# Collegio Carlo Alberto

# Woman's employment makes unions more stable, if the partner contributes to the unpaid work

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# Carlo Alberto Notebooks

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**Abstract**

A new generation of studies has called into question standard microeconomic predictions of a positive association between women's economic independence and union dissolution, suggesting that it is necessary to include information about both partners' contributions to paid and unpaid work when conducting empirical tests of the impact of women's employment on union stability. In this study, we follow this strand of research and use data on couples from the 2003 and 2007 waves of the Italian "Family and Social Subject" survey, with the aim of investigating whether and how the gender division of labor channels the causal impact of women's employment on union disruption. Utilizing techniques of mediation analysis, we suggest that women's employment does not have a negative effect *per se* on union stability, and that women's paid work becomes detrimental to the stability of the union only if the male partner's contribution to unpaid work is limited.

**Introduction**

Women's labor force participation has been increasing across all industrialized economies, although the nature of and the returns to women's employment vary. At the same time, rates of marital dissolution have also risen. In response to these trends, social observers have become increasingly interested in examining the effects of women's social and economic independence on marital stability. For decades, the *specialization and trading model*, which anticipates a positive effect of wives' economic independence on the risk of divorce, has been dominant (e.g., 1981). A number of studies have shown that women's involvement in the labor market gives women the resources to exit an unhappy marriage (the so-called *independence hypothesis*, see Hobson 1990; Ruggles 1997; Schoen et al. 2002; Kalmijn and Poortman 2006). Women's employment status was hypothesized to destabilize marriage by overturning traditional marriage norms and by facilitating divorce in case of conflicts in the relationship, as women who are employed have greater economic independence and are better able to cope with family breakdown.

New theoretical and empirical research on the relationship between women's economic independence and divorce has challenged the standard microeconomic prediction of a positive association, and has suggested considering also information on both partners' contributions to paid and unpaid work in order to assess the impact of women's employment on union dissolution (Sigle-Rushton 2010). Nevertheless, the interplay of divorce and the gender differences in both paid and unpaid work is complex. The results of previous studies on these issues are inconclusive for at least three reasons (Oláh and Gähler 2014). First, because relatively few studies have included measures of both paid and unpaid work, we have limited knowledge about whether either of these forms of work can be linked to partnership stability. Second, because the few studies which included measures on both these conditions reported only their main effects, we have insufficient knowledge about how these dimensions interact. Third, most of previous studies were based on cross-sectional data.

By addressing these oversights in previous studies, we aim to assess the impact of women's employment and the gender division of labor on union dissolution in Italy, a country where the *independence hypothesis* has played a major role in research on divorce (Vignoli and Ferro 2009). While both marital instability and women's labor force participation have increased markedly in recent decades, not much has changed in terms of the division of labor: even when they are in full-time market employment, Italian women still perform the bulk of the unpaid household and care work (Romano et al. 2012). Our research questions – which have never been addressed before in the Italian context – are as follows: Does the gender division of paid and unpaid labor in a couple affect the stability of their marriage; and, if so, how do these two domains of gender equality interact each

other? In other words, is the well-known *independence effect* still important when the couples' gender division of labor is taken into account? To answer these questions, we apply techniques of mediation to data on heterosexual couples from the 2003 and 2007 waves of the "Family and Social Subject" survey. This approach allows us to examine whether the gender division of labor is related to the impact of women's employment on union disruption.

## Theoretical perspectives and previous research

### *"Classical" perspectives*

According to the economics of the family (from Becker 1981) and sociological theories (from Parson 1940), women's employment and divorce are causally related because specialized, differentiated marital roles provide the foundation for marital stability. The economic model of marriage is based on the assumption that role specialization will occur within a couple, and states that the gains from marriage are higher if the two spouses specialize, with one focusing on income provision and the other on home production. Due to culturally rooted gender norms and the gender gap in wages, the female partner usually specializes in the housework and the male partner usually specializes in breadwinning. In his influential "Treatise on the Family," Becker (1981) argued that this specialization of the gendered division of labor within nuclear families increases the benefits of marriage, and therefore enhances stability. In this model, not only are employed women less likely to marry, but an employed wife is in a better position than a non-employed wife to leave the marriage if problems arise. Accordingly, the increase in wives' labor force participation rates is the causal factor in the post-war increase in divorce rates. Meanwhile, Parsons (1940) argued that the labor market involvement of both spouses may lead to status competition between partners, and, consequently, to divorce. Like Becker, Parsons did not indicate which of the partners should be more or less active in the labor market, as the role assignments were assumed to derive from the gender role norms rooted in a given society. Other scholars have further suggested that a woman's involvement in paid work might be indicative of her partner's poor performance as an income provider, which could lead to a strained relationship between the spouses and a destabilization of their marriage (Cherlin 1979; Jalovaara 2003).

