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Children and Dual Worklessness in Europe: A Comparison of Nine Countries

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Abstract

Parents' labour market status is a strong determinant of children's economic well-being, and children living in jobless households are particularly vulnerable. However, previous research has not focused on the association between children and household worklessness. In this paper, I used ECHP data from nine European countries to analyse the effects of the number and age of children on the probability that neither partner of a couple works. Results from random-effects regressions show that children increase the risk of dual worklessness in five of the countries. The effects were particularly strong in the United Kingdom and Ireland, and more generally, stronger in countries with little institutional support for working mothers, low levels of employment protection, and unexpectedly, where benefits were less likely to be means-tested. The risk of dual joblessness diminished with the age of the youngest child in Belgium, Finland, France, and the United Kingdom and more generally, slower in countries with a strict employment protection regime and a high level of means-testing of social benefits. Having children can thus affect the labour market position of households, and influence their economic well-being. However, these effects can be shaped by the social policy and labour market solutions countries adopt.

Keywords: children, couples, dual joblessness, Europe, comparative research, panel data

Enfants et couples sans emploi en Europe: une comparaison entre neuf pays

Résumé

La situation des parents par rapport à l'emploi est un déterminant important du bien-être économique des enfants, et les enfants vivant dans des ménages où les parents n'ont pas de travail sont particulièrement vulnérables. Cependant, les recherches antérieures se sont peu intéressées à l'association entre présence d'enfants et chômage des parents. À partir de données issues du PCM pour neuf pays européens, cet article analyse les effets du nombre et de l'âge des enfants sur la probabilité que les deux parents soient sans emploi. Les résultats de régressions à effets aléatoires montrent que la présence d'enfants augmente ce risque dans cinq de ces pays. Les effets sont particulièrement importants au Royaume-Uni et en Irlande, et en général, plus élevés dans les pays qui proposent peu de soutien institutionnel aux mères qui travaillent, où la garantie de l'emploi est faible et, de manière inattendue, où les aides sociales sont moins souvent soumises à conditions de ressources. Le risque que les deux parents soient sans emploi décroît avec l'âge du plus jeune enfant en Belgique, en Finlande, en France et au Royaume-Uni, et en général, décroît plus lentement dans les pays ayant un régime strict de garantie de l'emploi et où les aides sociales sont les plus soumises à conditions de ressources. La présence d'enfants peut donc avoir un impact sur la situation des ménages par rapport à l'emploi et influencer leur bien-être économique. Cependant, ces effets varient en fonction des politiques sociales et des aménagements du marché du travail mis en oeuvre par les États.

Mots-clés: enfants, couples, deux partenaires sans emploi, Europe, recherche comparative, données de panel

Children and Dual Worklessness in Europe: A Comparison of Nine Countries

1 Introduction

Parents' labour market status strongly predicts children's economic well-being, and children living in households with no employed adults are particularly vulnerable. Around the turn of the millennium, over half of poor British children lived in such households, and three out of four children living in jobless households were poor (Nickell 2004: C3). These grim figures are not limited to Britain. Figure 1 compares the poverty rates of all children living with two parents to those with two workless parents in fourteen European countries between 1993 and 2000. The poverty rates of children of jobless couples were higher than average in each country, reached above 50 percent in the UK and Ireland, and above 40 percent in another five countries. Furthermore, growing up in a jobless household can have adverse long-term effects (Ermisch, Francesconi and Pevalin 2004). Household joblessness is clearly an issue of social concern (e.g. Esping-Andersen 2002; OECD 2004a; UNICEF 2007).

- *Figure 1* -

There is practically no research on household worklessness and children, despite the huge interest in children's life conditions (for reviews on household joblessness: OECD 1998; De Graaf and Ultee 2000; Gregg and Wadsworth 2001). Therefore, in this study, I analysed whether having children affects the risk that neither partner of a couple works (dual joblessness, or dual worklessness). Numerous studies have estimated fertility effects on women's and men's labour market outcomes, but fewer have considered these outcomes at the level of households, which

remain the primary units of consumption and welfare distribution. Difficulties in combining work and childcare can lead to individual labour market penalties, but the effects on financial well-being are aggravated if no household member works.

The first question concerned the effect of having children on the risk of dual joblessness in nine European countries (Austria, Belgium, Finland, France, Ireland, Italy, Portugal, Spain, and the United Kingdom) and how this risk changes with the age of the youngest child. To answer these questions, I analysed monthly data on the joint work statuses of couples from the European Community Household Panel. This focus on couples' joint statuses—instead of the more common one on the associations between individual partners' labour market statuses—enabled a direct measure of the status of the household and better corresponds to general theories of household labour supply that assume at least some interdependence between partners (Blau and Riphahn 1999: 233), particularly if they have small children (Lundberg 1988). I restricted the analysis to couples, because most European children are born to and lead the majority of their childhoods with two co-residing parents (Andersson 2002) and because of the rather considerable interest given to single parents in previous research.

Secondly, I analysed whether the effects are shaped by social policy and labour market institutions. Previous research on mothers' work has associated cross-national variation in the effects of having children to differences in family policy institutions, such as public childcare and parental leave (e.g., Gornick, Meyers and Ross 1998; Ruhm 1998; Jaumotte 2003; Uunk, Kalmijn and Muffels 2005). I extended this approach to the joint work status of couples and considered a wider selection of social policy and labour market institutions.

The article is organised as follows. The next section describes previous work on dual joblessness, while Section 3 presents a stylised theoretical discussion of how children may affect

dual worklessness. Section 4 extends this discussion to considerations of how institutional patterns may shape this effect. Section 5 describes the data, the European Community Household Panel (5.1), the variables (5.2 and 5.3), and the analytical approach (5.4). Section 6 first provides some descriptive results (6.1 and 6.2), then the estimates of the effects of the number and age of children in each country (6.3), and finally the comparative analysis (6.4). The last section concludes.

2 Research on dual joblessness

Most previous research has, apart from estimating rates of dual joblessness, analysed whether unemployment (non-employment) of the partners is positively associated. Generally, the answer is yes, suggesting an accumulation of (dis)advantaged labour market positions under the same roof (e.g., De Graaf and Ultee 2000; Gregg and Wadsworth 2001). These results contradict predictions from economic theory of an increase in labour supply as a response to spousal unemployment (the so-called “Added Worker Hypothesis”).

Several studies have attempted to explain these findings. Common explanations point to marital homogamy by education and age, and to labour demand restrictions of local labour markets (e.g., De Graaf and Ultee 2000; Gregg and Wadsworth 2001; —Härkönen 2007). In addition, some studies have found evidence for the role of means-tested social benefits that increase the effective tax rate of the partner, of diminishing social networks, and of cultural factors that sanction the employment of the wife if the husband is unemployed (Härkönen 2007). The central role of means-tested benefits in Britain and Ireland has been associated with the higher levels of dual worklessness and joblessness accumulation in these countries (e.g. De Graaf and Ultee 2000).

In terms of socio-demographic characteristics, the clearest risk factors of coupled joblessness include low education and poor health of the husband and the wife (Härkönen 2007). There are less consistent age differences, although couples in the prime working ages (35-44 years) generally have the lowest rates of dual worklessness.

Regarding the dynamics of dual joblessness, most entries into it are due to the husband losing the only job in the household, and the clear majority of dual worklessness spells ends with the husband finding a job (Härkönen 2007). The predictors of these dynamics include education, poor health, age, and, additionally for entries into dual joblessness, occupation and the type of job contract one holds (permanent vs not). Studies that have looked at unemployment exits at the individual level have also found that low education and non-employment of the partner are related to longer spells of unemployment (e.g. De Graaf and Ultee 1991; Giannelli and Micklewright 1995; McGinnity 2002). Cross-national patterns in coupled joblessness rates depend both on comparative differences in inflows and outflows, although the former are generally more important (Härkönen 2007). These differences depend on the prevalence of male breadwinning and on the risk of job loss, the latter being associated with the rate of permanent jobs and employment protection legislation.

