Economic exchange or gender identities? Housework division and wives' economic dependency in different contexts*,**

Abstract

This paper explores cross-country variation in the relationship between division of housework and wives' relative economic contribution. Using ISSP 2012 data from 19 countries, we examined the effect of two contextual factors: women's employment rates, which we link to economic exchange theories; and gender ideology context, which we link to cultural theories. In line with economic-based theories, economic exchange between housework and paid work occurs in all countries—but only in households which follow normative gender roles. However, and consistent with the cultural-based theory of "doing gender", wives undertake more housework than their spouses in all countries—even if they are the main or sole breadwinners. This universal gendered division of housework is significantly more salient in more conservative countries; as the context turns more conservative, the gender gap becomes more pronounced, and the relationship between paid and unpaid work further removed from the economic logic. However, in gender-egalitarian societies women have more power in negotiating housework responsibilities in non-normative gender role households. In contrast to gender ideology, the cross-country variations in women's employment did not follow the expectations that derive from the economic exchange theory.

* This research was funded by the generous support of the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program (Grant Agreement No. 724351).

** This is a pre-copyedited, author-produced version of an article published in *European Sociological Review* following peer review. The version of "Mandel, Hadas, Amit Lazarus and Maayan Shaby. 2020. "Economic Exchange or Gender Identities? Housework Division and Wives' Economic Dependency in Different Contexts." *European Sociological Review.*" is available online at: *https://doi.org/10.1093/esr/jcaa023*

Introduction

The rise in women's labor force participation has not been accompanied by a complementary change in the division of housework. Whereas the convergence between men and women with regard to the amount of time spent in paid work is quite striking, household tasks remain primarily the responsibility of women. Because the relative household economic contribution of wives and husbands[1] is an important predictor of the gendered division of housework (for reviews, see: Lachance-Grzela and Bouchard 2010), and given the incongruence of these changes, extensive research has been devoted to understanding the relationship between household division of labor and spouses' relative economic contribution.

Scholars exploring the relationship between the division of housework and economic contribution point to two opposing dynamics (Sayer 2010). On the one hand, bargaining models emphasize an economic dynamic as the key determinant of the division of housework. These models—albeit with some differences—suggest that the division of housework results from a negotiation between the spouses based on valued resources, wherein housework is provided in exchange for economic or other resources (Aassve, Fuochi and Mencarini 2014; Brines 1994; Blood and Wolfe 1960). On the other hand, cultural perspectives such as "doing gender" (called also "gender display") suggest that household labor division not only reflects the spouses' economic bargaining power, but also confirms and reinforces the gendered identity of wives and husbands in heterosexual relationships (Procher, Ritter and Vance 2017; West and Zimmerman 1987).

Our theoretical and empirical motivation is to test the explanatory power of the economic and the cultural theories as country-level mechanisms, within a wide cross-country comparative framework, unlike most other studies, which examine the two theories at the household-level (e.g., Hook 2017; Schneider 2011; Bittman et al. 2003; Greenstein 2000; Brines 1994). To this end, we analyzed data from 19 countries, using the most recent "Family and Changing Gender Roles" module (2012) of the International Social Survey Program (hereafter: ISSP). The nontrivial differences between countries with regard to both the division of household tasks and the relative economic contribution of spouses provides an ideal basis for such an assessment (Sayar 2016; Aassve, Fuochi and Mencarini 2014; Kan, Sullivan and Gershuny 2011).

In a nutshell, our study addresses the importance of two country-level mechanisms: women's labor force participation rates, which we link to economic exchange theories; and the gender ideology context, which we link to cultural theories. Our theatrical rational is twofold: Based on the different relationship between housework and paid work that each theory proposes

at the individual level, we expect women's participation rates and the prevailing gender ideology context to affect the gender gap in housework as well as the association between paid work and housework. The two country-level mechanisms, however, may also have a distinctive and contextual effect that extends beyond the aggregated individual-level effect.

In line with previous studies, our findings show that in households where gender roles are not violated—that is, when the wife earns less than her spouse—theories built on power relations and exchange accurately describe the relationship between paid and unpaid work. However, when gender norms are violated—as is the case in households where the wife earns more than her spouse—the wife still does more housework, even if she is the sole breadwinner. This implies that economic considerations only influence gender relations up to the point where gender boundaries are challenged. Generally speaking, this dynamic presents in all countries. However, the degree and pattern to which this dynamic manifests varies systematically across countries, in line with the prevailing gender ideology context—but not with women's labor force participation rates. While the average gap in housework provision was not found to vary systematically with participation rates, we found that the gender gap in housework provision tended to be largest in countries characterized by a conservative gender ideology, and smallest in countries characterized by an egalitarian gender ideology (even among households espousing similar gender ideology).

Furthermore, our findings demonstrate the different patterns of the relationship between paid and unpaid work in more/less egalitarian countries, including limited evidence of compensatory effect—a highly disputed phenomenon in the literature (Hook 2017; Procher, Ritter and Vance 2017; Schneider 2011; Sullivan 2011). This dynamic presents only in the most gender conservative countries, and only among women. By showing that conservative gender ideology affects the household division of labor, our findings emphasize the significance of macro-level mechanisms, the way that they interact with micro-level mechanisms, and how both shape family behavior and patterns of gender in/equality in households.

Micro-level explanations

Economic exchange theories: The resources to negotiate housework

Economic exchange theories are perhaps most commonly cited in explaining housework division (for reviews, see: Lachance-Grzela and Bouchard 2010; Coltrane 2000; Shelton and John 1996). According to these theories, the division of housework stems from a rational negotiation between the spouses, based on their relative economic position. To maximize the household's economic

potential—or, conversely, the individual's prerogative to avoid household labor—the spouse with the higher relative labor market resources devotes more time to paid work, whereas the spouse with fewer advantages in the market devotes more time to household tasks (Becker 1985).

While various exchange theories define "spouses' advantages" slightly differently, they all share an economic exchange rationale. Based on "relative resources," the spouse with the greater earnings-related resources does less housework. "Relative resources" are frequently determined by the spouses' relative economic contributions (e.g., "economic dependency" Brines 1993), but are not limited to earnings alone. Educational attainment and occupational prestige are both resources that influence negotiations regarding household labor (Schneider 2012; Lachance-Grzela and Bouchard 2010; Shelton and John 1996). The "time availability" perspective is also related to exchange theories, as it emphasizes the amount of time spent in paid labor as a determinant of housework, thus taking into account paid work on the one hand and time constraints on the other (Shelton and John 1996). In contrast to relative resources—albeit not economic resources—Gupta (2007; 2006) stresses the importance of women's own earnings to their housework hours, arguing that women's absolute—rather than relative—earnings are a better predictor of the amount of time they invest in household labor.

In theory, economic exchanges as described above are gender-blind: both men and women can be either providers or dependents, contingent on personal advantage in the labor market. In practice, however, the exchange between the partners occurs within a socially gendered context, one in which women are more often the dependent spouse and men the providers (Brines 1994). Moreover, the gendered division of housework is strengthened by gendered institutional arrangements in labor markets generally. This is because employment practices and labor market structures are themselves built on the assumption that wives, and not husbands, are economically dependent (Acker 1988).

Studies have found empirical support for economic exchange theories, as well as for the asymmetrical manifestation of economic exchange. In line with the economic exchange rationale, the smaller the gap in income between spouses, the more egalitarian the division of household labor (Procher, Ritter and Vance 2017; Aassve, Fuochi and Mencarini 2014; Evertsson and Nermo 2007; Presser 1994; Kamo 1988). This pattern, however, is asymmetrical; while the amount of housework undertaken by wives is strongly affected by their dependency level, the amount of housework undertaken by husbands is less closely related to their labor market income (Sayer 2016; Bittman et al. 2003; Greenstein 2000; Brines 1994). Similarly, studies have identified a

negative association between women's paid working hours and time spent on housework, as suggested by the "time availability" perspective (Aassve, Fuochi and Mencarini 2014; Kan 2008a; Acock and Demo 1994; Brines 1993). However, studies also show that women continue to do the majority of housework even if they undertake similar–or even more–hours of paid work as their spouses (Kan, Sullivan and Gershuny 2011; Gough and Killewald 2011).

Cultural theories: The "Doing gender" of housework

A different, perhaps contrary, description of the division of labor is proposed by the "doing gender" approach. In contrast to the economic rationale that underpins exchange theories, the "doing gender" approach explains the division of labor between wives and husbands in terms of gender relations, manifested and reaffirmed by symbolic presentations of gender roles (Davis and Greenstein 2009; South and Spitze 1994; West and Zimmerman 1987). Marriage, according to this approach, is a stage upon which both men and women express and enhance their gender identities. Since housework is socially constructed as "feminine" while the role of main breadwinner is linked to masculinity, the routine performance of housework, when undertaken by women and not by men, confirms and reinforces the gendered "nature" of each spouse (Brines 1994; West and Zimmerman 1987). In order to adjust to the prevailing cultural and social norms, working wives do most of the housework—even if the amount of time they invest in paid work and their relative economic contribution is the same, or higher, than their husbands (Lachance-Grzela and Bouchard 2010; Fuwa 2004).