Historical series of data show similar increases in women's labor force participation rates and in divorce rates for both Europe and the U.S., which appears to suggest that there is a link between the two trends. It has therefore become common to posit that the increase in women's economic resources is a major factor in the rising divorce rate. Accordingly, empirical evidence across the latter part of the last century indicated that in many countries employed wives were more

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likely to divorce than non-employed wives, suggesting a negative association between women's employment and marital stability (Jalovaara 2001; Blossfeld and Müller 2002; Chan and Halpin 2002; Cooke 2004, 2006; Rogers 2004; Vignoli and Ferro 2009; Lyngstad and Jalovaara 2010).

*Challenges to the "classical" perspectives*

Recently, however, as women have become more active in the labor market, the assumption that women's employment has a negative effect on marital stability has been called into question. Scholars have increasingly argued that in modern societies, the decision to divorce depends more on satisfaction with the quality of the union than on the pure exchange of income and household labor between partners (Ross and Sawhill 1975; Esping-Andersen and Billari 2012). Other scholars have asserted that in contemporary societies, in which women no longer spend most of their time at home, a wife engaging in economic activities similar to those of her husband may be more beneficial for the durability of their union than their potential gains from specialization (Simpson and England 1981; Coltrane 2000; Sayer and Bianchi 2000). Similar arguments were also put forward by the proponents of the *social capital transfer approach*, who suggested that marriage might be beneficial for both partners' labor market outcomes, as spouses may share their skills, knowledge, and networks. They may support each other in finding jobs, preparing for job interviews, and taking work-related courses and exams (see, e.g., Ozcan and Breen 2012).

Criticisms to the classical microeconomic interpretations of the causal link between employment and marital stability could already be found in the seminal Oppenheimer's work (1977). She challenged Becker's perspective by contending that dual-earner couples enjoy both greater economic flexibility and more complementary interests, and should therefore have more stable marriages. She further observed that female partner's earnings may result in a higher living standard for the couple, and should thus reduce marital strains, particularly at the point in time when the household organization changes from role specialization to income pooling (see also Cherlin 2000). Moreover, Oppenheimer (1997) argued that specialization does not enhance interdependence if one partner is more replaceable than the other. The greater a wife's economic dependence on her husband, the fewer alternatives she has to the marriage. In contrast, an economically active husband can purchase many domestic services. This creates dependence asymmetry within marriage, with the wife being more dependent on the marriage than the husband (Oppenheimer 1997). Cooke and Gash (2010) made this argument in their *flexibility hypothesis*: the relative divorce risk associated with any given wife's employment should attenuate as dual-earner couples become the norm (Cooke and Gash 2010; Sayer and Bianchi 2000).

But the extent to which the empirical evidence supports these various theoretical claims is unclear. For instance, Schoen, Rogers, and Amato (2006) found that wives' full-time employment was associated with greater marital instability, and that changes in wives' employment had no significant effect on changes in marital quality between two waves of data collection. Interestingly, there is also a growing body of economic and sociological evidence suggesting a reverse causality: i.e., that an increase in the divorce rates may cause an increase in wives' employment rates; not the other way around (Özcan and Breen 2012). In sum, country-specific studies assessing the relationship between women's employment and the risk of couple dissolution have yielded evidence that is as mixed as the theory.

*Cross-country differences*

The effects of women's economic resources on marital stability varies substantially across countries, not only in terms of magnitude, but also in terms of direction (Jalovaara 2001; Chan and Halpin 2002; Rogers 2004; Cooke 2006; Cooke and Gash 2010). As neither Becker's nor Oppenheimer's hypothesized dynamics that appear to be universal, context seems to matters (Cooke and Gash 2010; Kaplan and Stier 2010). For instance, Liefbroer and Dourleijn (2006) found that a partnered woman's employment predicted a significantly greater risk of dissolution among cohabiting and married couples in Austria, Finland, Italy, Lithuania, Poland, and West Germany (i.e., in line with Becker's hypothesis); but was associated with a significantly lower risk of dissolution in France and Latvia (i.e., in line with Oppenheimer's hypothesis). Furthermore, in a third set of countries (the Czech Republic, East Germany, in the Belgium region of Flanders, Hungary, Norway, Slovenia, Spain, and Sweden) they found that the effect of woman's employment was not statistically significant.

Generally, the impact of women's employment on divorce risk is expected be positive in countries in which more traditional gender roles are prevalent, men's earnings are on average sufficient to satisfy a couple's material aspirations, and the state offers little support for working mothers or for the economically dependent spouse in case of a divorce. Consistent with these expectations, a series of studies have indeed found that women's employment is more likely to destabilize marriages in countries where welfare policies promote women's dependence on the partner or the market (Kaplan and Stier 2010; Styrc and Matysiak 2012). Cooke et al. 2013 analyzed how social policy affects marital stability in relation to recent macro- and micro-level effects of wives' employment on divorce risk in 11 western countries. Their results suggested that social policies supporting equality encourage a more equitable household division of unpaid labor, which in turn lessens the impact of a wife's employment on the risk of divorce.