No previous studies have, to the best of my knowledge, focused on whether the number and age of children affect the risk of dual worklessness. Crude comparisons between couples with and without children generally suggest small differences. However, the cross-national variation can be remarkable, as will become evident later in the paper (Figure 3). Some results also suggest that joblessness accumulation may be stronger when children are present (Bingley and Walker 2001; Gregg, Scutella and Wadsworth 2004). Furthermore, dual joblessness tends to last longer in households with small children (Härkönen 2007). However, these studies have not

controlled for many factors that affect both fertility and the risk of dual worklessness. Therefore, it is unclear whether having children increases the risk of coupled joblessness over and above the better-documented risk factors.

3 The effects of children on dual joblessness: theoretical perspectives

An additional household member means an additional mouth to feed. The increase in financial need due to childbirth thus increases labour supply incentives of the household. However, small children also need care and attention which, due to social, economic, and biological factors, are provided more by the mother. Gary Becker (1981) has most famously theorised how financial needs, socioeconomic and biological factors, and time constraints encourage a gendered division of household labour where the mother is more likely to focus on unpaid care work while the father spends more time in paid work. In line with these theories, the large empirical literature on fertility and employment has consistently found that childbearing decreases female labour supply (e.g., Killingsworth and Heckman 1987; Bernhardt 1993; Matysiak and Vignoli 2008), but has no or small positive effects on male labour supply (e.g., Loh 1996; Angrist and Evans 1998; Lundberg and Rose 2002). Employer behaviour has been found to contribute to these patterns (Correll, Benard and Paik 2007).

At the household level, these gendered patterns of the division of labour often mean that the work status of the household is dependent on that of the father, due to the universal norm of male employment. Even though the father may compensate for the fall in the mother's labour supply by increasing his work effort, previous research has shown, unsurprisingly, that "male breadwinner" couples have a clearly higher risk of becoming dually jobless than couples in which both partners work (Härkönen 2007). Furthermore, non-working mothers with (small)

children may not search for work, or have more difficulties in finding work than fathers do, even when the father is not working himself. The duration of coupled joblessness may consequently increase (Härkönen 2007). Although parents have an increased incentive to avoid economic risks, these dynamic processes suggest that couples with children have an elevated risk of dual worklessness at any given time point. Therefore, my first hypothesis was that *the number of children increases the risk of dual joblessness* (Hypothesis 1).

However, this effect can be short-lived. As children grow older, their care needs are increasingly met by other adults and mothers are more likely to work. At the level of the couple, this means a higher likelihood that both partners work, and also a lower likelihood that neither partner works. Therefore, I expected to find that *the risk of coupled joblessness diminishes with the child's age* (Hypothesis 2).

4 Cross-national variation

The two hypothesised effects are likely to vary cross-nationally depending on institutional and normative factors that regulate parents' work opportunities and incentives. More specifically, one would expect rates of dual joblessness to be relatively higher for couples with children in countries with a higher prevalence of male breadwinner couples, which offer less institutional support to combine motherhood and paid work, and where parents have generally weaker incentives to work. In the following, I discuss four specific institutional features that can be expected to shape the effects of having children on dual worklessness and formulate expectations of which countries would have stronger effects than others.

Countries have adopted various policies to mediate the motherhood-paid work conflict. Of these, Gornick, Meyers and Ross (1997; also Gornick, Meyers and Ross 1998) identified

parental leave, childcare, and school schedules as the key ones. Since the widest cross-national variation in maternal employment is among mothers with small children (OECD 2004b), I limit the discussion to the effects of childcare and parental leave policies. Several studies have documented how affordable high-quality childcare supports the work of mothers with small children (e.g., Blau and Robins 1991; Gornick, Meyers and Ross 1998; Uunk, Kalmijn and Muffels 2005). Maternal leave is another policy of interest. Although it can maintain the gender wage gap in the long run, the empirical literature has stressed its positive effects on female employment over the life course (Ruhm 1998; Jaumotte 2003). I thus expected to find that *the effect of the number of children is weaker in countries with more extensive policies to promote mothers' work* (Hypothesis 3a). I also postulated that in these countries *the risk of dual joblessness diminishes at a faster rate as the child grows older* (Hypothesis 3b).

Financial benefits targeted at reducing the costs of children provide families with unearned incomes through cash benefits, tax allowances, exemptions, subsidies, and services in kind (Bradshaw and Finch 2002). Such benefits can be expected to reduce family labour supply and thus increase the risk of dual joblessness. Because female labour supply is more elastic than male supply (e.g., Heckman 1993), it is likely that this effect operates mainly by affecting mothers' paid work (Jaumotte 2003). Family benefits can affect dual joblessness in two ways. Firstly, the amount of benefits paid to the family depends on the number of children. Therefore, I postulated that *financial support for families increases the effect of the number of children on dual joblessness* (Hypothesis 4a). Secondly, by changing the labour supply incentives of mothers of small children, these policies can also affect how fast mothers return to work after childbirth. Thus, I expected to find that *the risk of dual joblessness diminishes at a slower rate in countries with generous financial support for families* (Hypothesis 4b).

Research on dual joblessness has often been interested in the role of means-tested benefits (e.g., Bingley and Walker 2001; McGinnity 2002). The common conclusion is that by increasing the effective tax rate on earned income, means-tested social benefits create labour supply disincentives to the spouses of unemployed workers. The central role of means-testing in the United Kingdom and Ireland has correspondingly been used to explain the higher rates of unemployment concentration in these countries (De Graaf and Ultee 2000). Means-testing of benefits can also shape the effect of children on dual joblessness, primarily because presence of children in the family is often taken into account when determining benefits. I expected this to operate similarly to other financial support programs targeted at families with children, so that *means-tested benefits increase the effect of the number of children on dual joblessness* (Hypothesis 5a) and *slow down the rate at which the risk of dual joblessness diminishes as the child grows older* (Hypothesis 5b).

Employment protection legislation (EPL) is the most obvious policy protecting working parents from unemployment. Actually, in many continental and Southern European countries EPL provisions were partly built to protect the male breadwinner against unemployment (Esping-Andersen 1996; 1999). Correspondingly, previous research has shown how the occurrence of coupled joblessness is lower in countries with stricter employment protection regulations, particularly if those countries are characterised by a male breadwinner family model (Härkönen 2007). Therefore, I expected to find that *stricter employment protection legislation decreases the effect of the number of children on dual joblessness* (Hypothesis 6a). However, the downside of strict EPL is higher total labour costs, a lower rate of job creation, and longer unemployment durations (Bertola 1990). This can especially hurt mothers who do not work. By making employers more selective in their hiring decisions, EPL may make them increasingly

reluctant to hire mothers with small children, if they are thought to be less productive or flexible (cf. Correll, Benard and Paik 2007). Therefore, I postulated that *strict employment protection legislation slows down the rate at which the risk of dual joblessness diminishes as the child grows older* (Hypothesis 6b).

Summing up the hypotheses, I postulated that having children is followed by an increase in the risk of coupled joblessness (Hypothesis 1), because the mother is more likely to stay at home and the labour market attachment of the couple depends more on the employment of the father. This effect is weaker in countries which have extensive childcare and other family policies that support mothers' paid work (Hypothesis 3a) and which have stricter EPL (Hypothesis 6a), but stronger in countries which offer generous financial benefits for families with children (Hypothesis 4a) and where means-testing is plays a central role in assigning social benefits (Hypothesis 5a). I also expected to find that as the child grows older, mothers are increasingly likely to work, and thus the risk of coupled joblessness decreases (Hypothesis 2). This recovery will be faster in countries with strong policies that reduce mothers' childcare obligations (Hypothesis 3b), but slower in countries with more generous financial support for families with children (Hypothesis 4b), which rely more on means-tested benefits (Hypothesis 5b), and which have stricter employment protection legislation (Hypothesis 6b).