A specific and more extreme case of the "doing gender" dynamic is the notion of "compensation" (also termed "gender-deviance neutralization" (GDN): Hook 2017; Sullivan 2011). According to this idea, when one spouse "violates" the gender role assigned to him/her in one sphere, he/she will "compensate" for this violation by intensifying gender-appropriate behavior in another sphere (Schneider 2012). Thus, in households where the woman is the single or main breadwinner, she might compensate for this gender "deviance" by increasing the amount of housework she undertakes, while her male spouse, concomitantly, might reduce his share of housework in order to preserve his "masculine" gender identity (Schneider 2011; Greenstein 2000).

Researchers directly comparing the "doing gender" theory and "economic exchange" theories at the individual level have found plentiful evidence in support of both (e.g., Hook 2017; Aassve, Fuochi and Mencarini 2014; Kan 2008a; Evertsson and Nermo 2004; Brines 1994).

However, empirical evidence for the "compensation" process is limited and disputed. This evidence has, broadly speaking, been found to be sensitive to gender (only among women (Bittman et al. 2003)), countries (as discussed below), class or employment (lower-income households, or long-term unemployed husbands (Sullivan 2011; Gupta 2007)). Some scholars have even claimed that evidence presented for the compensation theory is merely an artifact of model misspecification (Killewald and Gough 2010; Gupta and Ash 2008; Kan 2008a).

Cross-country comparisons of economic exchange and housework division, and the relationship between the two

Research in recent years has shown that even though the gendered division of labor is still widespread, there are nontrivial differences between countries with regard to the division of housework tasks, as well as in the economic contributions of spouses (Kan, Sullivan and Gershuny 2011, Geist and Cohen 2011). Nonetheless, most of the existing comparative cross-country studies focus on one of two outcomes. Studies which addressed the explanatory power of these opposing theories usually drew their data from a single country, most commonly but not exclusively the U.S., or made comparisons between the U.S. and another single country. While studies in most countries provide support for both theories, the pattern of the relationship varies by country and findings regarding the compensation phenomena are, again, inconsistent and highly context-dependent. Bittman et al. (2003), who conducted a comparative study of the U.S. and Australia, found evidence for both the economic exchange and the "doing gender" models in both countries, but only in Australia with regard to the compensation effect. Evertsson and Nermo (2004), comparing the U.S. and Sweden, similarly found evidence in support of the exchange model in both countries, and also that the effect of women's economic gains decline when women are the main breadwinners. In common with the findings of Brines (1994) and Greenstein (2000) in the US (but not Bittman et al. (2003)), evidence for compensation was found in the U.S. (among women) but not in Sweden. Compensation, among U.S. women, was again strongly reaffirmed by Schneider (2011), which employed high-quality time use surveys. Using the same data, Hook (2017) found evidence for the "doing gender" dynamic (i.e., the diminishing effect of women's (high) earnings on the amount of housework they undertook); but once again, refuted the notion of a compensatory dynamic, even with regard to U.S. women. Examining a U.K. sample, Kan (2008a) reaffirmed economic exchange for both men and women, and rejected the notion of compensatory behavior by both genders. Aassve, Fuochi and Mencarini (2014) found evidence of

the compensation effect in Belgium, France, Romania and Russia, but not in Norway, Bulgaria and Procher, Ritter and Vance (2017) found strong evidence of compensation among German women.

These inconsistent findings have motivated us to develop and empirically test theoretical expectations regarding the relationship between the two dynamics. In contrast to the studies cited above, we do not examine the two dynamics at the household-level within each country, but rather variations in these dynamics at the country level. Specifically, we address the potential impact of two macro-level mechanisms—women's labor force participation, and gender ideologies—by linking the former to the "economic exchange" model and the latter to the ”doing gender‟ model, each providing different explanations for the relationship between economic dependency and the division of housework as detailed above. In Figure 1 we summarize our analytical framework, as developed in the two sub-chapters below.

*** Figure 1 here ***

Women’s labor force participation, and the relationhip between spouse’s paid and unpaid work

The micro-level economic explanations discussed above all predict a negative correlation between a spouse’s paid and unpaid work; Participation of a woman in paid work increases her relative resources, and thus her ability to bargain in favor of less housework (Lachance-Grzela and Bouchard 2010). It also increases her economic autonomy; and from this, her ability to outsource chores and decreases her own housework (Gupta 2007). Women's employment also increases their specialization and time spent in paid labor, thus reducing their share of housework (Davis, Greenstein and Gerteisen Marks 2007).

Most cross-country comparative studies, however, do not directly examine the effect of women’s labor force participation rates on the division of housework; rather, they tend to focus on the effect of policies intended to increase women’s labor force participation on the division of housework (For reviews, see: Cooke and Baxter 2010; Lachance-Grzela and Bouchard 2010). The findings of these studies are not uniform (Crompton, Brockmann and Lyonette 2005). While paternal leave policies, the abolition of discriminatory regulations, and the presence of a large public sector have been found to promote an egalitarian division of housework (Fuwa and Cohen 2007; Hook 2006; Iversen and Rosenbluth 2006), other policies, such as extended maternity leave and the prevalence of childcare, were found to have an insignificant effect on household division of labor (Stier and Lewing-Epstien 2007)—or, in some cases, to even push away from an egalitarian

division (Fuwa and Cohen 2007; Hook 2006; Kitterød and Pettersen 2006; Windebank 2001). Assessments of the direct relationship between women's employment and the division of houswork, rather than the indirect effect of policies, has also led to inconsistent conclusions. Hook (2006), which focuses on the amount of housework undertaken by men, found (after controlling for individual resources) that in countries with high levels of married women in employment, men spend more time on housework. Fuwa (2004), on the other hand, did not find any equalizing effect of women's participation rates, neither on the division of housework nor on the relationship between spouse's relative income and relative housework.

The limited research and inconsistent results mentioned above limit our ability to form theoretical expectations regarding the moderating effect of women's participation rates on the relationship between relative economic contribution and the division of housework. However, based on the micro-level economic explanations mentioned above—which predict a negative association between the two variables—we expect that in countries where more women are economically active, the gender gap in housework will be lower.

This expectation is not solely based on the aggregate individual-level effect, but is also strengthened by a possible contextual effect—high employment rates for women may signal to all men and women that women, in these contexts, have more employment opportunities. This, the argument continues, may increase the bargaining power of all women—including the non-employed (Hook 2006). Thus, in countries with higher participation rates of women, there is not only a smaller portion of totally dependent wives, but also the relatively small number of economically dependent wives are empowered by their potential employment opportunities. If this is true, then the housework gap is expected to be smaller in countries where more women participate in paid work (as women's employment opportunities empower all women). However, the association between paid and unpaid work might be weaker (as the housework gap in male breadwinner households is expected to be even smaller in countries with more employment opportunities, compared to other countries).

Our focus on women's labor force participation is also motivated by significant changes in cross-country variation in recent decades. While differences in women's labor force participation rates, even across countries with similar GDP values, are still significant (OECD 2015: 111-122; Olivetti 2014; Van der Lippe 2010), much steeper increases in participation rates have been recorded in several conservative countries such as the Netherlands, Germany, Spain and Italy (Gehringer and Klasen 2017; Van der Lippe 2010). These changes, which suggest a convergence

between countries, may imply that participation rates are no longer a key explanatory factor. Given these changes, one might add that differences among countries in the amount of time devoted to paid employment (rather than paid employment per se) better reflect cross-country discrepancies in women's employment. Acknowledging this, and the significance of time availability with regard to the relationship between our two main variables, we have included an additional analysis in the current research, using women's full-time employment.

Gender ideology and the relationship between spouse's paid and unpaid work

Economic-based theories do not explain why women with similar resources and time constraints as their spouses still undertake more housework (Lachance-Grzela and Bouchard 2010; Lincoln 2008; Fuwa 2004; Brayfield 1992). As discussed above, the "doing gender" perspective bridges this gap by arguing that gender is produced and reproduced through (among other factors) gender-differentiated household tasks (Sayer 2016; Kan, Sullivan and Gershuny 2011). Following this line of thinking, dispositions regarding "who does what" are driven more by cultural than by economic factors. Empirical evidence in support of these claims can be found in studies demonstrating that women with egalitarian gender role attitudes do less housework than women with traditional attitudes; and that men with egalitarian attitudes spend more time on housework than men with traditional attitudes (Davis and Greenstein 2009; Davis, Greenstein and Gerteisen Marks 2007).

Based on the findings at the individual level, we expect gender egalitarianism to reduce the gender gaps in the division of housework. Kan, Kolpashnikova and Tai (2019) recently demonstrated that this association is more complex, as it interacts with the countries' stage on the second demographic transition. Nevertheless, their findings still show that broadly speaking, a gender egalitarian context goes hand-in-hand with a more egalitarian division of housework across all stages of the transition (Kan, Kolpashnikova and Tai 2019: 22-29). Indeed, studies have empirically demonstrated that in countries with higher levels of gender egalitarianism, wives indeed do less housework, and thus the division of housework is more egalitarian relative to gender conservative countries—even after accounting for individual-level gender ideology (Geist and Cohen 2011; Knudsen and Wærness 2008; Stier and Lewin Epstein 2007; Fuwa 2004; Batalova and Cohen 2002). Breen and Cooke (2005) address the importance of societal ideology pointing to the critical mass required to stimulate change in division of housework. Likewise Greenstein (2000) suggests that women's share of housework is affected by the broader national conception of gender equity, a conception that impacts on their own perceptions of gender

relations. Similarly, Blumberg (1984) suggests that the negotiation between wives and husbands on housework is affected by both their individual power resources (education, wage, etc.) and macro-level male domination. In countries where the ideological climate is gender egalitarian, the negotiating process outlined above will lead to a more equal division of housework.

