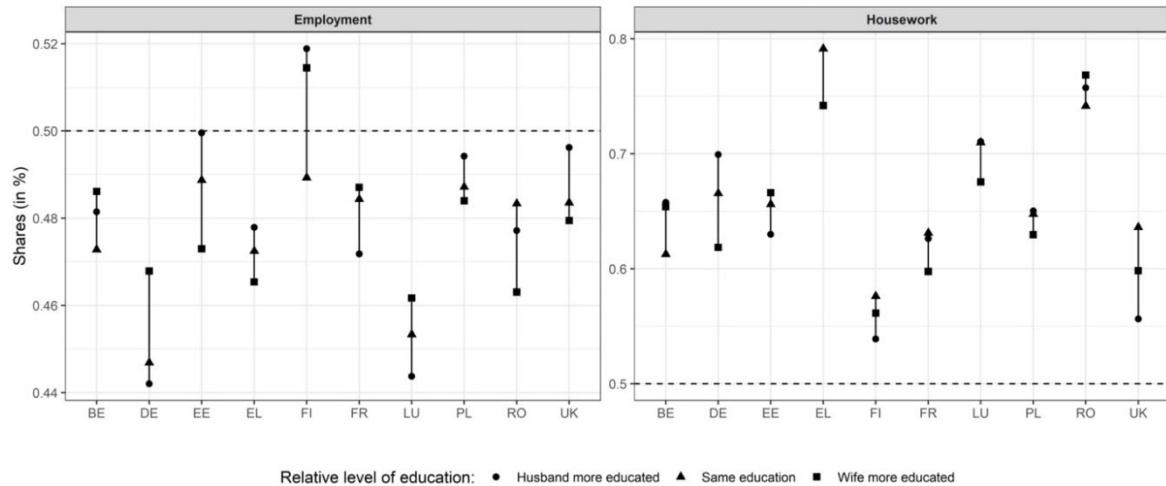
Figure A4 / Wife's relative worktime and housework by wife and husband level of education and by country



Notes: Relative contribution is estimated as the wife's share in the combined total time spent by both spouses on paid work and housework activities

Source: HETUS wave 2 (2010) data, own calculations

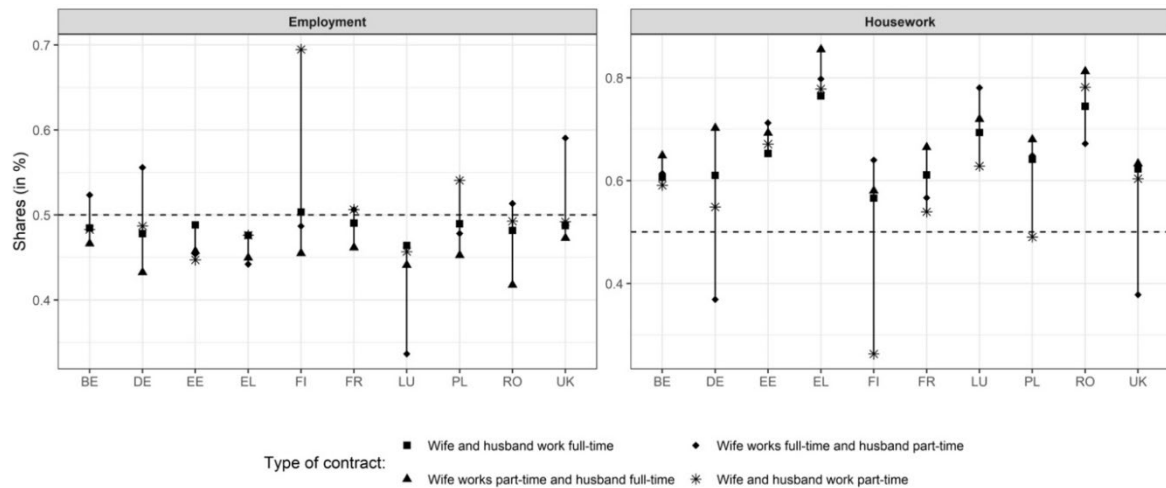
Figure A5 / Wife's relative worktime and housework by wife-husband education gap and by country



Notes: Relative contribution is estimated as the wife's share in the combined total time spent by both spouses on paid work and housework activities

