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**Working Paper**

## Winners and losers: The consequences of welfare state policies for gender wage inequality

LIS Working Paper Series, No. 550

**Provided in Cooperation with:**

Luxembourg Income Study (LIS)

*Suggested Citation:* Mandel, Hadas (2010) : Winners and losers: The consequences of welfare state policies for gender wage inequality, LIS Working Paper Series, No. 550, Luxembourg Income Study (LIS), Luxembourg

This Version is available at:

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# **Luxembourg Income Study Working Paper Series**

**Working Paper No. 550**

## **Winners and Losers: The Consequences of Welfare State Policies for Gender Wage Inequality**

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**September 2010**



**Winners and Losers: The Consequences of Welfare State Policies for  
Gender Wage Inequality**

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# **Winners and Losers: The Consequences of Welfare State Policies for Gender Wage Inequality**

## **Abstract**

Cross-national studies of the impact of welfare states on gender inequality tend to overlook socioeconomic divisions among women. This paper challenges the implicit assumption that welfare states have uniform effects on the labour market attainments of all women, arguing that the impact of state intervention is necessarily conditioned by women's relative advantage or disadvantage in the labour market. Based on micro-datasets from 21 advanced countries, the findings suggest that welfare state policies interact with socioeconomic position in determining women's economic rewards, tending to penalize highly skilled women while benefiting the less-skilled. Highlighting the advantages and disadvantages of social policies in light of the particular groups they benefit, as well as their implications for other groups, the paper concludes that more research is needed to explore differentiated approaches to reconciling work and family, rather than addressing universal work-family tensions.

# **Winners and Losers: The Contradictory Consequences of Welfare State Policies for Gender Wage Inequality**

This study stresses the importance of class differences for cross-country comparisons of gender inequality in general, and for understanding the effect of welfare state policies on gender earnings inequality in particular. Acknowledging the role of class divisions among women, the study draws on insights from the feminist notion of intersectionality, which has become a major theme in feminist studies. While stimulating researchers to study the different life experience of doubly disadvantaged groups (e.g., Browne and Misra, 2003; Collins, 1999; hooks, 1984; 2000), intersectionality has yet to be sufficiently translated into empirical studies that compare different groups of women across the class spectrum (McCall, 2005). Within the extensive and variegated research on welfare states and gender inequality, diversity among women is not commonly highlighted, despite recent calls to recognize its importance in this context (e.g., Esping-Andersen 2009; Mandel and Shalev, 2009a; O'Connor, Orloff and Shaver, 1999; Shalev, 2008; Warren, 2003; Williams and Boushey, 2010).

The notion of intersectionality has mainly been concerned with the unique experience of black (as opposed to white) women (e.g., Browne and Misra, 2003; Collins, 1999), whereas the literature on the welfare state and gender has focused mainly on comparing the situation of women (as opposed to men) in different institutional contexts. In emphasizing inequality on the basis of gender per se, this literature has primarily highlighted elements that unite, rather than split, women. As women of all societies and social groups share the universal tension between work and family, public policies aimed at easing women's access to independent sources of income have been perceived as serving their shared interest in struggling against traditional gender roles. Consequently, the reconciliation of paid work

with family obligations has been stressed as the primary role of welfare state intervention in relation to women, and female labour force participation has been the most widely studied outcome in comparative research on welfare states and gender inequality (e.g., Esping-Andersen, 1990; 1999; Hobson, 1990; Korpi, 2000; Van der Lippe and Van Dijk, 2002).

Since researchers have primarily been interested in the effects of reconciliation policies on women's employment, the main division among women which they have subjected to empirical examination is marital or parental status (e.g., Gornick et al., 1998; Harkness and Waldfogel, 2003; Misra et al., 2007a; 2007b). Even studies that considered educational divisions among women have emphasized the consequences for labour force participation – specifically, the tendency of highly skilled women to be more economically active, and thus to minimize the motherhood penalty over the life course (Esping-Andersen, 2009; Sigle-Rushton and Waldfogel, 2007). Demonstrating that the cost of having children varies by educational level, these studies emphasize linkages between family policies and the economic activity of mothers vs. non-mothers.

The question to what extent family policies contribute to the economic gains of women beyond their effect on their participation rates has received much less attention. However, when the focus is placed on the effect of state intervention on the occupational and earnings attainments of working women, it becomes evident that family policy should not be expected to uniformly benefit women of different classes. First, with the massive entry of women into the labour market and their rising educational attainments, socioeconomic diversity among working women has grown substantially, contributing to widening differences in their working conditions, bargaining power, and economic abilities. Second, the mechanisms by which welfare state policies have been found to affect

women's labour market attainments are by nature linked to and dependent on their skills, education, and position in the labour market.

My aim in the present study is, therefore, to distinguish between more and less advantaged women, based on their socioeconomic characteristics, in order to stress the importance of this division for understanding the effect of welfare states on women's labour market attainments. After briefly surveying previous findings, I develop my theoretical expectations, which challenge and modify the conclusions of previous research. Specifically, while earlier studies discovered negative effects of family policies on women's earnings and occupational attainments, in this paper I show that the impact of these policies is in fact conditioned by class.<sup>1</sup> Using multilevel analysis to compare 21 countries, I demonstrate that although welfare state interventions do limit the economic rewards of highly skilled women, they do not adversely affect, and by some measures actually benefit, those who are less skilled. In light of these findings, the treatment of women as a single homogeneous group is problematic, and cross-country comparisons of gender inequality, which are usually based on the gaps between the “average man” and the “average woman”, may potentially be misleading. Consequently, I conclude that the “friendliness” of policies should be analyzed with the benefit of a sociological perspective that identifies which groups benefit and which do not.

## **Background**

Previous studies of the effect of reconciliation policies on female labour force participation have universally found social-democratic countries to be the most gender-egalitarian. The extensive supply of high-quality public daycares, in addition to flexible terms of

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<sup>1</sup> I use the term class to refer to the differential location of workers in the hierarchical structure of rewards. I will alternately use the terms class divisions and socioeconomic divisions as synonymous.

employment, maternity leaves, and paid leave to care for sick children, have all been found to increase women's – and especially mothers' – labour force activity and work continuity, in turn lowering the motherhood penalty, as well as poverty levels and the economic dependency of women (Bianchi et al., 1999; Christopher, 2002; Daly, 2000; Gornick et al., 1997; 1998; Harkness and Waldfogel, 2003; Hobson, 1990; Korpi, 2000; Misra et al., 2007a; 2007b; Sigle-Rushton and Waldfogel, 2007; Stier et al., 2001).

However, the convenient terms of employment available to working mothers in Scandinavia have also been found to restrain their occupational and earnings attainments, as indicated mainly by the higher levels of vertical and horizontal sex segregation in well developed welfare states. For example, Wright et al. (1995) found that the gender gap in workplace authority is much greater in the “mother-friendly” labour markets of Sweden and Norway than in the market-oriented welfare states of the U.S., Canada, the U.K. and Australia (see also Birkelund and Sandnes, 2003). The "Varieties of Capitalism" approach explains these findings by emphasizing the role of employment protection, claiming that such protection, which characterizes economies with internal labour markets, systematically disadvantages women due to their more interrupted careers (Estévez-Abe, 2005; 2006). Family-friendly policies make matters even worse, because shielding mothers from work obligations further erodes their attractiveness to employers. Mandel and her collaborators add the claim that welfare state interventions in general, and family-friendly policies in particular, exacerbate women's occupational attainments by inhibiting their access to powerful and desirable positions (Mandel and Semyonov, 2006; 2005; Mandel and Shalev, 2009b).<sup>2</sup> They argue that the very policies which support mothers by insulating them from labour market exigencies – for example, by providing them with attractive

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<sup>2</sup> The study by Mandel and Shalev (2009b) addresses the relationship between class and gender from a different perspective. It demonstrates how welfare states affect gender wage gaps through their impact on both class inequality (through decommuniting policies) and gender inequality (through defamilializing policies). Both mechanisms, however, are treated as uniformly affecting all women.



working conditions in the public sector or enabling them to exit employment for substantial amounts of time – also make them less motivated or less attractive to private-sector employers, and thus less likely to obtain prestigious and lucrative positions. These claims are reinforced by other studies that point to the “Vicious Circle of the Welfare State” (Hansen, 1995), resulting from the creation of a gender-segregated public sector (Hansen, 1997), the negative consequences of long absenteeism from work, and particularly the harmful effect of long maternity leaves on women’s access to paid work (Morgan and Zippel, 2003) and on their earnings attainments (Ruhm, 1998; Albrecht et al., 1999). The general argument, therefore, is that state interventions to reconcile paid with unpaid work, which are considered “mother-friendly”, have paradoxically negative consequences for the labour market attainments of working women.

### **Theoretical expectations**

The studies cited above primarily highlight two complementary mechanisms as underlying the unfavourable implications of welfare states for women’s occupational attainments. The first is employment protection of either mothers or workers in general. The second is the concentration of women in large public service sectors. My claim is that both factors interact with socioeconomic position in determining the economic rewards of women – they tend to limit those of highly skilled women, but to benefit lower-skilled women. Before specifying the effect of each mechanism, it is worth clarifying that the effect of family policies and public employment on women’s earnings should not be assumed to operate independently of women’s actual preferences or personal choices. This relates to women’s educational decisions as well as their future career choices. The underlying assumption of this study is that educational choice and job preferences are influenced by labour market constraints and opportunities, such as employer discrimination or working

conditions in the public sector. As will be discussed in the next sections, the opportunity structure that women face is far from identical for women from different classes.