The effect of the ideological climate is not restricted to the gender gap in housework per se, but also to the relationship between spouses paid and unpaid work. Using the argument of Blumberg and Coleman (1989), a woman's bargaining power on housework depends on her "net economic power," rather than her actual wage. The former is affected by gender ideologies; women's net economic value is reduced to a greater degree in a "male dominated" ideological context than in an egalitarian context. Since women's work is less devalued in more gender-egalitarian societies, their economic resources are more effective in negotiations on housework vis-à-vis their spouses (see also Knudsen and Wærness 2008; Fuwa 2004). If so, we expect egalitarian gender ideology to narrow the gender gap in division of household labor, due to the unique contextual effect of the broad national egalitarian perceptions on all women. We also expect it to strengthen the association between spouses paid and unpaid work, because women's wages has a greater impact on the negotiation process.

Contrary to this hypothesis, the Hyman Rodman theory (1967) posits a curvilinear effect of societal cultural norms on spouses paid and unpaid work. According to this theory, the association between a spouses paid and unpaid work is expected to be weaker in traditional and egalitarian cultural settings. The dominance of the cultural setting in both cases minimizes the capacity of a spouse's relative economic resources to affect the household division of labor. However, in cultural settings that fall between the two poles, the social framework leaves more room for agency and negotiation. Hence, the relative resources of the two spouses will factor and affect the household division of labor. Building on this theory, Diefenbach (2002) found that in countries located between the two poles—i.e., "transitional" states, with no clear norms concerning gender roles—the association between spouses' relative economic resources and housework is the strongest. Supporting these findings, Fuwa (2004: Table 4) found that the effect of relative income on the division of housework is indeed stronger in countries located at the middle of the distribution of gender ideology continuum.

Data and variables

For both individual- and country-level variables, we used data from 2012 ISSP "Family and Changing Gender Roles" module. Following other studies in the field on which we build our theoretical framework, and given the distinct historical background and context of countries in eastern Europe and Asia, we have only included post-industrial countries belonging to the Organization for Economic Co-operation and Development (OECD) with information for all relevant variables.[2] The countries included in the analysis are: West Germany, United Kingdom, Ireland, Israel, Norway, Sweden, Czech Republic, Spain, France, Denmark, Iceland, Finland, Australia, Switzerland, Belgium, Netherlands, Austria, Canada and the United States.[3] The ISSP survey is an assembly of surveys administered at the national level, with sampling procedures differing between countries. However, all participating countries are bound by a questionnaire protocol and regulations, which ensures that data is comparable and of high quality. All the country samples included in our analysis are representative of their respective populations (Brien & Beck, 2016). Our analytical sample was limited to married or cohabiting couples, with a respondent of prime working age (25-64). To rule out an alternative explanation for the "compensation" effect—that highly dependent husbands undertake less housework due to poor health—we excluded households with a husband in poor health or disabled, and highly dependent on his wife.[4] We weighted the samples to ensure that each country contributed equally to the analysis.

The data on "housework relative contribution" consists of self-reports by individuals concerning the amount of weekly hours that they and their spouses spend on housework (excluding childcare and leisure time activities).[5] Following the "economic exchange" theory, the index is gender-neutral. Thus, each individual, men and women alike, received a score on the index of housework relative contribution according to the following calculation:

$$Housework\ Relative\ Contribution = \frac{(Respondent's\ housework - spouse'shousework)}{(Respondent's\ housework + spouse's\ housework)}$$

The index ranges from (-1) to 1, where 1 indicates that the individual is the only one who undertakes housework, and (-1) that his/her spouse does all housework.[6] A score of 0 indicates an equal number of hours undertaken by both partners to housework each week.

The second index—"economic contribution"—was computed in a similar manner. In accordance with the "economic exchange" model, which claims gender blindness, the calculation is also gender-blind. The spouse's income was estimated by subtracting the individual's average monthly income from the total average household monthly income, because the ISSP module does not contain questions regarding the spouse's income (see also: Bittman et al. 2003; Fuwa and

Cohen 2007).[7] The index is calculated as follows (see also: Brines 1994; Sorensen and McLanahan 1987):

$$Economic\ contribution = \frac{(Respondent's\ average\ monthly\ income - Spouse's\ average\ monthly\ income)}{(Respondent's\ average\ monthly\ income + Spouse's\ average\ monthly\ income)}$$

The index is gender-blind, and ranges from (-1) to 1, where 1 indicates that only the respondent contributes to the household's income, and (-1) that the individual is completely economically dependent on his/her spouse.[8] A score of 0 indicates income equality.

Our third index—"wife's economic dependency"—is a unidirectional, gender-sensitive index, which measures the economic dependency of wives on their spouses as follows:

$$Wife's\ economic\ Dependency = \frac{(Husband's\ average\ monthly\ income - wife's\ average\ monthly\ income)}{(Husband's\ average\ monthly\ income + wife's\ average\ monthly\ income)}$$

This index ranges from (-1) to 1, where 1 indicates a situation in which the wife is completely dependent on her spouse, and (-1) where the wife is the sole breadwinner in the household. A score of 0 indicates income equality. We kept in mind the fact that each respondent in our sample provided information regarding his/her own spouse. Therefore, if men and women systematically varied in their evaluations of the amount of housework undertaken by each spouse, the results could be biased (Kamo 2000). Our main concern was whether the respondent's sex caused any differences in the estimates of the gendered housework gaps. Our check for possible bias is presented in the web-appendix, which presents all our validity tests. In our sample women tended to report lower housework for both genders, and men tended to report higher housework for both genders; consequently, the gap in housework contribution between the spouses is very similar under both reporters (8.81 and 8.31, respectively). We are also aware that questionnaire-based data, such as used here, may be less accurate than time use diary data (Sullivan, 2006: 41-45). Because women who dedicate many hours to housework tend to underestimate their housework—while men who dedicate few hours tend to overestimate their housework (Kan 2008b)—our results may underestimate the gaps in such households. Furthermore, if "large gap" households are more prevalent in conservative countries, as discussed above, and assuming the bias to be even more pronounced for traditional respondents (Kan 2008b), this underestimation would be more severe in more conservative countries, leading to an underestimation of cross-country gaps.

Country-level variables

The prevalent strategies for examining the impact of gender egalitarianism are the Esping-Andersen (1990) welfare regime typology (e.g., Van der Lippe 2010; Gesis 2005), and the Gender

Empowerment Measure (GEM) (Van der Lippe 2010; Knudsen and Wærness 2008; Fuwa 2004; Batalova and Cohen 2002). For both, however, the gender equality measure combines cultural and economic components. Because we wish to differentiate between the cultural and economic dynamics, in the present study we measure each of the contextual variables distinctly and directly. Our measure of mean gender ideology is the aggregated country-level average of a gender ideology index. This index is designed to capture attitudes toward gender roles, and is calculated by averaging the position of individuals (ranging from 1 "strongly agree" to 5 "strongly disagree")[9] on the following five items from the ISSP dataset:

a. "A pre-school child is likely to suffer if his or her mother works."
b. "All in all, family life suffers when the woman has a full-time job."
c. "A job is alright, but what most women really want is a home and children."
d. "A man's job is to earn money; a woman's job is to look after the home and family."
e. "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work." (inverted)

The index ranges from 1 ("conservative attitudes") to 5 ("egalitarian attitudes"), with an average internal reliability of α=0.783 and a small standard deviation (0.04) between countries; ranging between 0.721 (in Czech-Republic) to 0.843 (in Netherlands). Because this measure is intended to capture the cultural context of a country as a whole, we calculated it based on the full sample of respondents (including the unmarried respondents) in the relevant age group.

Our second key country level variable, women's labor force participation, represents the percentage of women in the workforce in each country in the ISSP data.[10]

In the final step, and in line with our non-parametric approach (see more on this point below), we clustered countries into homogeneous groups using a separate hierarchical cluster analysis (Ward's method) for each of the two measures. To determine the preferable number of clusters, we used the percentage change in heterogeneity with every additional agglomeration. In both analyses, the results pointed to a three-cluster solution.

Methodological Approach

In the first stage, we tested the relationship between division of housework and the economic contribution of wives on the entire sample, to follow the predictions of the "economic exchange" theory and the "doing gender" approach at the household level, and to reaffirm previous findings. This "average" correlation forms the basis for the second stage, in which we present cross-country

variation in the relationship between the two outcomes. To test whether this relationship varies systematically with participation rates and gender ideology, we clustered countries according to levels of women's labor force participation (the mechanism underpinning the "economic exchange" theory), and gender ideology (the mechanism underpinning the "doing gender" theory), and compared the relationship among the clusters.

In order to closely follow the pattern of the relationship between housework and paid work across the entire co-distribution—rather than measuring the average net effect of specific variable/s on each outcome—we chose a method of analysis based on a case-oriented (rather than a variable-oriented) approach. This method, which is descriptive in nature, "allows the data to speak for themselves" (Jacoby 2000: 578). Its objective is to present the original data while keeping statistical assumptions and interventions to a minimum. Following others (e.g., Killewald and Gough 2010; Gupta and Ash 2008; Geist 2005), we avoided imposing a restrictive polynomial function and a concomitant set of assumptions on the data, by using a de-facto nonparametric model—restricted cubic splines—to depict the relationship between the two variables (for further discussion on the non-parametric approach, see: Gupta and Ash 2008: 99-101).[11]

We acknowledge that the descriptive nature of this analysis requires greater caution when seeking to attribute causality. Therefore, to validate our findings, we use a multilevel random intercept model, controlling for individual- as well as country-level variables (see Table 2).[12] In this analysis, for the sake of simplicity, parsimony and interpretability, we specify restricted linear splines rather than restricted cubic splines. Even so, this method still ensures high flexibility and accuracy when estimating the relationship between housework and paid work.[13] Additionally, we recalculated the main results after distinguishing between households on the basis of their gender ideology level, in order to differentiate between country- and household-level effects (see web-appendix).

