

# DEM Working Papers

N. 2019/14

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# MOTHERS' AND CHILDREN'S EMPLOYMENT IN EUROPE. A COMPARATIVE ANALYSIS

Gabriella Berloff, Eleonora Matteazzi, Alina Şandor, Paola Villa\*

## Abstract

This paper presents a comparative analysis using EU-SILC data of the correlation between mothers' employment during adolescence and their children's probability of being workless (i.e. either unemployed or inactive) at about 30 years of age in 19 European countries. By estimating various multilevel logit models, the paper shows that, on average, having had a working mother is associated with a reduction in the probability of being workless of about 25 to 35 percent for daughters and 20 to 25 percent for sons. Cross-country differences in these correlations are much larger for daughters than for sons, in particular for daughters with children, and do not reflect the usual country groupings. Our results suggest that mothers' employment not only influences preferences for labor market participation, but also some attitudes or skills that favor their children's successful integration into the labor market. Moreover, the observed correlation between mothers' employment and their daughters' labor market outcomes is *lower* in contexts where the burden of childcare falls more on women, highlighting that the presence of constraints on women's choices may conceal mothers' influence on daughters' preferences.

**Keywords:** young adults' worklessness, mothers' employment, intergenerational correlation, gender norms, Europe.

**JEL classification codes:** J16, J62, D19

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**Funding:** This study is based on research carried out within the STYLE project (EU-7FP, <http://www.style-research.eu/>). This project received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 613256.

## INTRODUCTION

The role of the family of origin in shaping youth labor market outcomes has attracted increasing attention in the past few decades. The issue is of particular interest in Europe where a relatively large number of young adults have found it increasingly difficult to find secure employment in the aftermath of the Great Recession of 2008-2009 and austerity. Among young people aged 20–34 the proportion of NEETs (Not in Employment, Education or Training) in the EU-28 jumped from 16.5 percent in 2008 to 20.1 percent in 2013, then decreasing to 17.2 percent in 2017.<sup>1</sup> Being NEET can have long-term scarring effects on labor force participation and future earnings due to the non-accumulation of human capital in the early stage of working life. Various individual characteristics (i.e. low education, belonging to certain ethnic minorities, poor health) all increase the probability of being NEET. And these characteristics tend to be related to the family's social background (Massimiliano Mascherini, 2019). Various empirical analyses at the country level have shown that children's NEET status is closely related to their fathers' or mothers' employment status during adolescence. But we know little about the extent to which these effects vary across European countries, and even less about the distinct roles exercised by mothers and fathers for daughters and sons.

The results of a large-scale European research project on strategic transitions for youth labor in Europe (Jaqueline O'Reilly, Janine Leschke, Renate Ortlieb, Martin Seeleib-Kaiser, and Paola Villa 2019) show that young people's disadvantages in the labor market cannot be simply ascribed to a series of socioeconomic characteristics of an individual and the institutional settings framing youth transitions. The analyzes show that it is important to go beyond conventional perspectives centered solely on the sphere of economic production (including vocational and educational training, labor market flexibility, active and passive policies, mobility) by directing attention to the sphere of 'social reproduction', and in particular to the very significant role of the family in shaping youth labor market transitions. A number of chapters show that parental employment status played a significant role in the shaping of labor market outcomes among young adults in Europe in the years of the crisis. On the one hand, the family of origin could provide economic support and/or help their jobless adult children to find work (with the side effect of increasing inequalities of opportunities among young people). Moreover, the family of origin plays a crucial role in the transmission of cognitive and non-cognitive skills, as well gender norms during adolescence, shaping the attitude of young women and men towards employment, welfare dependency, and female participation. Gabriella Berloff, Eleonora Matteazzi and Paola Villa (2019) showed that having had a working mother during adolescence reduces the likelihood of being workless for both daughters and sons at about 30 years of age in various European country groups, whereas the effects of fathers' employment status are less marked. These results are somewhat surprising, and highlight the importance of examining how national-

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<sup>1</sup> Eurostat database, data code edat\_lfse\_20, extracted 17.11.2018.

specific socioeconomic structures (i.e. labor market institutions, gender norms and welfare systems) affect the influence of mothers on their daughters' and sons' labor market outcomes as young adults.

In this paper, we consider a large number of European countries to explore cross-country differences in the role of mothers in their adult children's labor market outcomes, doing so separately for daughters and sons. We focus on the role of mothers because they play a crucial role in the transmission of gender norms, and consideration of this transmission is essential to gain better understanding of differences between sons' and daughters' participation decisions. Moreover, very little is known about the influence of mothers on their adult sons' labor market outcomes. Studies on the intergenerational links in labor force participation tend to focus on the mother-daughter relationship. The mother-son relationship is considered when the purpose is to understand the intergenerational link in participation between the mother and the daughter-in-law. It follows that mothers' role in sons' labor market outcomes as young adults is unexplored.

