

# **Paid and Unpaid Work: The Impact of Social Policies on the Gender Division of Labour**

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## **Abstract**

The varieties of capitalism (VOC) literature has offered one of the most influential explanations for cross-national variation in the gender division of labour. It argues that labour markets, which privilege specific as opposed to general skills have a negative effect on women's employment and impede an egalitarian division of household labour. This paper revisits one of the most prominent VOC studies: Iversen and Rosenbluth's empirical analysis of the 1994 ISSP survey on gender relations (2006; 2010). I argue that a gendered welfare state perspective provides an alternative and more compelling explanation for the same outcomes. In my empirical analysis, I re-analyse Iversen and Rosenbluth's study using the more recent 2002 ISSP survey on gender relations. The empirical results lend little support to the VOC approach and show that a gendered welfare state perspective, measured using a novel summary index of defamilialization, explains the observed outcomes better. The evidence in support for the VOC explanation disappears when controlling for defamilializing social policies. This suggests that a previous VOC work on the gender division of labour has suffered from omitting crucial social policy controls. This paper substantiates earlier critiques of VOC that have questioned its usefulness as an explanatory framework for gender relevant outcomes.

## **Introduction**

A number of societal transformations in the 1960s – economic restructuring, changes in the pattern of household formation, and the evolution of gender roles – challenged the traditional gender division of labour, with men engaging in paid employment and women committed to household work. As a result women entered the labour market in increasing numbers. Yet, men did not tend to take on significantly more household chores in order to compensate for their wives' increased engagement in paid employment, requiring many women to work a 'second shift' (Hochschild, 1989). Early empirical work on this topic primarily focused on explaining variations between households in the extent to which the division of labour was gendered. More recently however, studies have begun to hone in on the substantial amount of variation that exists between countries.

One of the most influential explanations of this cross-national variation has been offered by proponents of the varieties of capitalism (VOC) literature (Soskice, 2005; Iversen and Rosenbluth, 2006; 2010; Estévez-Abe, 2006). They argue that market economies

privileging specific skills are worse for women's employment than general skills economies since they place a harsher penalty on women's absences from the labour market due to child rearing. Recently however an increasing number of critiques have pointed out that the distinction between specific skills market economies and general skills economies is a poor guide for explaining gender relevant outcomes (Mandel and Shalev, 2009; Rubery, 2009). The criticism is based on the observation that the main division in terms of gender equality runs within specific skills economies themselves, namely between Scandinavian countries and the rest of Continental Europe. A welfare state perspective seems to be more apt at explaining this split as it highlights ideological and political differences, most importantly the dominance of social democracy in Scandinavia as opposed to that of Christian democracy in other continental European countries (Rubery, 2009). By assuming the caregiver responsibilities traditionally entrusted to women, the welfare state is often a pre-condition for women to seek participation in the labour market in the first place and thereby also affects the gender division of household labour (Orloff, 1993; Gornick et al., 1997).

This paper revisits one of the most prominent empirical VOC studies on the gender division of labour: Torben Iversen and Frances Rosenbluth's analysis of the 1994 ISSP survey on gender relations (2006; 2010). Using the more recent 2002 ISSP survey I re-analyse Iversen and Rosenbluth's study and evaluate whether a welfare state inspired explanation can offer a more compelling account of the observed outcomes. The empirical results show that a welfare state inspired explanation does indeed explain the observed outcomes better. Similar results are reached when replicating Iversen and Rosenbluth's analysis using the original 1994 dataset, which lends additional validity to the results presented here. What is more important is that the evidence that exists in support of the VOC hypothesis disappears when controlling for a number of gender relevant welfare state characteristics. This suggests that previous VOC studies on the gender division of labour have suffered from not adequately incorporating crucial welfare state variables. The results call into question the usefulness of the VOC framework in explaining gender relevant outcomes.

After sketching the theoretical debate, I first construct a novel summary index that measures a welfare state's ability to ease women into paid employment and financial independence, also described as a welfare state's level of defamilialization. I argue that it is not only the presence of social policies that promote women's employment, but also the absence of social policies that retard it which best defines the concept of defamilialization. In contrast to indices, which solely incorporate employment-promoting policies, this summary index therefore also tallies the absence of potentially retarding policies. A cross-validation of my measure with ISSP data on the gender division of labour shows that it offers a more precise measurement tool of a country's level of defamilialization than existing measurement efforts. Subsequently, I use this measure to expand on Iversen and Rosenbluth's analysis of the 1994 ISSP. Using the more recent 2002 ISSP survey on gender relations, this article breaks new ground by incorporating controls for both explanations into the analysis. It is only by testing the explanatory power of one approach while controlling for the other, that we can empirically adjudicate between them.

## **Explaining the gender division of labour**

Women's labour force participation rates have risen dramatically since the 1960s. A large part of this increase was due to married women entering the labour force (Goldin, 1989).

Studies suggested that as a result of married women's employment, which limits their time available to undertake housework, husbands would take on more household tasks (Presser, 1994; Bianchi et al., 2000). Most married women, however, still spend significantly more time on household tasks than their husbands even if they are employed full-time (Hochschild, 1989; Coltrane, 2000; Dempsey, 2000). In contrast to these so-called time-availability explanations, a number of studies argued that it is not a woman's time spent in the labour force but her relative earnings that affect the division of household labour. The higher a woman's earnings relative to her partner's, the more equal the division of household labour even when controlling for the number of hours worked outside the home (Blair and Lichter, 1991; Crompton and Harris, 1997).

The relationship between a woman's earnings or occupational status and the division of household labour was formalized by feminist economists, who applied bargaining models to the study of household behaviour (Manser and Brown, 1980; Lundberg and Pollak, 1996; Braunstein and Folbre, 2001). Bargaining models conceptualize the division of household labour as the outcome of a bargaining process. This bargaining process favours the partner who has better outside options since she or he can credibly threaten to leave the relationship. The better a partner's outside options, the stronger her or his bargaining position and the smaller the share of household labour conducted. Outside options in turn are dependent on a partner's earnings power, occupational status and educational level.