### Employment Protection for Mothers and Workers

Whether employment protection regulations apply to all workers (such as regulation of working conditions and wages or general protection against dismissal) or are targeted explicitly at mothers (such as maternity leave benefits or reduced working time), they are all expected to heighten employers' reluctance to hire women (Estévez-Abe, 2005; 2006; Hansen, 1995; 1997; Mandel and Semyonov, 2005; 2006; Mandel and Shalev, 2009b). Nevertheless, probing the rationale behind theories of statistical discrimination leads to the expectation that discriminatory employer behaviour largely depends on women's occupational position. The logic of statistical discrimination is that when firms seek workers for *jobs with high training costs*, they favour more stable and productive employees (e.g., Aigner and Cain, 1977). Because the information on individual job applicants is limited, employers discriminate against entire groups of employees considered to be less productive. As the cost of a bad match is trivial for jobs with little or no on-the-job training, the risk of statistical discrimination is mainly relevant to women with high human capital resources, who are the potential candidates for elite positions, or positions that afford a career trajectory (Tomaskovic-Devey, 1993).

True, less-skilled women are not entirely immune from statistical discrimination, particularly not in the context of internal labour markets, where regulations regarding layoffs are rigid. Nevertheless, as Estévez-Abe (2005; 2006) argues, in internal labour markets the *best jobs* are reserved for stable employees. The fact that women's careers are more interrupted is particularly costly because it limits their chances of returning to *good jobs*. Thus, although employer sensitivity to women's lack of job continuity is rooted in the behaviour of women as a group, highly skilled women are the ones most exposed to it.

It follows that the absence of universal employment protection may in a sense benefit highly skilled women, because it lowers employers' motivation to practice statistical discrimination against them. This is not to say that highly skilled women, being the primary caregivers in their families, do not find state interventions such as job protection and public family services to be advantageous (e.g., Williams and Boushey, 2010). Nevertheless, they have less need of job security and family services than lower-skilled women, because their better economic resources allow them to purchase private solutions to work-family conflicts more easily (Morgan, 2005; Shalev, 2008).

Furthermore, states that provide poor employment protection (like the liberal welfare states) tend to invest less in public childcare services, and more in encouraging the private provision of services, such as tax credits for childcare. They are also more sensitive in regard to pursuing fair competition in the workplace by advancing antidiscrimination and equal opportunities legislation (Chang, 2000; Orloff, 2006). While such interventions are not expected to affect women from different groups contrarily (i.e., to have a negative implication for one group), they are more beneficial to one group over another. Thus, the marginal effect of public childcare is likely to be stronger for low-paid than high-paid women, whereas antidiscrimination legislation and tax credits are something that more educated and economically well-off women are primarily able to take advantage of (O'Connor, Orloff and Shaver, 1999).

### Public Employment

The process of post-industrialism, especially the expansion of the service sector, has contributed to widening the segregation of females into large, "pink-collar" occupational ghettos (Charles and Grusky, 2004; Charles, 2005). Feminization is particularly noteworthy in the social services – care, education, healthcare, and the like (e.g., Kolberg, 1991). In most countries, and especially those with progressive family policies, the delivery of these

services has traditionally been the responsibility of the public sector. The public sector has been relatively amenable to furnishing working conditions, particularly shorter and more flexible hours, that ease the pressures on working mothers. Moreover, because governments are more politically sensitive as employers and wages are administered bureaucratically, the public sector tends to refrain from paying very low or very high wages or from practicing statistical discrimination against women.

These advantages of the public-service sector, however, are clearly conditioned by class. State employment is more beneficial to low-paid workers and minorities who find it harder to attain economic security through the free market (Gornick and Jacobs, 1998). Given the conjunction of gender and class disadvantage, low-skilled women workers have little bargaining power and accordingly tend to benefit from collective bargaining and the bureaucratic administration of wages in the public sector. For example, there is evidence that part-time workers, who are predominantly female, are much more secure in the public sector in terms of both wages and working conditions (1994; Blossfeld and Hakim, 1997) than in the private sector.

While lower-skilled women are more protected in the public sector, the alternative opportunities of highly skilled women outside the public sector are much more attractive. In countries with a large public sector (mostly Scandinavia), many women who work in high-level (managerial and professional) occupations are public employees. The lower earnings ceiling in the public sector prevents these women from attaining wages that are equal to comparable senior positions in the private sector. Thus, highly skilled women in professional and managerial positions pay a significant wage penalty for working in the public sector (e.g., Gornick and Jacobs, 1998; Hansen, 1997). Moreover, the greater bargaining power of more educated and skilled workers enables them to obtain economic security and working conditions that ease work/family conflicts in the private market. They

therefore have more to lose from the restrictive wages available in the public sector, while the protection it offers is less beneficial to them.

### **Welfare State Policies and Gender Wage Gaps**

Based on the discussion so far, women-friendly welfare states are expected to restrain women's earnings indirectly by increasing occupational attainments. Yet only a limited number of empirical studies have explicitly demonstrated the effects of family policies on women's earnings. Most of the evidence that links the two concerns the economic price of motherhood over the life cycle. In that regard, family policy may lower the motherhood penalty, primarily by facilitating women's labour market activity (e.g., Crittenden, 2001; Harkness and Waldfogel, 2003, Rake, 2000; Sigle-Rushton and Waldfogel, 2007).

Nevertheless, there is some evidence for the effect of maternity/parental leave on women's earnings, beyond its influence on their labour market participation. Theoretically this effect is not straightforward. On the one hand, maternity leave may enhance women's pay by increasing job continuity, especially by maintaining employment with the same employer. On the other hand, extended leave encourages women to withdraw from paid employment, reducing their work experience (Waldfogel, 1998). Edin and Gustavsson (2008) found that an extended period of parental leave erodes labour market skills and damages future career paths and earnings. Ondrich et al. (2003) and Ruhm (1998) also found a negative effect of parental leave on women's wage growth over time.

Nevertheless, in a cross-national framework there is no guarantee that the negative consequences of parental leave or other reconciliation policies will be apparent in variations in gender wage gaps. The reason has to do with other intervening factors, first and foremost cross-country variation in class inequality. Blau and Kahn (e.g., 1992; 1996) have shown that if wage differentials among workers in general are relatively low as a

result of centralized wage-setting, it has the effect of decreasing the gender wage gap. Building on this, Mandel and Semyonov (2005) have argued that the more egalitarian nature of the wage structure in developed welfare states makes it difficult to uncover the unfavourable implications of the welfare state for women's earnings. The reason is that centralized wage determination offsets the anticipated effect of reconciliation policies; the latter are expected to widen gender wage gaps, the former to narrow them.

Despite the validity of this argument from an aggregate perspective, it obscures the possibility that the effects of wage-bargaining systems, like those of family policies, are conditioned by class. Both can be expected to depress the earnings of highly skilled women, while favouring those who are less advantaged. In fact, centralized wage-bargaining systems reduce gender wage gaps precisely because women are more likely than men to be low-paid (e.g., Blau and Kahn, 1996; Almond and Rubery, 1998). Although this effect persists when the *average* man and woman are compared, it actually reflects the inferiority of *disadvantaged* women. Highly skilled women – like highly skilled men – have less need of collective bargaining. On the contrary, the truncated wage differentials associated with centralized wage determination are not in the interests of highly skilled workers (either women or men), because their effect is to lower the wage ceiling that they can potentially reach, while raising the cost of outsourcing domestic services. Since the effect of wage-setting institutions, like the impact of family policies, is conditioned by class, overlooking the differences between socioeconomic groups further contributes to obscuring the effect of welfare states on gender wage gaps.

## *Data, Variables and Method*

### **Data and Variables**

Empirical data for this study come from the Luxembourg Income Study.<sup>3</sup> Samples were limited to workers at the prime working ages of 25-60. With the exception of gender (men=1), all individual-level independent variables in this study are introduced as controls, with the purpose of eliminating cross-national differences in the composition of gender-related wage-determining characteristics. These variables are: marital status (married (or cohabitation)=1), education (academic degree=1), age (in years), age squared, the presence of preschool children (=1), number of children under age 18, and weekly working hours. In addition, all models introduce a measure of selection into the labour force (hereafter ‘LF probability’), to ensure that the effect of policies is not merely a result of self-selection into the labour market.<sup>4</sup> To measure selectivity, I employ logistic regressions to calculate the probabilities of employment in each country as a function of age, education, marital status, the presence of preschool children, sex, and interaction terms of sex with all of the other independent variables. The predicted probabilities are then plugged into the wage models (see the logic behind this procedure in Heckman, 1979). Appendix Table 1 displays descriptive statistics of the variables, by country.

The dependent variable is annual earnings.<sup>5</sup> To avoid conflating the effect of welfare state policies with the effect of wage-setting institutions, I follow the method adopted by

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<sup>3</sup> For details, see [www.lisproject.org](http://www.lisproject.org). The data-files of Finland and Switzerland were taken from wave 3 (the recent data files on which data on working hours are available). All other data-files are from waves 4 and 5 (see specific years in Appendix Table 1). For Denmark and Norway, which do not provide data on working hours, I used the following external sources: Danish Leisure Study, 1993, and the (Norwegian) Level of Living Survey, 1995. These two data-files were integrated with the LIS files.

<sup>4</sup> Employment-supportive arrangements may affect the selection of women into paid employment; in countries with “family-friendly” working conditions, more women participate in paid work, including those who would otherwise stay out of the labour force. Taking selectivity into account eliminates cross-country variations in gender wage gaps which result from compositional differences in labour force participation.

<sup>5</sup> Most countries reported on gross earnings only. Austria, France, Hungary, Ireland, Italy, Luxembourg, and Spain provide net earnings only, which are expected to be more equally distributed. This may lead to an underestimation of the gender wage gap in those countries, particularly among higher earners.

Mandel and Semyonov (2005) and standardize the wage distribution to a percentile scale. Thus, each respondent's wage is measured by his or her position in their national earnings distribution, irrespective of cross-national differences in the length of the wage ladder.<sup>6</sup> On the assumption that the effect is conditioned by class, what this standardization prevents is the risk that the centralized wage determination in well-developed welfare states will cause an exaggerated effect of welfare state policies for less advantaged groups, and obscure their unfavourable implications for more advantaged groups.

