Inequality in the family: The institutional aspects of women's earning contribution

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**A B S T R A C T**

This paper examines the effect of employment-supportive policies and arrangements on women's economic contribution to their family. Using samples of working-age couples in 21 countries we employ multilevel modeling to separate the effects of household and country-level variables on earnings. We distinguish two types of relevant contextual factors: those that support women's employment while preserving their domestic roles and those that potentially reduce intra-family economic inequalities by allowing women to allocate more of their time to paid employment. The findings suggest that all employment-supportive policies and arrangements increase women's relative contribution to the household income through their effect on female labor force participation. Among dual-earner families, however, higher rates of childcare facilities increase women's contribution, while long maternity leave and part-time employment decrease it. These tendencies are more pronounced among mothers.

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1. Introduction

The mass entry of women into the labor force, evident in most Western societies in recent decades, has attracted scholarly interest in two major themes. The first is aimed at identifying factors leading women to participate in the labor market. Here attention has been paid to the role of policies and work arrangements intended to lessen the conflict between work and family demands. Such arrangements proved to facilitate women's employment, especially during periods when their families placed high demands on their time (Gornick et al., 1998; Gornick and Meyers, 2003; Pettit and Hook, 2005). The second theme focuses on the implications of women's paid work for their social and economic standing within the family (Sorensen and McLanahan, 1987; Van Berkel and De Graaf, 2000; Sorensen, 2005; Raley et al., 2006).

The theoretical arguments and empirical evidence linking women's paid work to their economic standing on the one hand, and to the presence of employment-supportive arrangements on the other, lead us to study the effect of such arrangements on women's relative economic position in their families. Clearly, to the extent that these arrangements encourage women's participation in the labor force they also contribute to enlarging their relative input into family income. A working woman, even with low income, makes a larger economic contribution than a non-working woman. However, in most cases women are still "secondary breadwinners" because their earnings are lower than those of their male partners. So the more interesting question is whether employment-supportive arrangements can alleviate intra-family economic inequalities beyond their effect on women's labor force participation.
In order to understand the effect of employment-supportive arrangements on women's relative economic standing we propose a distinction between two types of arrangements: those which support labor force participation per se, and those which potentially improve women's economic achievements in the labor market. Since the two types of arrangements raise women's labor force participation (Gornick and Meyers, 2003; Mandel and Semyonov, 2005) they are often perceived as reducing gender inequality in families (Bianchi et al., 1999). However, their implications for women's economic standing in the family are more complex, because some working-facilitating arrangements may discourage labor market achievements. Long maternity leave or part-time employment, for example, allow women to combine work and family demands, but may preserve their role as secondary breadwinners (Morgan and Zippel, 2003; Mandel and Semyonov, 2006; Bardasi and Gornick, 2008). In contrast, employment arrangements that improve women’s economic standing in the labor market have the potential of enhancing women’s economic position in their families.

This paper sets out to explore the effects of these two types of social policies on wives’ economic standing in the family. The empirical analysis is based on data obtained from 21 industrial countries. According to our theoretical arguments, we first demonstrate the effect of policies on women's economic contribution through their effect on female labor force participation. Then we focus on dual-earner households to explore the distinct effect of the two types of policies described above on women's relative contribution to their families' incomes.

2. Theoretical considerations

Stratification research focuses largely on gender inequality in the labor market as a way to understand women’s position in society. Accordingly, much attention is paid to individual, structural and institutional factors that affect women’s participation in paid employment and their access (or lack of access) to lucrative jobs. Women’s position in their families, while studied extensively by family scholars, was not always seen as part of the stratification research agenda. However, recent literature on women’s position in the labor market has emphasized the effect of family obligations and family arrangements on women’s labor supply, and their patterns of involvement in market work (Han and Moen, 1999; Bardasi and Gornick, 2008). Studies show that women tend to interrupt their employment following the birth of a child (Budig and England, 2001; Uunk et al., 2005) by “scaling back” and moving from full-time to part-time employment, or by changing their career plans when the family demands more of their time (Becker and Moen, 1999; Stier, 1998). Career interruptions affect women’s market rewards (Budig and England, 2001) and their ability to advance in the labor market like men. Part-time employment, for example, is a common strategy for combining paid and unpaid work, but it has costly short-term and long-term consequences. The limited opportunities in part-time jobs lead to a wage penalty (Bardasi and Gornick, 2008), which in turn reduces women’s ability to accumulate resources along the life course (Ginn and Arber, 1998). The way families organize their time and responsibilities, then, determines women’s ability to accumulate resources at any given point of time and along their life course.

Sociologists of the family have emphasized the importance of women’s economic resources for their power position in the family, and for their ability to increase equality in task and time allocation (Shelton and John, 1996; Brines, 1994; Hobson, 1990; Bittman et al., 2003). Access to independent resources, such as income from paid work, increases women’s power in two important dimensions, defined as “voice” and “exit” (Hirschman, 1970; Hobson, 1990). On the one hand, power accrued from women’s economic resources allows them to affect family decisions, to “have a voice” within the family in matters regarding the organization of the household (Brines, 1994; Spain and Bianchi, 1996; Stier and Lewin-Epstein, 2000; Bittman et al., 2003). Indeed, studies have found that women’s absolute and relative earnings resulted in less inequality in task and time allocation in the household (Bittman et al., 2003; Cooke, 2004; Lewin-Epstein et al., 2006; Stier and Lewin-Epstein, 2007). At the same time, access to independent economic resources also allows women to exit unhappy or non-satisfying relationships altogether (Oppenheimer, 1997; Ross and Sawhill, 1975; Sorensen, 2005). Accordingly, an increase in the relative contribution of a woman to her family’s income has been found to enhance the risk of divorce (see Rogers, 2003; Sayer and Bianchi, 2000; Nock, 1995, 2001).