Explanations that focus on individual characteristics, like a woman's earnings, occupation or education, account for much of the household-variation in the gender division of labour, but they fall short in explaining the large variation that exists between countries. Beginning in the 2000s an increasing number of studies therefore started to consider macro-level factors and their impact on household bargaining dynamics. A very influential macro-level explanation emerged in the VOC literature (Soskice, 2005; Iversen and Rosenbluth, 2006; 2010; Estévez-Abe, 2006). This explanation emphasized the role of labour market institutions and was most prominently formulated by Torben Iversen and Frances Rosenbluth in their 2006 AJPS article and 2010 book. Iversen and Rosenbluth argue that coordinated market economies (CMEs), which focus on specific skills, are detrimental to women's outside options since specific skills deteriorate swiftly during women's absences from the labour market due to childbirth and rearing. Liberal market economies (LMEs), by contrast, are thought to be advantageous for female labour force participation since they focus on general skills, which exhibit lower atrophy rates. The authors argue that a woman's worsened employment opportunities in specific skill labour markets translate into a less favourable domestic bargaining position, which in turn results in a less egalitarian division of household labour.

The VOC explanation, although widely acknowledged, has also drawn substantial criticism. A number of scholars have for instance highlighted that the distinction between CMEs and LMEs is too static to explain temporal changes in policy outcomes and cannot account for countries that fail to fit either category (Blyth, 2003; Howell, 2003). What is more important, however, is that critics have pointed out that the fault line in terms of gender equality does not run between CMEs and LMEs, but within CMEs themselves (Mandel and Shalev, 2009; Rubery, 2009). The starkest contrast is between the specific skills Scandinavian economies, where female labour force participation rates reach 80 per cent and where the division of household labour is relatively egalitarian, and all other specific skills economies. General skills economies range somewhere in the middle between those two poles. The distinction between general skills and specific skills economies is therefore 'a

poor guide to variation in an outcome which is profoundly important for women's economic autonomy' (Mandel and Shalev, 2009: 174).

VOC scholars have either ignored this diversity within CMEs or they have emphasized the role of the public sector as a moderating factor (Iversen and Rosenbluth, 2006; Soskice, 2005). VOC scholars primarily conceptualize a large public sector as a deliberate policy to hire women, although they also acknowledge its role in providing services that assume some of women's traditional caregiver responsibilities thereby allowing them to set up an independent household (Iversen and Rosenbluth, 2006: 5). It is by creating 'a layer of general skills jobs', that a large public sector counterbalances the negative effects of skill specificity on women's employment (Iversen and Rosenbluth, 2006: 7). Iversen, Rosenbluth and Soskice point out: 'Clearly, although specific skills undermine private sector employment, the government can eliminate the effect and potentially reverse it by increasing the public service sector and the number of women employed in it' (Iversen et al., 2005: 232). A large public sector can therefore pull specific skills economies into a general skills direction (Iversen and Rosenbluth, 2006: 7).

The proposition that a large public sector may moderate the effect of skill specificity has been criticized by many scholars as an auxiliary hypothesis that is inconsistent with the functionalist underpinnings of VOC theory (Mandel and Shalev, 2009; Rubery, 2009). Within the VOC framework, government intervention is primarily conceptualized as a response to business demands and as a way of enabling companies to work well (Soskice, 2005). If a large public sector would be the appropriate response to business demands since it eliminates the negative side effects of skill specificity, it is unclear why not all CMEs would resolve to this solution. Yet, only Scandinavian CMEs have chosen this path, while Continental European CMEs have 'provided incentives for women not to enter paid employment so that care is provided at home' (Soskice, 2005: 176). The difference in government responses does therefore not seem to be driven by differences in business demands but rather by other factors outside the business community.

David Soskice and other proponents of VOC have partly acknowledged that their theoretical approach cannot provide an explanation for why some CMEs compensate the effects of skill specificity with a large public sector while others do not (Soskice, 2005: 176). The answer to the puzzle seems to lie in the ideological and political differences that have shaped public policies in the Scandinavian and the Continental European countries. The welfare state literature addresses these differences by highlighting the dominance of social democracy in Scandinavia as opposed to that of Christian democracy in other Continental European countries. While the traditional welfare regime theory, formulated by Esping-Andersen (1990), focuses on the relationship between these political traditions and overall levels of social policy generosity, the feminist welfare state literature focuses on the link between these political traditions and gender relevant social policies. More specifically, the feminist welfare state literature highlights the different ways in which social democracy and Christian democracy have empowered women's emancipatory movements (Morgan, 2006; Huber and Stephens, 2001). By highlighting the political and ideological underpinnings and their effect of gender relevant social policies, feminist welfare scholars have been able to offer an explanation for why the main fault line in terms of gender equality runs within CMEs themselves rather than between CMEs and LMEs.

In contrast to Esping-Andersen's concept of de-commodification, which focuses on social policies that enable workers to survive without selling their labour to the market, feminist welfare scholars have been primarily concerned with women-friendly social policies

that are aimed at helping women take part in the labour market in the first place. The provision of childcare, for example, is often a prerequisite for women to take part in the labour market (Sainsbury, 1996; Lewis, 1992). In an effort to mirror the decommodification concept, feminist welfare scholars have therefore coined the term defamilialization to describe the extent to which a welfare state helps women seek paid employment and achieve financial independence from their partners (Lister, 1994).<sup>1</sup> When applying a defamilialization perspective, social democratic and Christian democratic welfare states, which cluster closely together on the decommodification dimension, emerge as polar opposites, while liberal regimes range somewhere in the middle (Sainsbury, 1996; Lewis, 1992). Although theoretically compelling, it has proven challenging to demonstrate the impact of welfare regimes on the gender division of labour in large-N cross-national empirical studies. One of the main obstacles to cross-national empirical work has been the operationalization of defamilialization. The theoretical decision on which social policy or rather which combination of social policies best defines defamilialization has major consequences for the results of any empirical analysis. A wealth of empirical research has for example examined the effects of individual defamilializing policies on the gender division of labour, highlighting the importance of the provision of public childcare (Hofferth and Collins, 2000; Chevalier and Viitanen, 2002; Jaumotte, 2003) and parental leave policies (Ruhm and Teague, 1998; Ondrich et al., 2003; Morgan and Zippel, 2003; Mandel and Semyonov, 2006) among various other defamilializing policies. Yet, studies have argued that single policies are often a poor indicator of the overall welfare state effort made to achieve policy goals (Gornick et al., 1997).

These studies therefore develop summary indicators that combine several different women-friendly policies to provide a more accurate picture of overall welfare state effort made to achieve defamilialization (Gornick et al., 1997; Gornick and Meyers, 2003). Summary indicators have the additional advantage of avoiding the problem of multicollinearity between social policies, which complicates their evaluation when introducing them as separate explanatory variables into the statistical analysis (Huber et al., 1993). Most of the existing summary indicators have solely been based on social policies that actively promote women's participation in the labour market, like the provision of public childcare. These policies require substantial public expenditure and correlate closely with traditional decommodification measures of welfare state generosity. The clustering that emerges when using these summary indicators is therefore not the one expected by feminist welfare state theorists but produces a rank-order similar to Esping-Andersen's, with liberal welfare states lagging behind.