As well known, there is a large degree of heterogeneity among European countries in terms of (i) prevailing gender norms and social policies that favor women's participation, and (ii) the impact of the Great Recession on young adults' labor market outcomes. However, most studies on the intergenerational transmission of disadvantages, as well as those focused on the transmission of gender norms, consider a single country. International comparative evidence on the effect of mothers' employment on their adult children's outcomes is very limited, leaving unexplored the role of institutional characteristics and labor market conditions.

This study analyzes the extent to which mothers' employment status during children's adolescence affects their probability of being workless (unemployed or inactive) at around 30 years of age. It does so by exploiting the 2011 ad-hoc module of the European Union Survey on Income and Living Conditions (EU-SILC) on intergenerational transmission of disadvantages. We focus on young adults because individuals' initial labor market experience is crucial in determining long-term outcomes (participation and earnings). It is also a lifecycle phase in which the influence of the family of origin on young people's cognitive and non-cognitive skills, developed during adolescence, plays a fundamental role. Labor market outcomes later in life (e.g. for individuals aged 40-50) depend to a large extent also on individuals' own work experience, and the influence of the family of origin tends to fade as the lifecycle evolves. Moreover, for daughters, extending the analysis to older ages (up to 40-50 years) would imply considering the employment status of women who made their participation decisions in quite different socio-economic contexts (i.e. overall female participation rate, societal gender norms, and social policies).

2011 is an interesting year to study precisely because it is characterized by high and increasing unemployment among young adults. As Lindsey Macmillan (2013: 10-11) highlighted, non-cognitive skills (i.e. traits, attitudes, aspirations) associated with employment become more important as

unemployment, and therefore the supply of labor that employers can choose from, increases. And parents play a role in the formation of these soft skills, developed during childhood and adolescence (Flavio Cunha, James Heckman, Lance Lochner and Dimitriy Masterov 2006).

The contribution of this work is threefold. First, we analyze the extent to which the experience of maternal employment during adolescence matters for young adults' labor market outcomes (sons and daughters, separately), before and after controlling for factors which may affect individuals' employment opportunities, including education and socioeconomic national conditions. Second, we document the extent to which these intergenerational correlations vary across European countries, characterized by different national-specific socioeconomic structures (i.e. labor market institutions, economic conditions, gender norms, and social policies). Third, we present two supplementary analyses documenting differences between young women with/without children, and between unemployed and inactive women.

## BACKGROUND LITERATURE

Our study contributes to two different strands of literature. The first concerns the limited number of studies that examine the intergenerational correlations of employment statuses and the very new (and limited) literature focusing on cross-country differences in these correlations. The second is the very large literature on gender norms.

### **The intergenerational transmission of disadvantages in the labor market**

Empirical evidence on the correlation between parents' and children's employment statuses generally refers to same-gender relations within single countries. Some studies consider the intergenerational link between mothers' and daughters' labor market participation, showing that daughters of working mothers are more likely to be in paid employment than daughters who have grown up with non-working mothers (Lidia Farré and Francis Vella 2013, Melinda Sandler Morrill and Thayer Morrill 2013, and Claudia Olivetti, Eleonora Patacchini and Yves Zenou 2018, for the US; David Johnston, Stefanie Schurer and Michael Shields 2014, for the UK). Similarly, other studies document a (negative) effect of fathers' unemployment on their sons' worklessness (Donal O'Neill and Olive Sweetman 1998, and Lindsey Macmillan 2014, for the UK; Miriam Mäder, Regina Riphahn, Caroline Schwientek and Steffen Müller 2014, for Germany).

A few studies consider all children, without distinguishing between sons and daughters. Tyra Ekhaugen (2009) documented a large and statistically significant intergenerational correlation in unemployment in Norway: on average, a child who had at least one unemployed parent as a teenager had a probability of unemployment roughly 60 percent higher in his/her mid-20s than that of a child whose parents were not unemployed. Paul Gregg, Lindsey Macmillan, and Bilal Nasim (2012) found that fathers' job loss during recessions reduced the educational attainment and early labor market

attachment of their children in the UK, with long-term consequences. For the same country, Wouter Zwysen (2015) showed that children of non-working fathers worked less and developed a less negative attitude towards being out of work. Father's worklessness was associated with lower employment probabilities and fewer hours for both sons and daughters. Nicolas Hérault and Guyonne Kalb (2016), using Australian data, examined the intergenerational correlation of labor market outcomes, considering simultaneously the gender of parents and that of their children. They found evidence of a positive correlation of labor market outcomes between fathers and sons and between mothers and daughters, but little evidence of other cross-gender intergenerational correlations.