The main independent variable – welfare state policies – is measured in various ways. The first is by type of welfare regime, operationalized on the basis of Esping-Andersen's influential classification (1990; 1999).<sup>7</sup> Because welfare regimes exhibit resemblances in their institutional contexts, they share multiple similar attributes. On the assumption that countries within each regime share similar policy packages, anticipated outcomes are expected to follow ideal regime types.<sup>8</sup>

To distinguish between the effects of individual indicators, and between countries within regimes, family policies are also measured quantitatively by discrete indicators, and by an integrated index. The index and its components, used by Mandel and Semyonov (2005; 2006), was designed to capture the role of the state in mitigating the work-family

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<sup>6</sup> After ranking each respondent's wage rank on his or her national earnings distribution, I divide the rank by the country N and multiply the result by 100. Although this produces a percentile scale, the detailed variation in ranks between cases in the same percentile is preserved.

<sup>7</sup> Eastern Europe, not considered by Esping-Andersen, is treated as a fourth regime, while Israel is classified as conservative (Stier et al., 2001), as well as Ireland (Adshead and Millar, 2004). The distribution of countries between regimes is as follows: Social-Democratic – Denmark, Finland, Norway, Sweden; Conservative – Austria, Belgium, France, Germany, Ireland, Israel, Italy, Luxemburg, Netherlands, Spain, Switzerland; Liberal – Australia, Canada, U.K., U.S.A.; East European – Czech Republic, Hungary.

<sup>8</sup> Feminist scholars have argued that Esping-Andersen's tripartite typology obscures dissimilarities within welfare regimes in either gender ideology or family policy, thereby weakening its ability to capture gendered outcomes. Foremost among the intra-regime variation is the deviation of the more familistic southern European countries from the typical conservative model in their patterns of care provision and gendered outcomes (e.g., Trifiletti 1999), and the divergence of France and Belgium from the other continental European countries in their gender ideology as well as in the benefits and services provided to families with children (e.g., Gornick et al., 1997; Misra et al., 2007a). Footnote 18 addresses this issue in the findings section.



conflict by means of three components: the number of fully paid weeks of maternity leave,<sup>9</sup> the percentage of preschool children (0-6) in public childcare institutions, and the size of the public-service sector. The first two are the most prevalent measurable indicators of family policies, and thus are also those for which data are available for large-scale comparative purposes (e.g., Korpi, 2000; Gornick and Meyers, 2003; OECD, 2009). The third, which is measured as the percentage of the total workforce employed in the public social-service sector (health, education, and welfare), is not an indicator of family policy, but is used to assess the role of the welfare state as an employer (Esping-Andersen, 2000; Hansen, 1997; Mandel and Semyonov, 2005), and as an indicator of the availability of public services provided by the state<sup>10</sup> – factors that not only are greatly relevant to facilitating the work-family conflict, but also, as argued, are expected to work differently for women in different socioeconomic groups.

The integrated index, which was constructed by a factor-analysis of the three indicators (Mandel and Semyonov, 2005), ranges from 0 to 100, where 0 is assigned to the country with the most limited family policy (Switzerland) and 100 to the country with the most generous policy (Sweden). Because the effect of each index component is also assumed to differ by socioeconomic level, I also estimate the unique effect of each of the three indicators on the gender earnings differentials across groups.<sup>11</sup> Using indicators of family policies that have been used previously is an advantage, because these indicators were used to test the effect of the welfare state on gender inequality among the entire working population. Thus, apart from testing my assumption that the effects of welfare

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<sup>9</sup> The number of paid weeks multiplied by the replacement rate during the leave.

<sup>10</sup> In contrast to market economies, in well developed welfare states the social services are almost exclusively provided by the state (i.e., within the public sector), and thus the welfare state plays a greater role as an employer and service provider (Esping-Andersen, 1990; Kolberg 1991).

<sup>11</sup> For the distribution of the index and each of its components, see Appendix Table 1.

state policies interact with groups' socioeconomic characteristics, I can also compare the effects vis-à-vis previous findings to validate my arguments.

As noted earlier, in addition to family policy, which primarily affects mothers, employment protections for workers are also argued to affect women's economic attainment (Estévez-Abe, 2005; 2006). Thus, I also include a measure of employment regulation. I use the World Bank's 'Rigidity of employment index', which is the average of three subindexes: a difficulty of hiring index, a rigidity of hours index, and a difficulty of firing index. The index ranges from 0 to 100, with higher values indicating more rigid regulations.<sup>12</sup>

The moderator variable – class or socioeconomic distinctions – is measured by two criteria. The standard way of identifying classes through occupational groups is not applicable due to the limitations of the LIS data. Nevertheless, the attempt to distinguish between more and less advantaged workers can be made by measuring workers' potential and actual earning power – as indicated by education and earnings, respectively. One advantage of this type of operationalization is that it enables a valid comparison across countries. Also, both education and earnings capture skill differences – a key factor for dis/advantage in the labour market. Education is an indicator of skill, while earnings are in large part a reflection of skill. Nevertheless, because education and earnings represent different aspects of dis/advantage, I will use both, and estimate their conditioning effects separately.

For earnings, respondents are split between those whose annual earnings are either above or below the median. While making a binary distinction risks underestimating the

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<sup>12</sup> Source: World Bank, Doing Business project, <http://www.doingbusiness.org>. Data refer to 2008. Because the data are more recent than the other series utilized in this paper, I also considered using the index of 'Employment protection legislation' for the late 1990s from the OECD Employment Outlook (2004: chapter 2, Table 2.A2.4.). It turns out that the two indices are highly correlated ( $r=.84$ ). I chose the former because it includes all countries, while the latter excludes Israel and Luxembourg.

true magnitude of the income effect, it has the advantage of yielding estimates that are conservative. Categorizing education is more problematic because in most LIS data-files educational categories are not fully harmonized across countries. In an effort to identify categories that are both meaningful (relatively homogenous and with distinct boundaries) and comparable across different countries, the analysis is limited to two categories: “low” – up to and including a secondary education; and “high” – holding an academic degree. The first group is very large, but again this risks underestimating rather than exaggerating the true effect of variation. The socioeconomic position of the intermediate group with a non-academic postsecondary education does not meet the criteria of either distinctiveness or comparability, and it was therefore excluded from analyses based on education.<sup>13</sup>

### **Method of Analysis**

The analysis is based on a set of hierarchical linear models (Bryk and Raudenbush, 1992) that allow for the simultaneous estimation of individual-level and country-level effects.

Multilevel models are ideally suited for testing cross-level interaction effects, while controlling for variables at both levels. The regression coefficients expressing the effect of individual-level characteristics on wages become the dependent variables in the country-level models. Translating the theoretical question of this study into formal language, I examine whether the individual-level effect of gender (i.e., wage gaps between men and women) covaries with country-level attributes (in this case, welfare state policies).

Specifically, the individual-level model is expressed as follows:

$$Y_{ij} = \beta_{0j} + \beta_{1j} (\text{gender}_{ij}) + \beta_{2j} - \beta_{kj} (X_{2ij} - X_{kij}) + r_{ij}$$

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<sup>13</sup> Excluding this category is not critical for the purposes of testing the impact of welfare states on distinctly different socioeconomic groups. In addition, the excluded group is relatively small. In the average country, 70.4 percent had a secondary education or less, 17.3 percent had acquired an academic degree, and 12.3 percent had a non-academic postsecondary education (the excluded category).

where  $Y_{ij}$  is the wage percentile of person  $i$  in country  $j$ , and  $\beta_{0j}$  is the individual-level intercept.  $\beta_{1j}$  is the regression coefficient associated with gender, which represents the average wage difference between men and women in country  $j$ .  $X_{2ij}$  through  $X_{kij}$  are individual-level control variables (marital status, education, age, age squared, and weekly working hours), and  $\beta_{2j}$  through  $\beta_{kj}$  are their associated regression coefficients. Finally,  $r_{ij}$  is an error term, assumed to be normally distributed with mean zero and variance  $\sigma^2$ .

The above equation allows the intercept,  $\beta_{0j}$ , and the gender effect,  $\beta_{1j}$ , to vary across countries (i.e., to be random). At the second level, country-level characteristics explain these random effects as follows:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Welfare state policies}) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Welfare state policies}) + u_{1j}$$

$$\beta_{kj} = \gamma_k$$

where  $\beta_{0j}$  denotes countries' average earnings,  $\gamma_{00}$  is the intercept for the country-level wage model, and  $\gamma_{01}$  is the effect of family policy on  $\beta_{0j}$ . My main purpose is to explain  $\beta_{1j}$  – the cross-country variation in the average earnings gap between men and women – by welfare state policies ( $\gamma_{11}$ ). Country-level random effects,  $u_{0j}$  and  $u_{1j}$ , are assumed to be uncorrelated and with a mean of zero. The effects of the individual-level control variables are constrained to be the same across countries; therefore,  $\gamma_k$  represents the fixed effects  $\beta_k$  across all countries.

## ***Findings***

### **Descriptive Overview**

Appendix Table 2 displays the distribution of women in each of the socioeconomic groups. In the average country, the proportion of women in both the low and high education groups is very similar to their proportion of the labour force (45 percent). By contrast, and

unsurprisingly, women are overrepresented in the lower half of the earnings distribution, and underrepresented in the upper half. On average, women's share of the group with below-median annual earnings is twice their share of the above-median group. In some countries, notably Denmark, the Netherlands and Switzerland, this asymmetry is even more striking. These unequal gender distributions are summarized by countries' gender wage gaps, which are compared in the next analysis between contrasting socioeconomic groups.

The use of two different indicators to distinguish between groups – earnings and education – contributes to the validity of the results, but demands a somewhat repetitive presentation. For the purpose of an initial descriptive overview, socioeconomic differences are represented by combining the education and earnings dichotomies, but including only workers with overlapping levels of education and earnings. Those with low earnings and low educational levels are defined as the lower socioeconomic group, while the combination of high earnings and high educational levels designates the higher group.<sup>14</sup> Table 1 displays the raw gender pay gaps in percentiles for each country, both in the aggregate and separately for each socioeconomic group. In the average country, the gap between the average man's and woman's wages is 23 percentiles. Although the range in most countries is 20-30 percentiles, the gap is considerably lower in Hungary (12 percentiles) and exceptionally high in Switzerland and the Netherlands (34 and 35 percentiles, respectively).<sup>15</sup>

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<sup>14</sup> The two criteria did not overlap for 34 percent of the sample. Most of these cases were individuals who earned above the median, but had no academic education (about 29 percent); less than 5 percent were low earners with an academic education.