To reflect a welfare state's defamilializing potential accurately, a summary indicator can therefore not only be based on employment promoting policies. It needs to take into account a second dimension, highlighted by a number of welfare scholars, namely the absence of social policies that might potentially harm female labour force participation (Sainsbury, 1996; Huber et al., 2009). It is the absence of employment-retarding social policies that explains why liberal welfare states are expected to assume the middle position on the defamilialization scale. As Huber and her co-authors have succinctly pointed out, 'The intermediate level of women's employment in liberal welfare regimes is explained in part by the fact that they are low on all of the policies..., both the employment enhancing and the employment retarding ones' (Huber et al., 2009: 6). Policies that have been identified as having a potentially retarding effect on female labour force participation include generous means-tested child benefits (Sainsbury, 1996; Kreyenfeld and Hank, 2000; Jaumotte, 2003)

and high marginal tax rates on the second earner (Gustafsson, 1992; Sundström and Stafford, 1992; Blundell et al., 2000).

This paper aims to theoretically define and construct such a summary indicator that incorporates both employment promoting and retarding policies. Based on this more precise measurement I then compare and contrast the VOC explanation and the welfare state explanation and incorporate them both into a unified large-N analysis to determine which theoretical approach has more explanatory value for gender relevant outcomes. The difference between both theoretical approaches is nuanced, but still clearly discernable. The welfare state literature places a stronger emphasis on social policies and their effect on women's ability to seek paid employment. In other words, welfare state scholars tend to highlight the factors that influence female labour supply. The VOC literature, by contrast, assigns greater importance to factors that influence the demand for female labour, namely the skill-specificity of the private sector and the size of the public sector. This is not to say that either theoretical approach negates the relevance of the other, but that they are distinct in the emphasis they place on various explanatory variables and their role in contributing to gender relevant outcomes.

Interestingly the VOC literature has devoted attention to social policies as an outcome of the household bargaining process rather than as an input variable shaping the bargaining process.<sup>2</sup> The more favourable labour markets are for women's employment, the stronger their bargaining position and the more likely they are to vote differently from their husbands. In most cases women diverge from their husbands by being more left-leaning and a stronger supporter of left-wing parties that tend to implement more women-friendly social policies (Iversen and Rosenbluth, 2006). Ultimately, social policies are likely to be both the cause and consequence of household bargaining equilibriums, but both theories differ in the parts of the feedback loop to which they draw attention.

## **Empirical analysis**

The empirical strategy is as follows: I begin by developing a summary indicator that measures the degree to which a welfare state is defamilializing. The indicator departs from previous summary indicators in that it includes policies that actively promote women's employment as well as policies that can potentially harm it and whose absence is therefore beneficial. In a first analytical step I show how the defamilialization indicator relates to women's share of household labour.

In a second step I revisit Iversen and Rosenbluth's empirical analysis using the more recent 2002 ISSP survey on gender relations. This survey wave asks the same questions as the Iversen and Rosenbluth's original 1994 dataset, but collects data for a larger number of countries. Countries included are Australia, Austria, Denmark, Flanders (Belgium), Finland, France, Germany, Ireland, Japan, New Zealand, Norway, Portugal, Spain, Sweden, the United Kingdom and the United States. I first replicate Iversen and Rosenbluth's analysis using the exact same model specification they proposed in their 2006 AJPS article (Iversen and Rosenbluth, 2006). In a step-wise fashion, I then add my summary index of defamilializing social policies as well as additional individual level control variables. Incorporating the VOC and the welfare state explanations simultaneously allows me to empirically adjudicate between them and assess the explanatory power of one explanation while controlling for the other.

The empirical results show that the welfare explanation is more robust, while evidence for the VOC explanation is mixed. A similar conclusion is reached when repeating the analysis using Iversen and Rosenbluth's original 1994 dataset, giving additional validity to the results presented here.<sup>3</sup> There is some evidence that the interaction between skill specificity and public sector does indeed explain macro-level variation in the gender division of labour, but this effect disappears when controlling for the defamilialization index.

### **Constructing a defamilialization measure**

A serious constraint on any effort of operationalizing the concept of defamilialization is the difficulty of finding social policy measurements that are comparable across countries and time. The summary indicator developed here therefore only incorporates a subset of defamilializing policies for which such comparable measurements are available. Four social policies are included in this indicator, all of which have consistently been found to affect the gender division of labour in cross-national analyses: the provision of public childcare, child benefits, parental leave and tax rules.

Based on previous empirical research, I expect the provision of public childcare and medium-length parental leaves to promote female labour force participation and an egalitarian division of household labour (Ruhm and Teague, 1998; Hofferth and Collins, 2000; Jaumotte, 2003; Ondrich et al., 2003; Morgan and Zippel, 2003; De Henau et al., 2010). In providing public childcare, the welfare state assumes some of the caregiver responsibilities entrusted to women and thereby allows them to pursue a paid employment. Parental leaves on the other hand have been shown to prevent mothers from dropping out of the labour market after childbirth. Lengthy leaves, however, have been found to be problematic since they are associated with a deterioration of market-relevant skills (Ruhm and Teague, 1998). Father-friendly parental leave policies may also contribute to a more egalitarian division of labour by incentivizing fathers to reduce their work hours while increasing their engagement in family responsibilities (Bünning and Pollmann-Schult, 2015).

In contrast, I expect generous means-tested child benefits and household taxation systems to have a potentially retarding effect on women's employment and an egalitarian division of household labour. Previous studies suggest that means-tested benefits, which decrease with increasing earnings, can have a detrimental effect on women's decisions to seek paid employment especially when the cost of childcare is high (Sainsbury, 1996; Kreyenfeld and Hank, 2000; Jaumotte, 2003). Household tax systems, which typically favour households where the main earner receives a high income and the second earner – in most cases the woman – a small or no income, have also been found to have a retarding effect on women's employment. Since these tax systems essentially add up the income of both spouses and divide it by two to determine a common tax rate, a married woman's additional earnings quickly lead to increased household taxes that reduce her added income (Gustafsson, 1992; Sundström and Stafford, 1992; Blundell et al., 2000; Dingeldey, 2001). Combined with other costs that result from women seeking employment – like childcare and transportation costs – the high marginal tax rates on the second earner might deter women from entering the labour force.