*Our contribution*

This paper contributes the ongoing debate on the causal impact of women's employment on divorce risk. We believe that the key dimensions that should be used in assessing couple stability are not only women's participation in paid work, but also gender equality in the division of paid and unpaid work[1]. One reason why increased female employment may not have strengthened family stability is that women's and men's roles have not changed at the same pace: i.e., the increase in female employment has not been accompanied by a corresponding increase in men's efforts in the domestic realm. The extension of the female gender role to include gainful employment is increasingly socially accepted, but men's engagement in domestic tasks is still seen as somewhat controversial because it is not fully compatible with male gender roles. Sayer et al. (2011) argued that if a woman's attempts to bargain for an equal (or less unequal) division of domestic tasks fail, she may use her resources from employment to leave her unhappy marriage. In contrast to Becker's hypothesis, they showed that employed women initiate divorce only if they are not satisfied with their marriage (see also Schoen et al. 2002). In addition, the change in gender norms leaves men with fewer options for finding a partner who would be willing to specialize in household production (Sigle-Rushton 2010).

In this paper, we follow this strand of research, using Italy as a meaningful case study. The country still has one of the lowest levels of marriage dissolution in Europe, and the male breadwinner family model continues to be predominant. Nevertheless, during the 1990s, and especially since 2000, a series of changes have occurred. The period total divorce rate[2] increased from around 115 (divorces per 1,000 marriages) in 2000 to 182 in 2011 (Istat 2012). At the same time, women's labor force participation has been increasing since 1970s, although remained below 50% for the age group 15-64 (ILO 2012). In the following, we aim to assess the causal impact of women's employment on union dissolution also considering whether the gender division of labor – which in Italy remains heavily unequal – mediates a portion of this impact.

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[1] See Neyer et al. (2013) and Mencarini (2014) for a review of the concepts of gender equality.
[2] Period total divorce rate is computed as a sum of age-specific divorce rates, with respect to a hypothetical (synthetic) cohort of 1,000 marriages.

**Methodology and analytical strategy**

*A mediation framework*

Mediation analysis is a useful and widely employed approach for studying causal mechanisms in the field of psychology and in the biomedical sciences. Nevertheless, in the social sciences, and especially in demography, it remains quite uncommon. Mediation analysis investigates the mechanisms that underlie an observed relationship between an *exposure variable* and an *outcome variable* as they relate to a third intermediate variable, the *mediator*. Rather than considering only a global causal impact of the independent variable on the dependent variable, a mediational approach hypothesizes that the exposure variable may cause the mediator variable, which may in turn cause the outcome variable. The mediator variable thus serves to clarify the channels through which the exposure variable affects the outcome variable (MacKinnon 2008). In our case we are interested in investigating whether women's participation in the labor market is associated with a higher risk of union dissolution, and whether men's contribution to unpaid work could mediate part of this effect (Figure 2). Men's contribution to unpaid work may be a potential mediator of the relationship between women's employment and union disruption because women's employment is likely to affect men's contribution to unpaid work, which may in turn affect union dissolution. Within this framework, potential exposure-outcome confounders and mediator-outcome confounders should be accounted for; namely, variables that may simultaneously affect women's employment and union dissolution, as well as men's contribution to unpaid work and union dissolution. It is important to note that the overall mediation approach is based on the assumption that all the relevant confounders of the causal mechanisms under study are observed.

The use of mediation analysis has been strongly influenced by the seminal paper of Baron and Kenny (1986); and, more recently, there have been further advances in the development of mediation analysis (Robins and Greenland 1992; Pearl 2001; VanderWeele and Vansteelandt 2009, 2010; Imai et al. 2010ab). It is now possible to use this counterfactual framework to extend the Baron and Kenny (1986) approach to allow for mediation analysis, even in the presence of exposure mediator interactions. Carrying out a mediation analysis while incorrectly assuming that there are no interactions may result in invalid inferences, and may thus impede the evaluation of the actions of various mechanisms (Robins 2003; Joffe et al. 2007). We adopt an extension of the traditional mediation framework that allows a treatment-mediator interaction, which is in fact different than simply considering the intermediate variable (share of unpaid work performed by the women) as a moderator variable (VanderWeele 2012).

Our goal is to disentangle the direct causal impact of women's employment on union stability, and its (possible) indirect impact which passes through the gender division of labor. In this context, it is particularly unrealistic to assume that the exposure and the mediator do not interact in their effects on the outcome, because women's participation in paid work and men's contribution to unpaid work do not vary simultaneously (i.e., Anxo et al. 2011). Thus, building on VanderWeele and Vansteelandt (2009, 2010a), the effect of the men's participation in unpaid work is allowed to vary by women's employment status.