Table 1

Table 1 provides measures of each of these institutional packages in the nine countries considered. In each case, a higher value denotes more of the institutional characteristic in question. The details of these indexes are provided in the data and methods section. Based on the

hypotheses, I expected the effect of children to be particularly strong in Ireland and the United Kingdom. Whether the risk declines slower or faster with the age of the child depends on whether the effect of institutional support for working mothers dominates over the other institutional features. At the other end, I expected the effect of having children to be weaker and the “recovery” faster in Finland, France, and Belgium. Furthermore, I expected to find that in the Southern European countries, the effect is weak and remains relatively flat over time. I expected to find Austria between these groups.

5 Data and methods

5.1 Data

I used data from the European Community Household Panel (ECHP) Users’ Database, an eight-wave (1994 to 2001; 1995-2001 for Austria, 1996-2001 for Finland) household panel survey from fifteen European Union member states (Eurostat 2003). I excluded six countries due to data restrictions: the Danish and German data did not have information on birth month, the Swedish data were not panel data, the Dutch data lacked the dependent variable, the Luxembourgish data lacked an important control variable (health) and a macro-level variable (EPL), and the Greek data had zero cells. Thus, I analysed data from Austria, Belgium, Finland, France, Ireland, Italy, Portugal, Spain, and the United Kingdom.

The ECHP includes information on both partners. I formed a panel of married and unmarried heterosexual couples in which the male partner was 19 to 48 years old and the female partner was 19 to 45 years old. Below, for sake of brevity, I refer to all male partners as husbands and all female partners as wives. Few women older than 45 years give birth, and on average, the male was three years older than his partner. This restriction excluded most of those who had

retired. I also excluded students, which reduced the number of children born to non-working parents (especially in Finland).

After excluding 147 cases with missing values, I ended up with a sample of 14,974 couples. The data were structured into an unbalanced panel with couple-months as the unit of analysis. The maximum number of months was 184, and the total number of couple months was 753,830.

5.2 Micro-level variables

5.2.1 Dependent variable

I used self-reported information on the monthly main activity status (variables pc001 to pc012 in the ECHP users' database) of the respondent, reported retrospectively for the preceding year (or 12 months prior to the survey for France). Therefore, the sample covered 84 months during the years 1994 to 2000. For descriptive analyses of individual mothers and fathers, I recoded the variable to inform whether the respondent reported working or not during a given month. For couples, I created a joint work status variable.

For the regression analyses, I used a binary specification which was unity if neither partner worked. This measure emphasizes the close relationship between work and economic well-being (regardless of job search behaviour) and was necessary for the panel regressions used in the analyses, but can hide considerable heterogeneity among the dually jobless or the reference group (cf. Esping-Andersen 2002: 40-41).

The ECHP Users' Data Base does not have any information on parental or other leave and the labour market status variables deal with leave differently. The monthly labour market variables rely on self-reports whereas those on parental leave are automatically defined as

employed by the current (annual) labour market status variables (pe001 and pe003). Employment rates of mothers of children below age 1 were higher when measured with the latter than with the former variables, whereas the opposite was true for dual worklessness, although the differences were minor.

Therefore, it is unclear whether couples in which one partner was non-employed and the other was on parental leave show up as dually jobless or not, and whether there were cross-national differences in these patterns. It is also not altogether clear how such situations should ideally be treated, in particular if one is ultimately interested in dual worklessness as a risk factor for deficits in well-being. Even in countries with long parental leaves, the period of generous replacement rates is generally rather short, after which benefit levels are lower (often lower than (earnings-related) unemployment benefits) or leave is unpaid (Ray, Gornick and Schmitt 2009; MISSOC, various years). Parental leaves with job return guarantees are mostly limited to workers eligible for them through accumulated prior employment, and even eligible workers are often not free to return to work at will (for example as a reaction to spousal unemployment) or do not use the leave they are entitled to (e.g., Bruning and Plantenga 1999). The high poverty rates among jobless couples with small children suggest that these families are at risk regardless of parental leave.

I therefore chose the dual joblessness variable described above as my primary dependent variable. However, I re-ran the models by excluding from the analysis the months when mothers can be on parental leave before and after the birth of the child (OECD 2001; MISSOC, various years). The results remained very robust.

5.2.2 Independent variables

The main independent variables were the number of children and the (logged) age of the youngest child. This specification shows how the risk of dual joblessness changes after the birth of a child, and how it develops thereafter as the child grows older (cf. Korenman and Neumark 1991). Household members who were 18 years or less, and the biological, step-, or adopted children of the male partner were defined as children and parity levels were measured with monthly accuracy. In the first regression analyses, in which I ran separate models for each country, I measured the number of children with a series of dummy variables: one child, two children, and three children or more, with no children as the reference category. In the second, cross-national analyses I used a linear specification of the number of children. With little loss of information, the linear specification fit the data as well as or better than the non-linear specification and also reduced the number of interaction terms needed in the model (see below). The age of the youngest child was entered as two separate variables, as logged months until the child turned seven years old and as a dummy variable for ages seven years and above, by which time children have started school in each country. The logged form fit the age-of-child effect best.

The control variables were: high education of the husband (ISCED 4-6, dummy), high education of the wife (dummy), middle education of the husband (ISCED 3, dummy), middle education of the wife (dummy), pregnancy (-9 months before birth), age of the wife, age of the wife squared, good or very good health of the husband (dummy), good or very good health of the wife (dummy), marriage (dummy), year, the regional male unemployment rate, and the regional female unemployment rate.

Table 2

The control variables (except pregnancy) were measured annually (and thus do not vary within the waves), and linked from wave $t+1$. Table 2 shows descriptive information on the variables.

5.3 Country-level variables

For analysis of the institutional correlates of child effects on dual joblessness, I used country-level variables on public policies to support the employment of mothers, on financial benefits targeted at families with children, on the extent to which social benefits are means tested, and on the strictness of employment protection legislation. The values of these variables are shown in Table 1.

For the measure of public support for working mothers, I formed a slightly modified¹ update of the index presented by Gornick, Meyers, and Ross (1997) to capture various public policies that affect employment of mothers of children under school age.² I used an index to

¹ The differences are the following: a) I used the starting age of compulsory schooling instead of the share of five-year olds in preschool, b) importance of tax relief for childcare and childcare guarantees were estimated on a 0-1 scale with information from Bettio and Prechal (1998), c) I measured paternity leave in working days (divided by 10, the maximum), d) I included a measure of the cost of childcare, and e) I used a somewhat different formula and scaling (see next footnote).

² The formula used is the following: $0.5 * \{ [0.5 * (\text{Job Protection} + (\text{Coverage of Maternity leave}/100) * (\text{Duration of Paid Maternity Leave}/52) + \text{Wage Replacement Rate} + \text{Coverage of Maternity Leaves}/100 + 0.5 * \text{Paternity Benefits}/10 + 0.5 * \text{Tax Relief for Child Care} + \text{Guaranteed Child Care Coverage for Kid 0 to 2 Years} + \% \text{ Kids (0 to 2 Years) in Childcare} - \text{Cost of Childcare}/100)] + (0.5 * \text{Tax Relief for Childcare} + \text{Guaranteed Childcare Coverage (3 to school age)} + \% \text{ kids (3 to School Age) in Childcare} + 0.25 * (7 - \text{School Starting Age}) - \text{Cost of Childcare}/100) \}$. *Sources*: Legislated job protection (Bettio and Prechal 1998; MISSOC, various years); Coverage of

measure generosity of benefits targeted at families with children that combined direct benefits, tax allowances, exemptions from charges, and various subsidies (from Bradshaw and Finch 2002: 169). This indicator measures the value of the ‘child support package’ after housing benefits as a share of average earnings.³ The ECHP does not—unfortunately—have measures of whether benefits are means-tested or not. To assess the role of the prevalence of benefit means-testing in each country, I used a macro-level indicator, which built on the work by Gough and associates (1997). The measure divided Gough and associates’ estimate of the share of means-tested benefits of all social security expenditure (Gough *et al.* 1997: 24)—categorised here into nine groups ranging empirically from 1 (0-4 %) to 9 (40-44 %)—with their categorical estimate of how strongly other incomes are disregarded when determining benefit levels (Gough *et al.* 1997: 30). This way the indicator aimed to summarize the importance of means-tested benefits in each country’s benefit package and the strictness of the means-tests used. As a measure of EPL strictness, I used the well-known index from the OECD (2004c: 117). For the analysis, all the country-level measures were centred at their means.