<sup>15</sup> Even though the U.S. has a high measured gender gap, as measured here the gap is relatively low. One explanation for this is the use of percentiles to eliminate the impact of wage-setting institutions. As noted, the unregulated wage-setting in the U.S. significantly contributes to its large gender wage gaps (see Blau and Kahn, 1992; 1996). Another factor is racial inequality; when the wage gap is computed among whites only, it rises to 20.5 percentiles.

- Insert Table 1 about here -

Gender wage gaps are naturally much smaller within groups than countrywide, since by definition each group only includes part of the earnings distribution. The average gap is quite similar for both groups – 8 or 9 percentiles – but cross-country variations around these averages are greater for the lower socioeconomic group. In Finland there is no difference in the mean earnings of men and women in this group, while in the Netherlands, Luxembourg and Belgium, the gap is 15 wage percentiles. Although these are raw wage gaps, they are still very wide, considering that the highest wage in this group is below the median. Gender wage gaps within the higher socioeconomic group range from 6 percentiles in Spain, France, Belgium and Canada to 20 in Denmark. The extremely large gap in this group in Denmark stands in stark contrast to the comparatively modest gap (4 percentiles) in the lower socioeconomic group (see also Gupta, Oaxaca, and Smith, 2006). In keeping with theoretical expectations, in three out of four Scandinavian countries, which are characterized by generous family policies and a large public-service sector, gender wage gaps are much narrower in the lower socioeconomic group than in the higher.

Correlations of the gaps between the three groups (all, lower, higher) confirm the significance of class differences for understanding cross-national variations in gender inequality. Since in most countries the level of gender wage inequality in one group is unrelated to its level in another, the two distributions across countries have literally zero correlation ( $r=-.01$ ). This lack of association reinforces the argument that focusing on the aggregate gender pay gap (which is only partially correlated with each of the two groups) is an uninformative and potentially misleading way of comparing countries.

This is particularly salient with regard to the effect of national institutional contexts on gender wage gaps – the main thrust of this paper. A look at cross-country correlations between overall gender wage gaps and welfare state policies, as measured by the integrated

index, reveals no relationship ( $r=-.08$ ). However, after disaggregating workers into more and less advantaged groups, the correlations become very evident. In accordance with the proposed theoretical argument, welfare state policies are negatively related to gender inequality among the lower socioeconomic groups ( $r=-.42$ ) and positively related to inequalities between men and women from the higher socioeconomic groups ( $r=.40$ ). Since these inverse correlations are almost the same size, in the aggregate they balance each other out ( $r=-.08$ ).

### **Multilevel Analysis**

The descriptive findings in Table 1 indicate that both gender wage gaps and their relationship to welfare state policies vary by socioeconomic group. To more accurately estimate the net effect of welfare state policies on the gender wage gaps across these groups, in Tables 2-4 I run a series of hierarchical linear models. As explained earlier, this method enables the estimation of country-level effects after controlling for cross-national differences in the composition of wage-determining characteristics that have been found to affect gender wage gaps (such as working hours and education). Generally speaking, the effects of individual-level variables are in keeping with expectations in all three tables: earnings increase with marital status, education, working hours, age (up to a point), and presence of preschool children. Except among higher earners, the effects of number of children are negatively associated with earnings.<sup>16</sup> LF probabilities are highly significant in all three tables, again, except among higher earners. This indicates that predictors of labour force participation are strongly and positively related to predictors of earnings. Being male increases earnings, but the male wage advantage is higher in the lower socioeconomic

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<sup>16</sup> The effects of preschool children and number of children (like other effects) differ for men and women. Including their interaction with sex in the models would alter the meaning of the dependent variable at the second level. Therefore, and because the individual-level variables were introduced as controls (i.e., I have no theoretical interest in examining their effects per se), interactions are not included at the individual level.

group, particularly when it is defined by education. Because men are coded 1, a negative coefficient indicates a reduction in gender wage gaps, while a positive one indicates that gaps have widened.

Controlling for all other individual-level variables, variance in gender coefficients across countries (representing the net percentile pay gap between men and women) is explained by welfare state policies. In Table 2 the effect of the welfare state is measured by a set of dummy variables representing welfare regimes. In Tables 3 and 4 this effect is measured by indicators of specific policies, as well as an integrated index. In order to validate the findings, the two socioeconomic indicators are analyzed separately (earnings in Table 3 and education in Table 4).

Insert Table 2 about here

Starting with the left panel of Table 2, where groups are divided by earnings, we find no significant differences in gender wage gaps among low-wage earners between the social-democratic (the omitted category) and the liberal regimes. Gender wage gaps are, as expected, higher by almost three wage percentiles in the conservative countries ( $\gamma=2.75$ ), and the Eastern European countries ( $\gamma=2.63$ ). By contrast, among high-wage earners, the differences between the social-democratic countries and all other welfare regimes are negative and significant, indicating, as expected, that the gender gaps in this group are wider under the social-democratic regime. When groups are divided by education, there are no significant variations across regimes with respect to the lower-educated group, except between the conservative and the social-democratic ( $\gamma=-5.47$ )<sup>17</sup>; but again, gender wage gaps varied dramatically between the social-democratic and all the other regimes in the higher-educated group. Table 2 shows, for example, that the gender wage gap under the

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<sup>17</sup> Although the gender wage gaps under the conservative regime are lower than under the social-democratic regime among low educated workers as well, the gaps are much larger among the highly educated ( $\gamma=-5.47$ , and  $-9.59$ , respectively (T test for these differences is statistically significant ( $p<0.01$ )).



liberal regime is lower by more than 10 wage percentiles ( $\gamma=-10.40$ ) than the gap in the social-democratic countries. Similarly, the gap in Scandinavia is significantly higher than the gaps in conservative and East European countries ( $\gamma= -9.59$ ,  $\gamma= -12.88$ , respectively).<sup>18</sup>

Based on the regression coefficients, Figure 1 visually illustrates these differences by displaying the predicted wage gap under each regime between the average man and woman in the advantaged socioeconomic groups. The figure clearly shows that more privileged women in Scandinavia are significantly disadvantaged. Among the highly educated, the average male wage advantage in social-democratic countries is 16.4 percentiles, compared to less than 7 under the other regimes. The same picture arises among high-earners, but the gaps are lower because the groups are defined by earnings. The insignificant variation between regimes among the lower socioeconomic groups indicates that women with low education and low wages in social-democratic countries avoid the negative side-effects of the welfare state on women's earnings.

- Insert Figure 1 about here -

Tables 3 and 4 provide further support for this trend, showing again that low-wage women, unlike those in high-wage groups, are not negatively affected by reconciliation policies. Starting with Table 3, where groups are defined by earnings, Models 1L(Low) and 1H(High) display the overall effect of the integrated index on the gender wage gap among the two groups of workers, respectively. The coefficients show that the support which welfare states may provide to working mothers actually slightly reduces the gender wage gap among low-wage workers ( $\gamma=-.03$ ), while increasing it among high-wage workers

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<sup>18</sup> Following the criticisms of Esping-Andersen's typology mentioned in note 8, I computed two additional alternative sets of dummy variables – the first defines Italy and Spain as a separate, fifth, group, and the second defines Belgium and France as such. In general, coefficients for the conservative regime were not significantly altered in any of the models. Among educational groups the changes are somewhat more noticeable. The exclusion of Italy and Spain reduced the effect among the low-educated, while the exclusion of Belgium and France lessened the effect among the high-educated, but in both cases without altering the direction or the level of significance.

( $\gamma=.05$ ). The effect of the rigidity index, in contrast, is insignificant in both models (2L, 2H).<sup>19</sup> This means that in countries with generous reconciliation policies, which are not necessarily those with strong employment protections, gender earnings differentials are smaller among less advantaged women and men, but greater among workers with higher earnings.

- Insert Table 3 about here -

Focusing on discrete policies proves, again, the interactive effect of socioeconomic diversity. Among lower-earning workers, generous maternity leave policies and public childcare provision (Models 3L and 4L, respectively) have no effect on the gender wage gap, while extensive public employment (Model 5L) significantly reduces the gaps ( $\gamma=-.16$ ). Because the perverse effect of statistical discrimination (stimulated by long maternity leaves) is expected to be less relevant for low-skilled women, the insignificant effect is to be expected. The insignificant effect of childcare provision is surprising, however, as an ample supply of subsidized childcare is expected to contribute to more continuous employment of women in the course of their working lives. In the case of less advantaged women, who cannot easily purchase care services in the market, this was expected to be particularly important.<sup>20</sup> Public-service employment has a strong effect on the gender wage gap, which persists even after controlling for the other components of policy (Model 6L). The significant negative effect of the size of the public-service sector is in line with the claim that women with lower skills benefit more from the favourable working conditions, bureaucratic wage-setting, and higher wage floor afforded by public-sector employment.

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<sup>19</sup> Using the alternative 'Employment protection legislation' index yielded similarly insignificant results (see note 12).

<sup>20</sup> Testing the effect of public childcare by targeting the provision of care for very young children (aged 0-2) yielded similar non-significant results.

Inverse and significant effects appear for higher-earning workers (Models 3H-6H). Maternity leave policies have a strong positive effect on the gender gap ( $\gamma=.12$ ) among higher-paid workers, and the effect of the public sector is almost a mirror image of its effect on the lower-paid ( $\gamma=.25$ ). Although weaker, these coefficients remain significant in the full model (Model 6H). These findings support the theoretical assumption that parental leave and public employment have harmful consequences for the earnings of advantaged women. Once again childcare provision has no effect on gender inequality, but in this case there is no theoretical reason to expect unfavourable consequences.