Findings

Economic contribution and housework contribution

We begin with a graphical description of the relationship between the economic and housework contributions of the respondent. Figure 2a plots the location of all households in the sample on these variables. In line with the "economic exchange" theory, the two dimensions are closely and negatively related, implying an economic exchange between housework and economic support; the more one contributes to household income, the less housework he/she undertakes, and vice

versa. Since the figure is gender-blind, this bivariate analysis merely displays the relatively strong tradeoff between housework and paid work. However, when gender is revealed, as in Figure 2b, we can see how gendered the tradeoff between paid and unpaid work is in fact. The dots in the upper left segment of the graph, indicating high housework contribution and low economic contribution, are almost all women; the dots in the lower right segment, indicating the opposite, are almost exclusively men. The two other poles include relatively small numbers of observations, indicating that the combinations of both high economic and housework contributions (dominated by women) and low economic and housework contributions (dominated by men) are less frequent. These findings support the economic exchange model between paid and unpaid work, but also confirm the gendered nature of this exchange (see also: Carlson and Lynch 2017; Sayar 2016; and Killewald and Gough 2010).

*** Figure 2a,b here ***

Figure 3 plots the same housework contribution measure (Y axis) with the "wife's economic dependency" index (X axis). That is, the score on the X axis differs by gender; for a woman, it displays the level of her own economic dependency, while for a man it displays the level of his wife's economic dependency. We also add two restricted cubic splines, one for men and one for women.

*** Figure 3 here ***

The two lines show the different dynamics of paid and unpaid work between households which follow the more common gender roles (i.e., households in which the wife is economically dependent on her spouse), and households where gender roles are violated (i.e., the husband is economically dependent on his wife). With the former, located on the right side of the figure (X-axis ranges between 0 and 1), validation of the economic exchange theory is very clear. A look at the men's line reveals that the more one's wife is economically dependent, the less housework the man tends to provide (negative correlation), and vice versa. A similar trend, but in the opposite direction, can be seen in the women's line; the more economically dependent a wife is on her spouse, the more housework she provides (positive correlation). Thus, when gender roles are not violated—as in the right-hand section of Figure 3—the "economic exchange" theory captures the correlation between paid and unpaid work quite accurately.

In contrast, in households that violate common gender roles (i.e., men are economically dependent on their wives (X-axis ranges from 0 to -1)), women still undertake more housework then men. In fact, in these households the women do more housework—regardless of their relative economic contribution. It seems then that there is a minimum housework "threshold" that women cannot cross; a "threshold" that is "reserved" for women, no matter how much they contribute to the household income. According to the "doing gender" approach, this behavior, which deviates from the economic rationale, stems from social norms relating to normative gender roles. Furthermore, even though this change is quite small, the women's line shows that from a certain point ($x<-0.4$), the direction of the correlation is reversed, such that the more economically independent a wife, the more housework she does—some indication of a compensatory process.[14] There is no such pattern with the men.

Cross-country variations

Table 1 displays the average values of the main variables, by country. The third and fourth columns present our key household-level variables, wives' economic dependency and wives' relative contribution to housework; the next two columns present the two country-level mechanisms, gender role attitudes and women's labor force participation. The bottom part of the table displays the cluster averages, with significance tests of gaps between these averages (the reference cluster (Conservative/Low participation) is marked in **bold**).[15] The list of countries in each cluster is presented in the second column of the table.

*** Table 1 here ***

Looking at the average ratios for wives' housework, we find significantly lower ratios in countries with intermediate (0.679) and egalitarian (0.630) gender ideologies, compared to countries with conservative ideology (0.717)—as predicted by the "doing gender" theory. However, and in contrast to the expectations derived from the economic theory, when countries are clustered according to women's participation rates, the average ratio of wives' housework is in fact significantly higher in countries with intermediate women's labor participation rates (0.703), compared to countries with low women's labor participation rates (0.657).

The averages of wives' economic dependency are significantly lower in countries with egalitarian gender ideology and in countries with high women's labor participation rates (in both

cases the five Scandinavian countries). Apparently, the two mechanisms—gender ideology and participation rates—match only in the case of the Scandinavian countries, which have the highest levels for both (4.01 and 83.81%, respectively). By way of contrast, as can be seen by the averages in the last two columns, gender ideology is in fact lower in countries with intermediate women's participation rates, relative to countries with low women's participation rates (3.38 vs. 3.59, respectively). Likewise, women's participation rates are higher in countries with a strong conservative gender ideology (76.64%), compared to countries with intermediate levels of gender role attitudes (74.43%).

To distinguish between the possible effects of these key contextual variables, in the following analyses we plotted the two household-level variables within each cluster of countries separately; once based on gender ideology clusters (Figure 4), and once according to participation rates (Figure 5). (Figures 4 and 5 use the same specifications as Figure 3).

Overall, the general pattern observed in the entire sample (Figure 3) is maintained in all three clusters in Figure 4: the more economically dependent one is on his/her spouse, the more he/she tends to contribute to housework, in line with the "economic exchange" model. That said, in all three clusters, wives undertake more housework than their spouses—even when they are the main or sole breadwinners. Notwithstanding these similarities, the gap between spouses is largest in countries that are most conservative in gender ideology, smaller in countries with intermediate levels, and smallest in countries with the most egalitarian gender ideology (the five Scandinavian countries) across the entire economic dependency distribution.

*** Figure 4a, 4b & 4c here ***

Again, as with the findings for the entire sample, economic exchange is maintained up to a certain point. However, after this point—which signals gender boundaries in housework tasks—variations across clusters become pronounced, in level as well as pattern. Specifically, in all the clusters, economic exchange between partners persists until a value of approximately -0.4 (i.e., wives earn more, but not a great deal more). From this point to the value of -1 (i.e., wives are the sole breadwinners), wives' contribution to housework further decreases in the Scandinavian countries (the most gender egalitarian context), and remains constant in countries ranked in the middle of the ideology measure. In the most conservative countries, economic exchange between spouses persists until approximately the same point (-0.4), but from this point on, the correlation

is reversed: the green line shows that the more economically dependent a husband is on his wife, the more housework she provides—clear evidence of a compensatory process. In contrast to this, the blue line (representing men's behavior) shows that dependent men in the conservative countries actually undertake more housework when not in paid work, contrary to a compensation dynamic.

Furthermore, cross-country differences are preserved even after controlling for gender role attitudes at the individual level. Specifically, when the analysis is split into households below and above the cluster averages for gender ideology, division of housework is more egalitarian among households with an egalitarian gender ideology, and vice versa, as expected. Nevertheless, cross-cluster differences are preserved in both groups; this indicates that even in households with similar gender roles perceptions, division of housework is more equal in more egalitarian countries (relative to other countries), and vice versa (see results in web-appendix). These results support the argument that a gender egalitarian ideological climate helps women in negotiating a more equal division of work (i.e. Blumberg 1984, Greenstein 2000)—but not the findings that the association between spouses' relative economic resources and housework is strongest in countries located at the middle of the gender ideology distribution, and weaker at the two poles (Diefenbach 2002). We did, however, find some support for the hypothesis raised by Fuwa (2004), concerning households where women are the main or the sole breadwinner: in more gender-egalitarian societies, where women's work is less devalued, their economic resources play a more effective role in negotiations over the division of housework, which in turn strengthens the association between spouses' paid and unpaid work.

Figure 5 uses the same setup, but splits the countries according to levels of women's labor force participation. Again, the pattern in countries with the highest participation rates—all Scandinavian countries—is as expected. In these countries, the economic contribution of women is the largest, and the household division of labor is the most egalitarian. The spousal dynamics in the other two clusters, however, do not follow the prediction based on the "economic exchange" theory, according to which higher participation rates of women will act to reduce their share of housework. Contrary to this prediction, countries with moderate participation rates (except Australia, all other countries in this cluster defined as conservative states according to Esping-Andersen's (1990) typology) have more traditional gender allocation of housework, as compared to countries with comparatively low participation rates of women—all, other than West Germany, liberal welfare countries.

*** Figure 5a, 5b & 5c here ***

As can be seen, the fit between Esping-Andersen 1990s typology and contemporary women's labor force participation rates is limited. In contrast to the male breadwinner model, which characterized the conservative regime four decades ago, most of the conservative countries are located in the middle of the distribution, while the liberal countries are at the bottom of the distribution. Particularly surprising are the relatively high women's participation rates for Switzerland and Spain, and the relatively low women's participation rates for the U.S. and the U.K.[16] In fact, only the social democratic countries, with the highest women's labor force participation rates, fit the typology's prediction. It seems, then, that a conservative gender ideology has a stronger influence on the division of housework than women's labor force participation rates. Using the analytical framework developed here, one can conclude that societal cultural processes have a stronger influence on the gender division of labor, relative to economic forces.