**Figure 2: Example of the effect of A (=women's employment) on Y (=union dissolution) mediated by M (=men's contribution to unpaid work) with both C1 (exposure-outcome confounders) and C2 (mediator-outcome confounders).**
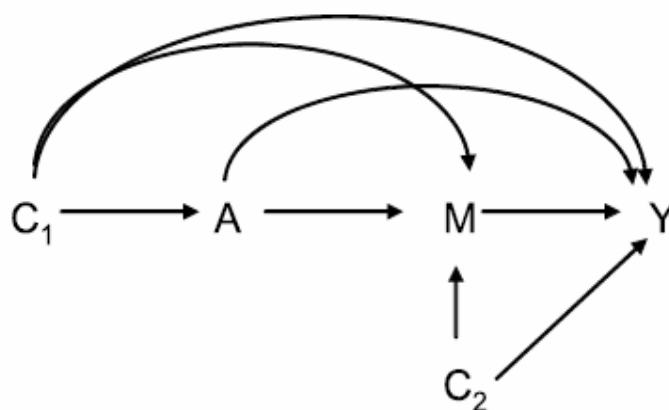


### Definition of effects at play

In order to formalize the meaning of a direct effect, we conceptualize for each person the existence of a so-called counterfactual outcome $Y(a)$, which denotes the outcome that we would – possibly contrary to fact – have observed for that person had the exposure $A$ been set to the value $a$ through some intervention or manipulation (Rubin 1978; Hernan 2004). Variables such as $Y(a)$ are referred to as "potential outcomes" or "counterfactual outcomes." If the exposure $A$ is dichotomous (e.g., taking the value zero for non-employed women and one otherwise), then we can think of each person as having two counterfactual outcomes, $Y(0)$ and $Y(1)$. The *(average) causal effect* of the exposure on the outcome can then be defined as the expected difference $E[Y(1)-Y(0)]$ between the two counterfactual outcomes for the same study population.

The previous concepts can be extended in order to construct the definitions of direct and indirect effects. Let us consider the counterfactual variables $M(a)$, which denote the value of the mediator if – possibly contrary to fact – the exposure $A$ were set to $a$. We are interested in determining whether part of the impact of $A$ on $Y$ is mediated by $M$. To this end, we need to define

for each person $Y(a,m)$ as the outcome that we would – possibly contrary to fact – have observed for that person had the exposure $A$ been set to the value $a$, and, likewise, $M$ to the value $m$, through some intervention or manipulation. For a dichotomous exposure, the *controlled direct effect* of the exposure on the outcome, controlling for $M$, can then be defined as the expected contrast $E[Y(1,m)-Y(0,m)]$ (Robins and Greenland, 1992; Pearl, 2001). Then, $E[Y(1,m) - Y(0,m)]$ expresses the average change in union dissolution that would have occurred if women had changed their employment status (from non-employed to employed), but men's contribution to the unpaid work were kept uniformly at level $m$.

There are a number of limitations to the concept of a controlled direct effect. First, it is often not realistic to imagine scenarios in which the mediator is the same for all of the individuals in the population (e.g., a scenario in which all of the male partners contribute to the same extent to the unpaid work). Second, potential exposure-mediator interactions cannot be disregarded (Kaufman et al. 2004; VanderWeele 2009). Both of these limitations can be overcome by considering the so-called *natural direct effects* (Pearl 2001; Robins 2003), which may be defined as the expected contrast $E[Y(1,M(0))-Y(0,M(0))]$. Following VanderWeele and Vansteelandt (2009), we use the term *pure natural direct effect*. The pure natural direct effect, $E[Y(a,M(0))-Y(0,M(0))]$, expresses the effect that would be realized if the exposure were administered, but its effect on the mediator were somehow blocked; or, equivalently, if the mediator were kept at the level it would have reached in the absence of the exposure. In our case, this expresses the average change in union dissolution that would have been realized if men's contribution to unpaid work had been blocked at the level it would have reached if women had not changed their employment status.

For two reasons, the use of the natural direct effect can prove helpful in overcoming the limitations of the controlled direct effect noted above. First, the level $M(0)$ at which the mediator is controlled allows for natural variation between individuals. Second, the difference between the total causal effect and a pure natural direct effect expresses to what extent the outcome would change on average if the exposure were controlled at level $a$, but the mediator were changed from level $M(0)$ to $M(1)$. Thus, the natural direct effect carries the interpretation of an indirect effect, and can then be termed the *natural indirect effect* (Robins and Greenland, 1992; Robins, 2003). Importantly, in our case the use of this effect allows for a change in men's contribution to unpaid work when women are employed.

*Data*

We rely on the 2003 and 2007 waves of the "Family and Social Subject" (FSS) surveys. The FSS survey was conducted by the Italian National Institute of Statistics (ISTAT) at the end of 2003 as part of the multipurpose family survey program[3]. The 2003 FSS has a sample of about 24,000 households and 50,000 individuals of all ages (with a non-response rate of 17.7%). When couples were interviewed, each member responded separately and independently. A sub-sample of 10,000 individuals aged 18-64 were interviewed again just over three years later, in early 2007 (with a non-response rate of 48.6%). These data represent a unique – and a so far unexplored – source for evaluating how the socioeconomic characteristics of both members of a given couple observed in 2003 may have contributed to a union disruption in the following three to four years.