The steep rise in married women’s economic activity in recent decades has improved their economic standing in the family over time, if only because more women have access to an independent income from work (Sorensen and McLanahan, 1987; Van Berkel and De Graaf, 2000). While the number of households with women wholly dependent on their spouses for subsistence has declined dramatically, and although the number of families with equal contributions of men and women to family income has increased (Sorensen, 2005), most women in dual-earner households still earn less than their spouses, and in only few households do women out-earn their male partners (Winkler et al., 2005).

The lower earning contribution of women is a function of both spouses’ endowments, including their human capital, the amount of time they allocate to market work, the type of occupations they hold, and the way they structure their career (Sorensen and McLanahan, 1987; Bianchi et al., 1999; Bardasi and Gornick, 2008). Women in general are disadvantaged in terms of human capital resources and market power compared with their spouses. While important changes have taken place in the patterns of mate selection in recent years (Blossfeld and Timm, 2003) women still tend to be younger (and in some cases also less educated) than their spouses. So they enter the relationship with a human capital disadvantage—in particular less working experience, which diminishes still more as life goes on. With the birth of children the unequal burden of childcare and housework becomes the major obstacle to women’s economic independence (e.g., Sorensen and McLanahan 1987; Bianchi et al. 1999; Van Berkel and de Graaf, 1998). Women—who carry the lion’s share of housework and care work,
are much more constrained in their occupational and career choices, limited in the amount of time they can allocate to paid employment, and have difficulty maintaining continuous attachment to the labor force (Han and Moen, 1999; Uunk et al., 2005). Due to their interrupted and reduced employment, women are perceived by employers as less committed to market work, and tend to be discriminated against in hiring and wages.

2.1. The effect of policies on women's economic contribution

The obvious effect of family constraints on women's work patterns, hence on their labor market attainment, raises the question of whether social policies and employment arrangements aimed at reducing work/family incompatibilities constitute a way of reducing economic inequality within families. Three major types of employment-supportive arrangements have been implemented in most Western countries: care leave policies, including maternity and parental leave as well as other (paid or unpaid) arrangements for care leave; childcare facilities (partly or wholly subsidized) and the organization of the school day; and non-standard working schedules, including part-time employment, short work days, or flexible hours (Gornick et al., 1997; Gornick and Meyers, 2003; Kamerman, 2000a,b; Morgan and Zippel, 2003; Stier et al., 2001). Although all these measures exist in some form in nearly all advanced societies, substantial cross-national variation exists in the types of arrangement available, in the level of state involvement in providing the different services, and in the level of subsidy (Gornick and Meyers, 2003; Kamerman, 2000a,b; Morgan and Zippel, 2003).

The effect of employment-supportive provisions on women's labor force participation rates is well documented (e.g., Daly, 2000; Orloff, 2002; Gornick and Meyers, 2003; Mandel and Semyonov, 2006). In particular, Gornick et al. (1998) found that in countries with generous family policies women were more likely to participate in paid employment even when family demands were high. However, as Mandel and Semyonov (2005, 2006) demonstrated, the influence of these arrangements on women's economic gains is complex, so their effect on patterns of economic inequality in families is still an open question.

How might employment-supportive policies influence women's relative earning contribution? The improvement of women's economic independence (measured over time or cross-nationally) due to their labor force participation indicates that policies and market arrangements promoting it contribute to their economic position in their families because more women have access to a paycheck as a result of their own paid work. This is not to say that all policies necessarily enhance gender equality in the labor market or in families. In fact, some may do exactly the opposite. Whether employment-supportive arrangements contribute to gender equality in work-related characteristics depends greatly on the specific type of policy or work arrangement and its underlying motivation. For example, care–leave policies are generally considered a way to reduce work–family incompatibilities. As Pettit and Hook (2005) demonstrate, parental leave lowers the barriers to mothers' employment raised by the presence of young children. They allow mothers to take time off when the children are young and to return to their jobs when they are older. But Morgan and Zippel (2003) argue that in many countries care policies were developed under traditionalist conservative governments seeking to promote mothers' care of children in the home. Not only were these policies not aimed at increasing mothers' employment, often they were purposely meant to reduce women's labor force participation at a time when men had difficulty finding work (p. 60).

When maternity leave policies are provided, and taken for very long periods, employers are reluctant to hire and promote women to valuable, high paying jobs. Gornick and Meyers (2003) maintain that leave policies can be costly to women's economic opportunities: “If parental leave is taken up mostly or exclusively by women, mothers and children might benefit from extensive periods of maternal care giving; these same arrangements, however, will weaken women's labor force attachment and exacerbate gender inequalities at home and in the workplace” (p. 133). This claim is supported in Pettit and Hook's (2005) findings that very long parental leave reduces the probability that mothers of young children participate in paid employment. Following these arguments, we contend that a long (and generous) maternity leave detaches mothers from paid employment for an extended period, and can therefore be costly for their labor market opportunities. In contrast, maternity leave of moderate duration can pave mothers' way back to the labor force, and thus strengthen their ties to the labor market (OECD, 2001).

Reduced-time employment can also be a double-edged sword for women. On the one hand, it serves as a way to attract women into the labor force because part-time jobs enable mothers to combine paid and unpaid work. On the other hand, in most countries substantial wage penalties are associated with part-time employment, together with occupational segregation and exclusion from most lucrative jobs (Gornick and Jacobs, 1996; Bardasi and Gornick, 2008; McGinnity and McManus, 2007). In sum, we expect reduced-time working arrangements to impair women's economic standing in dual-earner households.

Some forms of employment-supportive policy clearly do have the potential to promote gender economic equality in the labor market, and consequently in the family. Among these are extended and subsidized childcare facilities that enable all women to participate in paid full-time employment, thereby enhancing their economic rewards (Pettit and Hook, 2005; Gornick and Meyers, 2003). True, childcare facilities are not necessarily motivated or designed in order to support women's advancement in the labor market. Nonetheless, by reducing the burden of, and time allocated to, childcare they can help women devote more time to paid work, and enter more demanding and usually better paying occupations.