A variety of measures exist for each of the four social policies included in the defamilialization indicator. To measure the generosity of public childcare provision, I use public spending on daycare as a percentage of GDP. Data are provided by the Comparative Welfare States Dataset (Huber et al. 2011). This measure has proven to be a useful proxy in past empirical research, as it captures both coverage rates and affordability (Jaumotte, 2003;

Rovny, 2011; Nelson and Stephens, 2013).<sup>4</sup> To measure the generosity of child benefits, I rely on data from Anne Gauthier's 'Comparative Family Cash Benefits Database' (Gauthier, 2011) As suggested by Gauthier, child benefits are presented as a percentage of average monthly earnings to make them comparable across time and countries.<sup>5</sup>

Measuring the design of parental leave policies is very complex as they incorporate a multitude of rules on issues like the length of the leave, the coverage during the leave, the possibility of part-time take-up, and the transferability of leave from one parent to the other (Ray et al., 2010). I focus on a very parsimonious indicator, the length of parental leave, as it is the most comparable across countries and time. Following past research, the leave variable is squared after standardizing it to reflect the reverse u-shaped effect of parental leave on mothers' employment (Joesch, 1997; Ruhm, 1998; Jaumotte, 2003; Pettit and Hook, 2005). Data on parental leave length are provided by Ann Gauthier's 'Comparative Maternity, Parental, and Childcare Leave and Benefits Database' database (Gauthier, 2011) and only the maximum leave available to mothers is taken into account (see for example Ray et al., 2010).

To measure the impact of the tax system, the marginal tax rate on the second earner is used. Following previous research the marginal tax rate is divided by the average tax rate of a single individual with the same gross earnings (Dingeldey, 2001; Jaumotte, 2003). The larger the ratio, the more unfavourable the treatment of the second-earner.<sup>6</sup> The table below presents the data for all four social policies.

**Table 1 Components of the defamilialization index, 2002.**

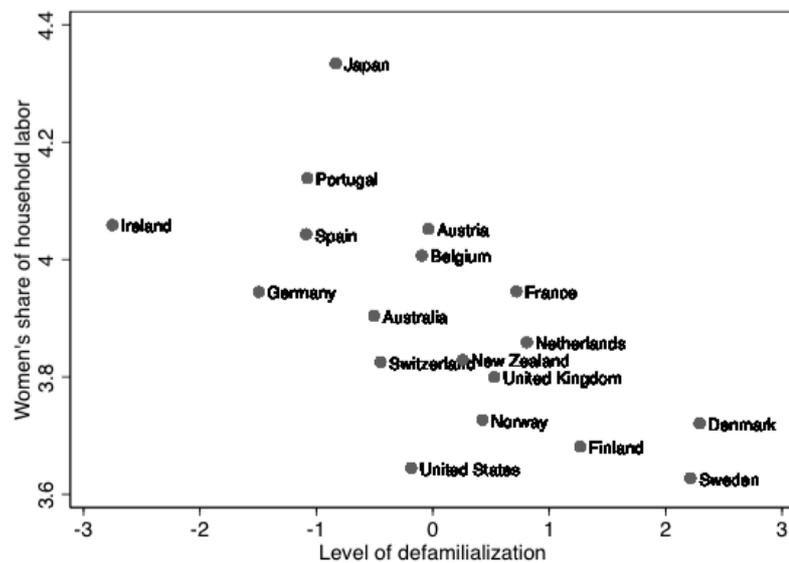
	Public expenditure on daycare as a % of GDP	Ratio second earner tax rate /single earner tax rate	Child benefit as a % of average monthly wage	Parental leave maximum number of weeks	Defamilialization Index (factor score)
Australia	0.42	1.4	6.03	52	-0.50
Austria	0.39	1.1	5.96	112	-0.04
Belgium	0.77	1.5	5.68	80	-0.09
Denmark	1.72	1.2	3.04	50	2.29
Finland	0.94	1	4.76	44	1.27
France	1.14	1.2	2.43	162	0.72
Germany	0.37	1.5	6.35	162	-1.50
Ireland	0.24	2.3	5.36 <sup>a</sup>	32	-2.75
Japan	0.33	1.2	13.94	58	-0.83
Netherlands	0.86	1.2	2.49	29	0.80
New Zealand	0.57	1.2	4.90	52	0.26
Norway	0.63	1.2	3.87	90	0.43
Portugal	0.32	1.3	12.61 <sup>a</sup>	30	-1.07
Spain	0.46	1.6	1.48	156	-1.09
Sweden	1.47	1	4.32	85	2.21
Switzerland	0.31	1.3	3.02	16	-0.45
UK	0.8	1.3	2.24	31	0.53
United States	0.35	1.3	0.00	12	-0.18
Component loadings	0.70	-0.62	-0.27	0.23	

<sup>a</sup> U.S. Social Security Administration (2002)

Principal component analysis reveals that all four social policies do tap into the same underlying defamilialization dimension.<sup>7</sup> As expected the provision of public childcare and

medium length parental leaves load positively on the underlying defamilialization dimension. In contrast, high marginal tax rates on the second earner and means-tested child benefits load negatively on the defamilialization dimension. This means that the higher the marginal tax rate on the second earner and the higher the means-tested child benefits, the less defamilialized a welfare state. Since not all four social policies contribute equally to the underlying defamilialization dimension, creating a common factor is preferable to a simple additive index, which assumes equal weights of all four components.

The defamilialization summary index is not strongly correlated with Iversen and Rosenbluth’s skill specificity index ( $r=0.14$ ), suggesting that the predictions derived from the VOC framework and the welfare state framework point in different directions. This might seem surprising given the institutional complementarities that are widely believed to exist between welfare states and VOC (Huber and Stephens, 2001). As a number of scholars have recently argued, however, welfare states and VOC only seem to reinforce each other in the case of traditional male bread-winners and not necessarily in the case of women (Rubery, 2009).



**Figure 1.** Defamilialization and the division of household labour.

Figure 1 plots the average female share of household work against the defamilialization index for all the 18 countries included in the 2002 sample. Higher levels of defamilialization are associated with a lower female share of household labour. This simple bivariate correlation suggests that a welfare states level of defamilialization might indeed be key to understanding macro-level variation in the gender division of labour. Figure 1 also highlights the advantage of introducing a summary indicator based on individual social policies over the use to welfare state regime dummies, a practice which has received substantial criticism in recent years (Schelkle, 2008). Using the summary index produces the rank-order of welfare state regimes expected by feminist welfare state researchers – social democratic welfare states and Christian democratic welfare states emerge as polar opposites with liberal welfare states assuming the middle position – but the index is also able to account for hybrid countries that

fail to fit specific regime types. For example, the results highlight the peculiar position of Ireland, which is a liberal welfare state regime but seems to exhibit slightly more traditional gender policies. The index is also captures the women-friendly policies in France, which deviates from the Christian democratic regime type in terms of its gender relevant social policies.