Our selected sample consisted of 2,871 women who were either cohabiting or married in 2003. The dichotomous *outcome variable* indicated whether a couple split between 2003 and 2007. We recorded 150 union dissolutions in the analyzed period. The *exposure variable* corresponds to women's labor force participation[4] (about 50% of the selected women were employed in 2003). Our data do not collect information on income or wages, however, allowing us to test independence hypothesis on the basis of women's employment only. The third key variable of the analysis, the *mediator*, consisted of men's participation in unpaid familial work. We constructed an index of the share of the household and care work performed by women (as a percentage of the total unpaid work at the couple level). Figure 1 illustrates the share of the unpaid work performed by women out of the total number of hours of unpaid work reported by couples. It is noteworthy that the unequal division of unpaid work tasks appears to be prevalent in Italy: regardless of the number of hours spent doing it, in more than 40% of the cases over 90% of the work was being done by women; and in another one-third of the cases, women were doing between 70% and 89% of the work.

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[3] These surveys also correspond to the Italian variant of the first and second waves of the Generations and Gender Survey.

[4] We are aware that "classical" statements of the independence hypothesis rely on earnings or income (e.g., Cooke 2006; Sayer 2000) in addition to, or instead of, employment measures

**Figure 1 – Share of unpaid work performed by women relative to couples' total number of hours**
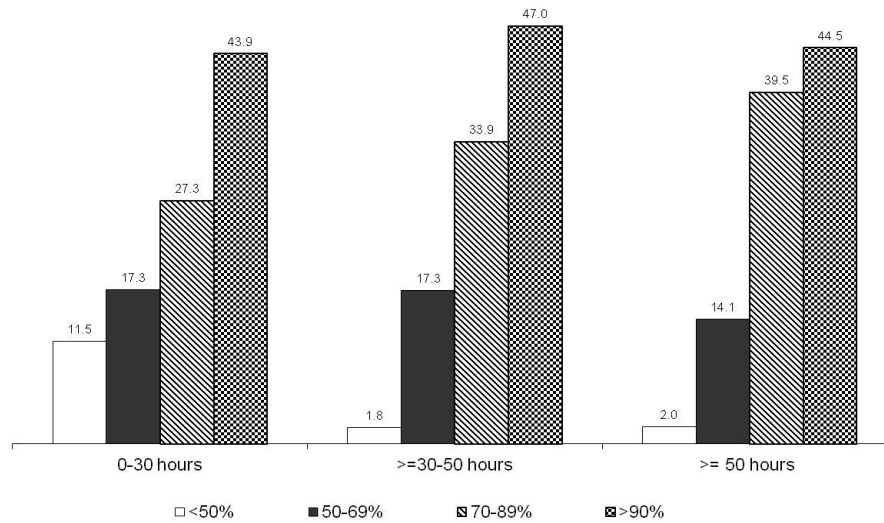


## Identification issues

According to VanderWeele and Vansteelandt (2009, 2010), in order to ensure the identifiability of the controlled direct effect, two assumptions are needed: (i) that there is no unknown confounding of the treatment-outcome relationship, and (ii) that there is no unknown confounding of the mediator-outcome relationship. In our case, to control for (i) confounding of the women's employment-union dissolution relationship, we must adjust for common causes of women's employment status and marriage disruption (C1 in Figure 2). To control for (ii) mediator-outcome confounding, we must adjust for the common causes of men's contribution to unpaid work and union dissolution processes (C2 in figure 2). The collection of covariates must include both sets of covariates in order to ensure a causal interpretation of the estimates. In particular, we included a series of covariates measured at the time of the first wave (2003): the total number spent by the couple on unpaid work, of the duration of the couple's relationship, the age of the woman, the number of children and the age of the youngest child, the couple's partnership status (cohabiting vs. married), a dummy variable controlling for the outsourcing of domestic work, the respondent's and partner's level of education, the employment of the partner, the area of residence, the security of the employment (private versus public sector and temporary versus permanent employment), the parental separation, and the level of religiosity. Importantly, we also introduced a covariate for the partners' perceptions of the fairness of the current division of household labor as a proxy for the level of gender equity.

The assumptions we have described are for controlled direct effects; the identification of natural direct and indirect effects uses these two assumptions above along with two additional assumptions. For the natural direct effect and the indirect effect there must also be (iii) no

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unmeasured confounding of the treatment-mediator relationship. Controls must be included for variables that cause both the level of treatment and the level of the mediator. Finally, for the identification of the natural direct effect and the indirect effect, it must also be the case that (iv) there is no mediator-outcome confounder that is affected by the exposure (i.e., no arrow from A to C2 in Figure 2).