In order to validate our conclusions, our concluding analysis (presented in Table 2) we use multilevel (individuals within countries) random intercept models to examine housework contribution, assessed separately for men and women. Furthermore, in order to test whether the amount of hours devoted by women to paid work is a better indication of women's economic independence, we replicated 'women's participation rates' with 'women's full-time work participation' countries. The main set of covariates are wife's economic dependency, pieced into six segments of the distribution (the specific interval for each slope, for men and women, is detailed in the respective row of the table). Gender ideology, participation rates of women (and full-time participation) are clustered to the same three groups in each of the respective analyses. We also included interactions of these clusters with the six different slopes.

*** Table 2 here ***

At the individual/household level, we controlled for education (1=academic), age, age^2, presence of children (1=have toddlers in household), cohabitation (0=married), sex (1=female), and the number of outsourced housework tasks (see also Fuwa 2004). At the country level we controlled for the country's GDP per capita (PPP, constant 2011 international $), and one of the two key mechanisms—i.e., women's labor force participation rates when comparing the three

gender ideology clusters, and mean gender ideology when comparing the three labor participation (or full-time) clusters. Based on the estimates of these models, Figure 6 presents predictions of housework contribution by wife's economic dependency, sex and country cluster, with the other variables all set to their mean.

*** Figure 6a, 6b & 6c here ***

The comparison between the two models of employment – based on women's labor force participation and full-time participation – reveals very few differences. Despite the change in the countries' assignment into clusters, the overall picture remains very similar (this can be seen more clearly in the predictions presented in Figure 6). In both cases, it is hard to tell which cluster predicts a more equal division of housework across the distribution of wife's economic dependency. In line with the descriptive results of Figure 5, we did not find any effect for women's employment on the gender division of housework at the country level. In fact, on average, the housework gap is even higher in countries with intermediate levels of women's employment than in households with low levels. Second, we found only very limited support, and only among men, for the claim that the association between the two variables is weaker in countries with higher employment levels for women. The (less negative) slope of segment 5, between 0.42 and 0.70 on the X-axis among men indicates that in countries with the highest levels of full-time employment, an increase in men's income is associated with a smaller decrease in housework relative to low employment countries. This may be due to the greater opportunities for employment for economically dependent women in these countries.

We should note, however, that this finding is not robust, as it is not found in the adjacent slope (slope 6), nor when examining labor participation variation rather than full-time employment. Furthermore, when looking at the results for women, the only significant difference in the slopes between the clusters is in households of highly dependent women, but these differences point, again, in the opposite direction than expected; in countries with higher employment, highly dependent women do more housework as they become more dependent, relative to countries with low employment ($b_{intermediate}$=0.284; b_{high}=0.353).

In contrast, ideological context is found to co-vary with housework gaps as expected; clusters representing more egalitarian gender role attitudes are also significantly more egalitarian in the division of housework across the entire wife's economic dependency distribution (see Figure

6). Two pieces of evidence are of interest regarding the "compensation" claim. First, we find a significant association between economic dependency and division of housework among economically independent women in the conservative cluster, in accordance with the descriptive findings showed in Figure 4; in the conservative cluster, women who earn more than their spouses *increase* their share of housework relative to women in households with greater income parity. Unlike the findings of Gupta (2007), in our data (available upon request) these highly economically independent women have around average education levels and gender role attitudes, and higher than average income. Furthermore, we find an increase in the share of housework for independent women in this cluster, even after accounting for outsourcing of housework tasks—one of the mechanisms proclaimed by Gupta (2007) as responsible for the higher housework share of these women, relative to women in economically co-dependent households. Second, this increase in breadwinner-women's housework is significant only in this cluster, and not in the intermediate and the egalitarian clusters. This finding supports the claim that in a more gender egalitarian context, where women's economic resources are less devalued, women in "non-normative" households are more effective in negotiating housework parity vis-à-vis their spouses.

Results presented by men, however, contrast with those of women. In line with the descriptive findings presented in Figure 4, and the findings of Schneider (2011) and Evertsson and Nermo (2004) regarding U.S. men, dependent husbands increase their housework contribution with their economic dependency on their wives, and especially so within the conservative cluster (although the difference in slope's steepness is only marginally significant). It is important to note that in the conservative countries, most dependent husbands (58%) are in paid work (more than in the intermediate cluster (55%)); but they are low-paid (at the 1.2 wage quartile, a bit lower than in the other clusters (1.35 and 1.25 wage quartiles)) (see also Gupta (2007)). Around 23% are unemployed (excluding Spain, less than 16%), quite similar to the percentage of unemployed husbands in the intermediate countries (16%), but much more than in the egalitarian cluster (11%). (Data available upon request).

Discussion

This paper explores the relationship between women's economic dependency and housework division, and variations in this relationship across groups of countries, using data from the most recent gender relations module of the ISSP. We sought to ascertain whether spousal dynamics within the household vary systematically across countries, and to offer a theoretical framework for

these variations. We referred to two macro-level mechanisms believed to affect this dynamic: women's labor force participation, and gender ideology context. In our analytical framework, we linked the former to economic-based theories of "economic exchange," and the latter to the cultural theory of "doing gender." Each theory presents a different interpretation and prediction regarding the relationship between economic dependency and the gender division of housework.

Our findings provide empirical support for both theories, with each explaining the spousal dynamic of paid and unpaid work in different family types. In families where normative gender roles are not violated—i.e., the wife earns less than her spouse—the "economic exchange" model accurately describes the relationship between paid and unpaid work. Men, as well as women, tend to contribute more to housework when they earn less, and vice versa. However, the negative correlation between paid and unpaid work persists only up to the point where gender relations within the family are challenged (Figure 3). From this point on, the relative housework provision remains constant—whether the wife earns only slightly more than her spouse, is the main breadwinner, or is the sole income provider. In other words, from this point on, spousal dynamics are governed by cultural norms rather than economic considerations.

Cross-country variation in the relationship between the housework division and wives' economic dependency highlight the significance of cultural norms (measured by gender ideology context) rather than an economic dynamic (measured by women's labor force participation rates). When clustered according to gender ideology, variations across countries become evident, both for levels and patterns. Although economic exchange between partners that follow the gender roles is evident in all clusters, the gap between the spouses in housework is much larger in countries where gender ideology is less egalitarian. Furthermore, when gender roles are violated—that is, the wife earns more—the amount of housework she undertakes further decreases in countries with the most gender egalitarian ideology, but remains constant in countries ranked at the middle of the gender ideology index. Evidence for the disputed notion of compensation are limited for women, and only in the conservative context.

Given these results, our research lends support to the argument that in a conservative context, households in which gender roles are violated are more prone to deviating from economic exchange relations (see also Fuwa 2004; Bittman et al. 2003). Likewise, a gender egalitarian ideological climate supports all women in negotiating housework, and leads to a more equal division of labor (Blumberg 1984; Greenstein 2000). Our findings also support the assertion that in gender egalitarian societies, women's economic resources, in "non-normative" households, are

more valuable and thus more effective in the negotiation on housework (Fuwa 2004); this, in turn, strengthens the association between spouses' paid and unpaid work among dual-earner and women-breadwinner households.

In contrast to gender ideology, cross-country variation in women's labor participation rates did not follow the presumptions derived from the economic exchange theory. The largest gaps in housework emerged in countries with median—not low—women's labor participation rates. There are several possible explanations for this deviation, which we hope will be tested further in future research. First, recent reforms in family polices in several conservative countries, directed toward encouraging a transformation from the "male breadwinner" to a "dual earner" (e.g., Austria; Fleckenstein and Lee 2014) have altered cross-country distributions in reconciliation policies, and consequently women's participation in paid work. Second, the link between women's participation rates and their economic dependency levels is not as straightforward as it may seem when 35-40% of women work part-time—as is the case in several conservative countries, such as Germany, Switzerland, and Austria (OECD 2016b). Nonetheless, even when countries are clustered by full-time work, countries with low participation rates remain more gender egalitarian in the distribution of housework, relative to countries with intermediate levels.

It seems, then, that while policy reforms facilitating work and family obligations may increase paid employment among women, the effect of these policies on interfamily spousal dynamics may take longer to become evident. Furthermore, the effect of these reforms on gender relations may be limited, as they are not anchored in a social democratic ideological climate, or in deep-rooted feminist ideas advancing gender equality; rather, they are driven by political forces and economic needs. Against the ideological forces underpinning the development of reconciliation policies in pioneering social democratic countries, functional forces are driving the new work–family reconciliation policies in the former male-breadwinner countries (Fleckenstein and Lee 2014; Fleckenstein 2011). Thus, whereas generous family policies co-varied with women's participation rates and egalitarian gender ideology in the past, the affinity between these factors is weaker today.

These developments prompt several questions. If the reforms do eventually lead to convergence in cross-country reconciliation policies, and consequently to a convergence in women's labor participation rates, will these developments affect cross-country variation in the gendered division of housework? Or will they affect the relationship between housework provision and economic contribution? Will the rigid perceptions of gender roles, gender identity, and

attitudes toward gender equality become sensitive to these developments in the future? These questions remain open to further examination.