All the above-mentioned studies considered a single country. Very recently, three studies have analyzed the intergenerational correlation of labor market disadvantages in a cross-country perspective. Kathleen McGinn, Mayra Ruiz Castro and Elisabeth Long Lingo (2019) explored the relationship between maternal employment during their children's adolescence and adult daughters' and sons' employment (and domestic) outcomes for a sample of 29 countries. Results reveal that daughters raised in families where mothers were employed (when they were 15 years old) had a higher likelihood of being employed, whereas no significant impact emerged for sons. However, only the average effect over the pooled sample of countries was estimated, without showing how it varied across countries.

Berloffa, Matteazzi and Villa (2019) considered the employment status of young adults (aged 25-34 years) in five groups of European countries (Nordic, English speaking, Continental, Mediterranean, Central and Eastern Europe - CEE), and showed that having had a working mother during adolescence reduced the likelihood of being workless for both daughters and sons in all country groups, except in the Nordic countries; in contrast, the effects of fathers' employment status were less widespread. Interestingly, the relative effect of mothers' employment on their daughters' workless probability was similar in country groups that are quite different in terms of the socioeconomic context. Again, no evidence was provided on how these effects varied within country groups.

Some evidence that differences among countries may be relevant emerges from the study by Lindsey Macmillan, Paul Gregg, John Jerrim, and Nikki Shure (2018) that examined the association between experiencing a jobless household during adolescence (at the age of 14/15) and various adult outcomes (education, joblessness, and poverty), in 16 European countries. They showed significant differences among countries in this association, separately for sons and daughters. In particular, they found evidence of large penalties across all three outcomes in some countries while in others there were no longer-term associations with these three indicators of social exclusion. The longer-term associations by gender were not clear-cut. For example, in Spain and Sweden there was a moderate association for both sons and daughters, while this association was strong in Ireland (followed by Belgium and Italy); the association was very strong for sons in Belgium, and for daughters in Greece.

To summarize, some countries appear more successful than others in reducing young adults' disadvantages linked to parental employment status during adolescence, but the specific role played by the socioeconomic context remains unexplored. The expression 'socioeconomic context' is used here to refer to the whole set of factors (i.e. labor market conditions, care regime and social policies for working parents, societal cultural values and attitudes towards labor market participation) within which young adults' decisions about labor market participation are taken, and labor market outcomes are determined, eventually mediated by the parental role. In order to understand how the socioeconomic context could influence the intergenerational correlation in employment statuses, it is necessary to consider the channels through which parents' employment status experienced during adolescence can affect their children's labor market outcomes in early adulthood.

Gabriella Berloff, Eleonora Matteazzi, and Paola Villa (2017) presented a detailed discussion of the various channels through which mothers' and fathers' disadvantage in the labour market (i.e. not in employment) during their children's adolescence may affect the latter's employment outcomes as young adults, advancing some hypotheses on the differences of these effects for sons and daughters, and across country groups. There are two main channels through which a mother's employment status experienced during adolescence can affect her children's labor market outcomes in early adulthood (beyond its effect on education and a pure income effect). First, experiencing maternal employment while growing up may impact on offspring's preferences, values, and attitudes. We label this the 'cultural channel'. Specifically, maternal work experience during adolescence can play a role in shaping the conceptualization of gender roles, as well as the sense of stigma associated with worklessness and attitudes towards relying on welfare benefits.<sup>2</sup> We will discuss the implications of this channel in more details, below, when the literature on gender norms will be considered. Second, the inheritance and development of cognitive and non-cognitive skills (i.e. soft skills)<sup>3</sup> within the family have been acknowledged to influence children's educational and labor market outcomes (Samuel Bowles and Herbert Gintis 2002; James Heckman, Jora Stixrud and Sergio Urzua 2006). Parents play a role in both the genetic transmission and the development process of these skills. Indeed, Macmillan (2013) shows that non-cognitive skills and behavioral outcomes partly account for the intergenerational transmission of worklessness in the UK, and that these skills seem to matter more as unemployment rises. Soft skills may affect participation because individuals with lower self-esteem

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<sup>2</sup> A large body of evidence demonstrates strong intergenerational correlations or causal effects in the use of various types of welfare programs, including social insurance and safety net programs (Gordon Dahl, Andreas Ravndal Kostól, and Magne Mogstad 2014). Moreover, there is evidence that young people are more likely to oppose generous social benefits and to believe that social inequality stems from individual characteristics if (i) their mothers support these views; (ii) their mothers were employed while they were growing up; and (iii) their families never received welfare (Juan Barón, Deborah Cobb-Clark and Nisvan Erkal 2015).

<sup>3</sup> Non-cognitive skills are personal characteristics (motivation, self-discipline, communication skill, energy, impulse control, perseverance, sociability, confidence, self-esteem, decisiveness) which are largely genetically inherited or developed within the family (Heather Joshi 2014).

and motivation are more likely not to participate. They may also influence individuals' unemployment probability by making it more difficult to find a job or easier to lose it. This type of influence should be stronger in periods of high unemployment and in countries with selective education systems and/or competitive labor markets.