While childcare facilities, maternity leave, and part-time employment affect the allocation of women's time to paid and unpaid work, the last policy we consider, namely legal restrictions on weekly working hours and overtime work, mostly affects men's time allocation. Consequently, these restrictions can potentially enhance gender equality in time allocation and the earning distribution within the household (Gornick and Meyers, 2003).
3. Hypotheses

According to our expectations, maternity leave should encourage women’s incorporation in the labor force in general because it helps them combine work with having children. However, prolonged separation from market work is likely to exert a negative effect on women’s economic position and the type of jobs they are able to secure. Therefore, we anticipate a non-linear effect of maternity leave on the relative economic contribution of women among dual earners. Very long leaves should increase women’s inferior position more than shorter leaves.

As opposed to maternity leave, childcare facilities, especially those for very young children, are expected to improve women’s standing in their family by supporting their labor force participation in general and by allowing working women to take on more demanding (and usually better paid) jobs. The scope of part-time employment, while considered as a way to combine paid and unpaid work, is associated with the limited opportunity structure that women encounter in the labor market as we argued earlier. Thus, we expect a high rate of part-time employment to reduce women’s economic contribution. In contrast, legal restrictions on working hours are expected to increase women’s economic contribution through their effect on men’s working hours.

Aside from the main effects of country characteristics on the general level of women’s economic contribution, we also expect the macro-level variables to interact with the presence of children in the household. We hypothesize that in countries with high coverage of childcare arrangements, and also in those with strict limits on maximum working hours, children will be less of an obstacle to mothers’ economic attainments (see Gornick et al., 1997). Therefore, among working women availability of childcare arrangements, and regulations limiting working hours, should reduce the “child penalty”, i.e. the difference between mothers and other women in relative economic contribution. Very long care leaves are expected to raise the costs of having children due to their effect on mothers’ employment patterns and types of occupation. Finally, we anticipate that the rate of part-time work in the economy will adversely affect the economic standing of women in general and mothers in particular, because it limits their prospects in the labor market in the long run.

4. Data and measurement

Data for the present analysis were obtained from the Luxembourg Income Study (LIS), which serves as an archive for comparable micro-datasets for a large number of industrialized countries. The analyses are based on 21 countries and include couple-headed (heterosexual) households in which the couples (married or cohabiting) were aged from 25 to 60 years. The countries are Finland, Norway, Sweden, Denmark, Germany, France, Belgium, Luxembourg, the Netherlands, the UK, Australia, the USA, Canada, Ireland, Italy, Austria, Spain, Israel, Hungary, the Czech Republic, and the Slovak Republic. Data for Denmark were obtained from the Danish Leisure Study of 1993. The other samples were collected between 1991 and 2000, and covered 5000–18,000 households in each country. To this survey we added information on country characteristics which was collected from various sources, as detailed below and in Appendix Table A1.

Because of our interest in intra-household inequality the dependent variable is the relative annual earnings of women, which reflects their economic independence from their spouses. This measure is computed as the proportion of woman’s earnings out of the couples’ total earnings. We used respondents’ annual earnings from work,1 which is the primary income source in the households. We excluded other sources of income since they could not be related directly to a specific spouse (e.g., cash property income or rental income) or because they were not consistently reported for all countries. The relative earning measure is expressed as

\[ \text{Women’s earning contribution} = \left( \frac{\text{earnw}}{\text{earnw} + \text{earnh}} \right) \]

where earnh is husband’s earnings and earnw is wife’s earnings. We then multiplied the value by 100 so that the measure ranges from 0 (the woman does not contribute to the household income) to 100 (the woman contributes all of the family’s income). The former means that the woman is totally dependent on her spouse while the latter implies total economic independence; the value of 50 indicates equality in spouses’ earnings. The effects of the independent variables can then be interpreted as percentage point changes in the level of women’s contribution.

Two types of explanatory variables are introduced into the models: individual (or household) attributes and country characteristics. Variables on the first level (hereinafter the individual level) were found in past research to affect the relative earnings of married spouses (or to affect wives’ “economic dependency”), and serve here mainly to control for possible cross-national variation. Controlling for the composition of predictors of couples’ relative income allows us to estimate the “net” effect of policies, which are introduced on the second level. These variables include several characteristics of the women, their spouses, and their families. We include the absolute and relative levels of human capital (i.e. education and age) because both are important for understanding spouses’ relative earning contribution. Education is measured by whether the woman has post-high school education (=1, otherwise = 0) and whether she is more educated than her husband (=1, otherwise = 0).2 Age, as a proxy for work experience, is measured by women’s age and the age difference between

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1 Most countries reported on gross earnings only. Austria, France, Hungary, Ireland, Italy, Luxembourg, and Spain provided net earnings only, which are expected to be more equally distributed.

2 Because detailed education levels are not comparable across LIS countries we rank educational categories on a hierarchical scale to compare spouse’s educational levels.
spouses. As noted above, an important determinant of earnings is time allocated to paid work. The relative time allocation of spouses is the main factor that accounts for their different economic contributions, so couples’ hours of work are measured by reported regular weekly hours, in relative terms (the woman’s hours of paid work as a proportion of her spouse’s weekly hours).

Family characteristics are measured by the number of children aged 18 or younger in the household, and whether preschool children are present (=1, otherwise = 0). Our models control also for household income. We expect that in low-income families women’s relative contribution may be more significant, even though their absolute wage may be lower. To allow cross-country comparison this measure was converted into country-specific percentiles for standardization across countries (see Gornick et al., 1997 for a similar procedure). Lastly, to track the mechanism by which policy influences women’s economic standing, we control for women’s employment (employed = 1, otherwise = 0) in the model for the entire population. Comparison of models that do and do not control for women’s employment can indicate the extent to which the effect of policies on women’s earning contribution is mediated by their work activity. Definitions and descriptive statistics for all individual-level variables are presented in Appendix Table A2.