Our study contributes two important points to this discussion. First, it shows that gender relations are affected by economic exchanges only up to the point that this challenges gender boundaries. These boundaries, although universal, are less rigid in some societies than in others. As our findings indicate, cultural and ideological gender perceptions affect these boundaries even more than the economic power of women's participation in paid work. The former seems more persistent and less affected by policies that reconcile paid and unpaid work. Furthermore, our findings also identify an affinity between cultural and economic mechanisms; in gender egalitarian contexts, women's economic resources are more appreciated, and thus more effective, in liberating them from housework. Second, our findings also address the explanatory power of economic and sociological theories, not only in relation to family characteristics (whether or not spousal dynamics comply with or violate the gender order), but also in relation to the institutional context within which families operate. By revealing similarities and differences in spousal dynamics and patterns of gender inequality across societies, our study highlights the importance of macro-level economic and cultural factors.

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[1] To avoid ambiguity, we use the terms "wives" and "husbands" to refer to heterosexual couples, whether married or in civil partnerships.

[2] We excluded Portugal and Poland due to extremely high amounts of missing values in key variables, with only 30.6% and 45.9% of the sample having income and housework information, respectively.

[3] From a cultural standpoint, one might classify the Czech Republic as an Eastern European country. Yet, unlike other Eastern European countries, its economy is post-industrial, it is located in central Europe, and it is has been an OECD member since 1995. We therefore decided to include it in our sample (as we would have included Poland if not for its poor quality of data).

[4] There were only 44 cases that met these conditions; the results, with and without these cases, are indistinguishable. Highly dependent husbands are defined as ranging between -0.4 and -1 on the wife's economic dependency measure described below.

[5] Based on the answers to two questions: 1."How many hours a week, on average, do you dedicate to housework, not including childcare or leisure?" 2."How many hours a week, on average, does your partner dedicate to housework, not including childcare or leisure?"

[6] We excluded the (very few) households in which neither of the spouses undertake housework (i.e., the denominator is zero) from the analysis.

[7] Since this measure could be biased if additional earners live in the household, we recalculated the main analyses (i.e., Figures 4 and 5) after selecting only households with two adults. The analysis yielded very similar results, which confirm the validity of the measure (see web-appendix).

[8] The (few) households in which neither of the spouses earned money (i.e., the denominator is zero) were excluded from the analysis.

[9] Spain used a 4-value scale in all gender attitude variables, while the other countries used a 5-value scale. We replicated the specific analysis, where countries are clustered by "Gender role attitudes," with and without Spain; the results were very similar.

[10] Official OECD figures do differ from ISSP-derived figures, such that four pairs of countries switch cluster placing. That said, using OECD labor participation would not have any effect on our conclusions. Results based on OECD estimates can be provided upon request.

[11] Compared to linear splines, restricted cubic splines allow higher flexibility of the fitted line, enabling it to "follow the data" as closely as possible and with fewer assumptions (Croxford 2016). In all our analyses, we used five knots with locations based on Harrell's (2001) recommended percentiles (5^{th}, 27.5^{th}, 50^{th}, 72.5^{th} and 95^{th}), with the additional restriction that all the segments included more than five values of the original variable. To test the robustness of our results, we reproduced all the relevant results using Loess curves with a tri-cube weighting function and a bandwidth of 0.5. Both methods produced very similar results.

[12] Controls included: Age, Age^2, sex, cohabitation (vs. marriage), presence of toddlers, academic respondent, and outsourcing of housework tasks. At the country level, we include GDP per capita (PPP, in constant 2011 international $) and one of our main covariates (i.e., in models clustering by participation rates we control for mean gender ideology and vice versa).

[13] We place five knots, designed to segment the wife's economic contribution distribution, into six equally sample-size groups (with a knot every 16^{th} or 17^{th} percentile).

[14] Given our non-parametric approach, we cannot directly rule out the claim that the wives' absolute—rather than relative—income accounts for the results seen among women (Gupta 2007). However, because we segmented the co-distribution of relative income and housework using splines (rather than the commonly used quadratic function), the argument that the compensatory findings may result from a non-linear relationship between the wife's absolute earnings and housework (e.g., Killewald and Gough 2010) cannot explain the evidence of compensatory behavior found here.

[15] Significant tests are derived from simple linear regressions, contrasting each cluster and its respective reference cluster in the examined variable. For the two country-level variables, we used the country level sample (n=19) and for the two household level variables we used our weighted household level sample.

[16] The figures published by the OECD (2016a) validate our data; participation rates in Spain, France and Switzerland are higher than those in the U.S. and the U.K.

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Table 1: Means of Main Variables, by Country and Cluster

Country	Observations[1]	Wife's housework ratio	Wife's economic dependency	Gender role attitudes[2]	Women LFPR[2]
Denmark	561	0.62	0.10	4.24	80.3
Sweden	381	0.62	0.16	4.06	84.8
Finland	461	0.64	0.13	3.86	81.5
Great Britain	286	0.64	0.23	3.56	66.0
Norway	609	0.64	0.17	3.87	87.1
Australia	689	0.64	0.30	3.49	76.5
United States	455	0.65	0.23	3.39	71.4
Ireland	593	0.69	0.15	3.69	75.1
Czech Republic	819	0.70	0.17	3.13	78.0
France	993	0.71	0.17	3.75	78.0
Austria	547	0.71	0.26	3.22	76.0
Israel	618	0.72	0.24	3.13	74.7
West Germany	496	0.72	0.44	3.71	73.5
Spain	1,224	0.74	0.31	2.82	77.9
Switzerland	537	0.74	0.35	3.32	78.0
Iceland	547	0.63	0.22	4.01	85.2
Canada	397	0.61	0.26	3.70	73.2
Netherlands	527	0.69	0.31	3.68	77.2
Belgium	937	0.68	0.18	3.58	75.48
Average	**11,677**	**0.67**	**0.23**	**3.59**	**77.4**
Cluster means and significance of differences[3]					
Conservative GR (ref.)	ES, CZ, IL, AT	**0.717**	**0.244**	**3.07**	**76.64**
Intermediate	AU, GB, IE, BE, NL, CA, DE-W, CH, US, FR	0.679***	0.263	3.59***	74.43
Egalitarian GR	FI, NO, SE, DK, IS	0.630***	0.155***	4.01***	83.81***
Low WLFPR (ref.)	GB, DE-W, US, CA	**0.657**	**0.293**	**3.59**	**71.03**
Intermediate	BE, AU, ES, CH, AT, CZ, NL, IL, IE, FR	0.703***	0.244***	3.38	76.68***
High WLFPR	FI, NO, SE, DK, IS	0.630***	0.155***	4.01**	83.81***

[1] Couples with respondent aged 25-64.

[2] Calculated before screening out non-couples.

[3] Numbers indicate cluster averages; asterisks indicate significance of difference from the reference group.
*p<0.1; **p<0.05; ***p<0.01.

Table 2: Multilevel models of housework contribution, by gender and cluster specification[1]

	Gender Ideology		Labor participation		Full time work	
	Men	Women	Men	Women	Men	Women
Constant	-0.174***	0.557***	-0.195***	0.232***	-0.157***	0.303***
Wife's economic dependency slope[2]						
Slope 1: M [-1, -0.06); W [-1, -0.2)	-0.255***	-0.212***	-0.054	0.01	-0.140*	-0.126
Slope 2: M [-0.06, 0.10); W [-0.2, 0)	0.519	0.114	-0.506	0.064	-0.009	0.224
Slope 3: M [0.10, 0.26); W [0, 0.17)	-0.485	0.369***	0.405	0.188	-0.245	0.417
Slope 4: M [0.26, 0.42); W [0.17, 0.35)	-0.436	0.238**	-0.284	0.510**	-0.284	0.618
Slope 5: M [0.42, 0.70); W [0.35, 0.67)	-0.185	0.374	-0.201	0.445*	-0.515***	0.223
Slope 6: M [0.7, 1]; W [0.67, 1]	-0.353*	0.149	-0.24	-0.105	0.005	0.027
Country clusters						
Conservative/ Low LFPR/ Low FT (ref.)						
Intermediate	0.043	-0.208***	0.185**	0.170**	0.051	0.032
Egalitarian/ High LFPR/ High FT	0.128	-0.411***	0.071	0.012	0.025	-0.019
Interaction terms						
Intermediate * Slope 1	0.181	0.189**	-0.202	-0.086	0.006	0.097
Intermediate * Slope 2	-0.85	0.154	0.717	0.2	0.038	-0.061
Intermediate * Slope 3	0.178	-0.315	-1.124**	-0.063	-0.25	-0.294
Intermediate * Slope 4	0.305	0.265	0.136	-0.084	0.122	-0.252
Intermediate * Slope 5	-0.18	-0.072	-0.199	-0.218	0.258	0.197
Intermediate * Slope 6	0.307	-0.112	0.194	0.284**	-0.169	-0.005
Egalitarian/High * Slope 1	0.176*	0.252**	-0.025	0.031	0.071	0.152
Egalitarian/High * Slope 2	-1.075	-0.12	-0.055	-0.068	-0.54	-0.158
Egalitarian/High * Slope 3	0.311	0.358	-0.588	0.54	0.069	0.213
Egalitarian/High * Slope 4	0.161	-0.171	0.02	-0.45	-0.025	-0.501
Egalitarian/High * Slope 5	0.016	-0.174	0.037	-0.237	0.363**	-0.172
Egalitarian/High * Slope 6	0.286	0.099	0.172	0.353***	-0.077	0.239**
Control variables						
Age	-0.012**	0.009***	-0.012**	0.009***	-0.012**	0.009***
Age^2	0.0001*	-0.00008**	0.0001*	-0.00009**	0.0001	-0.00009**
Presence of children [No children]	-0.015	0.008	-0.011	0.009	-0.013	0.009
Academic [Lower than B.A]	0.051***	-0.065***	0.050***	-0.065***	0.050***	-0.064***
Cohabitation [Married]	0.01	-0.018	0.006	-0.015	0.008	-0.016
Outsourcing of tasks	0.009	-0.012	0.008	-0.011	0.009	-0.012
GDP per capita (PPP $2011)/1000	-0.02	0.009	-0.003	0.015	-0.01	0.01
Mean LFPR / Gender ideology	0.235	1.403***	0.205***	-0.023	0.225***	-0.092*
Random part						
Constant variance	0.003***	0.002***	0.002***	0.003***	0.002***	0.005***
Residual variance	0.117***	0.119***	0.117***	0.119***	0.117***	0.119***
Observations	**3,955**	**4,592**	**3,955**	**4,592**	**3,955**	**4,592**

[1] All continuous variables were grand mean centered. Wife's economic dependency was rescaled to range from 0 to 2, so that cluster coefficients are gaps from the reference when Wife's economic dependency=-1 (and all other variables=0).