### **Literature on gender norms**

A review of the literature on gender norms is beyond the scope of this paper. Therefore, we limit the discussion to those aspects that are relevant to our research questions. A first group of studies showed that women's own views about gender roles affect their labor market participation. Dante Contreras and Gonzalo Plaza (2010) analyzed the low female participation in Chile. By combining standard variables (age, education, presence of children, etc.) and women's cultural variables that may affect female participation, they documented a negative and statistically significant association between gender norms and women's participation. In short, if a woman has incorporated traditional gender norms, she has a lower probability of participating. Rachel Fernández (2007) and Rachel Fernández and Alessandra Fogli (2009) studied the effect of culture (i.e. beliefs and preferences of individuals towards women's paid work) on the labor supply of second-generation immigrant women in the US.<sup>4</sup> Since the economic and institutional environment in which these descendants make choices is the same across the different immigrant groups (controlling for geographic variation within the country), difference in their choices should reflect differences in women's preferences and beliefs related to their country of origin. They found that cultural proxies have quantitatively significant effects on women's work outcomes. Finally, Farré and Vella (2013) used a sample of mother-child pairs for a cohort of women living in the US in 2006 to show that, while attitudes play a role in a woman's work decision, the effect is not direct and it seems to operate through educational or other lifetime decisions.

This evidence prompts the question of how these attitudes and preferences towards gender norms are formed. Since the innovative contribution by Raquel Fernández, Alessandra Fogli and Claudia Olivetti (2004), an increasing number of papers have considered the experience of having had a working mother during childhood as a mechanism for preference transmission.<sup>5</sup> This strand of literature addresses the formation of attitudes towards gender roles by considering their transmission within the family of origin across generations (mother-daughter, mother-son and daughter-in law, or mother-children). Farré and Vella (2013) found evidence of a statistically significant relationship

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<sup>4</sup> Their approach attempts to separate the influences of culture from those of institutions and traditional economic variables by studying the descendants of immigrants in a given country.

<sup>5</sup> These authors showed that men whose mother worked while they were growing up tended to be married to women who also worked. Having a working mother had a quantitatively important effect: it increased the probability that a man's wife worked by 32 percentage points (from 39 to 71 percent). They interpreted this as evidence that preference transmission may have played an important role in the change in female labor supply in that men brought up by a working mother either preferred a working spouse or were themselves preferred by women who wanted to work.

between a mother's and her children's inherited views regarding women's role in the family and in the labor market. In particular, women with more (less) traditional views have children who have more (less) traditional views. Also, they found that a male's attitudes toward the role of women in the labor market are strongly correlated with the work behavior of his wife. These results suggest that the transmission of gender role attitudes contributes to the persistence of economic status across generations. Olivetti, Patacchini and Zenou (2018) studied whether a woman's labor supply as a young adult is shaped by the work behavior of her adolescent peers' mothers. They assumed that gender-role identity is shaped during adolescence, and they investigated labor supply decisions in adulthood (for individuals aged 26-32). They found that the work behavior of mothers (own and peers') during adolescence has no influence on the labor supply of young men, while it affects adult daughters' labor supply decisions, and more significantly when they have children. Using data for 29 countries, McGinn, Ruiz Castro and Long Lingo (2019) showed that sons raised by employed mothers were more involved in care work.

An important aspect that emerges from the study by Olivetti, Patacchini and Zenou (2018) is that women's attitudes and preferences towards gender norms are influenced not only by their family of origin, but also by the values and attitudes prevailing in their place of socialization and in society at large. Indeed, this study showed that a woman's labor supply as a young adult is shaped by the work behavior of her adolescent peers' mothers. Adopting a macro-level perspective, Stephanie Seguino (2007) examined the effects of change in women's economic activity on trends in gender norms and stereotypes. Using responses from World Value Surveys over a fifteen-year period for 70 countries, she found that women's increased share of employment has a positive impact on attitudinal shifts in a gender-equitable direction with a 5-year lag. Seguino's (2007) analysis considers a phenomenon at the macro level. However, it has implications for the way in which the socioeconomic context influences individuals' gender norms at the micro level. If we interpret the 'lag' as a 'generation', this hypothesis implies that a higher share of female employment reduces the strength of the intergenerational transmission of gender role attitudes between mothers and daughters. When female employment increases, daughters of non-working mothers are more likely to behave differently from their mothers, i.e. to participate in the labor market, both because the social norm changes (a social norm more favorable to women's participation induces more women to participate, even if their mother did not work during adolescence) and because institutions change (policies and measures are introduced/improved to meet the needs of working parents, hence to facilitate women's participation).