## Results

Estimating a logit model predicting the likelihood of union dissolution conditional to the situation at the first wave, we found that women's employment was positively linked with the likelihood of union dissolution (Table 1, Model 1): i.e., women who were employed were 42% more likely to divorce than their non-employed counterparts. Furthermore, after we estimated a model with an interaction effect between women's employment and men's unpaid work contribution, the picture became clearer. The interaction term, being positive and significant, suggested that the odds of dissolution rose when the woman was working and her contribution to the unpaid work increased at the same time.

Going to the core of our investigation, Table 2 illustrates the results of the mediation analysis. Let us look at the *natural direct effects*; namely, the average change in union dissolution that would have been realized if a woman had changed her employment status (from non-employed to employed), but the man's contribution to unpaid work had not changed. In this case, the woman's risk of union dissolution would have increased by 51%. Overall, the proportion of the *average total effect* of women's employment on union dissolution that is mediated by the *natural indirect effect* – namely, men's contribution to unpaid work – is 36% (in odds scale). It represents an increase in the impact of women's employment on union disruption of 13 percentage points, and a passage from an *average total effect* of 1.38 to a *natural indirect effect* of 1.51.

We are especially interested in the *controlled direct effect*, as it expresses the average change in union dissolution that would have been realized if a woman had changed her employment status (from non-employed to employed), but the man's contribution to the unpaid work remained at the level of 85%. In this case, the risk of union dissolution would have increased by 43%. Interestingly, the *controlled direct effect* gave a similar risk of union dissolution compared to the *average total effect* because, on average, Italian women perform the bulk of the total unpaid work (see again Fig. 1).

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Moreover, our mediation approach allows the *controlled direct effect* to vary according to various *a priori* fixed levels of men's unpaid work contributions. Hence, we can explore the average change in union dissolution if a woman had changed her employment status (from non-employed to employed), but her contribution to the unpaid work was fixed at different levels (Fig. 3). When the partner contributed up to 50% (the share of the unpaid work performed by women did not exceed the 50% level) the effect of employment on union dissolution was negative (those who worked had a risk of union dissolution that was 40% lower). On the contrary, when the woman performed more than 70% of the unpaid total work the impact of employment on union dissolution became positive and significant. This finding clearly challenges classical microeconomic interpretations that conceived women's employment as a barrier to marriage stability.

One more issue requires clarification. In this paper we have relied on the observed order of events (e.g., employment entry and separation or divorce). Such a strategy may lead to an upward bias in the effect of women's employment on the risk of divorce if married women increase their involvement in the labor market in response to a decline in their satisfaction with marriage and a fear of marriage disruption (Oppenheimer 1997, Ozcan and Breen 2012). Support for such anticipatory adjustments can be found in the empirical literature (see, e.g., Poortman 2005). Thus, as a sensitivity check, we re-estimated a set of models excluding those women who entered the labor market from one to three years before the first wave (2003). After excluding these cases, the results were virtually unchanged, proving the robustness of our outcomes[5].

For our identification strategy (see Section 4.3), we included quite a few confounding variables in the models predicting union disruption and the division of unpaid work. Since the interpretation of the effects of the control covariates goes beyond the scope of this paper, we relegate them to the Appendix. Importantly, their effects are in line with those found in previous literature for Italy (De Rose 1992; Salvini and Vignoli 2011). It is worth noting, however, that women who were dissatisfied with their current share of unpaid work were five times more likely to experience a union disruption than their counterparts. Controlling for the satisfaction with division of domestic housework and care contributes to reduce the chance that women who are unhappy with such division will first enter the labor market and subsequently divorce. Nevertheless this is measured simultaneously with unpaid work share and employment status, therefore not being causally prior.

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[5] The results are not shown, but are available upon request from the authors.

**Table 1 – Logit model predicting the likelihood of union dissolution. Odds ratio of paid and unpaid work without (Model 1) and with (Model 2) interaction**

|  | OR Model 1 | OR Model 2 |
|---|---|---|
| Woman is employed | 1.42** | 0.17** |
| Woman's unpaid work share | 1.01 | 0.98* |
| Interaction term between woman's share and her employment |  | 1.02** |

*significant at 1%; ** significant at 5%; *** significant at 10%*
*Note: Results are controlled for total hours of couple's unpaid work, couple's relationship duration, woman's age, number of children, type of couple, couple's level of education, outsourcing of domestic work, area of residence, religiosity, parental proximity, parental divorce, and satisfaction with unpaid work division.*

**Table 2– Results of mediation analysis**

| Effects | Odds ratio |
|---|---|
| Average total effect (ATE) | 1.38* |
| Natural direct effect (NDE) | 1.51* |
| Natural indirect effect (NIE) | 0.91** |
| Proportion mediated by indirect effect | 36%*** |
| Controlled direct effect (CDE) | 1.43* |