[2] M = interval of the slope for Men and W = interval of the slope for Women. * p<0.10; ** p<0.05; *** p<0.01.

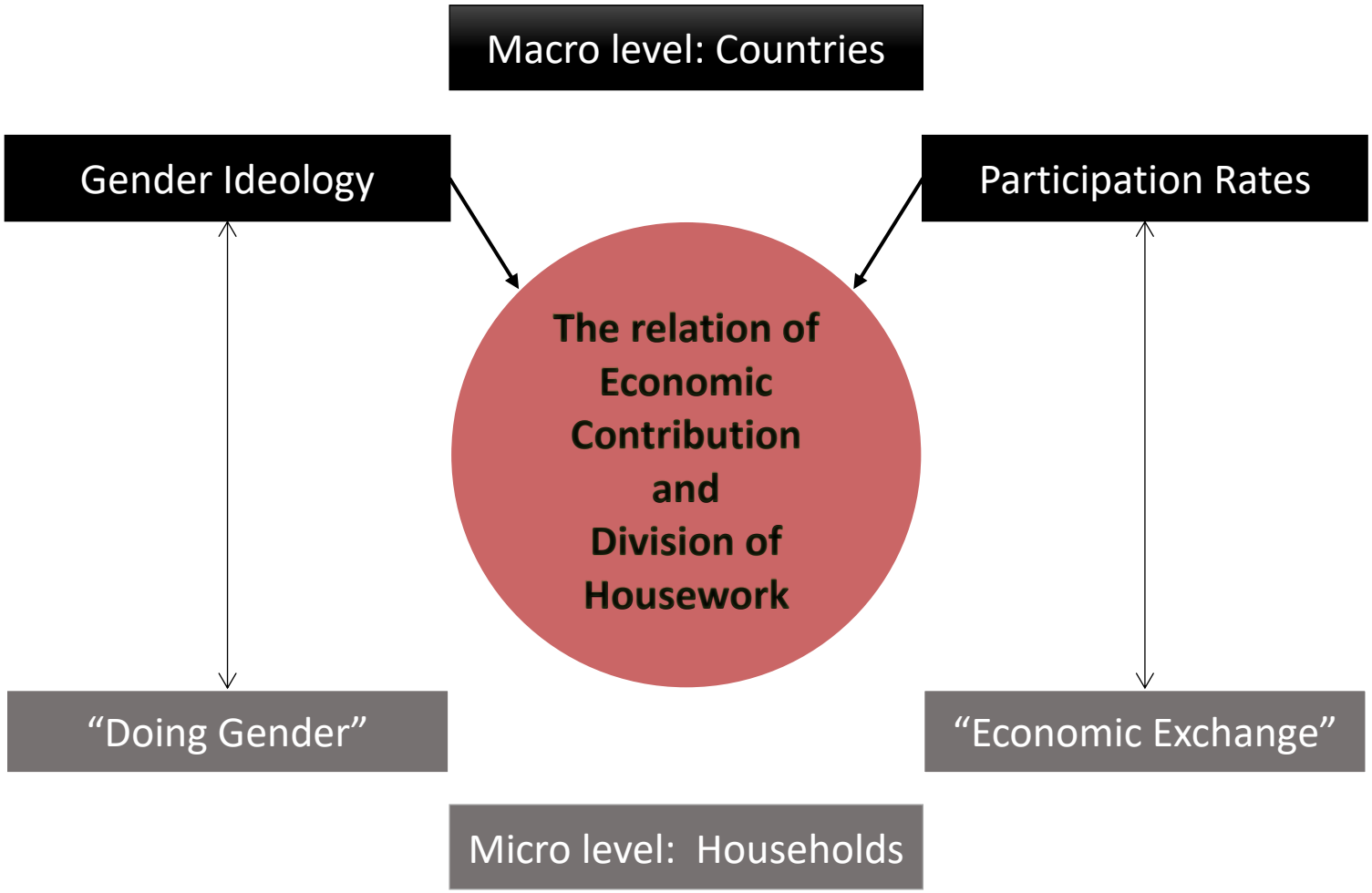


Figure 1: Micro- and macro-level mechanisms influencing the relationship between economic dependency and division of housework

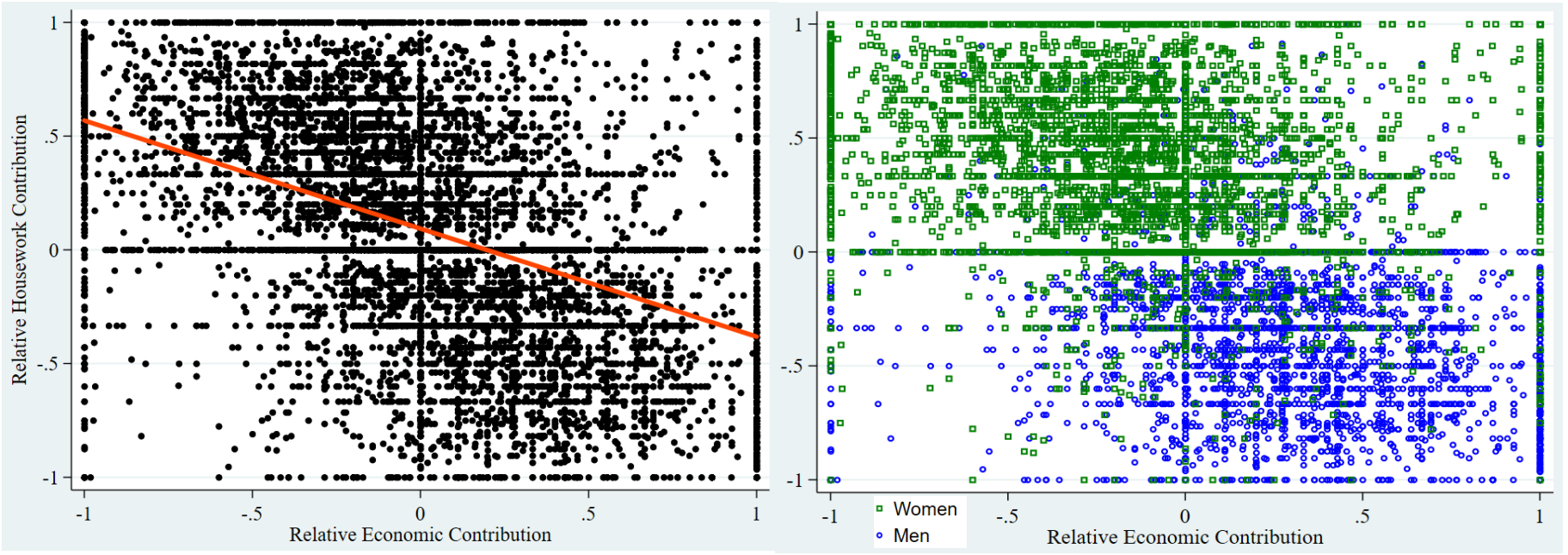


Figure 2: Relationship between Economic and Housework Contribution

Figure 3: Restricted Cubic Splines depicting the relationship between Wife's Economic Contribution and Housework Contribution

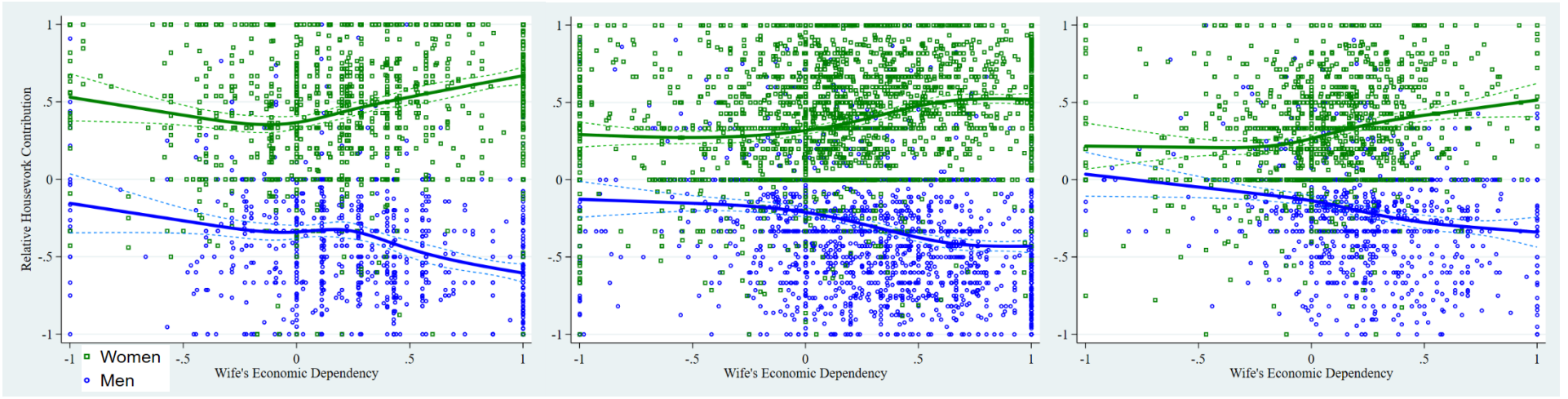


Figure 4: Restricted Cubic Splines depicting the relationship between Wife's Economic Contribution and Housework Contribution, by gender ideology clusters