Societal gender norms influence women's preferences, but also their 'constraints' (within the household or in society at large, through services and social policies). Bina Agarwal (1997: 37), in a seminal article on bargaining and gender relations, pointed out that the role played by social norms "*in setting limits to bargaining, in determining bargaining power for that which can be bargained over, and in influencing how bargaining gets conducted*" had received inadequate attention in the

formulation of household models or in the discussion of the bargaining framework and gender relations. But decisions about partners' time allocation is the result of intra-household bargaining. For example, Immaculada García-Mainar, Jose Alberto Molina and Victor Montuenga (2011) analyzed gender differences in the allocation of time spent caring for children in five European countries (Denmark, France, Germany, Italy and Spain), considering explicitly the role of women's relative bargaining power within the household. Juan Carlos Campaña, Jose Ignacio Giménez-Nadal, and José Alberto Molina (2018) examined the influence of societal gender norms on time-allocation decisions of men and women within households in Mexico, Peru and Ecuador. They found that countries with less egalitarian gender norms have larger gender differences in total work. Constraints within the household interact also with institutional arrangements in each country. Rebecca Pearse and Raewyn Connel (2016), on the basis of a rich and varied literature review, argued that gender norms are embedded not only in personal attitudes and conduct but also in institutional arrangements (i.e. organizational structures and practices, discursive systems, commercial transactions, and collective identities). İpek İlkkaracan (2012) argues that *'whether women engage in the labor market or not depends on their attitudes toward paid work as much as the obstacles that they face'* (p.22). Examining the evolution of female labor force participation in Turkey, she finds that the institutionalization of the gendered labor division and roles in Turkey act as binding constraints on women's labor supply. Wolfgang Keck and Chiara Saraceno (2013) showed that social policies, an important component of a more complex institutional and cultural framework, shape options and constraints that affect female labor market participation.

The way in which societal influence on women's preferences and constraints may affect the observed intergenerational correlation is not simple. In contexts where the prevailing gender norm favors women's participation, the influence of working mothers on their children's preferences - being raised in a favorable environment - is likely to be significant, as they will not perceive a conflict between motherhood and employment. Hence, daughters of working mothers are likely to follow their mother's example. In contrast, the influence of non-working mothers on their daughters' preferences could be relatively low because of the contrasting effect of 'societal' preferences. As a result, differences in preferences between daughters of working and non-working mothers may not be too large. At the same time, in these contexts, women are likely to face less constraints both within the household and in society at large. For example, they may have more bargaining power, and labor market institutions may facilitate their participation through less discrimination, more flexible work-arrangements, and higher availability of affordable child care services. This would allow women's preferences for paid work to be reflected in their actual choices. Hence, if daughters of working mothers are more willing to participate in the labor market than daughters of non-working mothers, this difference would be apparent in different observed outcomes (employment statuses), even though this difference may not be very large.

In contexts where the prevailing gender norm is relatively traditional, the influence of working mothers on their daughters' preferences may be lower because of both the contrasting effect of the 'social' preferences, and because these daughters may have experienced their mothers struggling to balance work and family. Hence, even in these contexts, differences in preferences between daughters of working and non-working mothers should not be too large. However, in traditional contexts, women are likely to face more constraints both within the household and in society at large (less bargaining power, more discrimination, less flexible work-arrangements, scarce child care services, etc.). This would prevent women's preferences for paid work from being reflected in their actual choices, i.e. daughters of working mothers may not participate in the labor market even if they would like to do so because institutional arrangements constrain their choices. Hence, in these contexts the observed correlation may be small, not because there is no preference transmission, but because preferences are not reflected in observed outcomes (employment statuses). This suggests that it would be wrong to interpret a small intergenerational correlation as evidence of a weak mother-daughter transmission of gender norms.

The effects of working mothers (during adolescence) on their adult son's labor market outcomes are somehow unexplored. There is a broad agreement in the literature that men raised by an employed mother have significantly more egalitarian gender role attitudes. On the one hand, this is a significant factor in the increase in female labor force participation over time that supports the propagation mechanism, as originally argued by Fernandez, Fogli and Olivetti (2004). On the other hand, it does not provide information on the effect of mothers' employment during adolescence on their son's labor market position. The very few studies that consider the role of maternal employment on the adult sons' employment outcomes either do not find any significant effect (McGinn, Ruiz Castro and Long Lingo 2019; Olivetti, Patacchini and Zenou 2018: 22) or the effect found is much smaller with respect to that of daughters (Berloffá et al. 2019). These results may be explained by two distinct factors: (i) gender-role identity, by and large formed while growing up, is modelled by the same sex parent (for sons, fathers' behavior in the labor market is more important than that of mothers); (ii) working mothers may pass on to all their children, sons and daughters, important non-cognitive skills that may play a key role in entering employment. For example, Bart Defloor, Luc Van Ootegem and Elsy Verhofstadt (2015) showed that the quality of the first job depends to a large extent on personal efforts, but some circumstances, like mother's education, have a considerable impact on young adult's effort. Furthermore, Juan Barón, Deborah Cobb-Clark and Nisvan Erkal (2015) found that young people are more likely to oppose generous social benefits and to believe that social inequality stems from individual characteristics if their mothers were employed while they were growing up.