Table 4 displays the same models, but using educational levels to distinguish between the two socioeconomic groups. Again, the rigidity index has no significant effect in either group. For the lower-educated group, maternity leave policies have an unexpected positive effect,<sup>21</sup> and neither the integrated family policy index nor any of the other two components has a significant effect on the gender earnings gap.<sup>22</sup> This insignificant effect, which can also be seen in Table 2, may be at least partly the result of the difficulty of reliably categorizing the less-educated group except by combining all respondents with a secondary education or less (on average, a sizable majority of the workforce). When educational and earnings criteria are combined (i.e., limiting this group to those earning no more than the median wage), the effects are very similar to those in Table 3.

- Insert Table 4 about here -

In sharp contrast to the necessarily broad definition of lower-educated workers, the higher-educated group, comprising holders of an academic degree, is much smaller and more homogenous. The raw gender wage gap for this group is quite large (17 percentiles),

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<sup>21</sup> Although the effect of maternity leave is significant among the lower-educated as well, it is much higher among the higher-educated groups (Models 3:  $\gamma=0.12, 0.29$ , respectively (T test is statistically significant at  $p<0.05$ ), Models 6:  $\gamma=0.17, 0.24$ , respectively (T test is statistically significant at  $p<0.10$ )).

<sup>22</sup> Again, the effect of the index as well as the effect of the public sector differ significantly from their effects among the highly educated (for both T test is statistically significant at  $p<0.05$ ).

and cross-country variation around this mean is strongly related to family policy. In fact, the effects of family policy on gender inequality in this group are very similar to the effects found for the higher-wage group, and the coefficients are even stronger. Again, as expected for this group, childcare provision has no harmful effect ( $\gamma=.03$ ). The index of family policy is positively and significantly related to gender wage gaps ( $\gamma=.10$ ), and so are the components of maternity leave ( $\gamma=.29$ ) and public employment ( $\gamma=.48$ ).

To illustrate, the net gender wage gap in a country located at the top of the index (Sweden) is expected to be 10 wage percentiles wider than in a country located at the bottom of the index (Switzerland) – a figure more than half the size of the average cross-country gender gap. Moreover, each additional paid week of maternity leave increases the gender wage gap by almost one-third of a percentile. Thus, the predicted gap between countries with very long paid maternity leaves (such as Norway and Sweden, 42 and 41 weeks, respectively) and countries with no universal paid maternity leave (e.g., the U.S. and Australia) is higher than 12 wage percentiles. Similarly, every additional percentage of public employment adds almost half of a percentile to the gender gap, so that countries with very large public sectors (Sweden and Denmark, 25 percent of workers) and those with low rates of public employment (Czech Republic, 5 percent) are separated by a gap of almost 10 wage percentiles.

### **Summary of the Findings, and Limitations**

The effects of welfare state activity on gender wage gaps for lower versus higher socioeconomic groups, whether defined by earnings or education, confirm that the impact of welfare state interventions on working mothers is conditioned by their relative advantage or disadvantage. Measured by an integrated index, generous family policies were found to increase earnings inequality among the more advantaged, but to have no harmful effect (education group), or to mitigate the gender gap (earnings group), among the less

advantaged. As these opposite effects balance each other out, the effect of family policy becomes obscured when analyzed for women as a whole (see Mandel and Semyonov, 2005: Tables 2 and 4).

In general, the findings provide stronger support for the negative implications that welfare state policies have for the economic attainments of advantaged women, than for the positive implications they have for less advantaged women. This may be related partly to measurement issues, and partly to substantive matters. Among the higher socioeconomic groups, whether defined by earnings or education, all coefficients meet theoretical expectations. While the public provision of childcare was not expected to adversely affect women's earnings, the adverse effects of both public employment and maternity leave are clearly evident. The effect of maternity leave is of particular significance, as studies have highlighted these policies' harmful effect not only on women's labour market activity, but on their earnings as well (Edin and Gustavsson, 2008; Ondrich et al., 2003; Ruhm, 1998). However, when workers are disaggregated by earnings, the findings reveal that women with lower earnings are not adversely affected by maternity leave policies. While maternity leave was not found to be beneficial to their earnings, its strong negative effect has disappeared. Among this group, public employment is the only factor that clearly supports women's earnings. In contrast, the protection of the public sector was found to be costly for highly skilled women.

The findings are less clear-cut when low-skilled groups are defined by education. Maternity leave was found to be positively related to gender wage gaps among the lower-educated, although not as strongly as among the highly educated. As already noted, I believe that this reflects the deficient definition of the low-educated group, as respondents with a secondary education or less comprise a sizable majority of the workforce (70.4

percent). More study is therefore needed to examine this effect, especially among the lower socioeconomic groups.

The fact that childcare provision was not found to affect the gender gap is puzzling with respect to the less-skilled group.<sup>23</sup> Although the availability of public day-care has been found to reduce gender inequality by increasing female labour force participation (Pettit and Hook, 2005), its effect on the relative economic rewards of working women has not yet been studied. The provision of childcare facilities per se may encourage women to join the workforce, but in order for it to mitigate gender wage gaps, childcare hours and vacations must conform to the demands of full-time employment. The limited data available on this score precludes a more in-depth examination of the issue. Another possible explanation may be related to the indicator used in this study. Public childcare arrangements are available in all countries, albeit in different forms. In some countries they are universal, in others income-related or else conditioned on parental employment. Countries with conditional or limited public arrangements develop a wide range of private alternatives at the state, local, or family levels.<sup>24</sup> The indicator used here, like others that are commonly used in broad comparative studies, is unable to capture these variations.

A third possible explanation is the effect of selectivity. Although publicly subsidized childcare reduces the costs of maternal employment for all women, this is especially salient for women with low earnings, as the marginal profit in their case is higher. Thus, countries with more heavily subsidized childcare are expected to incorporate into paid employment women with relatively low earning potential who in other countries might be unable to work, or find it unprofitable. The lower selectivity of women in countries with extensive

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<sup>23</sup> In the last model, public childcare was found to reduce the gender wage gap among the lower-educated, as expected. However, this effect did not receive any support from any other model.

<sup>24</sup> See 'The Clearinghouse on International Developments in Child, Youth and Family Policies', Section 1.2: Early Childhood Education and Care (<http://www.childpolicyintl.org>). For a specific example of private inter-family arrangements, see (Tobío, 2001).

childcare provision might thus operate as a counter force to the expected positive effect of childcare on earnings and balance it out. Although I did control for selectivity to eliminate this risk, it might be the case that some of this effect still remains.

Before moving to the conclusions section, it should be noted that while this paper stresses the implications of welfare state policies, it does not deny the importance of other contextual factors. For example, it could be the case that educational systems, rather than welfare state characteristics, lead Scandinavian women to be more prone to select themselves into feminine educational tracks, which later affect the career trajectory of skilled women. Similarly, it may be that the German educational system is responsible for preparing women to enter service occupations, and men for manufacturing and white collar administrative occupations (Gottschall and Shire, 2008). While I do not challenge the importance of educational systems, measuring their effect is beyond the scope of this study.

## ***Conclusions***

Previous cross-national research on the impact of welfare states has yielded contradictory findings concerning their implications for gender stratification. While progressive family policies have generally been found to increase women's labour market participation and reduce the motherhood penalty as well as women's economic dependency and risk of poverty, they have also been shown to adversely impact their occupational and earnings attainments by lessening their chances of entering highly paid positions. These results have fuelled debates concerning the friendliness of the social-democratic regime to women. The finding that gender segregation, both horizontal and vertical, is more prevalent in socially and culturally gender-egalitarian welfare states has been viewed as an empirical anomaly, or at least a "paradox".

Inspired by feminist theories of intersectionality, this paper has demonstrated the significance of the intersection of class and gender for understanding the effect of welfare states on gender inequality. To date, public policies aimed at reconciling paid with unpaid work have been almost universally perceived as serving the common interest of women in their struggle against traditional gender roles. However, the assumption of the present study is that because women are divergent in their skills and earning power, they face different obstacles in achieving redistributive goals. Therefore, it would be more realistic to expect that state-sponsored solutions to work-family conflict will have divergent effects on women, depending on their class position (e.g., O'Connor, Orloff and Shaver, 1999; Shalev, 2008). As reasonable as this may sound, only a few previous studies have compared the *interactive* effects of class and gender at both poles of the intersection,<sup>25</sup> and rarely in relation to the impact of welfare states on women.

When highlighting adverse effects of welfare states on women it is important to consider the counterfactual effect of having no reconciliation policies at all. Given the strong effect of these policies on women's economic activity, an absence of such policies would be expected to aggravate inequality in the gender division of labour, as women would lessen their working hours or withdraw from the labour market altogether. Nevertheless, this tendency can also be expected to vary by class, i.e., to be more acute among less-skilled women, due to their lower potential earnings and weaker bargaining power over employment conditions (see Esping-Andersen, 2009; Sigle-Rushton and Waldfogel, 2007).

That said, the aim of the present paper is not to highlight the perverse effect of reconciliation policies on women, or even on highly skilled women, but rather to encourage

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<sup>25</sup> A notable exception is the seminal book by McCall (2001), *Complex Inequality*, which studied intersections of class-gender-race in the U.S., and across distinctive regional economies within the U.S.



research on gender inequality to pay more attention to socioeconomic differences between women. This is especially important in considering the effects of family policies, because the remedies that are appropriate for lower- and higher-skilled women may not only be different, but sometimes conflict with one another. While the bargaining power of women with favourable positions in the labour market allows them to reap greater benefits from work-family solutions that are market- or firm-based, legislated universal policies work in favour of less advantaged women. U.S. maternity leave policies and childcare arrangements provide a good illustration of this tension. While the lack of legislation providing for paid maternity leave in the U.S. may harm disadvantaged women, most women in advantageous labour market positions receive paid maternity leave (or are offered sick-leave benefits for maternity purposes) by virtue of private arrangements at their workplace (Guthrie and Roth, 1999). Similarly, the lack of universal financial assistance to families with children in the U.S., and the income-conditioned provision of public care services, substantially increases the child penalty for lower-skilled women. By contrast, unregulated and decentralized systems of wage determination in liberal economies enable more advantaged women to purchase relatively inexpensive childcare. Thus, the same labour market conditions that deny lower-skilled women economic security actually serve the interests of higher-skilled women, as the latter are able to purchase relatively inexpensive care services privately, reducing their need for state-provided services (Morgan, 2005; Shalev, 2008).