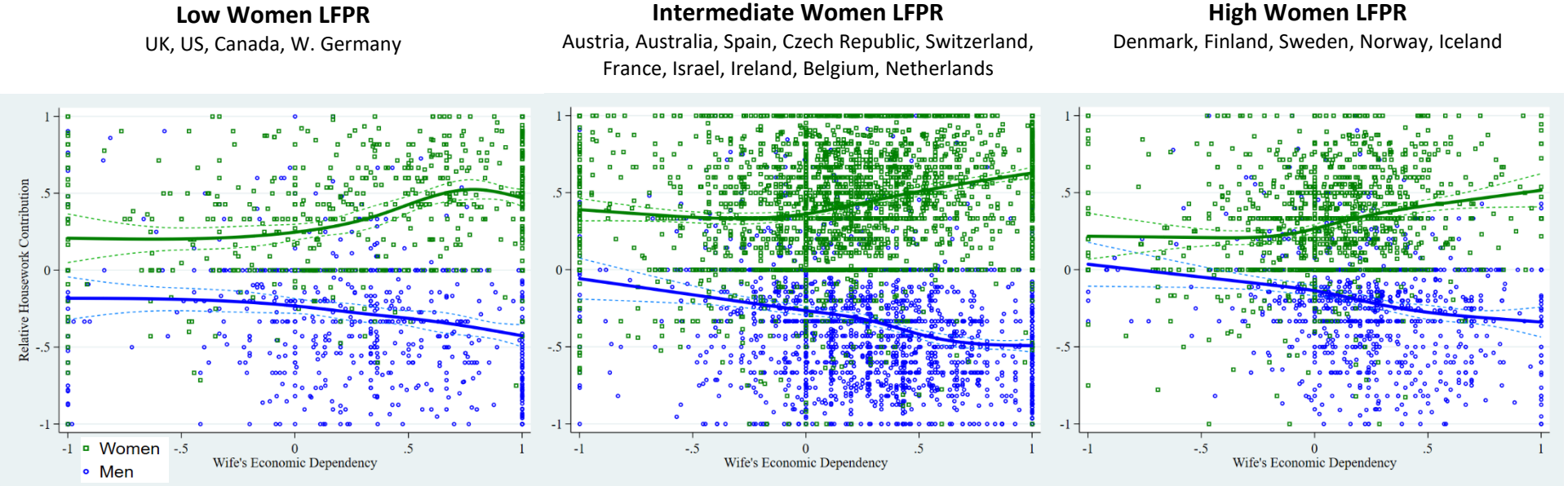
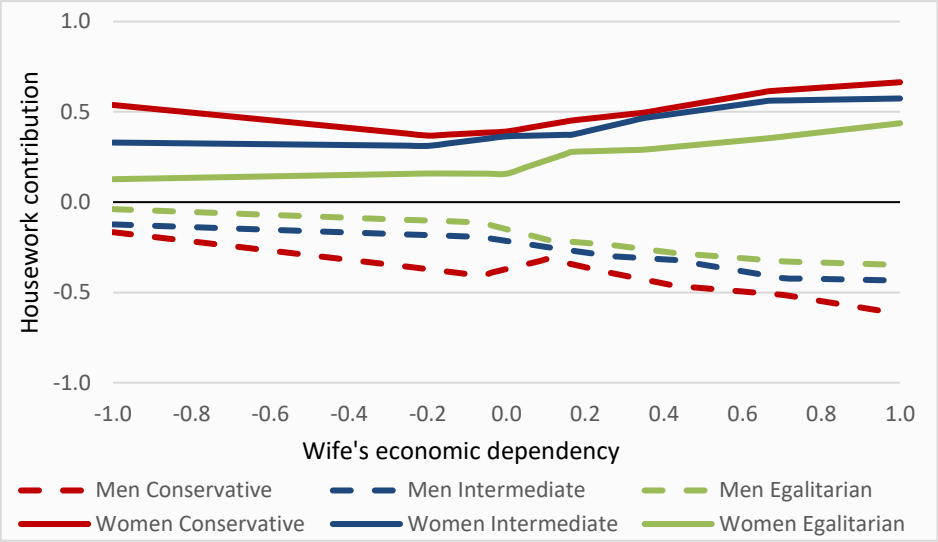


Figure 5: Restricted Cubic Splines depicting the relationship between Wife's Economic Contribution and Housework Contribution, by LFPR Clusters

Figure 6: Predictions of housework contribution, by wife's dependency level, gender and country cluster

Gender Ideology clusters

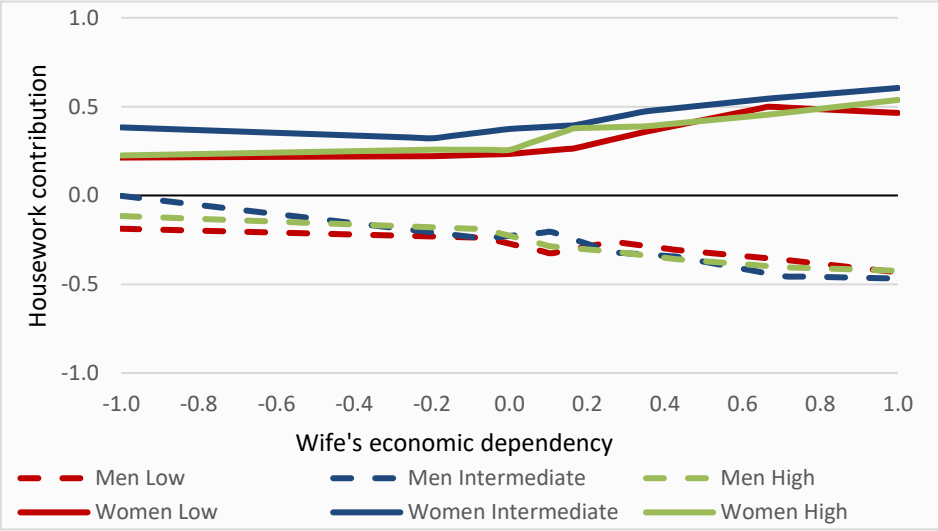


Conservative: Spain, Czech Republic, Israel, Austria.

Intermediate: Switzerland, Belgium, US, Australia, UK, Ireland, France, W. Germany, Canada, Netherlands.

Egalitarian: Denmark, Finland, Sweden, Norway, Iceland.

Women's participation clusters

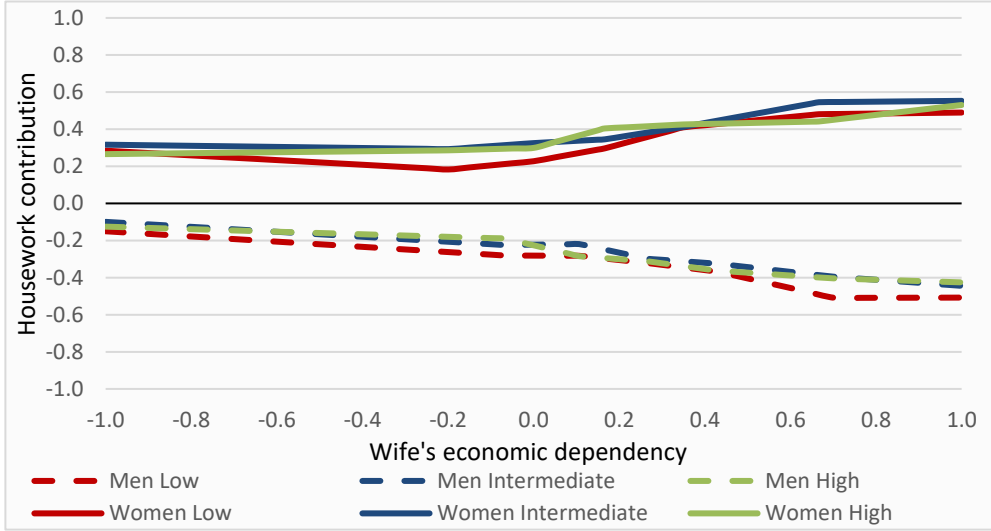


Low: UK, US, Canada, W. Germany.

Intermediate: Austria, Australia, Spain, Czech Republic, Switzerland France, Israel, Ireland, Belgium, Netherlands.

High: Denmark, Finland, Sweden, Norway, Iceland.

Full time work participation clusters



Low: UK, W. Germany, Netherlands.

Intermediate: Austria, US, Canada, Australia, Spain, Switzerland, France, Israel, Ireland, Belgium.

High: Denmark, Finland, Sweden, Norway, Iceland, Czech Republic.