On the macro level we consider four measures which refer to the three types of family-supportive arrangements discussed above. Care-leave policies are measured by the number of paid weeks of maternity/parental leave. We employ this indicator because paid maternity or parental leave are income-related benefits which are widely used by all families, thus insuring comparability across countries (Morgan and Zippel, 2003). Although paternal leaves allow both parents to take the leave, this right is in fact almost exclusively used by mothers (see Bergman and Hobson, 2002). Additions to these leaves are unpaid leaves or care allowances. The latter refer to partly-paid childcare leave, which has become common in recent years mostly in continental Europe and in some Scandinavian countries. In contrast to the income-related benefits which are widely used for the entire period, care allowances are on a flat-rate basis and barely reach a third of the average wage, at best (OECD, 2005; Morgan and Zippel, 2003). Information on utilization of unpaid or flat-rate leaves is not universally available across countries. Moreover, when leaves are paid at a low rate the decision to take them is often subject to the family’s economic necessities and the parents’ preferences. Finally, because we expect a non-linear effect of maternity leave on women’s relative contribution, we differentiate countries allowing up to 24 weeks from countries that provide “long leave” (25 weeks or more).

Childcare arrangements are measured as the percent of children aged 0–3 in day care (Gauthier, 1999; Meyers and Gornick, 2000; selected country statistics). We chose this measure over the more conservative indicator of preschool children (aged 0–6 years) in daycare because it is clearly aimed at facilitating women’s employment while childcare for older children may also be oriented to children’s education (e.g., Korpi, 2000). Two indicators capture working time patterns: regulation of working hours, measured as the legal maximum number of weekly working hours (OECD, 1998; Gornick and Meyers, 2003), and the scope of part-time employment, measured by the percent of working-age females in part-time employment (data obtained from OECD, 2002 according to each country’s definition of part-time work).

In addition, we also control for a country’s level of wage inequality by measuring the income ratio of the 90th to 10th earnings percentiles. As demonstrated in previous studies, the overall level of earnings inequality explains a significant portion of cross-national differences in the average male-female wage gap (e.g., Blau and Kahn 1995, 2001). Because high levels of earnings inequality increase the gender wage gap, we expect that countries with a higher level of wage inequality will also be characterized by higher economic inequality in the family.

5. Method of analysis

Our interest in the effects of contextual factors on variations in women’s earning contribution across countries leads us to employ multilevel modeling (Bryk and Raudenbush, 1992), where the dependent variable is women’s relative earning contribution and both individual- and country-level variables serve as independent variables. With this type of analysis we can model the effects of country-level characteristics on the dependent variable net of the effects of individual-level characteristics. The two-level model can be represented by a set of equations. The first is a within-country equation, which models women’s relative earnings as a function of individual (or household) characteristics, as illustrated below:

$$ (\text{Women’s relative earnings})_{ij} = \beta_0 + \beta_1 (\text{NChild})_{ij} + \beta X + \epsilon_{ij} $$

The dependent variable is women’s relative earnings in household i and country j; \( \beta_0 \) is the intercept, denoting the average relative contribution of women; \( \beta_1 (\text{NChild}) \) denotes the effect of the number of children in the household on the relative earnings, \( X \) is the vector of all other individual-level characteristics (education, working hours, age, etc.), and \( \beta \) is the vector of their coefficients. \( \epsilon_{ij} \) is the error term. Any of the individual-level variables can be modeled as having random or fixed effects across countries. All our models allow the intercept, \( \beta_0 \) (the net level of women’s relative earnings), to vary across countries (i.e. to be random). We then explain this variation with country characteristics, as presented in Eq. (2):

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3 The cut-off point is slightly above the average and it was determined empirically. Most countries in our sample provide at least 16 weeks of paid maternity leave. Only seven of the 21 countries exceed 24 weeks. In preliminary analyses, we examined a more refined distinction among short, moderate, and long periods of leave. The findings indicated no significant difference between short and moderate periods. To save degrees of freedom, we use a dichotomous distinction in our final models.
The overall variation in women’s relative earning contribution across countries, and the comparison between all households and dual-earner households, indicate that a complex of factors operates to affect the relative economic standing of women in their families above and beyond their labor force participation. A better understanding of these patterns requires consideration of both country- and individual-level characteristics, which is the purpose of our multilevel analysis. We begin by demonstrating the effect of the employment-supportive arrangements on women’s relative earnings among all working-age households. To isolate the impact of the different arrangements on women’s labor force participation Table 1, contains two models, the second of which controls for whether women work for pay. The individual- and household-level characteristics in the models operate as expected: the relative contribution is higher among college-educated women ($b_1j = 5.493$) and insofar as women are more educated than their partners ($b_0j = 2.977$) and if they include preschool children ($b_1j = 7.023$). These findings confirm that children, especially young ones, extract a high price in terms of their mothers’ ability to gain access to independent economic resources. In addition, older women make a lower contribution, which is not surprising since they are less likely to participate in paid employment.

6.1. Individual- and country-level determinants of women’s relative earnings

The overall variation in women’s relative earning contribution across countries, and the comparison between all households and dual-earner households, indicate that a complex of factors operates to affect the relative economic standing of women in their families above and beyond their labor force participation. A better understanding of these patterns requires consideration of both country- and individual-level characteristics, which is the purpose of our multilevel analysis. We begin by demonstrating the effect of the employment-supportive arrangements on women’s relative earnings among all working-age households. To isolate the impact of the different arrangements on women’s labor force participation Table 1, contains two models, the second of which controls for whether women work for pay. The individual- and household-level characteristics in the models operate as expected: the relative contribution is higher among college-educated women ($b_1j = 5.493$) and insofar as women are more educated than their partners ($b_0j = 2.977$) and if they include preschool children ($b_1j = 7.023$). These findings confirm that children, especially young ones, extract a high price in terms of their mothers’ ability to gain access to independent economic resources. In addition, older women make a lower contribution, which is not surprising since they are less likely to participate in paid employment.