### **Data, measurement and models**

Based on the defamilialization index developed in the previous section, I will now revisit Iversen and Rosenbluth's seminal analysis of the gender division of labour using the more recent 2002 ISSP wave. I begin by replicating Iversen and Rosenbluth's model specification before expanding on their research by introducing the defamilialization index and additional individual level controls. Two dependent variables are examined – women's employment and women's share of household labour. A woman's employment and her share of household work are considered as outcomes of the same underlying decision-making process (Iversen and Rosenbluth, 2006). Structural factors that positively affect a woman's decision to seek paid employment are also likely to increase her bargaining power and therefore decrease her share of household labour. Since the emphasis lies on gender dynamics in partnerships, the datasets is restricted to cohabiting couples.

Since Iversen and Rosenbluth conceive of women's employment as a conscious choice, students, retired, unemployed and permanently disabled individuals are excluded from analysis (Iversen and Rosenbluth, 2006: 6). Following Iversen and Rosenbluth, female employment is coded as an ordinal measure with three categories. The employment variable takes on a value of 2 when the survey respondent indicated fulltime employment, 1 in the case of part-time employment and 0 when the respondent indicated being a housewife.<sup>8</sup> To test the robustness of this ordinal employment measure, I also analyse the data using a multinomial logit model, which conceives of part-time and full-time employment models as different and not necessarily rank-ordered categories. The substantive results remain unchanged so that for reasons of easier visualization only the results for the ordinal measure are shown in the results section.<sup>9</sup>

To measure the division of household labour, an additive index constructed by Iversen and Rosenbluth is used. The index is based on a battery of questions asking who in the household performs certain tasks (Iversen and Rosenbluth, 2006: 5). Possible answers to each of these questions include (5) always the woman, (4) usually the woman, (3) about equal, (2) usually the man and (1) always the man. The household tasks included in the index are doing the laundry, caring for sick family members, shopping for groceries, cleaning and preparing the meal. The index ranges from 1 to 5. Higher values indicate that the woman performs more household work. Values of around three indicate an even share of household work.

To account for individual-level variation in the gender division of labour, a number of standard control variables are incorporated into the analysis. Education is measured using a ISSP question on the highest achieved level of education, which ranges from no formal education to a completed university degree. Furthermore, a control for the number of dependents – i.e. children living in the household – is included since research has shown that the gender division of labour tends to become more traditional as the number of dependents increases (Baxter et al., 2008). Following Iversen and Rosenbluth, the analysis includes additional controls for the incidence of previous divorce and a woman's previous absence from paid work. Previous divorce is expected to increase a woman's perception of risk related to relationship dissolution and is therefore likely to be associated with a woman's

increased interest in fostering her outside options (Iversen and Rosenbluth, 2006). Previous absence from paid work, by contrast, decreases marketable skills and is likely to be inversely related to a woman's ability to obtain paid employment. It is measured using a battery of four ISSP questions inquiring about absences from the labour market during different phases of child rearing and takes on a value of 1 if the woman did not work during any of these periods and a value of 0 if she worked full-time during all periods (Iversen and Rosenbluth, 2006: 6).

Additional individual-level control variables include age and retirement. The age variable captures life-cycle effects as well as cohort effects. A woman's share of household labour is expected to increase with increasing age and with retirement. To capture the effect of different gender role ideologies, controls for religiosity and Catholicism are included. Religiosity is measured as the frequency of church attendance and Catholicism is measured using an ISSP question on an individual's declared religion. Both religiosity and Catholicism have emerged as reliable proxies for more traditional gender views in Iversen and Rosenbluth's analysis (Iversen and Rosenbluth, 2006). Lastly, a dummy for the gender of the respondent is included to control for reporting bias in the amount of housework done (Townsend, 1998).

In a consequent step I modify Iversen and Rosenbluth's original model and include additional individual level controls that have been shown to affect the gender division of labour in previous empirical research (Fuwa and Cohen, 2007). First a quadratic age term is introduced since it captures the life-course effects more adequately than a linear specification. Second, an earnings power variable is included, which emphasizes a woman's financial contribution to the household. I use a ISSP item that asks the respondent to rank his or her income relative to the partner's income. Answers to this variable are coded 0 if the woman's income is lower than her partner's, 1 if their incomes are about equal, and 2 if her income is higher.

The key macro-level variables are the level of defamilialization, which I measure using the index I developed in the previous section, and Iversen and Rosenbluth's skill-specificity index. The authors use data on vocational training intensity and median length of job tenure, both of which tend to be associated with specific skill economies, to construct this index.<sup>10</sup> All else equal, Iversen and Rosenbluth expect a higher emphasis on specific skills to decrease female employment and to increase the share of household work conducted by women.

Although both firm tenure rates and vocational training are widely used measures in the quantitative VOC literature, they are very crude proxies of skill specificity (Culpepper, 2007). Vocational training intensity does not necessarily correlate with the actual skills acquired and firm tenure rates depend on a host of other economic factors. As an alternative measure of skill-specificity I therefore also examine the effect of employment protection legislation, which has been found to be closely related to a country's level of skill specificity (Estévez-Abe, 2006; Iversen and Soskice, 2001). Data for employment protection legislation are provided by the OECD.

Iversen and Rosenbluth expect the effect of skill specificity to be moderated by the size of the public sector. In their original model they include a control for public sector size as well as an interaction term. The size of the public sector is measured using data on public consumption as a percentage of GDP excluding military spending. Since this measure includes employee compensation and goods production in publicly provided services it is also related to the size of the social service sector. The correlation between Iversen and Rosenbluth's public sector measure and standard welfare state measures is however weak.

First, the public sector also incorporates services entirely unrelated to the welfare state such as policing and justice. Second, Iversen and Rosenbluth's public sector measure does not include cash transfers payments, a vital component of the welfare state. The third macro-level variable included in the original model specification is part-time employment, measured as the share of the working age population who are in part-time jobs.