Exposing the contrasting implications of welfare state activities for women of different classes may be discouraging, since it undermines the fundamental notion of solidarity among women by emphasizing separate or even opposing interests. This is especially true in relation to costly state policies. Nonetheless, while reconciliation policies may contribute to the welfare of all women, it does not follow that the same policies are

equally appropriate to all of them. The findings of this study suggest that, alongside the emphasis on the universal challenges that women face, we need to pursue diversified state solutions to overcome them. My hope is that this study – and future studies of the intersection between gender and class – will contribute to a better understanding of the differential effects of public policies on advantaged and disadvantaged women, and improve our ability to design alternatives that are more equitable in both gender and class terms.

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Table 1. Gender Earnings Gaps in Percentiles, by Socioeconomic Group

| Country  | (1)<br>All       | (2)<br>Lower<br>socioeconomic<br>group <sup>a</sup> | (3)<br>Higher<br>socioeconomic<br>group <sup>b</sup> |
|--|------------------|---|--|
| Hungary  | 12               | 3   | 8  |
| Spain  | 14               | 10  | 6  |
| Italy  | 16               | 6   | 9  |
| France   | 16               | 8   | 6  |
| Finland  | 16               | 0   | 8  |
| United States                                    | 17               | 5   | 8  |
| Israel   | 20               | 7   | 10   |
| Canada   | 21               | 5   | 6  |
| Czech Republic                                   | 22               | 7   | 10   |
| Belgium  | 22               | 15  | 6  |
| Australia  | 22               | 8   | 7  |
| Luxembourg                                       | 23               | 15  | 8  |
| Ireland  | 23               | 10  | 11   |
| Sweden   | 24               | 2   | 9  |
| Austria  | 25               | 12  | 10   |
| Germany  | 26               | 11  | 8  |
| United Kingdom                                   | 27               | 12  | 7  |
| Denmark  | 28               | 4   | 20   |
| Norway   | 29               | 10  | 14   |
| Switzerland                                      | 34               | 12  | 12   |
| Netherlands                                      | 35               | 15  | 11   |
| Mean   | 23               | 8   | 9  |
| Standard Deviation                               | 6                | 4   | 3  |
| Correlation with lower<br>socioeconomic group    | .53 <sup>c</sup> | --  | -.01   |
| Correlation with welfare<br>state policies index | -.08             | -.42  | .40  |

<sup>a</sup> Secondary education or lower, and less than median earnings.

<sup>b</sup> Academic degree and above median earnings.

<sup>c</sup> Correlation between all workers and the higher socioeconomic group is .55.



Table 2. Hierarchical linear regression results for earnings percentiles on individual characteristics and welfare state regimes<sup>a</sup>  
(Standard error in parentheses)

|   | Low earnings    | High earnings     | Low education     | High education     |
|---|-----------------|-------------------|-------------------|--------------------|
| Individual-level effects:                 |                 |                   |                   |                    |
| Intercept                                 | -16.79**        | 16.85**           | -72.18**          | -86.26**           |
| Married                                   | 0.36^           | 0.95**            | 2.44**            | 1.77**             |
| College completed                         | 0.51            | 10.34**           | .                 | .                  |
| Age                                       | 0.77**          | 1.30**            | 2.63**            | 3.56**             |
| Age squared                               | 0.01**          | -0.01**           | -0.03**           | -0.03**            |
| Weekly working hours                      | 0.45**          | 0.29**            | 0.85**            | 0.91**             |
| Gender (men = 1)                          | -0.71           | 9.58**            | 16.78**           | 16.41**            |
| LF Probability                            | 10.66**         | -0.28             | 16.88**           | 22.89**            |
| Kid                                       | 1.64**          | 0.63**            | 2.52**            | 1.53**             |
| Number of children                        | -1.14**         | 0.28**            | -1.16**           | -0.31^             |
| Country-level effects:                    |                 |                   |                   |                    |
| Conservative                              | 1.43<br>(1.20)  | 5.48**<br>(1.66)  | 3.25*<br>(1.96)   | 7.93*<br>(4.21)    |
| Liberal                                   | 1.83^<br>(1.42) | 3.50*<br>(1.99)   | 0.91<br>(2.28)    | 6.00<br>(5.03)     |
| East Europe                               | -1.49<br>(1.76) | 5.38*<br>(2.45)   | -0.09<br>(2.82)   | 15.01**<br>(6.39)  |
| Country-level effects: on gender wage gap |                 |                   |                   |                    |
| Conservative                              | 2.75*<br>(1.39) | -5.40**<br>(0.92) | -5.47**<br>(2.09) | -9.59**<br>(2.91)  |
| Liberal                                   | 1.57<br>(1.64)  | -3.62**<br>(1.05) | -3.58<br>(2.48)   | -10.40**<br>(3.39) |
| East Europe                               | 2.63^<br>(2.05) | -3.55**<br>(1.33) | -3.03<br>(3.08)   | -12.88**<br>(4.57) |
| $\chi^2$                                  | 578.97**        | 396.63**          | 945.41**          | 481.71**           |
| N (individual)                            | 46,043          | 46,192            | 63,758            | 15,901             |
| N (country)                               | 21              | 21                | 21                | 21                 |

<sup>a</sup> The omitted category is the social-democratic regime.

^p < .10, \*p < .05, \*\*p < .01 (one-tailed test)

Table 3. Hierarchical linear regression results for earnings percentiles on individual characteristics and welfare state indicators, by earnings group (standard error in parentheses)