In our final model we also add the interaction between employment-supportive arrangements and the number of children (later presented in model 2 of Table 2), by allowing the intercept, $b_{0j}$, as well as the effect of number of children ($b_{11}$), to vary across countries, while all other individual-level variables are fixed. This is presented in Eq. (3):

$$b_{0j} = \gamma_{00} + \gamma_{01}(\text{childcare})_j + \gamma_{02}(\text{maternity leave})_j + \ldots + \nu_{0j}$$

In Eq. (2) the variation in the average level of women’s earning contribution across countries (variation in the intercept) is modeled as a function of contextual factors (e.g., childcare facilities, maternity leave, rate of part-time employment, etc.). A positive sign of $\gamma_{01}$, for example, would support the claim that in countries with more public childcare facilities the level of women’s economic contribution is higher. In Eq. (3) country differences in the effect of number of children on women’s relative earnings (the coefficient $b_{11}$ (Nchild) in each country) are modeled as a function of the different countries’ characteristics. Again, a positive sign of $\gamma_{11}$ would indicate that although in general children are negatively related to the economic contribution of mothers ($b_{11}$), with the availability of childcare arrangements the economic contribution of mothers increases (the “cost” of each child decreases).
employment. Indeed, this effect is reversed when women’s employment is controlled in Model 2. The relative earnings increase as the age difference between spouses expands. A wide age difference indicates higher likelihood of women being sole providers as their spouses get older and retire from paid employment. Lastly, in Model 1 women’s relative contribution is higher in households with a higher level of family income. However, after controlling for women’s labor force participation (Model 2) the effect of family income becomes negative, indicating that women’s economic contribution declines as the level of family income increases. The negative coefficient in Model 2, which indicates higher gender equality in families with lower income, implies that in families with economic difficulties women must allocate more of their time to paid work.

The first model of Table 1 includes four indicators at the country level: maternity leave and childcare arrangements which are the indicators for reconciliation policies, and the scope of part-time employment and regulation of working time, which capture labor market arrangements regarding weekly working time. Starting with the latter, working-time regulations have no significant effect on women’s relative position, but the rate of female part-time employment has a negative influence ($c = -0.218$). This finding points to the limited access that women in this type of employment have to lucrative positions in the labor market, and the low level of earnings they are therefore able to achieve (see also Bardasi and Gornick, 2008).

The two family policy variables—maternity leave and child-care arrangements, are positively correlated with the relative earnings of women ($c = 0.225$, $c = 0.187$), respectively, indicating that in countries with higher support for women’s employment, their economic independence is higher. These results confirm that better conditions for combining work and family improve women’s ability to participate in paid employment, and thus increase their contribution to family income.

To test these explanations our second model controls for woman’s economic activity (whether she participates in paid employment). The model shows, as expected, that introducing women’s economic activity completely alters the coefficients for most country-level variables. Except for the influence of part-time employment, which remains negative and significant, the effects of childcare facilities and maternity leave become insignificant. These findings support our expectation that the effect of employment-supportive policy on women’s economic contribution is mediated by women’s labor force participation.

Fig. 1. Distribution of households by breadwinner type. Note: the figure does not present households with a female sole-breadwinner and those in which none of the spouses works. Thus, percents for each country do not add to 100.
Table 1
Multi-level models predicting women's relative earning contribution (standard errors). All working age (25–60) Couples, in 21 Countries.

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<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
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<tr>
<td><strong>House level variables</strong></td>
<td></td>
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<tr>
<td>Woman with BA</td>
<td>5.493* (0.274)</td>
<td>6.026* (0.192)</td>
</tr>
<tr>
<td>Woman more educated</td>
<td>5.533* (0.206)</td>
<td>2.791* (0.145)</td>
</tr>
<tr>
<td>Woman's age</td>
<td>−0.132* (0.014)</td>
<td>0.185* (0.009)</td>
</tr>
<tr>
<td>Spouses’ age difference (male–female)</td>
<td>0.169* (0.025)</td>
<td>0.174* (0.017)</td>
</tr>
<tr>
<td>Number of children in HH</td>
<td>−2.977* (0.095)</td>
<td>−1.421* (0.067)</td>
</tr>
<tr>
<td>Presence of children &lt;6</td>
<td>−7.023* (0.256)</td>
<td>−0.384* (0.181)</td>
</tr>
<tr>
<td>Household income</td>
<td>1.785* (0.346)</td>
<td>−20.380* (0.256)</td>
</tr>
<tr>
<td>Woman in the labor force</td>
<td></td>
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<tr>
<td>Intercept</td>
<td>23.43* (8.91)</td>
<td>9.105 (5.292)</td>
</tr>
</tbody>
</table>

**Country-level variables**

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<tr>
<td>Effects on intercept</td>
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<tr>
<td>Maternity leave (paid weeks)</td>
<td>0.225* (0.089)</td>
</tr>
<tr>
<td>% Children 0–3 in day care</td>
<td>0.187* (0.081)</td>
</tr>
<tr>
<td>% Women working part-time</td>
<td>−0.218* (0.076)</td>
</tr>
<tr>
<td>Work-time limits</td>
<td>0.221* (0.151)</td>
</tr>
<tr>
<td>N (n countries)</td>
<td>70,604 (21)</td>
</tr>
</tbody>
</table>

* p < 0.05.
To probe the effects of policy on the economic standing of women who already participate in paid employment, Table 2 presents models that pertain to dual-earner households. In addition to the individual/household-level variables included in the models presented in Table 1, we also control for the couple's relative working hours. The effect of women's relative working hours on their relative contribution is positive ($b = 7.090$), as expected, meaning that as women allocate more hours to market work (relative to their spouses' time allocation) their economic contribution increases.

On balance, the effect of the individual/household-level variables on women's relative earning contribution is similar in dual-earner and all families, although the coefficients are substantially lower. This means that while similar individual and household factors affect the relative position of working and non-working women, part of the effect is mediated by women's employment status. The effect of household income among dual earners reinforces our previous finding that low-income families experience higher gender equality. An exception is the effect of spouses' age difference, which changes direction: from positive in the total population to negative among the dual earners. As noted earlier, the relatively wide age differences in households where husbands do not work explain the positive effect of this variable on women's relative contribution. However among dual earners, where age serves as a proxy for work experience, the spouses' age difference is indicative of the gap in their work experience (in favor of the male partner). Also, a wide age difference may reflect traditional gender ideologies, consequently a conservative division of household tasks, which results in lower levels of women's relative earnings.