The empirical section will analyze the intergenerational correlation in employment status between mothers and daughters/sons, and how it varies across European countries, trying to shed some light on the role played by the socioeconomic context.

## DATA AND METHODOLOGY

This paper uses the ad-hoc module on intergenerational transmission of disadvantages of the 2011 EU-SILC cross sectional data, which provides information on parental education and occupation when the individual was around 14 years of age. We selected a sample of young adults aged 25-34 and modelled their probability of being workless (unemployed or inactive) as a function of their parents' employment status and type of occupation during their adolescence, as well as of other individual and country characteristics. Before presenting the models that we estimated, two methodological choices need to be clarified: i) the choice of considering a binary classification of employment status (working vs. non-working) for both parents and adult children; iii) the use of multilevel econometric models.

We used a binary classification of parents' employment status (working vs. non-working) for two reasons. First, this distinction is a reasonable proxy with which to distinguish between mothers and fathers with poor and with good labor market histories when the information about parents' main activity status are based on the recall-based nature of the childhood experience (Hérault and Kalb 2016). Indeed, despite referring to parental employment status at a specific point in time, the reported information is likely to capture sustained rather than transitory employment conditions (Macmillan et al. 2018: 341), generally leading to very small percentages of reported unemployed mothers and inactive fathers. Indeed, in our sample, only 1.5 percent of mothers were "unemployed" and only 1.3 percent of fathers were "inactive".<sup>6</sup> Second, we did not have information on parents' working time (when the child was 14 years old). Hence, it was not possible to identify the so called 'one-and-a-half breadwinner model' (with mothers employed part-time) and distinguish it from the 'dual-earner couples' based on the 'individualized worker model' (Mary Daly 2011).

We adopted a binary classification for the employment status of the young adults also for two reasons. First, since the empirical analysis considers a large number of countries characterized by distinct labor market institutions, the differentiation between unemployment and inactivity could be misleading. In particular, discouragement effects or entitlement rules for welfare benefits may bias the response of individuals. Furthermore, the incidence of discouraged workers (i.e. individuals available to work but not looking for a job), usually classified as inactive, could be very different in different countries, and their behavior is generally closer to that of unemployed rather than inactive individuals (Mario Centeno and Pedro Alfonso Fernandes 2004). Second, in many countries, the sample of inactive young men was too small to allow for a separate analysis of inactive and unemployed

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<sup>6</sup> Only 1.4 percent of parents, mainly fathers, were defined as "retired". In principle, they could be included in the 'working' group, because they had some labour market experience which may have affected their relationship with their adolescent child. However, for a child, the experience of living with a retired father may be different from that of living with a working father. Hence, we included retired parents in the 'non-working' category. In any case, we checked that our results were not affected by this choice. Note also that for mothers, on whom we focus our analysis, the retired group is of negligible size (0.4 percent).

individuals. Since we were interested in comparing the role of mothers' employment status for daughters and sons at the country level, we preferred to pool unemployed and inactive young adults, at least initially. However, we performed a supplementary analysis that distinguished among employed, unemployed and inactive young women for the countries in which the sample size was large enough.<sup>7</sup>

We used multilevel logit models to analyze young adults' probability of being workless as a function of parents' employment and occupation during adolescence, individual and country characteristics. Multilevel models provide an interesting framework in which to account for both individual and contextual determinants of the likelihood of being workless. Indeed, the latter is influenced by national institutional contexts, which are highly heterogeneous among European countries. This heterogeneity could be accounted for by running separate regressions for each country. In this way, we would allow for country-specific effects of individual characteristics, but we would not obtain an estimation of their 'average' effect across countries. More importantly, the effect of country-level characteristics could be estimated only by using a two-step estimation strategy (i.e. by recovering probabilities, risk ratios or odds ratios from the country level regressions and then regressing them on contextual variables). Alternatively, we could estimate a single model for all countries including country dummies (and, possibly, interactions of individual characteristics with these dummies). However, country dummies would capture the entire macro-level variability, making it impossible to assess the role of the specificities in the socioeconomic national context. Multilevel models appeared more appropriate for our analysis, because their goal is not to *control* for contextual effects, but to *interpret* and *compare* these effects. Indeed, as underlined by Christine Erhel and Mathilde Guergoat-Larivière (2013: 83), "*the relatively strong heterogeneity of labor market institutions across countries makes it particularly relevant to use multilevel modeling*". Note that the cross-sectional structure of our database prevents us from correcting for potential endogeneity biases resulting from a reverse causality between labor market statuses and some individual characteristics. Hence, as is commonly the case in both intergenerational and international comparative studies, our analysis aims at describing these relations, not at providing clear-cut causality. Following Macmillan et al. (2018: 337) "*there is significant value in trying to better understand how such intergenerational associations vary across countries, before attempting to understand why.*" Hence, the words "effect" or "influence" are used here with a descriptive meaning.