Source: HETUS wave 2 (2010) data, own calculations

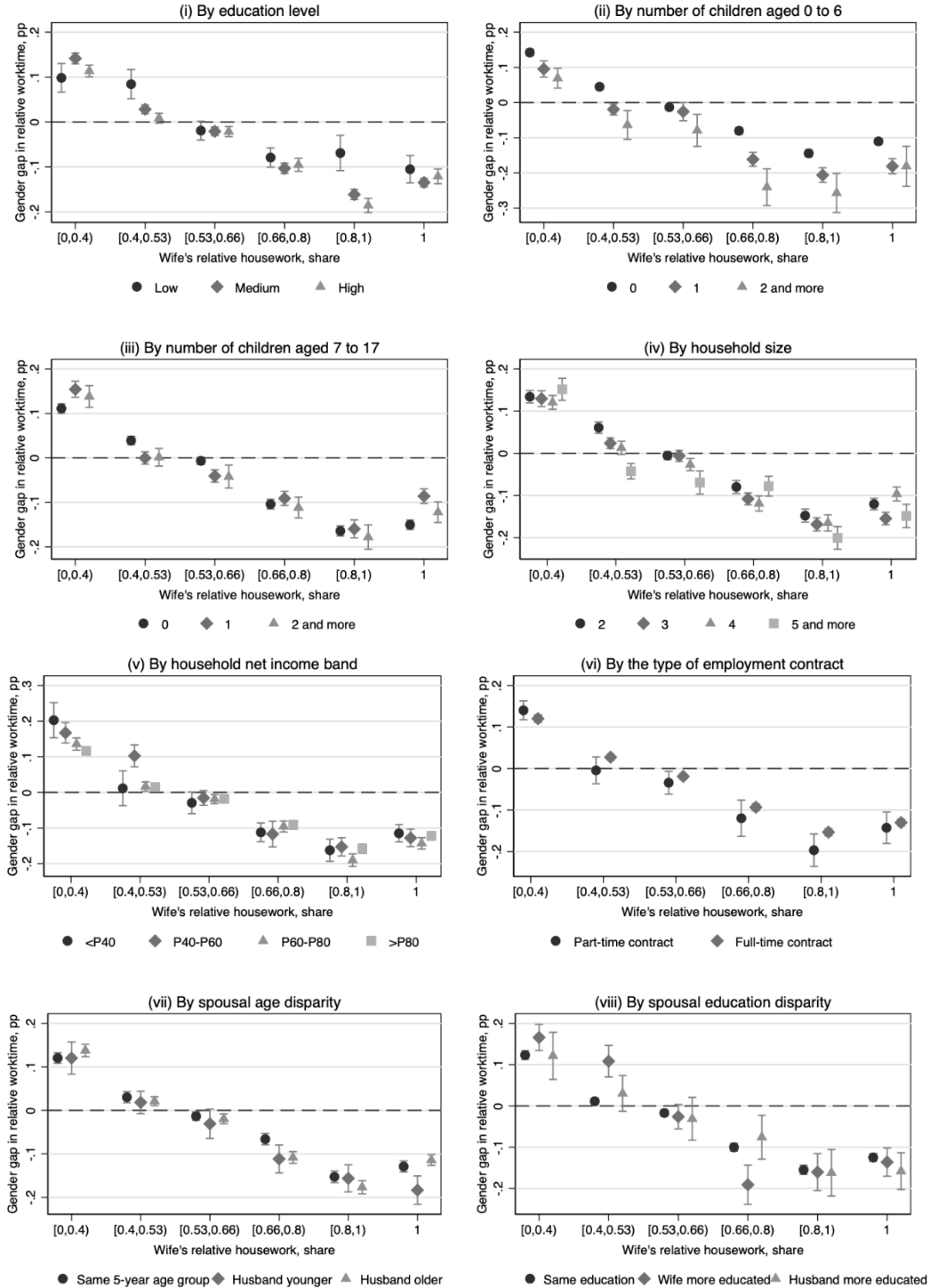
Figure A6 / Wife's relative worktime and housework by wife's and husband's type of employment and by country



Notes: Relative contribution is estimated as the wife's share in the combined total time spent by both spouses on paid work and housework activities

Source: HETUS wave 2 (2010) data, own calculations

Figure A7 / Gender gap in relative worktime by wife’s relative housework by background characteristics – Tobit regression estimates on pooled country sample



Notes: Tobit regression estimates based on HETUS wave 2 (2010) data. The dependent variable is relative worktime censored at 0 and 1. The point estimates are reported with 95% confidence intervals. The gender gaps are estimated controlling for gender, age group, education level, migration status (being born in the survey country), household size, number of children aged 0 to 6, number of children aged 7 to 17, household net income band, full-time employment and industry of employment as well as year, month, day-of-the-week and country-fixed effects. The estimates account for combined individual response and day weight.

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