### **Defamilialization, skill specificity and the gender division of labour**

Cross-national data on the gender division of labour are clustered in nature, that is individual level observations are nested within higher-level clusters, in this case countries. To account for the clustering a multi-level model is used (Rabe-Hesketh and Skrondal, 2008, compare Iversen and Rosenbluth, 2006; 2010). For the analysis of the employment variable, which only takes on three categories, a multi-level estimation for ordinal response data is used.<sup>11</sup>

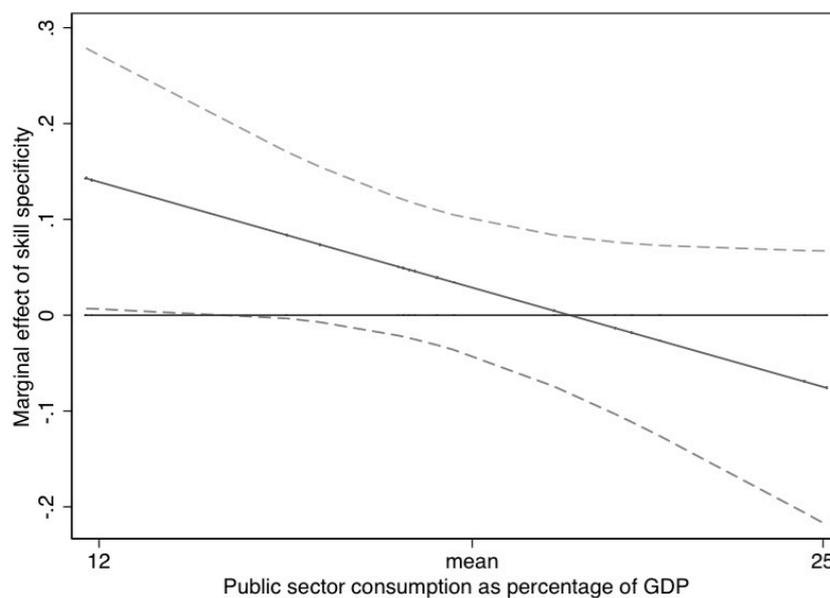
Models 1 and 6 present Iversen and Rosenbluth's original model specification without any modifications. The effect of all individual level variables, with the exception of the retirement dummy, is highly significant and in the expected direction. As predicted, the coefficient estimates have reverse signs for women's employment and women's share of household labour. Variables, which positively affect a woman's decision to seek paid employment have a negative effect on her share of household work. For instance, the incidence of previous divorce and higher levels of education both have a positive effect on a woman's likelihood to participate in the labour market, but a negative effect on her share of household labour. In contrast, a woman's past absence from work and an increasing number of dependents living in the household affect her likelihood to enter paid work negatively, but increase her share of household labour. Models 2 and 7 show that the two individual-level variables, which were added to Iversen and Rosenbluth's model – a quadratic age term and a woman's earnings power – significantly improve the model's explanatory power. The negative effect of a woman's earning power suggests that as women earn as much or more than their husbands, the division of household labour becomes more equal.

**Table 2: Multi-level determinants of the gender division of labor, 2002**

	Paid Work (Women)					Household Work (Female Share)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Previous Divorce	0.715** (0.147)	0.605** (0.149)	0.603** (0.149)	0.605** (0.149)	0.605** (0.149)	-0.142** (0.041)	-0.151** (0.041)	-0.151 (0.041)	-0.152** (0.041)	-0.151** (0.041)
Past absence form paid work	-3.164** (0.100)	-3.222** (0.103)	-3.222** (0.103)	-3.232** (0.103)	-3.222** (0.103)	0.186** (0.024)	0.145** (0.025)	0.145 (0.025)	0.144** (0.025)	0.145** (0.025)
Number of dependents	-0.102** (0.018)	-0.176** (0.019)	-0.176** (0.019)	-0.176** (0.019)	-0.176** (0.019)	0.031** (0.005)	0.027** (0.005)	0.027 (0.005)	0.027** (0.005)	0.027** (0.005)
Age	-0.021** (0.002)	-0.022** (0.002)	-0.022** (0.002)	-0.022** (0.002)	-0.022** (0.002)	0.003** (0.001)	0.003** (0.001)	0.003** (0.001)	0.003** (0.001)	0.003** (0.001)
Age squared	-	-0.003** (0.0001)	-0.003** (0.0001)	-0.003** (0.0001)	-0.003** (0.0001)	-	-0.0001** (0.000)	-0.0001** (0.0000)	-0.0001** (0.000)	-0.0001** (0.000)
Education	0.141** (0.016)	0.125** (0.016)	0.125** (0.016)	0.124** (0.016)	0.125** (0.016)	-0.051** (0.004)	-0.050** (0.004)	-0.050** (0.004)	-0.050** (0.004)	-0.049** (0.004)
Religiosity	-0.055** (0.010)	-0.047** (0.010)	-0.047** (0.010)	-0.047** (0.010)	-0.047** (0.010)	0.014** (0.003)	0.015** (0.003)	0.015** (0.003)	0.015** (0.003)	0.015** (0.003)
Catholic	-0.183** (0.058)	-0.206** (0.058)	-0.212** (0.058)	-0.204** (0.058)	-0.201** (0.058)	0.082** (0.017)	0.071** (0.017)	0.069** (0.017)	0.067** (0.017)	0.067** (0.017)
Retired	-	-	-	-	-	-0.060** (0.019)	-0.024 (0.021)	-0.022 (0.021)	-0.023 (0.021)	-0.024 (0.021)
Gender of the respondent (female)	1.135** (0.055)	1.137** (0.056)	1.136** (0.056)	1.136** (0.056)	1.136** (0.056)	0.263** (0.015)	0.266** (0.015)	0.266** (0.015)	0.267** (0.015)	0.267** (0.015)
Relative Income	-	-	-	-	-	-	-0.196** (0.009)	-0.196** (0.009)	-0.196** (0.009)	-0.196** (0.009)
Defamilialization	-	-	-	0.236* (0.114)	0.203+ (0.119)	-	-	-	-0.055** (0.021)	-0.084** (0.024)
Part-time employment	-0.041+ (0.022)	-0.046* (0.022)	-0.037 (0.023)	-0.048* (0.022)	-0.050* (0.022)	-0.001 (0.005)	-0.002 (0.005)	0.002 (0.005)	0.001 (0.004)	-0.001 (0.004)
Public Sector	0.077+ (0.045)	0.072+ (0.044)	0.036 (0.043)	-	0.022 (0.050)	-0.012 (0.010)	-0.010 (0.009)	-0.009 (0.009)	-	0.011 (0.009)
Skill Specificity	-0.188 (0.224)	-0.197 (0.227)	-	-	-0.160 (0.217)	0.050 (0.050)	0.045 (0.047)	-	-	0.028 (0.036)
Public Sector*Skill Specificity	-0.081 (0.060)	-0.076 (0.059)	-	-	-0.083 (0.056)	-0.019 (0.013)	-0.019 (0.012)	-	-	-0.016+ (0.009)
Employment Protection	-	-	0.274 (0.182)	-	-	-	-	0.054 (0.038)	-	-
Intercept	-	-	-	-	-	3.962** (0.033)	3.979** (0.031)	3.956** (0.029)	3.957** (0.027)	3.979** (0.024)
Homemaker/Part-time	-1.114** (0.152)	-1.562** (0.146)	-1.474** (0.139)	-1.465** (0.142)	-1.562** (0.144)	-	-	-	-	-
Part-time/Full-time	0.333* (0.15)	-0.060 (0.145)	0.028 (0.139)	0.038 (0.141)	-0.060 (0.143)	-	-	-	-	-
<i>N</i>	10142	10142	10142	10142	10142	12853	12274	12274	12274	12274
<i>No. of countries</i>	18	18	18	18	18	18	18	18	18	18
<i>AIC</i>	18374	17866	17864	17862	17866	25298	23434	23438	23427	23426