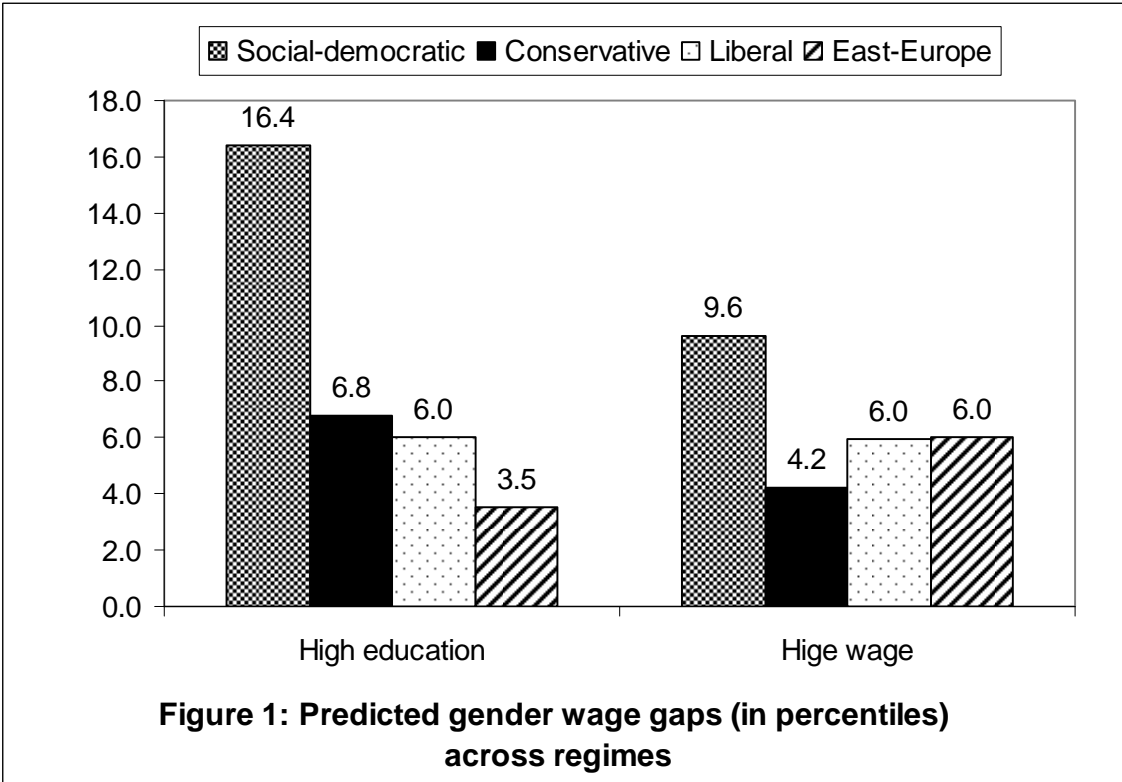
|   | Low earnings     |                |                 |                  |                  |                  | High earnings    |                 |                  |                 |                   |                   |
|---|------------------|----------------|-----------------|------------------|------------------|------------------|------------------|-----------------|------------------|-----------------|-------------------|-------------------|
|   | (1L)             | (2L)           | (3L)            | (4L)             | (5L)             | (6L)             | (1H)             | (2H)            | (3H)             | (4H)            | (5H)              | (6H)              |
| Individual-level effects:                 |                  |                |                 |                  |                  |                  |                  |                 |                  |                 |                   |                   |
| Intercept                                 | -14.97**         | -16.09**       | -15.19**        | -13.47**         | -15.04**         | -13.48**         | 25.27**          | 22.05**         | 24.65**          | 24.82**         | 27.43**           | 26.57**           |
| Married                                   | 0.36*            | 0.36*          | 0.36*           | 0.36**           | 0.36**           | 0.37**           | 0.97**           | 0.97**          | 0.97**           | 0.97**          | 0.97**            | 0.97**            |
| College completed                         | 0.51*            | 0.52*          | 0.51*           | 0.52*            | 0.52*            | 0.52*            | 10.36**          | 10.37**         | 10.37**          | 10.36**         | 10.36**           | 10.37**           |
| Age                                       | 0.77**           | 0.77**         | 0.77**          | 0.77**           | 0.77**           | 0.77**           | 1.30**           | 1.30**          | 1.30**           | 1.3**           | 1.3**             | 1.3**             |
| Age squared                               | 0.01**           | 0.01**         | 0.01**          | 0.01**           | 0.01**           | 0.01**           | -0.01**          | -0.01**         | -0.01**          | -0.01**         | -0.01**           | -0.01**           |
| Weekly working hours                      | 0.45**           | 0.45**         | 0.45**          | 0.45**           | 0.45**           | 0.45**           | 0.29**           | 0.29**          | 0.29**           | 0.29**          | 0.29**            | 0.29**            |
| Gender (men = 1)                          | 2.20*            | 0.80           | 1.97*           | 1.92             | 3.24**           | 2.88^            | 3.95**           | 6.27**          | 3.76**           | 4.96**          | 2.71*             | 3.84*             |
| LF Probability                            | 10.68**          | 10.67**        | 10.68**         | 10.68**          | 10.67**          | 10.66**          | -0.55            | 0.58            | -0.57            | -0.57           | -0.54             | -0.57             |
| Kids (0-6)                                | 1.64**           | 1.64**         | 1.64**          | 1.64**           | 1.64**           | 1.64**           | 0.62**           | 0.62**          | 0.62**           | 0.62**          | 0.62**            | 0.62**            |
| Number of children                        | -1.14**          | -1.4**         | -1.14**         | -1.14**          | -1.14**          | -1.14**          | 0.28**           | 0.28**          | 0.28**           | 0.28**          | 0.28**            | 0.28**            |
| Country-level effects: on intercept       |                  |                |                 |                  |                  |                  |                  |                 |                  |                 |                   |                   |
| Integrated index                          | -0.02^<br>(0.02) |                | —               | —                | —                | —                | -0.06*<br>(0.02) |                 | —                | —               | —                 | —                 |
| Rigidity index                            |                  | 0.01<br>(0.03) |                 |                  |                  |                  |                  | 0.05<br>(0.04)  |                  |                 |                   |                   |
| Maternity leave                           |                  |                | -0.04<br>(.04)  | —                | —                | -0.02<br>(0.06)  |                  |                 | -0.09^<br>(0.07) | —               | —                 | 0.04<br>(0.08)    |
| Childcare                                 |                  |                |                 | -0.06*<br>(0.03) | —                | -0.06^<br>(0.04) |                  |                 |                  | -0.04<br>(0.05) | —                 | 0.03<br>(0.05)    |
| Public service sector                     |                  |                |                 |                  | -0.06<br>(0.08)  | 0.02<br>(0.11)   |                  |                 |                  |                 | -0.34**<br>(0.10) | -0.42**<br>(0.15) |
| Country-level effects: on gender wage gap |                  |                |                 |                  |                  |                  |                  |                 |                  |                 |                   |                   |
| Integrated index                          | -0.03^<br>(0.02) |                | —               | —                | —                | —                | 0.05**<br>(0.02) |                 | —                | —               | —                 | —                 |
| Rigidity index                            |                  | 0.02<br>(0.03) |                 |                  |                  |                  |                  | -0.02<br>(0.03) |                  |                 |                   |                   |
| Maternity leave                           |                  |                | -0.04<br>(0.05) | —                | —                | 0.07<br>(0.06)   |                  |                 | 0.12**<br>(0.04) | —               | —                 | 0.08^<br>(0.05)   |
| Childcare                                 |                  |                |                 | 0.02<br>(0.04)   | —                | 0.01<br>(0.04)   |                  |                 |                  | 0.02<br>(0.04)  | —                 | -0.04<br>(0.04)   |
| Public service sector                     |                  |                |                 |                  | -0.16*<br>(0.09) | -0.19^<br>(0.12) |                  |                 |                  |                 | 0.25**<br>(0.08)  | 0.20*<br>(0.10)   |
| $\chi^2$                                  | 899.6**          | 928.33**       | 890.1**         | 912.8**          | 869.4**          | 806.1**          | 512.1**          | 456.84**        | 447.2**          | 510.8**         | 510.5**           | 331.5**           |
| N (individual)                            | 46,043           | 46,043         | 46,043          | 46,043           | 46,043           | 46,043           | 46,192           | 46,192          | 46,192           | 46,192          | 46,192            | 46,192            |
| N (country)                               | 21               | 21             | 21              | 21               | 21               | 21               | 21               | 21              | 21               | 21              | 21                | 21                |

^p < .10, \*p < .05, \*\*p < .01 (one-tailed test).

Table 4. Hierarchical linear regression results for earnings percentiles on individual characteristics and welfare state indicators, by educational group (Standard error in parentheses)

|   | Low education   |                 |                 |                 |                 |                  | High education  |                |                  |                |                  |                  |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|----------------|------------------|----------------|------------------|------------------|
|   | (1L)            | (2L)            | (3L)            | (4L)            | (5L)            | (6L)             | (1H)            | (2H)           | (3H)             | (4H)           | (5H)             | (6H)             |
| Individual-level effects:                     |                 |                 |                 |                 |                 |                  |                 |                |                  |                |                  |                  |
| Intercept                                     | -69.40**        | -71.53**        | -69.80**        | -69.10**        | -68.70**        | -68.60**         | -76.80**        | -79.95**       | -76.79**         | -79.68**       | -73.44**         | -77.28**         |
| Married                                       | 2.46**          | 2.47**          | 2.46**          | 2.46**          | 2.46**          | 2.46**           | 1.79**          | 1.82**         | 1.78**           | 1.78**         | 1.79**           | 1.79**           |
| Age   | 2.64**          | 2.64**          | 2.64**          | 2.64**          | 2.63**          | 2.63**           | 3.56**          | 3.55**         | 3.55**           | 3.55**         | 3.55**           | 3.55**           |
| Age squared                                   | -0.03**         | -0.03**         | -0.03**         | -0.03**         | -0.03**         | -0.03**          | -0.03**         | -0.03**        | -0.03**          | -0.03**        | -0.03**          | -0.03**          |
| Weekly work hours                             | 0.85**          | 0.85**          | 0.85**          | 0.85**          | 0.85**          | 0.85**           | 0.90**          | 0.91**         | 0.91**           | 0.91**         | 0.91**           | 0.91**           |
| Gender (men = 1)                              | 12.08**         | 14.07**         | 10.92**         | 14.60**         | 11.71**         | 13.90**          | 4.26*           | 7.47**         | 3.34^            | 6.78^          | 2.11             | 4.80             |
| LF Probability                                | 16.58**         | 16.49**         | 16.59**         | 16.52**         | 16.59**         | 16.65**          | 22.70**         | 21.93**        | 22.63**          | 22.11**        | 22.63**          | 22.54**          |
| Kids (0-6)                                    | 2.50**          | 2.50**          | 2.50**          | 2.49**          | 2.50**          | 2.51**           | 1.51*           | 1.46*          | 1.51*            | 1.47*          | 1.51^            | 1.5^*            |
| Number of children                            | -1.16**         | -1.16**         | -1.16**         | -1.15**         | -1.15**         | -1.15**          | -0.30^          | -0.30^         | -0.30^           | -0.30^         | -0.30^           | -0.30^           |
| Country-level effects: on intercept           |                 |                 |                 |                 |                 |                  |                 |                |                  |                |                  |                  |
| Integrated index                              | -0.02<br>(0.03) |                 | —               | —               | —               | —                | -0.08<br>(0.06) |                | —                | —              | —                | —                |
| Rigidity index                                |                 | 0.06^<br>(0.04) |                 |                 |                 |                  |                 | 0.06<br>(0.09) |                  |                |                  |                  |
| Maternity leave                               |                 |                 | -0.02<br>(0.07) |                 |                 | 0.04<br>(0.09)   |                 |                | -0.15<br>(0.15)  |                |                  | -0.02<br>(0.19)  |
| Childcare                                     |                 |                 |                 | -0.02<br>(0.05) |                 | -0.01<br>(0.06)  |                 |                |                  | 0.02<br>(0.12) |                  | 0.13<br>(0.13)   |
| Public service sector                         |                 |                 |                 |                 | -0.10<br>(0.13) | -0.15<br>(0.19)  |                 |                |                  |                | -0.47*<br>(0.28) | -0.57^<br>(0.39) |
| Country-level effects: on gender wag wage gap |                 |                 |                 |                 |                 |                  |                 |                |                  |                |                  |                  |
| Integrated index                              | 0.02<br>(0.03)  |                 | —               | —               | —               | —                | 0.10*<br>(0.04) |                | —                | —              | —                | —                |
| Rigidity index                                |                 | -0.04<br>(0.05) |                 |                 |                 |                  |                 | 0.03<br>(0.07) |                  |                |                  |                  |
| Maternity leave                               |                 |                 | 0.12*<br>(0.07) |                 |                 | 0.17*<br>(0.09)  |                 |                | 0.29**<br>(0.10) |                |                  | 0.25*<br>(0.13)  |
| Childcare                                     |                 |                 |                 | -0.04<br>(0.06) |                 | -0.09^<br>(0.07) |                 |                |                  | 0.03<br>(0.10) |                  | -0.10<br>(0.10)  |
| Public service sector                         |                 |                 |                 |                 | 0.10<br>(0.15)  | -0.02<br>(0.19)  |                 |                |                  |                | 0.48*<br>(0.22)  | 0.27<br>(0.28)   |
| $\chi^2$                                      | 1076.0**        | 1013.78*<br>*   | 1010.7**        | 1082.0**        | 1083.7**        | 926.39**         | 531.10**        | 491.29**       | 502.55**         | 558.29**       | 541.61**         | 465.56**         |
| N (individual)                                | 63,758          | 63,758          | 63,758          | 63,758          | 63,758          | 63,758           | 15,901          | 15,901         | 15,901           | 15,901         | 15,901           | 15,901           |
| N (country)                                   | 21              | 21              | 21              | 21              | 21              | 21               | 21              | 21             | 21               | 21             | 21               | 21               |

^p < .10, \*p < .05, \*\*p < .01 (one-tailed test).