Turning to the country-level independent variables, the first model in Table 2 presents the effects of family policies, part-time employment and a measure of overall earnings inequality. In preliminary analyses we found that the “working hours regulation” variable did not affect the relative contribution of women to their family income, so it was not included in the final model. Long duration of maternity leave significantly decreases women’s economic contribution among dual-earners, as expected ($\gamma = -3.207$). While the former was found to increase women’s economic contribution in the previous Table by facilitating paid and unpaid work, the negative effects among dual-earners can be attributed to the consequences of long absence from the labor market. As opposed to the effect of maternity leave, the extent to which countries provide support for childcare significantly increases women’s economic independence ($\gamma = 0.068$). The rate of female part-time employment negatively affects the relative earnings ($\gamma = -0.181$), emphasizing again the detrimental effect of part-time employment on working women’s economic prospects (above and beyond their own allocation of time to paid work). Lastly, women’s earning contribution is significantly higher in countries with lower income inequality, confirming the results of prior research.

The second model in Table 2 presents country-level effects along with their interaction with the number of children in the household. The model reveals the complex relationship between the factors that affect women’s economic contribution. It is based on the assumption that having children in the household affects women’s ability to gain economic independence differ-
ently in different countries, and attempts to explain this diversity by employment-supportive arrangements. The cross-level interaction coefficients in Model 2 indicate that the availability of childcare facilities and long maternity leave affect the costs of having children in the household in opposite directions ($\gamma = 0.053$ and $-1.337$, respectively). This means that in countries with greater availability of childcare facilities, the tendency of children to reduce their mothers' economic contribution is weaker. Day care facilities for infants allow mothers to maintain a continuous attachment to the labor market and enter more demanding, full-time jobs that eventually improve their standings in the family. In contrast, the ‘child penalty’ is higher in countries that offer long maternity leave than in countries that offer only modest leave schemes, again, probably because the former arrangement encourages long separation from paid employment and as a consequence limits women’s future opportunities in the market. Similarly, in countries with higher rates of part-time employment the “cost” of children is higher than in countries in which this type of employment is less frequent.

Fig. 3. Predicted levels of women's economic contribution by the number of children and country characteristics, dual-earner household.
To illustrate these interaction effects, Fig. 3 shows predicted rates of women’s economic contribution at the mean of all control variables, for women with two children and women without children at home. The first part of Fig. 3 demonstrates the effect of maternity leave on the dependency level of the two groups of working women. In countries that provide short-term leave women are not penalized for having children, while in countries that provide longer periods of separation from paid employment the relative earnings of women with two children decline by almost 5 percentage points as against women with no children in the household.

Similarly, the availability of childcare facilities in a country has no effect on women without children at home, but increases the relative contribution of women with children, thereby greatly narrowing the gap between the two groups. As illustrated in the second part (B) of Fig. 3, in countries with relatively few childcare facilities mothers make a significantly lower economic contribution to their family income than other women. The gap between the two groups declines and eventually disappears in countries with very extensive childcare provision.

Lastly, the effect of a country’s rate of part-time work is detrimental to all women, and more so to mothers. While in countries with low levels of part-time employment there is apparently no difference in the relative earnings of women with and without children, the gap between these two groups of women increases dramatically with a rise in the level of part-time employment (the difference amounts to more than 7 percentage points in countries where 50 percent of the female workforce is employed part-time). These findings indicate the role of the labor market opportunity structure in shaping mothers’ inferior patterns of employment and economic position.

6.2. Summary: how policies matter

The findings thus far point to a significant effect of the different policies and arrangements on women’s ability to gain equality within their families. To get an impression of how policies matter, we calculated the predicted earning contribution of a typical two-child family (based on the coefficients in Model 2 of Table 2) allowing only the three policy measures—long maternity leave, rate of childcare, and rate of part-time employment—to vary across countries. Fig. 4 illustrates the variation in women’s economic contribution that results merely from cross-country policy variations. Because countries have different policy bundles, and since every policy has its distinctive effect, the predicted earning contribution is the outcome of each country’s unique policy configurations. The lowest earning contribution of women (28%) is observed in the Netherlands, which also has the highest rate of part-time employment, while the highest earning contribution is in Hungary (39%), which has the lowest rate of part-time employment. All countries at the high end of the distribution—Hungary, Denmark and the USA—have relatively low rates of part-time employment. Likewise, all four countries at the other extreme—Norway, the Netherlands, Australia and the UK—have high rates of part-time employment. These findings imply that what affects mostly women’s ability to gain equality within the household is the availability (or rather the lack) of part-time work. These findings support the claim that the penalties associated with this type of employment may be more substantial than its gains (see e.g.,
Ginn and Arber, 1998; Bardasi and Gornick, 2008). Note, however, that while policies play a significant role in explaining cross-country variation in women's economic gains (the correlation between the actual and predicted contributions is \( r = 0.65 \)), unique country characteristics have their effect as well. Thus, while the contribution of working women in Hungary and Denmark is quite well explained by the countries’ policy configuration (see in comparison to Fig. 2), the actual contributions of working women in countries such as Norway and Austria are high despite the existing policies.