+  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$

Evidence for the effect of Iversen and Rosenbluth’s key explanatory variables – the level of skill-specificity and its interaction with public sector employment – is mixed. As expected, the level of skill specificity has a negative effect on women’s labour force participation and a positive effect on women’s share of household labour. The interaction term suggests that a larger public sector counterbalances the effect of skill specificity. As predicted by Iversen and Rosenbluth, the effect of skill specificity decreases with larger public sector size. Yet, the effect of this interaction with the public sector is not statistically significant in the case of women’s share of household labour (Model 6) and only reaches significance in a one-tailed T-test in the case of women’s employment (Model 1).<sup>12</sup> The marginal effects plot below represents the marginal effect of skill specificity on women’s paid employment at different levels of public consumption. It shows that the effect of skill specificity is only statistically significant when the size of the public sector is very small.



**Figure 2.** Marginal effect of skill specificity conditional on public sector consumption,

The results of Iversen and Rosenbluth’s 1994 ISSP analysis can therefore not be cross-validated. The level of skill specificity and its interaction with public consumption does not seem to effect the division of household labour and only has a weak effect on women’s likelihood of entering paid work. What is more important is that the significance of the latter effect disappears when controlling for the defamilialization index (Model 5). The effect of the alternative employment protection legislation measure also fails to reach conventional levels of statistical significance (Models 3 and 8). Overall there is only weak evidence for the VOC explanation of the gender division of labour.

In contrast, the results strongly support the welfare state explanation of the gender division of labour (Models 4 and 9). The effect of the defamilialization index is highly statistically significant. As expected it has a positive impact on women’s labour force and a negative impact on women’s share of household labour. Holding all other variables constant, a two-standard deviation change in defamilialization decreases women’s average share of household labour by 5 per cent and increases a woman’s log odds of being employed by a

factor of 1.74. In fact, the defamilialization index performs equally well when replicating the analysis with Iversen and Rosenbluth's original 1994 dataset, which confirms the temporal robustness of the defamilialization index.<sup>13</sup> What is more, the effect of the defamilialization index remains strong and statistically significant even when introducing the VOC controls (Models 5 and 10), suggesting that social policies do indeed seem to have a stronger impact on women's decision to seek paid employment as well as on her share of household labour than labour market characteristics.<sup>14</sup>

The results also do not confirm Iversen and Rosenbluth's finding that part-time employment has a positive effect on women's likelihood of obtaining paid work. In fact, the results show that a higher availability of part-time jobs has a negative effect on female labour force participation. A more detailed analysis using a multinomial model<sup>15</sup> shows that the availability of part-time work only has a positive, though not statistically significant, effect on women's likelihood of obtaining part-time jobs, but a negative effect on women's likelihood of obtaining full-time jobs.

## Discussion

This paper contributes to the existing literature on the gender division of labour in two substantial ways. First, it introduces a new summary indicator of defamilialization. In contrast to previous summary indicators this indicator incorporates a larger variety of social policies. I argue that it is not only the presence of social policies that actively promote female employment but also the absence of social policies that retard female employment which best defines defamilialization. The proposed defamilialization index reflects the rank-order of welfare regimes hypothesized by feminist welfare scholars more accurately than previous indicators solely based on employment promoting policies.

Second, this paper revisits Iversen and Rosenbluth's influential analysis of the 1994 ISSP, which emphasizes the importance of VOC as an explanatory framework for the gender division of labour. Using the more recent 2002 wave of the ISSP I show that there is only weak empirical evidence for VOC's main claim, the effect of skill-specificity. Even alternative measures that correlate closely with a country's level of skill specificity, like employment protection legislation, do not account for much of the variation in gender relevant outcomes. The effect of defamilializing social policies, by contrast, is strong and robust across all model specifications. What is more important is that the effect of skill specificity and its interaction with public sector employment disappears when controlling for the defamilialization index.

The results cast doubt on the appropriateness of VOC as an explanatory framework for the gender division of labour and substantiate some of the earlier theoretical critiques raised with regard to the VOC framework. They demonstrate that a gendered welfare state perspective can offer a better explanation of the observed outcomes. Part of the previous empirical findings in support of the VOC framework might have been due to omitting crucial controls for defamilializing social policies from the analysis. That welfare state inspired explanations are more suitable than a VOC based approach might be due to the fact that a married or cohabiting woman's decision to seek paid employment is more strongly affected by factors that influence her ability to supply labour rather than by factors related to the demand for female labour, like a labour markets' level of skill specificity (Jaumotte, 2003).

The fact that defamilializing social policies are more amenable to change and political reform

than a labour market's level of skill specificity provisions an optimistic outlook for gender equality at home and at work. Given the relevance of defamilializing social policies for more gender equality, it is therefore high time to explore in more detail the political context under which more women-friendly policies are adopted (Atchison and Down, 2009; Nelson and Stephens, 2013).