5.4 Analysis

maternity leave (Bettio and Prechal 1998); Duration of maternity leave (OECD 2001); Replacement rate (Kamerman 2000); Paternity leave (Kamerman 2000); Tax relief: based on Bettio and Prechal (1998); Guarantee of child care: based on Bettio and Prechal (1998); Cost of childcare (Immervol and Barber 2005: Figure 2.2); Enrolment rates in public childcare (Kamerman 2000); Compulsory school starting age (Kamerman, 2000). See (Härkönen 2007) for values of the variables.

³ I chose this indicator, because housing benefits often constitute an important share of the benefit package for families with children (see discussion in Bradshaw and Finch 2002: Ch 4). I did not use the version of the index that includes childcare costs and benefits, since they are included in the support for maternal employment index.

The analysis proceeds in three steps. Firstly, I examined dual joblessness rates in the nine countries and looked in more detail into the fathers', mothers', and couples' work patterns around childbirth. Secondly, I analysed the effects of the number and age of children on coupled joblessness separately in each country, using random-effects panel regressions. Thirdly, I analysed the cross-national differences in the effects of having children and their institutional correlates.

5.4.1 Random-effects linear probability models

I used random-effects (RE) linear probability panel regressions to examine how the number and age of children affected couples' rates of dual joblessness. Panel data are commonly analysed with fixed-effects (FE) models, which carry the advantage of controlling for time-invariant unobserved factors (cf. Wooldridge 2002; Petersen 2004). However, according to Hausman tests, the RE estimates did not differ in a statistically significant way from FE estimates, which is not surprising given the length of the panel I used (Petersen 2004: 340). Therefore, I chose to analyse the data using the more efficient RE models. The similarity of the RE and FE estimates suggested that unobserved heterogeneity did not bias the RE estimates. However, they may be biased by time-variant unobserved factors, such as anticipation of dual joblessness that may lead couples to reconsider their childbearing plans (Easterlin 1975). To reduce such bias, I controlled for the variables listed above. Alternative methods, such as instrumental variables (Angrist and Evans 1998), lagged endogenous variables instrumental variables (Wooldridge 2002: 307-09), or difference-in-differences propensity score matching (e.g., Aassve et al. 2005) rely very much on appropriate data or assumptions. The data at hand did not satisfy the data requirements and the assumptions used for these methods are often implausibly strict. However, one can argue that if

experience or anticipation of dual joblessness decreases fertility, the estimates are biased downward.⁴

I used linear probability models (LPM), which are little used in sociology and related fields (logistic regression being the default method), but which carry several advantages that make them useful for the purposes of this paper (Hellevik 2009; Mood 2010). Unlike logit estimates, estimates from LPMs can be interpreted directly as effect measures and they can be compared across samples (here, countries). Furthermore, interaction terms do not have a straightforward interpretation in logit models (Ai and Norton 2003), whereas they are easily incorporated to LPMs. This was particularly useful for the comparative analyses (see below). In any case, logit regressions with the same data gave corresponding results.⁵

However, the models did not tell about the dynamics—entries into and exits out of dual joblessness—behind these changes. These were discussed in literature review and touched upon in the descriptive analysis. The models were estimated with Stata 10.1. I estimated cluster-robust standard errors (Wooldridge 2002: 262-63), which adjust for the serial correlation and heteroscedasticity of errors.

⁴ Endogenous attrition, which can yield biased panel regression estimates with unbalanced panels (Wooldridge 2002: 578-81) should not pose a problem with these data (Härkönen 2007). In general, attrition patterns varied across the ECHP countries but did not affect substantive conclusions (ibid.; Behr, Bellgardt and Rendtel 2005).

⁵ LPMs are at times criticised for out-of-range predicted probabilities, biased standard errors due to heteroscedasticity, or misspecified functional form (Mood 2010: 78-79). The share of cases with predicted out-of-range predicted probabilities (i.e., below zero) was small in each country and the robust standard errors used in the estimation correct for potential heteroscedasticity. Furthermore, since I was interested in average effects of having children on the risk of dual joblessness (and not the non-linearity of the relationship as such), the LPM estimates are appropriate (ibid.).

5.4.2 *Cross-national analysis*

The third step in the analysis consists of a cross-national comparison. Firstly, I pooled the data and included country dummies (with the United Kingdom as the reference country) and interactions between the country dummies and the micro-level variables. This model is equivalent to comparing separate regressions for each country and provides a more systematic analysis of cross-national differences.

I also “replaced the countries with variables” (Przeworski and Teune 1970) to analyse the institutional correlates of the effects of having children on coupled joblessness. I used the four macro-level variables discussed above and interacted them with the number of children and the age of the youngest child. As mentioned above, I used a linear variable for the number of children for these analyses.

6 Results

6.1 Children and non-working couples

The analysis begins with an overview of the extent of the problem this paper deals with. Figure 2 shows trends (1994-2000) in the share of children with dually jobless parents out of all children living in couple families (see OECD (2009) for similar results). There was a clear downward trend in many countries, reflecting improved labour market conditions (Gregg and Wadsworth 2003). Nevertheless, the shares of children living with two workless parents were rather striking, especially in Ireland and Spain in the mid-1990s. In many other countries, the rates were lower, partly due to higher levels of dual employment of couples and more secure jobs (Härkönen

2007). Clearly, however, dual worklessness can affect a large share of children, particularly in weak labour markets.

Figure 2

Figure 3 continues to present coupled joblessness rates of childless couples, couples with children, and couples with children below age 3, averaged over the observation period. The rates were lower than those in Figure 2 due to generally higher rates of dual joblessness in larger families, which are less common, but affect more children (Härkönen 2007). In most countries, couples with children had somewhat higher rates of dual joblessness than those without, and the risk of coupled joblessness was often further elevated in families with small children. The most striking differences between couples with and without children were found in Ireland and the United Kingdom and, to a lesser extent, in Spain. Furthermore, couples with small children had elevated rates of dual joblessness in Finland.

Figure 3

6.2 Mothers, fathers, couples, and work around childbirth

Before continuing to the regression analyses, it is worthwhile to describe the working patterns of men, women, and couples around childbirth. Only those who had a child during the observation window were included in these descriptions. Figure 4 presents these patterns for 12 months before to 12 months after childbirth. As is evident from the steady lines in Panel B, there is not much of a story to tell about changes in fathers' work around childbirth. Mothers' working

patterns look, unexpectedly, very different, as can be seen from Panel A. The share of women who worked started to decline between 6 to 9 months before birth, and in most cases reached its lows in the months immediately after childbirth. 12 months after childbirth, the levels of working women were in many countries almost as high as 12 months before childbirth. Austria was the main exception to this pattern, as there the share of women who work continued to decline during the first year of the child.