In order to illustrate the association between mothers' employment status and their children's odds of being workless, we proceeded through five steps.

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<sup>7</sup> In the age group considered, there were also individuals still enrolled in education. We decided to drop them because they were too few (3.9 percent of our sample) to allow estimation of a multinomial model. Other analyses based on the same dataset but on country groups had shown that this does not affect results (results available from the authors upon request).

The first step focused on the mother-daughter relationship in 19 European countries, estimating four models for young women's probability of being workless.<sup>8</sup> In model 1 we included only a random intercept (to capture cross-country differences in the likelihood of being workless), individual age (to account for differences across the 25-34 age range), and parental background variables, in particular father's and mother's employment status and type of occupation,<sup>9</sup> and a dummy variable for having lived in a lone-parent family at the age of 14. Since we were interested in examining differences among countries in the association between mothers' employment and their daughters' labor outcomes, we also included a random slope for the mother's employment status.<sup>10</sup> In this model, the association between parents' background and their daughters' outcomes can be interpreted as a 'gross' effect, i.e. as an *overall* influence, including its effect on their daughters' education and other individual choices correlated with their labor market outcomes.

In model 2 we estimated the 'net' effect associated with parental employment and occupation, by adding various individual characteristics and family arrangements: education, citizenship, potential labor market experience, cohabiting with a partner, the partner's employment status, and a dummy variable for the presence of children. Since the relationship between these characteristics and labor market outcomes can vary among countries, controlling only for the average effect in the pooled sample may cause the residual variation to be captured by other variables, and in particular by the random slope associated with mother's working status. Hence, we included also a random slope for individual educational level (tertiary education dummy).<sup>11</sup>

Young adults take their decisions within a socioeconomic context (identified at the national level) that may enhance or constrain their individual choices. Hence, in models 3 and 4 we added some socioeconomic variables at the country level. These variables (that had the same values for all individuals in a given country) are likely to influence young women's probability of being workless. In model 3 we added the following indicators: i) young adults unemployment rate (separately for men

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<sup>8</sup> The choice of countries depended on both sample size issues and the availability of the macro-level variables that we used in our subsequent analysis. For sample size reasons, Estonia, Latvia and Lithuania were grouped together (i.e. Baltic countries).

<sup>9</sup> We did not control for parents' education because it is highly correlated with occupational variables. We carried out a robustness check by estimating all models with controls for parents' education rather than type of occupation. The results were very similar to those presented below. In particular, parents' education had no residual effect on sons' and daughters' worklessness odds when we controlled for individual characteristics, and it did not affect the magnitude of the correlation between parents' employment status and children's employment outcomes.

<sup>10</sup> We could not include a random slope for the father's employment status because its cross-country variation was too small.

<sup>11</sup> We could include also random slopes for other individual characteristics, but this would have greatly increased the complexity of the model. However, in order to check whether our results depended on cross-countries differences in the correlations between individual characteristics and employment status, we also performed separate regressions for each country. The odds ratios associated with the 'working mother' dummy are comparable to those obtained from the multilevel estimation. Results are available from the authors upon request.

and women) in order to capture the difficulties faced in 2011 in entering paid work; ii) a measure of views regarding the proper role of women in the labor market based on the question: “*When jobs are scarce, should men have more rights to a job?*”<sup>12</sup>; iii) the availability of childcare services for small children (below 3 years). The first two variables were expected to influence participation decisions and unemployment risk for all young women, independently of the presence of children, whereas the third could affect the labor market participation of young women with children. In model 4 we added: iv) paid leaves for mothers and paid leaves reserved to fathers, to capture the attention given, in terms of ‘money’ to mothers and fathers for their double burden (paid and unpaid work); v) maximum length of leaves for mothers to capture the attention given in terms of ‘time’ to working mothers. More details on all these variables are reported in the Appendix.

Some of these socioeconomic variables are highly correlated.<sup>13</sup> Countries with more egalitarian views about women’s paid work also have more child-care services, shorter paid leaves for mothers, and longer leaves reserved to fathers. As mentioned in the literature review, the causal relationship between these macro variables could go in either direction: on the one hand, individuals in countries with more egalitarian gender norms could ask for and obtain more childcare services and longer leaves for fathers; on the other hand, more childcare services and longer leaves for fathers could boost female participation, leading to more egalitarian gender norms. We could not distinguish between these cases in our analysis, but we could observe whether some of these variables retained an *independent* residual effect on individuals’ worklessness odds, once the other variables had been controlled for.

In the second step of our analysis, we examined the way in which the association between mothers’ employment status during adolescence and their daughters’ labor market outcomes varies across different socioeconomic national contexts. We did so by re-estimating model 4 with interaction terms between each macro variable and the working-mother dummy (models 5 to 10). We used model 4 as our baseline model because, when introducing interactions in multilevel models, it is important to allow also for a direct effect of each variable that enters the interaction term. The estimates associated with these interaction terms indicate whether the effect of maternal employment is somehow correlated with some specific institutional characteristics of the countries included in the analysis.