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### **Notes**

1. Defamilialization was initially conceptualized as a broader concept encompassing policies that financially compensate women's domestic caregiver role (Lister, 1994).
2. The famous second part of Iversen and Rosenbluth's 2006 AJPS article explores the effect of the household bargaining equilibrium on the gender voting gap. Iversen and Rosenbluth hypothesize that the stronger a woman's bargaining position is the more likely she is to vote differently from her husband, especially in regard to the expansion of the public sector and the support for left parties.
3. Iversen and Rosenbluth have graciously shared their data and model specification with me. The analysis based on the 1994 dataset is shown in the Appendix.
4. Data is provided by the OECD Social Security Expenditure Database. Daycare includes daycare institutions for children under 3 and pre-school institutions for children between 3 and 5 inclusive.
5. Earnings data are provided by the OECD.
6. Data for 2002 are provided by Jaumotte (2003).
7. The Eigenvalue is 1.58. The principal component analysis suggests that there could be a second factor. As a robustness test the analysis of the 2002 ISSP is repeated with two, rather than just one, factor. The results are shown in the Appendix. The two-factor solution does not change the substantive results and it does not contribute to a significantly better model fit.
8. Part-time refers to any employment with less than 30 hours a week.
9. Results for the multinomial logit model are shown in the Appendix.
10. The skill specificity index equals the mean value of both variables after standardization. Data on vocational training intensity is provided by UNESCO. Data on firm tenure rates is provided by the OECD (see Iversen and Rosenbluth, 2006).
11. Estimates were obtained in STATA 12 using xtmixed for the division of household labour and gllamm for female employment.
12. The significance levels in Iversen and Rosenbluth's original analysis also refer to one-tailed t-tests. In their analysis of the 1994 ISSP, Iversen and Rosenbluth also explore model specifications that exclude the 'public sector' term of the interaction effect. Excluding the public sector term from the analysis of the 2002 ISSP does however not affect the substantive results.
13. See Appendix
14. Although, as mentioned, Iversen and Rosenbluth public consumption measure correlates with welfare state characteristics the variance inflation coefficients are low.
15. Results shown in the Appendix.

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## Appendix

**Table 3 Multi-level determinants of the gender division of labour, 1994**

	Paid Work (Women)		Household Work (Female Share)	
	(1)	(2)	(3)	(4)
Divorce	0.042* (0.016)	0.048* (0.020)	-0.098** (0.028)	-0.122** (0.036)
Previous absence from paid work	-0.737** (0.045)	-0.738** (0.042)	0.184** (0.031)	0.200** (0.033)
Number of dependents	-0.017* (0.009)	-0.018 (0.009)	0.043** (0.008)	0.049** (0.007)
Age	0.004** (0.001)	0.004** (0.001)	0.006** (0.001)	0.006** (0.001)
Education	0.022** (0.006)	0.023** (0.007)	-0.032** (0.006)	-0.040** (0.012)
Religiosity	-0.020** (0.006)	-0.018** (0.006)	0.003 (0.009)	-0.002 (0.010)
Catholic	0.014 (0.019)	0.021 (0.012)	0.058* (0.026)	0.055 (0.054)
Retired	-	-	-0.152** (0.037)	-0.160** (0.041)
Gender of the respondent (female)	-0.002 (0.018)	-0.002 (0.017)	0.219** (0.037)	0.217** (0.037)
Defamilialization	-	0.071** (0.009)	-	-0.097* (0.051)
Public Sector	0.013 (0.208)	-	-0.057 (0.394)	-
Skill Specificity	-0.389* (0.187)	-	0.876* (0.432)	-
Public Sector*Skill Specificity	0.690 (0.431)	-	-1.302 (0.840)	-
Part-time employment	0.019** (0.004)	0.013** (0.002)	-0.004 (0.012)	0.001 (0.013)
<i>N</i>	5289	5289	7144	7144
<i>No. of countries</i>	12	12	12	12
<i>AIC</i>	6102	6092	12824	13060

Standard errors in parentheses (one-tailed significance tests)

\*  $p < 0.05$ , \*\*  $p < 0.01$ ,

**Table 4 Multi-level determinants of the gender division of labour, 2002 ISSP (two factors)**

	Paid Work (Women)	Household Work (Female Share)
	(1)	(2)
Divorce	0.606** (0.149)	-0.151** (0.041)
Previous absence from paid work	-3.222** (0.103)	0.144** (0.025)
Number of dependents	-0.176** (0.019)	0.027** (0.005)
Age	-0.0220** (0.002)	0.003** (0.001)
Age squared	-0.003** (0.000)	-0.0001** (0.000)
Education	0.124** (0.016)	-0.050** (0.004)
Religiosity	-0.047** (0.010)	0.014** (0.003)
Catholic	-0.197** (0.058)	0.069** (0.017)
Retired		-0.022 (0.021)
Gender of the respondent (female)	1.136** (0.056)	0.267** (0.015)
Relative income	-	-0.196** (0.009)
Defamilialization factor 1	0.247* (0.099)	-0.054** (0.020)
Defamilialization factor 2	0.255* (0.101)	0.035 (0.022)
Part-time employment	-0.049** (0.018)	0.0004 (0.004)
Public Sector	-	-
Skill Specificity	-	-
Public Sector*Skill Specificity	-	-
Intercept	-	3.958** (0.025)
Homemaker/Part-time employment	-1.462** (0.122)	-
Part-time employment/Full-time employment	0.040 (0.121)	-
<i>N</i>	10142	12274
<i>No. of countries</i>	18	18
<i>AIC</i>	17860	23450

\* p &lt; 0.05, \*\* p &lt; 0.01

**Table 5 Multi-level determinants of female employment, 2002 ISSP  
(multinomial multi-level model)**

	Paid Work (Women)	
	Homemaker/Part-time employment	Homemaker/Full-time employment
Divorce	0.479 (0.252)	1.001** (0.238)
Previous absence from paid work	-1.684** (0.131)	-4.314** (0.148)
Number of dependents	-0.068* (0.025)	-0.225** (0.026)
Age	-0.021** (0.003)	-0.026** (0.003)
Age squared	-0.003** (0.0001)	-0.004** (0.0002)
Education	0.129** (0.023)	0.183** (0.022)
Religiosity	-0.049** (0.014)	-0.060** (0.014)
Catholic	-0.100 (0.079)	-0.270** (0.077)
Gender of the respondent (female)	0.740** (0.082)	1.470** (0.078)
Part-time employment	0.034 (0.024)	-0.070** (0.024)
Defamilialization	0.400** (0.125)	0.413** (0.125)
Intercept	0.525** (0.155)	1.00** (0.154)
<i>N</i>	10142	
<i>No. of countries</i>	18	
<i>AIC</i>	17566	

\* p < 0.05, \*\* p < 0.01