## Appendices

Appendix Table 1: Descriptive Statistics for Variables in the Analysis (sd in parentheses)

|                           | % married<br>(or co-<br>habitation) | %<br>academic<br>degree | Average<br>age | Average<br>weekly<br>working<br>Hours | %<br>male  | Average LF<br>Probability | %<br>kids  | No. of<br>children<br>under 18 | Index of<br>family<br>policies   | Rigidity of<br>employe<br>ment | Maternity<br>leave<br>(weeks<br>fully paid) | % child (0-6)<br>in publicly<br>funded child<br>care | % workers in<br>the public<br>service<br>sector |
|---------------------------|-------------------------------------|-------------------------|----------------|---------------------------------------|------------|---------------------------|------------|--------------------------------|----------------------------------|--------------------------------|---|--|---|
| <b>Country</b>            | <b>Individual level</b>             |                         |                |                                       |            |                           |            |                                | <b>Country level<sup>a</sup></b> |                                |   |  |   |
| Australia<br>1995         | 72<br>(45)                          | 18<br>(39)              | 39<br>(9)      | 38<br>(11)                            | 57<br>(50) | 78<br>(14)                | 19<br>(39) | 0.87<br>(1.11)                 | 2                                | 0                              | 0   | 23   | 10  |
| Austria<br>1997           | 76<br>(49)                          | 6<br>(25)               | 40<br>(9)      | 39<br>(10)                            | 60<br>(49) | 80<br>(16)                | 22<br>(41) | 0.88<br>(1)                    | 22                               | 24                             | 16  | 22   | 6   |
| Belgium<br>1997           | 77<br>(42)                          | 10<br>(31)              | 40<br>(9)      | 37<br>(10)                            | 57<br>(50) | 76<br>(17)                | 24<br>(43) | 0.91<br>(1.06)                 | 49                               | 17                             | 12  | 63   | 13  |
| Canada<br>1997            | 77<br>(42)                          | 18<br>(39)              | 41<br>(9)      | 38<br>(10)                            | 52<br>(50) | 75<br>(11)                | 23<br>(42) | 0.93<br>(1.08)                 | 9                                | 4                              | 8   | 29   | 7   |
| Czech<br>Republic<br>1996 | 79<br>(41)                          | 10<br>(30)              | 43<br>(9)      | 43<br>(7)                             | 52<br>(50) | 85<br>(13)                | 18<br>(38) | 0.78<br>(0.93)                 | 29                               | 11                             | 19  | 47   | 5   |
| Denmark<br>1993           | 87<br>(34)                          | 30<br>(46)              | 41<br>(9)      | 40<br>(9)                             | 59<br>(49) | 89<br>(8)                 | 25<br>(43) | 1.21<br>(1.04)                 | 93                               | 7                              | 28  | 65   | 25  |
| Finland<br>1991           | 77<br>(42)                          | 14<br>(35)              | 41<br>(9)      | 39<br>(7)                             | 49<br>(50) | 84<br>(10)                | 23<br>(42) | 0.97<br>(1.1)                  | 57                               | 41                             | 32  | 35   | 16  |
| France<br>1994            | 70<br>(46)                          | 11<br>(31)              | 40<br>(9)      | 38<br>(9)                             | 54<br>(50) | 79<br>(13)                | 29<br>(45) | 1.04<br>(1.09)                 | 48                               | 52                             | 16  | 61   | 11  |
| Germany<br>2000           | 79<br>(41)                          | 13<br>(34)              | 42<br>(9)      | 38<br>(12)                            | 54<br>(50) | 80<br>(13)                | 18<br>(38) | 0.79<br>(0.98)                 | 20                               | 42                             | 14  | 35   | 7   |
| Hungary<br>1999           | 74<br>(44)                          | 7<br>(26)               | 42<br>(9)      | 42<br>(10)                            | 45<br>(50) | 69<br>(14)                | 18<br>(38) | 0.82<br>(0.93)                 | 49                               | 22                             | 24  | 48   | 12  |
| Ireland<br>1996           | 77<br>(42)                          | 15<br>(36)              | 40<br>(9)      | 38<br>(12)                            | 58<br>(49) | 74<br>(19)                | 31<br>(46) | 1.32<br>(1.33)                 | 18                               | 10                             | 10  | 18   | 11  |
| Israel<br>1997            | 80<br>(40)                          | 27<br>(44)              | 40<br>(9)      | 43<br>(13)                            | 52<br>(50) | 77<br>(14)                | 33<br>(47) | 1.45<br>(1.44)                 | 56                               | 17                             | 12  | 57   | 18  |

|                           | % married<br>(or co-<br>habitation) | %<br>academi<br>c degree | Average<br>age | Average<br>weekly<br>working<br>Hours | %<br>male  | Average LF<br>Probability | %<br>kids               | No. of<br>children<br>under 18 | Index<br>of<br>family<br>policies | Rigidity of<br>employ<br>ment world<br>bank | Maternity<br>leave<br>(weeks fully<br>paid) | % child (0-6)<br>in publicly<br>funded child<br>care | % workers<br>in the public<br>service<br>sector |
|---------------------------|-------------------------------------|--------------------------|----------------|---------------------------------------|------------|---------------------------|-------------------------|--------------------------------|-----------------------------------|---|---|--|---|
| <b>Country</b>            | <b>Individual level</b>             |                          |                |                                       |            |                           |                         |                                | <b>Country level<sup>a</sup></b>  |   |   |  |   |
| Italy<br>2000             | 72<br>(45)                          | 15<br>(35)               | 41<br>(9)      | 38<br>(9)                             | 59<br>(49) | 70<br>(19)                | 20<br>(40)              | 0.76<br>(0.89)                 | 40                                | 38  | 17  | 52   | 11  |
| Luxembourg<br>2000        | 63<br>(48)                          | 23<br>(42)               | 38<br>(9)      | 40<br>(10)                            | 62<br>(49) | 83<br>(20)                | 30<br>(46)              | 0.82<br>(0.99)                 | 30                                | 56  | 16  | 35   | 11  |
| Netherlands<br>1994       | 75<br>(43)                          | 26<br>(44)               | 39<br>(8)      | 34<br>(13)                            | 59<br>(49) | 78<br>(18)                | 25<br>(44)              | 1.00<br>(1.12)                 | 26                                | 42  | 16  | 39   | 8   |
| Norway<br>1995            | 80<br>(40)                          | 17<br>(38)               | 41<br>(9)      | 38<br>(12)                            | 54<br>(50) | 86<br>(8)                 | 17 <sup>b</sup><br>(38) | 0.98 <sup>b</sup><br>(1.09)    | 73                                | 44  | 42  | 30   | 20  |
| Spain<br>2000             | 74<br>(44)                          | 25<br>(43)               | 39<br>(9)      | 40<br>(10)                            | 61<br>(49) | 76<br>(19)                | 23<br>(42)              | 0.72<br>(0.89)                 | 43                                | 49  | 16  | 45   | 14  |
| Sweden<br>1995            | 87<br>(34)                          | 15<br>(36)               | 42<br>(9)      | 35<br>(9)                             | 50<br>(50) | 88<br>(5)                 | 32<br>(47)              | 1.03<br>(1.12)                 | 100                               | 38  | 41  | 56   | 25  |
| Switzerland<br>1992       | 67<br>(47)                          | 13<br>(33)               | 40<br>(9)      | 40<br>(12)                            | 69<br>(46) | 82<br>(20)                | 24<br>(43)              | 1.00<br>(1.14)                 | 0                                 | 7   | 8   | 16   | 7   |
| United<br>Kingdom<br>1999 | 78<br>(41)                          | 21<br>(41)               | 41<br>(9)      | 39<br>(13)                            | 51<br>(50) | 79<br>(13)                | 22<br>(42)              | 0.85<br>(1.06)                 | 27                                | 10  | 8   | 28   | 16  |
| United<br>States<br>2000  | 70<br>(46)                          | 29<br>(45)               | 41<br>(9)      | 41<br>(9)                             | 51<br>(50) | 84<br>(10)                | 25<br>(43)              | 1.00<br>(1.2)                  | 3                                 | 0   | 0   | 30   | 8   |

<sup>a</sup> For details on data sources, see Mandel and Semyonov, 2005, 2006.

<sup>b</sup> In Norway this variable is constructed from 'year of birth' of the first 3 children, and thus is underestimated.

Appendix Table 2: Percentage of females within each group, by country

| Country        | Low earnings | High earnings | Low education | High education | Total labor market |
|----------------|--------------|---------------|---------------|----------------|--------------------|
| Australia      | 59           | 27            | 43            | 44             | 43                 |
| Austria        | 58           | 23            | 39            | 43             | 40                 |
| Belgium        | 57           | 29            | 37            | 39             | 43                 |
| Canada         | 64           | 32            | 46            | 45             | 48                 |
| Czech Republic | 65           | 31            | 48            | 44             | 48                 |
| Denmark        | 68           | 24            | 40            | 43             | 41                 |
| Finland        | 64           | 37            | 51            | 51             | 51                 |
| France         | 57           | 35            | 44            | 45             | 46                 |
| Germany        | 65           | 27            | 48            | 44             | 46                 |
| Hungary        | 62           | 48            | 54            | 48             | 55                 |
| Ireland        | 58           | 25            | 41            | 46             | 42                 |
| Israel         | 62           | 34            | 43            | 53             | 48                 |
| Italy          | 51           | 30            | 39            | 53             | 41                 |
| Luxembourg     | 52           | 25            | 40            | 36             | 38                 |
| Netherlands    | 68           | 15            | 42            | 41             | 41                 |
| Norway         | 68           | 24            | 46            | 45             | 46                 |
| Spain          | 48           | 30            | 33            | 54             | 39                 |
| Sweden         | 71           | 29            | 49            | 50             | 50                 |
| Switzerland    | 54           | 09            | 33            | 19             | 31                 |
| United Kingdom | 70           | 29            | 51            | 45             | 49                 |
| United States  | 62           | 36            | 46            | 50             | 49                 |
| Mean           | 61           | 29            | 43            | 45             | 45                 |