*significant at 1%; ** significant at 5%; *** significant at 10%*
*Note #1: Results are estimated under the hypothesis that the women are performing 85% of the unpaid work.*
*Note #2: Results are controlled for total hours of couple's unpaid work, couple's relationship duration, woman's age, number of children, type of couple, couple's level of education, area of residence, religiosity, parental proximity, parental divorce, and satisfaction with unpaid work division.*

**Figure 2 – The impact of a change in women's employment status (from non-employed to employed) on the odds ratio of divorce according to various levels of women's share (controlled direct effect)**
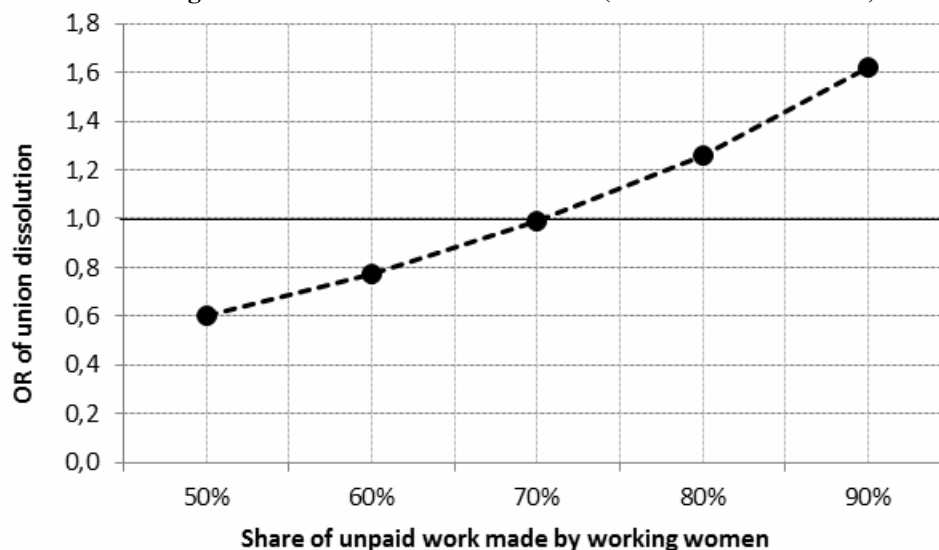
**Concluding discussion**

Couple relationships have shifted dramatically over the past years, with a sharp increase in union disruptions. The first generation of studies on the link between women's economic independence and union dissolution, which were based upon the dominant economic model of the family, hypothesized that women's employment is a potent driving force of these family changes, and gave impulse to what has become known as the *independence hypothesis*. Nevertheless, a second generation of studies has challenged these "classical" predictions. As gender roles are changing and becoming increasingly diffused, and a social shift from household production to household consumption is occurring (Cherlin 2000; Stevenson and Wolfers 2007; Raz-Yurovich 2012), it is unclear whether an increase in women's socioeconomic status is indeed having a destabilizing effect on marital unions (Jalovaara 2003; Sigle-Rushton 2010).

In this paper, we have tested the *independence hypothesis* in the Italian setting and used the theory and the techniques of mediation analysis to examine whether women's participation in the labor market is associated with a higher risk of union dissolution, and whether the gender division of household work channels some of this effect. We found that men's contribution to the household work represents a potent mediator of the relationship between women's employment and union disruption. Our results suggest that a woman's employment does not have a negative effect *per se* on union stability, and that her paid work becomes detrimental to the stability of the union only when her male partner's contribution to unpaid work is limited. Specifically, the causal impact of women's employment on union dissolution is positive and significant only when women perform 70% or more of the unpaid work.

Our findings yield a new result which is empirically robust and theoretically consistent, adding important insights to the debate on the effectiveness of the *independence hypothesis*. When both partners diversify, the putative efficiency gains brought about by the specialization and trade model are clearly attenuated. If the male partner makes a substantial contribution to the housework and care, the women's employment lends stability to their relationship, probably because her job represents an additional source of economic security. Helping couples to achieve equality in the total amount of time they spend in paid and unpaid work could generate greater equality in the amount of leisure time each partner has. If couples have more opportunities for shared leisure, their union may be more stable. Cooke et al. (2013) advocated that social policies supporting equality encourage a more equitable division of unpaid household labor, as this should in turn lessen the impact of a

wife's employment on the risk of divorce. This paper also adds to the literature for Southern Europe because none of the previous studies on union disruption in Italy had adopted a couples' perspective. Our findings are particularly relevant precisely because they challenge the *independence hypothesis* even in a country like Italy, where the impact of women's employment on family stability had previously been found to be particularly strong due to the prevalence of the male breadwinner model and the heavily unequal gender division of labor.