Figure 4

It is notable that the majority of Belgian, Portuguese, and French women continued to report working throughout the follow-up period and only in Finland and Austria did these shares fall close to zero. In Italy and Spain the share of working mothers does not change much. These patterns can reflect cross-national differences in reporting whether one works or not during maternal leave. It is also likely that they reflect real differences in mothers' work around childbirth. In many countries—particularly those with low levels of female employment, and ungenerous and short parental leave—women who invest in labour market work do not stop working after having a child, whereas those who do not invest in it may not have worked or have stopped working already at an earlier point (cf. Blossfeld and Drobnič 2001; Hakim 2003). In this context it is important to recall that in many countries, the actual use of parental leave is clearly lower than eligibility (Bruning and Plantenga 1999). Below, I return to the question of whether the findings of the effects of children on dual joblessness are affected.

Panel C shows the trend in the share of “male breadwinner” couples, understood here as couples in which the husband worked while the wife did not. Panel D presented these trends for

the shares of dually non-working couples. Because there were few cases of “female breadwinning” and the patterns for dually working couples were essentially mirror-images of Panel C, these results are not presented. Unsurprisingly, the shape of the trends in the share “male breadwinner” households were close mirror images to those of working mothers, starting to increase around 6 to 9 months before birth. For many countries (such as Finland, Austria, Ireland, the UK, France, and Belgium) there seemed to be at least a short-term increase in the rates of dual worklessness around childbirth, usually already beginning somewhat before the child is born. These were in line with the discussion earlier in the paper, and also in line with expectations, they followed the patterns of male breadwinning around childbirth.

6.3 *Regression analysis*

Table 3 presents results from the random-effects linear probability regressions. To save space, I do not present the estimates of the control variables.

Table 3

The first three dummy variables show the effects of having one, two, or three or more children, respectively, compared to being childless. In accordance with the first hypothesis, dual worklessness increased (though not completely linearly) with additional children in Finland, France, Ireland, Portugal, and the United Kingdom.⁶ In the other countries, there was no statistically significant relationship between the number of children and couples’ joint worklessness. As expected, the effect of the number of children was particularly visible and strong in the United Kingdom and Ireland. In both countries, having one child increased the rate

⁶ With the linear specification for the number of children, the estimate was significant also in Belgium.

of dual joblessness by approximately 5 percentage points, and having three or more children increased the dual joblessness rate by 10 to 11 percentage points, a notable effect. Also as expected, the effects were weaker (and not statistically significant) in Belgium, Italy, and Spain. However, a potentially surprising result was the rather strong effect of the number of children in Finland. More specifically, the effect was strong for the first child (an almost 5 percentage point increase) but flat afterwards.

The effect of the (logged) age of the youngest child was statistically significant in Finland, France, the United Kingdom and, at the 10 % level of significance, in Belgium. In these countries, dual worklessness became less likely as the child grew older, as expected by the second hypothesis. In the United Kingdom, for example, the expected likelihood of dual worklessness increased by 5.5 percentage points with the birth of the first child. As women were more likely to return to work as the child grew older, the expected rate of dual worklessness remained approximately 3.5 percentage points higher ($5.5\% - 100 \times 0.008 \times \ln(12 \text{ months})$) at the child's first birthday, and 3 percentage points higher after the second birthday, compared to the situation before birth. In Finland the "recovery" was faster with the expected rate of dual worklessness returning back to its starting point soon after the first birthday of the child. In France, both the effect of the number of children and that of the age of the child were weaker than in Finland and the United Kingdom. In the other countries, there was no statistically significant change in the rate of dual worklessness as the child grew older. This is remarkable especially in countries such as Ireland, where the effect of the number of children was strong. In Ireland, the rate of dual joblessness increased strongly with additional children and remained at a clearly elevated level. This can be seen as combining the worst of both worlds.

Are these results artefacts of parental leave? As discussed above, the ECHP Users' Data Base does not contain information on parental leave. As a sensitivity check, I re-ran the regression models while excluding the months during which the mother can be on parental leave from the analysis (not shown). The results were strikingly robust. None of the above conclusions changed. In Finland, where parental leaves are the longest, the estimate of having two children decreased to 0.036 and that of having three children to 0.039. Both estimates moved from being marginally significant at the 5 % level to being marginally not significant at that level (and remained significant at the 10 % level). In other countries—notably France, Ireland, and Austria—the effect of the number of children even became stronger. In Austria the effect of the (logged) age of the youngest child became statistically significant, and in France this effect became stronger. Therefore, the findings of the effects of the number of children and the age of the youngest child on dual worklessness are not artefacts of unprecedentedly high rates of coupled joblessness among couples in which one partner is on parental leave.

The estimates for the control variables (not shown) were as expected. The effect of age was curvilinear, so that the risk of dual joblessness first decreased and then increased again at higher ages. Being in good health decreased the risk of dual joblessness, although the effect was significant only in Belgium (husbands) and in Portugal (wives). The regional male unemployment rate had a positive effect on the risk of dual joblessness in Italy and Spain (and in the pooled data), whereas being married and pregnant increased the risk of dual joblessness in Britain. In many countries, though not all, higher levels of education provided some insurance against dual worklessness.

6.4 *Comparative analysis*

The above analysis suggested cross-national differences in the effects of children on dual joblessness. In this subsection I analyse whether these patterns vary systematically by country and by observed institutional differences.

Table 4

Table 4 presents estimates from two random-effects linear probability models on data pooled over all the countries. In this model, the number of children is entered as linear variable (see section 5.2.2). The estimates of the control variables and the main effects of the macro variables are again excluded from the table. The first model added interactions between the countries and the micro-level variables, with the United Kingdom as the reference country.

Compared to the UK, the effects of the number of children were weaker in each country except Ireland. In the other countries, the effect of each additional child was between 3 and 4 percentage points weaker than in the UK. This confirms what was hypothesised earlier in the paper and already shown in Table 3: the UK and Ireland form a common “regime” with strong effects of having children on the risk of dual joblessness. This is also in line with previous research that has found that dual joblessness and work polarization have been particularly acute problems in these countries. However, maybe somewhat unexpectedly, the effects of the age of the youngest child were not significantly different from that in the UK.

The second column of Table 4 presents estimates from a model with interactions with the institutional measures (Strictness of employment protection, Family benefit levels, Policies that

support maternal employment, and Prevalence of means-tested benefits). This analysis aimed at identifying the institutional sources of the cross-national variation. The results are generally in line with expectations. As hypothesised, the effect of the number of children was weaker in countries with stricter employment protection laws, but the risk of coupled joblessness also decreased slower in these countries. Keeping everything else constant, moving from the British regime (EPL=0.5) to the Portuguese one (EPL=3.7) decreased the effects of an additional child by approximately 2.9 percentage points. Policies that supported mothers' employment also decreased the effects of having children, so that moving from the Irish to the Finnish regime, *ceteris paribus*, decreased the effect of an additional child on dual worklessness by 1.6 percentage points.

The generosity of family benefits—and the potential disincentives they create—did not seem to shape the effects of the number of children, and were only weakly associated (in the expected direction) with the age of the youngest child effect at the 10 percent level of significance. However, as expected, countries in which means-tested benefits play a stronger role in the social protection system had slower decreases in the risk of dual joblessness after childbirth, as seen from the positive interaction between the means-tests measure and the age of the youngest child. This suggests that means-testing—and not benefit levels per se—can affect dual joblessness rates among families with children. However, these same countries had, surprisingly, also weaker effects of the number of children. This result was not driven by effects in individual countries with high or low levels of means-testing. The reason for this result is not entirely clear. However, it suggests that the stronger effects of having children on dual joblessness in the United Kingdom and Ireland were not driven by their higher reliance on

means-testing (cf. Doris 1998). Rather, it was a result of weaker employment protection and policies that promote maternal employment, and potentially other, unmeasured, factors.

Again, I re-ran these models while excluding the months during which mothers can be on parental leave. The only difference to the results in Table 4 was that the interaction between family benefits and the age of the youngest child lost statistical significance.