Having demonstrated the importance of policies, and having stressed their distinctive effect on women’s economic gains, we must still understand how they work. As we argued above, policies and working arrangements create the conditions under which women work by affecting their ability to maintain a continuous employment, to enter more demanding jobs, and to allocate more of their time to market work, especially when they have childcare responsibilities. Since we used cross-sectional data, we had no information on women’s work interruptions or the experience they accumulated on the job. Interestingly, a look at spouses’ relative time allocation can shed some light on the mechanisms through which policies operate. Accordingly, we examined whether policies affect the relationship between spouses’ relative working hours and their economic contribution. As we contended, childcare arrangements should improve women’s market opportunities by allowing them to work more and to maintain continuous attachment to the labor market. Long maternity leave, in contrast, deteriorates women’s market opportunities because it leads to longer work interruptions. In Appendix Table A3 we present a model in which we allow the effect of women’s relative working hours to vary with the three policy indicators. In line with our theoretical interpretation, the effect of childcare arrangements becomes insignificant with the addition of the interaction-term with working hours, indicating that what we observed before (the effect of childcare in Table 2) can be attributed to differences in spouses’ relative working time across countries. In countries with high percentages of childcare coverage women tend to allocate more hours to paid employment so their working hours are more similar to those of their spouses. The interaction of working hours and maternity leave is significant and negative (\( \gamma = -6.74 \)), indicating that women who work longer hours (or hours more similar to their husbands’) pay a significant penalty in countries that offer generous maternity leave. This may indicate that these women are not able to overcome the damage to their career entailed by the long separation from paid employment, either because they incur human capital losses or because employers are reluctant to re-hire them. Interestingly, women who work longer hours minimize the cost of part-time work in countries with high rates of part-time employment (\( \gamma = -0.32 + 0.27 \)). This finding suggests that in such countries, full-time workers are highly selected and may be more career-oriented (Hakim, 2002), while the penalty is especially high for part-timers who may be segregated in jobs which offer low wages, as Bardasi and Gornick (2008) argue.

Furthermore, since we had no direct measure of employment continuity, we also re-analyzed the models with the addition of a macro-level variable that measures mothers’ continuous involvement in paid work. Adding this measure to the model (not shown here) eliminated the effect of childcare arrangements, implying that the effect of childcare on women’s economic contribution is indeed mediated by their ability to maintain continuous employment. Because we were limited in degrees of freedom, and because the two variables (childcare and continuity) were highly correlated (\( r = 0.68 \)) we did not include both of them in our final model. Although employment continuity should be measured, ideally, at the individual level, we believe that the high correlation between the two macro-level variables provides some support for our theoretical claim regarding the relations between them.

7. Summary and conclusions

In most advanced societies employment-supportive arrangements have been implemented to facilitate mothers’ employment. Most of these arrangements are aimed at reducing the conflict between work and family, by allowing women to take leaves when their children are young or by providing accessible childcare arrangements (Gornick and Meyers, 2003). In many countries women have been incorporated into paid employment through the availability of part-time jobs, especially at times of high family demand (Stier et al., 2001; Beechey and Perkins, 1987). In this paper we examined the effect of these arrangements on women’s relative earning contribution to their families. We hypothesized that while all reconciliation policies and arrangements contribute to the incorporation of women into paid employment and thus increase their economic contribution to family income, not all of them amplify women’s gains from employment. To test this argument we distinguished two types of policies and labor market arrangements: those that facilitate women’s employment but preserve their position as secondary breadwinners (long maternity leave, part-time work) and those that promote women’s ability to compete with men for market resources (childcare arrangements) or permit men to allocate more time to home (regulation of working hours). While the latter can potentially change the distribution of paid and unpaid work between the genders, the former sustain the economic inferiority of women to their spouses. Accordingly, we expected long maternity leaves and high rates of part-time employment to decrease women’s earning contribution when we limited the analysis to working women only, while the availability of childcare facilities and official limitations on working hours were expected to increase it.

6 The occupational coding schemes in the LIS data are not comparable across countries, and many countries do not provide sufficient (i.e. detailed) information on the type of jobs or occupations that women hold.
7 This measure indicates the percentage of mothers who worked during the child-rearing period in each country. It was calculated on the basis of questions V58 and V59 from the ISSP ‘Family and Changing Gender Roles’ module II (1994). For France, Denmark, Finland, Belgium, and Slovakia data were calculate from module III (2002). Luxembourg was omitted from this analysis due to missing data.
The findings of our study generally support our expectations, and reveal complex relationships between family policies, market arrangements and women’s economic standing in their families. As we anticipated, while labor force participation is a necessary and prior condition for mitigating the economic dependency of women on their spouses, some family policies aimed at increasing women’s employment have the opposite consequences for their economic status in the labor market, hence in their family. In the entire working-age population, maternity leave policies as well as childcare facilities were shown to enhance women’s economic position in their households, operating indirectly through their influence on female labor force participation. Employment-supportive arrangements, which are aimed mainly at women, indeed support their decision to become economically active, facilitate their participation in paid employment, and allow them better access to an independent income.

However, and in line with our expectations, policies and working-time arrangements operate differently in dual-earner families. Among women who have already decided to become economically active, higher rates of childcare facilities increase mothers’ economic contribution to family income by allowing them to maintain employment continuity and to allocate more of their time to market work. This mechanism is illustrated in our findings by the effect of child-care arrangements on time allocation, and thereby on earnings. In contrast, long duration of maternity leave increases the price of having children, because it provides an incentive for extended separation from paid employment. Similarly, the availability of part-time work in a country decreases women’s, and especially mothers’, relative earnings, above and beyond their own working hours. Part-time employment usually serves as a strategy for mothers of young children to combine work with family demands. From this point of view part-time employment can be seen as a way to increase women’s economic independence. Yet our findings emphasize the adverse effect of part-time work, which limits women’s prospects in the labor market more than it helps them to combine work and family demands (Ginn and Arber, 1998; Jacobs and Gornick, 1996; Bardasi and Gornick, 2008).

The literature on the consequences of employment-supportive policies concentrates mainly on policies aimed at encouraging mothers’ employment, and has thus far mainly addressed their effects on women’s labor supply. Our study extended this focus by examining the effect of work-time limits, a policy intended to affect men’s work behavior (Gornick and Meyers, 2003). Contrary to our expectations, we did not find a significant effect of the official maximum length of the working week on women’s relative earnings in the household. We believe that this has to do with some limitations of our study. It is not certain whether this policy affects men’s work behavior since it is not clear in what ways and to what extent these restrictions are indeed enforced. In addition, because our study, which is large-scale by the standards of comparative research, has only 21 country cases (down to 19 when analyzing dual-earner couples) it was not feasible to introduce additional indicators that might have better captured the effects of public policy on men’s time allocation. Future studies should concentrate on policy measures or policy initiatives that relate more directly to the behavior of men and women in dual-earner families. Since women’s contribution to family income is a result of joint decision-making on the allocation of time to paid and unpaid work of both spouses, men’s working behavior and policies that can affect it are crucial for a better understanding of intra-household relations. Moreover, it is important to examine how these different types of arrangements—those pertaining mainly to women and those which potentially affect men’s behavior—influence other dimensions of intra-family inequality, such as the division of housework or decision making (see Hook, 2006; Stier and Lewin-Epstein, 2007). While some studies point to a decline in intra-household inequalities over time (e.g., Bianchi et al., 2000) our findings lead to the conclusion that as long as policies are aimed mainly at facilitating women’s employment and not at equalizing the conditions under which men and women work, gender equality in the household, and in society, is unlikely to change in any substantial way.