In all, these results have important implications for our understanding of partnership dynamics. The proponents of the Second Demographic Transition posit that a modernized society, open to social and cultural changes, allows couples and individuals to develop personal lifestyles and to prioritize individualism and self realization (Laesthage, 1995; Van de Kaa, 2001). As a corollary, increasing levels of partnership instability is predicted for the years to come. Becker's economic framework and Parson's sociological approach would anticipate a similar tale because of the declining gender-role specialization within marriage, the latter usually providing foundation for the couple stability. Our findings seem to challenge such predictions about future divorce trends. They rather suggest that the diffusion of gender egalitarian norms, together with the increasing levels of women's independence, should be associated with greater marital stability. Our findings are thus important for future research in this field. With the aim of conducting a proper empirical test of the independence hypothesis, researchers would therefore need information on both partners' contributions to paid and unpaid work, and a modeling strategy that adequately catches whether the gender division of labor is based on specialization or on diversification strategies. Even when– as in the Italian setting – we can assume that women engage mostly in home production and men mostly in paid work, we still need information on women's employment and men's home production in order to properly assess the causal impact of women's employment on union dissolution dynamics.

**Table A1: Logit model predicting the likelihood of union disruption in the inter-wave period (2003-2007), conditional to couples' characteristics on the first wave (2003)**

| Variables | Categories | Coeff. | p-value |
|---|---|---|---|
| Share of unpaid work | Percentage of woman's share | -0.014 | 0.101 |
| Total hours of couple's unpaid work | $1^{st}$ quartile of distribution (< 25 total hours) | 0.428 | 0.040 |
| Satisfaction of unpaid work share | She is not satisfied | 1.557 | <.0001 |
| Employment situation | She works | -1.749 | 0.051 |
| | Interaction between woman's share and woman's employment | 0.024 | 0.017 |
| | He doesn't work | -0.273 | 0.611 |
| | She has temporary private sector work | -0.882 | 0.057 |
| Couple's relationship duration | 0-4 years | 0.501 | 0.117 |
| | 5-9 years (Ref. ) | | |
| | ≥10 years | 0.723 | 0.021 |
| Number of children | 0 (Ref. ) | | |
| | 1 | -0.585 | 0.032 |
| | 2+ | -0.217 | 0.454 |
| Type of couple | Married (Ref. ) | 0 | |
| | Cohabiting | 3.447 | <.0001 |
| Couple's level of education | Both low (Ref.) | 0 | |
| | Both medium | 0.284 | 0.299 |
| | Both high | 0.916 | 0.011 |
| | Woman > Man | -0.122 | 0.681 |
| | Man > Woman | -0.164 | 0.617 |
| Age of woman | <30 | 0.662 | 0.027 |
| | 30-40 (Ref. ) | 0 | |
| | >40 | -0.443 | 0.059 |
| Geographical areas | North (Ref.) | 0 | |
| | Center | -0.185 | 0.487 |
| | South | -0.025 | 0.917 |
| Religiosity | She rarely/never attends | 0.131 | 0.517 |
| Parental proximity | At least one of her/his parents is close | 0.450 | 0.060 |
| Divorce intergenerational transmission | Her/his parents are separated | 0.290 | 0.524 |
| Paid external help in housework | | 0.753 | 0.025 |
| Intercept | | -3.94 | 0.000 |

**Table A2: OLS regression model predicting the share of unpaid work performed by the female partner**

| Variables | Categories | Coeff. | p-value |
|---|---|---|---|
| Satisfaction of unpaid work share | She is not satisfied | 8.134 | <.0001 |
| Total hours of couple's unpaid work | 1$^{st}$ quartile of distribution (< 25 total hours) | -5.627 | <.0001 |
| Employment situation | She works | -9.345 | <.0001 |
| | Interaction between woman's share and woman's employment | | |
| | He doesn't work | -7.045 | <.0001 |
| | She has temporary private sector work | 0.471 | 0.707 |
| Couple's relationship duration | 0-4 years | -1.746 | 0.092 |
| | 5-9 years (Ref. ) | 0 | |
| | ≥10 years | 3.349 | <.0001 |
| Number of children | 0 (Ref. ) | 0 | |
| | 1 | -1.480 | 0.106 |
| | 2+ | -2.675 | 0.004 |
| Type of couple | Married (Ref. ) | | |
| | Cohabiting | -0.410 | 0.758 |
| Couple's levels of education | Both low (Ref.) | 0 | |
| | Both medium | -2.934 | <.0001 |
| | Both high | -5.015 | <.0001 |
| | Woman > Man | -3.085 | <.0001 |
| | Man > Woman | -1.820 | 0.021 |
| Age of woman | <30 | 2.304 | 0.042 |
| | 30-40 (Ref. ) | 0 | |
| | >40 | 1.750 | 0.004 |
| Geographical areas | North (Ref.) | 0 | |
| | Center | -0.477 | 0.497 |
| | South | 2.413 | <.0001 |
| Religiosity | She rarely/never attends | 1.274 | 0.014 |
| Parental proximity | At least one of her/his parents is close | -3.522 | <.0001 |
| Divorce intergenerational transmission | Her/his parents are separated | -1.635 | 0.314 |
| Paid external help in housework | | 0.540 | 0.644 |
| Intercept | | 89.707 | <.0001 |

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