7 Conclusions and discussion

Numerous studies have shown that having children can have negative consequences for women's careers, and small but positive effects on men's careers. Recent research has also shown how childbearing can carry penalties on economic well-being (Aassve, Mazzucco and Mencarini 2005; Sigle-Rushton and Waldfogel 2007). This study has extended this research by analysing how children affect the joint work patterns of couples—and more specifically, the risk that neither partner works. The descriptive analyses showed that couples with children—and small children in particular—have higher rates of dual worklessness in many countries. These couples are also likely, and sometimes very likely, to be poor.

Random-effects linear probability regressions showed that having children increased the risk of dual joblessness in five (Finland, France, Ireland, Portugal, and the United Kingdom) of the nine European countries studied. The effects were particularly strong in Ireland and the United Kingdom—the European representatives of the liberal welfare regime (Esping-Andersen 1999)—where having one child increased the rate of dual joblessness by around 5 percentage points, and having three or more children increased the rate by approximately 11 percentage points. In Finland, France, Belgium, and the United Kingdom, the risk of coupled joblessness diminished as the child grew older and their mothers were increasingly likely to work. The

increase in dual worklessness after childbirth could thus be only temporary. However, as importantly, in other countries the age of the youngest child did not have an effect. Particularly in Ireland this meant that couples with children had an elevated risk of dual joblessness which did not diminish with the age of the youngest child.

Ireland and the United Kingdom thus stood out as countries where the number of children had strong negative effects on couples' work attachment. Based on the previous literature, one could expect this to be associated with the higher levels of means-testing of social benefits in these countries. However, this was not supported by the cross-national analysis, which included macro-level indicators on the countries' social policy and labour market institutions. Instead, adjusting for the effects of other institutional features, those countries which relied more strongly on benefit means-testing seemed to have weaker effects of the number of children. Whether this finding reflected true variation in the effects or was an artefact of the data and the measure used is unclear. Weaker effects are also found in countries with stronger employment protection regulations (which protect working parents, and breadwinners in particular) and which offered stronger institutional support for working mothers, as was expected based on the hypotheses. According to these results, the strong effects found in Ireland and United Kingdom were rather related to liberal firing rules and a hands-off approach to mothers' work.

Social policy and labour market institutions not only shape the effects of the number of children on dual worklessness, but they also affect how the risk of coupled joblessness develops as the children grow older and their caring needs are increasingly met by other adults. The risk of dual joblessness diminished more slowly with the age of the youngest child in those countries in which means-testing played a stronger role and which had stricter employment protection laws. These results were in line with the hypotheses, which predicted that means-tested benefits can

create labour supply disincentives, particularly to mothers with small children and an unemployed husband, while strict employment protection laws decrease employers' incentives to hire workers; disincentives to hire mothers can be particularly strong. Employment protection legislation, but also means-tested benefits, can thus be double-edged swords that on the one hand decrease the effects of having children but also slow down the decrease in dual joblessness as the child grows, and thus expose families to longer risks of dual joblessness and associated welfare losses. In general, the comparative analysis showed that the effects of the number and age of children on coupled joblessness are not set in stone; instead, they are shaped by the social policy and labour market solutions countries adopt.

This study is of course not without its limitations. The dependent variable did not distinguish between couples in which at least one partner is on parental leave. However, sensitivity analyses, which excluded the months during which mothers were eligible for parental leave resulted in very robust findings. The effects of children of dual joblessness are therefore not artefacts of parental leave.

The regression estimates did not tell directly about the dynamics—that is, the (individual) employment transitions—behind dual joblessness. Based on previous research, the theoretical framework, and the descriptive results, it is plausible that couples who have children see a decrease in the mother's labour supply and are more likely to depend on the employment of the father, whose job loss can make the couple dually jobless. Childrearing responsibilities are also likely to increase the duration of dual joblessness, as mothers are less likely to return to work. These dynamics can be shaped by the institutional factors. These questions could not be directly analysed within this paper which aimed to provide a first picture of whether children affect dual

worklessness. Analysis of these dynamics is left to future work, which does well to focus on them and particularly on the durations of dual joblessness.

The random-effects regression models produced very similar estimates as fixed-effects models, thus suggesting no bias from time-constant unobserved factors. They could not, however, control for more than a limited number of potentially important time-invariant factors. If dually jobless couples or couples whose work situation is unstable forgo or postpone having children—as suggested by findings on economic difficulty and fertility (Easterlin 1975)—these estimates would be biased downward, instead of upward. In other words, having children can have stronger unwanted consequences than estimated. Finally, the limited number of countries that could be included in this analysis may obviously affect the results (even though they remained relatively when individual countries were excluded).

Dual joblessness is associated with very high risks of poverty, and children who grow up in such households are more likely to show compromised outcomes in later life (Ermisch, Francesconi and Pevalin 2004). Dual joblessness cannot be disregarded as a rare and minor problem, as it can affect a large share of children, especially when labour markets are tight. Therefore, it is of high social relevance to understand how public policies can improve parents' work-life balance and possibilities in the labour market so that having children does not weaken households' attachment to the labour market.

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Tables and figures

Table 1 Support for the employment of mothers, value of child benefit packages, index of means-tests of social benefits, and employment protection index.

	Mothers' employment public support index ¹	Index of financial support for families with children ²	Index of means-testing of social benefits ¹	Employment protection index ³
Austria	1.91	21	2	2.2
Belgium	2.78	10	0.25	2.1
Finland	2.83	11	0.33	2
France	2.75	12	0.6	3
Ireland	1.10	19	3.6	0.9
Italy	1.94	5	2	3.3
Portugal	1.48	7	1	3.7
Spain	2.11	2	2	3.1
UK	1.65	15	3.5	0.5

¹ See below for details.

² National values of the financial support package targeted at families with children including housing benefits, as % of average earnings. *Source*: Bradshaw and Finch (2002: Table 11.2).

³ *Source*: OECD (2004b).

Table 2 Means, standard deviations, and range of the variables in the sample (14,974 couples, 753,830 couple-months)

Variable	Mean	s.d.	Min	Max
Dual joblessness (d)	0.04	0.21	0	1
Number of children	1.59	1.10	0	13
Age youngest child (logged)	1.53	1.79	0	4.42
Youngest child 7-18 yrs. (d)	0.36	0.48	0	1
High education, husband (d)	0.20	0.40	0	1
High education, wife (d)	0.21	0.41	0	1
Middle education, husband (d)	0.33	0.47	0	1
Middle education, wife (d)	0.32	0.47	0	1
Pregnant (d)	0.05	0.21	0	1
Age of female partner	35.01	5.98	19	45
Good / very good health husb. (d)	0.78	0.42	0	1
Good / very good health wife (d)	0.76	0.43	0	1
Married (d)	0.91	0.28	0	1
Regional unemployment, men	8.59	5.70	0	26.09
Regional unemployment, women	14.60	10.7	0	46.29
N couples			14,974	
N couple-months			753,830	

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data, male partner 19-48 years, female partner 19-45 years, no students.

Notes: (d) = dummy variable

Table 3 Random-effects linear probability estimates of the effects of the number of children and the logged age of the youngest child on dual joblessness (cluster-robust standard errors in parentheses).