Acknowledgments

We thank Noah Lewin-Epstein for his helpful comments and Yasmin Alkalay of her valuable assistance in data analysis. Financial support was provided by the Institute for Social Research, Tel Aviv University.


Table A1
Means (SD) of country characteristics included in the analysis.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition/source</th>
<th>Mean value (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity leave (paid weeks)</td>
<td>Paid weeks of maternity leave—Clearinghouse (2004); Kamerman, 2000a</td>
<td>21.38 (12.8)</td>
</tr>
<tr>
<td>Long maternity leave</td>
<td>1 = countries with more than 24 weeks of fully-paid maternity leave, 0 = else</td>
<td>0.33</td>
</tr>
<tr>
<td>% Children 0–3 in day care</td>
<td>Percent of children in public day care, Gauthier, 1999; Meyers and Gornick, 2000</td>
<td>10.79 (10.2)</td>
</tr>
<tr>
<td>% Women working part-time income inequality</td>
<td>% Women working part time of the total female labor force, OECD, employment outlook 2002</td>
<td>19.47 (12.5)</td>
</tr>
<tr>
<td>Work-time limits</td>
<td>Statutory limitations on the maximum number of working hours per week—OECD employment outlook, 1998</td>
<td>53.33 (7.47)</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>
Table A2
Household characteristics in the total working age population and in dual-earner families, (couples aged 25–60).

<table>
<thead>
<tr>
<th>Definition</th>
<th>All families</th>
<th>Dual-earner families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman’s relative economic contribution</td>
<td>Measure of earning contribution (see page 10)</td>
<td>31.41 (25.5)</td>
</tr>
<tr>
<td>Woman with BA</td>
<td>1 = academic education, 0 = else</td>
<td>14.8</td>
</tr>
<tr>
<td>Women more educated</td>
<td>1 = woman has higher education 0 = else</td>
<td>27.4</td>
</tr>
<tr>
<td>Average women’s age (SD)</td>
<td>In years</td>
<td>40.5 (8.3)</td>
</tr>
<tr>
<td>Spouses’ age difference (SD)</td>
<td>Man’s age-woman’s age</td>
<td>2.2 (3.8)</td>
</tr>
<tr>
<td>Presence of Children &lt;6</td>
<td>1 = Children 6 years or younger present in the household, 0 = else</td>
<td>29.3</td>
</tr>
<tr>
<td>Number of children in HH</td>
<td>Number of children under age 18 in the household</td>
<td>1.2 (1.1)</td>
</tr>
<tr>
<td>Woman in labor force</td>
<td>1 = the woman participates in paid employment, 0 = else</td>
<td>75.5</td>
</tr>
<tr>
<td>Household income</td>
<td>Total income (woman’s + man’s) calculated as country-specific percentiles for standardization</td>
<td>0.53 (0.27)</td>
</tr>
<tr>
<td>Spouses relative hours of work</td>
<td>The woman’s hours of work as a proportion of her male partner working hours</td>
<td>0.85 (0.54)</td>
</tr>
<tr>
<td>N</td>
<td>70,604</td>
<td>43,335</td>
</tr>
</tbody>
</table>

Table A3
Multi-level models predicting women’s relative earning contribution including interaction of policies with relative working hours, dual-earner couples in 19 countries.

<table>
<thead>
<tr>
<th>Household level variables</th>
<th>Definition</th>
<th>Coefficient (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman with BA</td>
<td>1 = academic education, 0 = else</td>
<td>3.917 (0.186)</td>
</tr>
<tr>
<td>Woman more educated</td>
<td>1 = woman has higher education 0 = else</td>
<td>3.462 (0.145)</td>
</tr>
<tr>
<td>Woman’s age</td>
<td>0.067 (0.010)</td>
<td></td>
</tr>
<tr>
<td>Spouses’ age difference (male–female)</td>
<td>0.109 (0.018)</td>
<td></td>
</tr>
<tr>
<td>Women’s relative hours of work</td>
<td>8.456 (3.421)</td>
<td></td>
</tr>
<tr>
<td>Number of children in HH</td>
<td>1.472 (0.071)</td>
<td></td>
</tr>
<tr>
<td>Presence of children &lt;6</td>
<td>0.605 (0.184)</td>
<td></td>
</tr>
<tr>
<td>Household income</td>
<td>3.173 (0.286)</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>43.352 (3.290)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country-level variables</th>
<th>Definition</th>
<th>Coefficient (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long maternity leave</td>
<td>3.144 (2.784)</td>
<td></td>
</tr>
<tr>
<td>% Children 0–3 in day care</td>
<td>0.008 (0.079)</td>
<td></td>
</tr>
<tr>
<td>% Women working part-time</td>
<td>0.321 (0.091)</td>
<td></td>
</tr>
<tr>
<td>Earnings inequality (p90/p10)</td>
<td>0.513 (0.109)</td>
<td></td>
</tr>
</tbody>
</table>

Interaction with “relative hours”

| Definition | Coefficient (SE) |
| Long maternity leave | -6.666 (3.089) |
| % Children 0–3 in day care | 0.036 (0.088) |
| % Women working part-time | 0.274 (0.103) |
| N (n countries) | 43,335 (19) |

*p < 0.05.*

References