	Austria	Belgium	Finland	France	Ireland	Italy	Portugal	Spain	UK
One child ¹	0.014 (0.010)	0.016 (0.012)	0.047 ** (0.013)	0.021 ** (0.007)	0.045 ** (0.015)	-0.010 (0.009)	0.015 † (0.008)	0.020 (0.013)	0.055 ** (0.012)
Two kids ¹	0.008 (0.009)	0.018 (0.014)	0.041 * (0.017)	0.024 ** (0.009)	0.079 ** (0.020)	-0.018 (0.012)	0.017 † (0.009)	0.021 (0.016)	0.097 ** (0.017)
Three kids ¹	0.004 (0.011)	0.029 (0.019)	0.041 * (0.019)	0.038 ** (0.012)	0.109 ** (0.027)	-0.009 (0.018)	0.026 * (0.013)	0.017 (0.021)	0.105 ** (0.023)
Log age youngest kid	-0.002 (0.002)	-0.005 † (0.003)	-0.015 ** (0.004)	-0.004 * (0.002)	-0.003 (0.004)	0.000 (0.002)	-0.003 (0.002)	-0.003 (0.003)	-0.008 * (0.003)
Youngest kid 7-18 yrs.	-0.016 * (0.008)	-0.014 (0.013)	-0.060 ** (0.015)	-0.021 ** (0.008)	-0.027 (0.021)	0.003 (0.010)	-0.015 (0.010)	-0.027 (0.014)	-0.026 (0.016)
Constant	0.062 * (0.029)	0.054 (0.042)	0.060 (0.033)	0.066 ** (0.021)	0.191 * (0.078)	0.062 (0.053)	0.009 (0.020)	0.176 ** (0.042)	0.131 ** (0.036)
N	48,368	61,814	27,535	124,216	56,126	146,048	95,501	124,137	70,085
N couples	1,005	1,167	867	2,463	1,162	2,770	1,772	2,461	1,307

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data, male partner 19-48 years, female partner 19-45 years, no students.

Notes: Controls (not shown): age of wife (linear and squared), very good or good health of husband, very good or good health of wife, married, pregnant, regional male unemployment, regional female unemployment.

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$

¹ Reference: No children

Table 4 Cross-national analysis of the effects of children on coupled joblessness, fixed-effects linear probability models (cluster-robust standard errors).

	Beta	Sig.	SE	Beta	Sig.	SE
<i>Child variables</i>						
Number of children	0.039	**	0.009	0.010	**	0.002
Age of the youngest child, logged (if less than seven yrs.)	-0.005	†	0.003	-0.002	*	0.001
Age of the youngest child 7-18 years old	-0.011		0.014	-0.010	*	0.004
<i>Interactions with institutions</i>						
EPL * number of children				-0.009	**	0.002
EPL * logged age of child (<7 yrs)				0.002	**	0.001
Benefits * number of children				0.000		0.000
Benefits * logged age of child (<7 yrs)				0.000	†	0.000
Maternal support * number of children				-0.010	**	0.004
Maternal support * logged age of child (<7 yrs)				0.000		0.001
Means tests* number of children				-0.006	*	0.002
Means tests* logged age of child (<7 yrs)				0.002	*	0.001
<i>Country interactions (Ref.: United Kingdom)</i>						
Austria * Number of children	-0.038	**	0.009			
Austria * Age of youngest child (<7 yrs)	0.006		0.004			
Belgium * Number of children	-0.029	**	0.009			
Belgium * Age of youngest child (<7 yrs)	0.001		0.004			
Finland * Number of children	-0.028	**	0.010			
Finland * Age of youngest child (<7 yrs)	-0.004		0.004			
France * Number of children	-0.030	**	0.010			
France * Age of youngest child (<7 yrs)	0.003		0.003			
Ireland * Number of children	-0.003		0.013			
Ireland * Age of youngest child (<7 yrs)	0.004		0.004			
Italy * Number of children	-0.042	**	0.010			
Italy * Age of youngest child (<7 yrs)	0.004		0.004			
Portugal * Number of children	-0.032	**	0.010			
Portugal * Age of youngest child (<7 yrs)	0.004		0.004			
Spain * Number of children	-0.036	**	0.009			
Spain * Age of youngest child (<7 yrs)	0.005		0.005			

N observations	753,830	753,830
N couples	14,974	14,974

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data, male partner 19-48 years, female partner 19-45 years, no students.

Notes: Controls (not shown): age of wife (linear and squared), bad health of husband, bad health of wife, married, regional male unemployment, regional female unemployment, country (Model 1), EPL (Model 2), benefits to families (Model 2), support for working mothers (Model 2), means-tested benefits (Model 2).

† p<0.10; * p<0.05; ** p<0.01

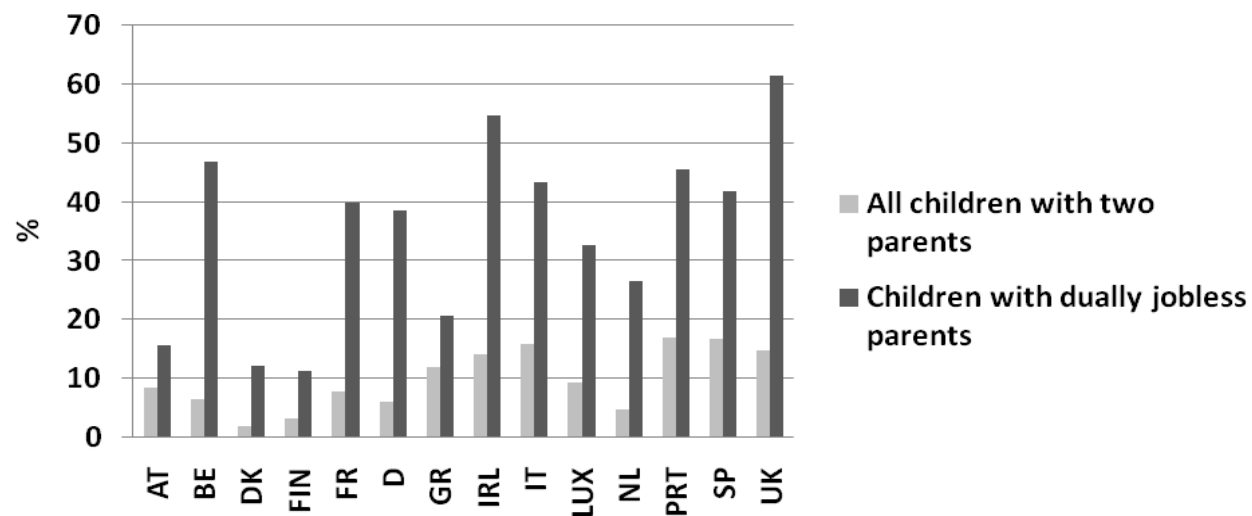


Fig. 1 Poverty rates (%) among children living with two parents and with two jobless parents, averaged over 1994-2000. *Note:* Poverty defined as equivalence scaled household incomes below 50 % of the national median. Parents aged 65 years or less. *Source:* Eurostat (2003) European Community Household Panel, waves 1-8.

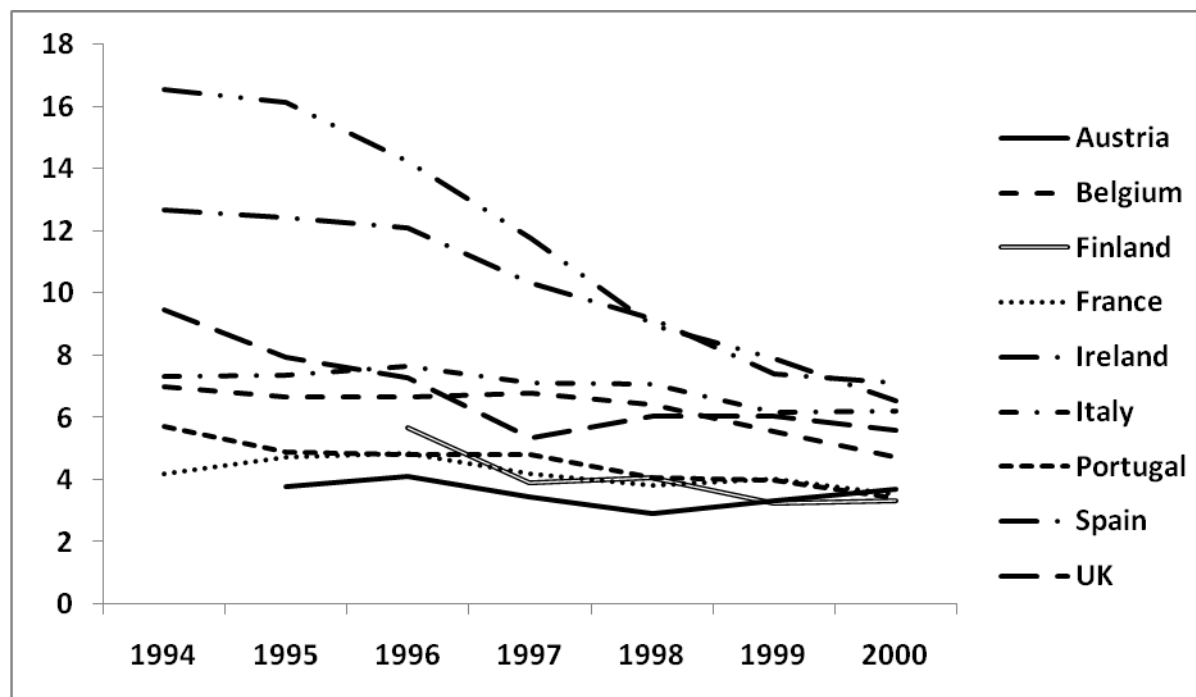


Fig. 2 Children with dually jobless parents, % of all children with two (step)parents. *Source:* Eurostat (2003) European Community Household Panel, waves 1-8, monthly data, male partner 19-48 years, female partner 19-45 years, no students.

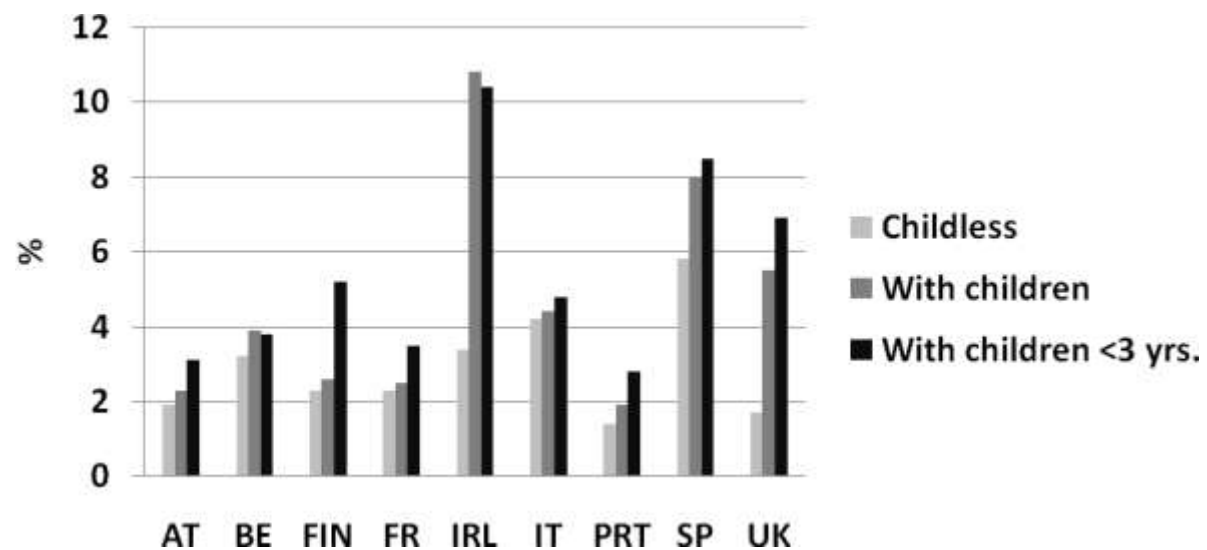


Fig. 3 Dual joblessness rates (%) of childless couples, couples with children, and couples with small children (<3 years). *Source:* Eurostat (2003) European Community Household Panel, waves 1-8, monthly data, male partner 19-48 years, female partner 19-45 years, no students.

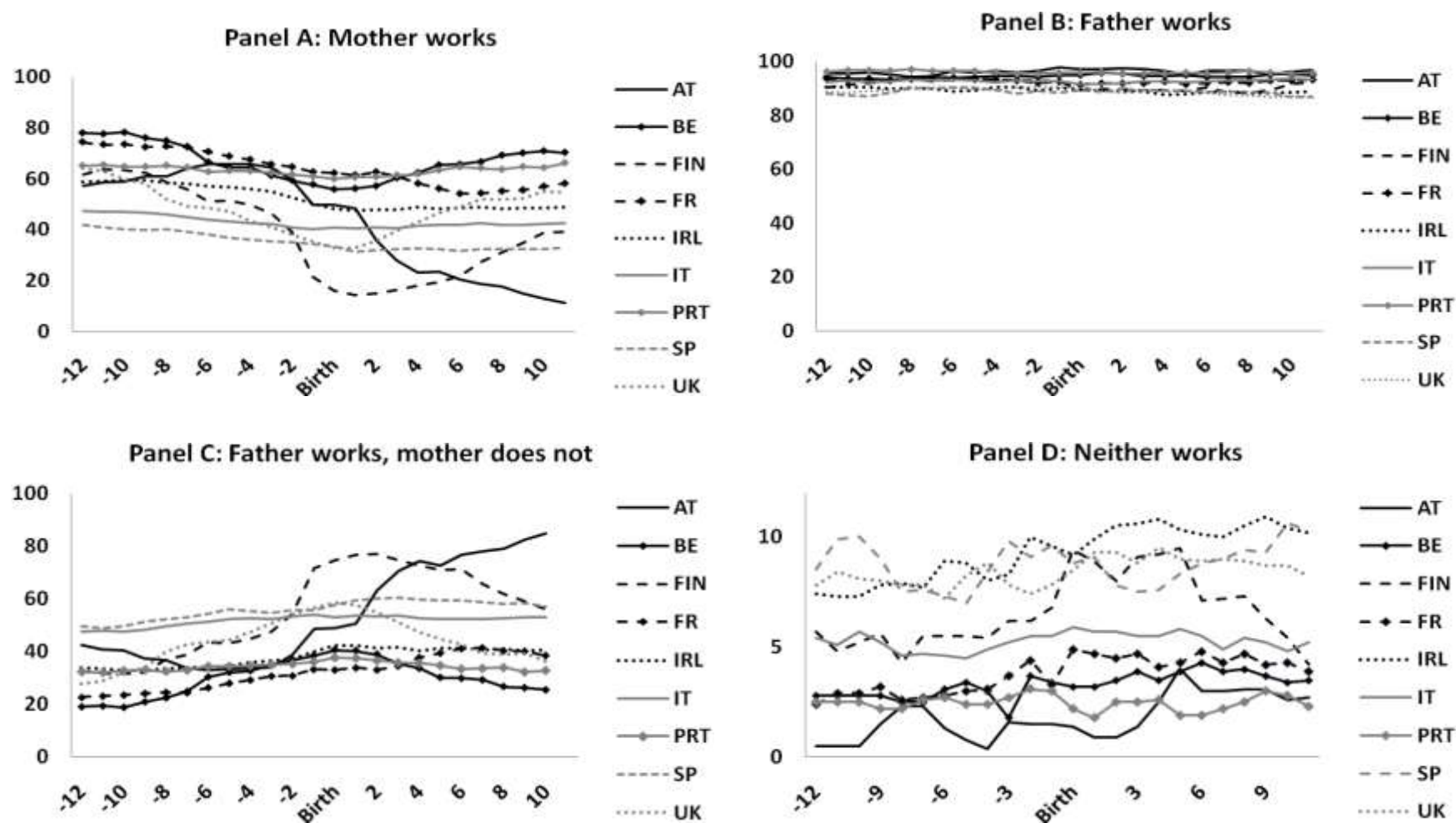


Fig. 4 Working patterns of parents and couples (%), months before and after childbirth. *Source:* Eurostat (2003) European Community Household Panel, waves 1-8, monthly data, male partner 19-48 years, female partner 19-45 years, no students.