The third step considered the mother-son relationship by estimating a similar sequence of models for young men’s probability of being workless. For reasons of consistency, we adopted the same model specifications as for women, but considering male unemployment rates (25-34).

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<sup>12</sup> This question was used by Seguino (2007) as a measure of the degree of adherence to norms about gender division of labor, gender power, and men’s and women’s relative rights of access to resources and opportunities. See also Bruno Arpino, Gøsta Esping-Andersen and Léa Pessin (2015).

<sup>13</sup> In our sample, the correlation between ‘egalitarian gender norms’ and child care services was 0.61; that between child-care services and the length of paid maternal leave was -0.49; that between child-care services and the length of paternal leave reserved to father was 0.49; etc.

Finally, we completed our study with two supplementary analyses for women. Following Olivetti, Patacchini and Zenou (2018), we inspected the extent to which the association between mothers' employment status and their daughters' labor market outcomes varied for women with and without children, by estimating models 4 to 10 separately for these two groups.<sup>14</sup> Then we distinguished between unemployed and inactive women, and estimated some multilevel multinomial logit models, including only those countries whose sample size was large enough to allow for this distinction (i.e. 13 countries). All multilevel multinomial logit models included a random intercept and a random slope for the working mother dummy, and were estimated using the 'gsem' package in Stata.

## DESCRIPTIVE STATISTICS

Before discussing the estimation results, we present some descriptive statistics of our main variables of interest. Table 1 reports the shares of workless women and men (aged 25-34), also distinguishing between unemployment and inactivity, in the 19 countries included in our empirical analysis. To facilitate reading of the tables, the countries are grouped according to the five welfare regimes proposed by Anton Hemerijck (2013).

There is a large degree of heterogeneity in the incidence of young women's worklessness among countries, ranging from 12 percent in Sweden and the Netherlands, to almost 50 percent in Greece. But there is also a large variation across countries within the same group: from 12 percent in Sweden to 32 percent in Finland (Nordic countries), from 19 percent in Portugal to 47 percent in Greece (Mediterranean countries), from 12 percent in the Netherlands to 36 percent in Austria (Continental countries). The corresponding worklessness odds vary from 0.14 (Sweden and the Netherlands) to 0.89 (Greece). As expected, the variation in the share of young workless women is related more to a different incidence of inactivity than of unemployment. Indeed, differences across countries in the shares of young inactive women are much more pronounced, even within country groups; while differences in unemployment shares are relatively small across countries, with very high levels only in Mediterranean countries. The opposite occurs for young men: differences across countries in the workless share are much more determined by differences in the incidence of unemployment. Except for the Netherlands (where almost all young men are employed), the share of young workless men varies from 7 percent in Sweden to 31 percent in Greece, around 10-14 percent in Continental countries, and above 20 percent in Mediterranean countries (except Portugal), Ireland, Hungary and Baltic countries.

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<sup>14</sup> We verified that our variables of interest, and in particular parental background, did not affect the probability of women having children.

*Table 1* Shares of workless, unemployed and inactive women and men (aged 25-34), and number of observations by country

	Women				Men			
	Workless	Unemployed	Inactive	No. obs.	Workless	Unemployed	Inactive	No. obs.
Nordic countries								
FI	0.32	0.05	0.27	531	0.14	0.08	0.05	545
SE	0.12	0.05	0.08	384	0.07	0.04	0.03	343
English speaking countries								
IE	0.38	0.11	0.26	491	0.29	0.24	0.05	284
UK	0.29	0.05	0.24	753	0.10	0.06	0.05	595
Continental countries								
AT	0.36	0.05	0.31	726	0.11	0.07	0.05	622
BE	0.23	0.08	0.15	810	0.14	0.08	0.06	732
DE	0.28	0.06	0.22	1,195	0.10	0.07	0.03	940
FR	0.21	0.06	0.15	1,327	0.12	0.07	0.04	1,272
NL	0.12	0.01	0.11	573	0.03	0.01	0.02	536
Mediterranean countries								
EL	0.47	0.25	0.21	718	0.31	0.24	0.06	726
ES	0.35	0.19	0.16	1,825	0.27	0.21	0.06	1,764
IT	0.36	0.15	0.21	2,131	0.21	0.14	0.06	2,025
PT	0.19	0.10	0.08	631	0.15	0.11	0.04	616
CEE countries								
BA	0.32	0.12	0.20	1,756	0.25	0.17	0.08	1,840
HU	0.39	0.09	0.29	1,645	0.19	0.12	0.06	1,594
PL	0.32	0.09	0.23	1,985	0.12	0.07	0.05	1,861
RO	0.24	0.05	0.20	753	0.10	0.06	0.04	830

*Note:* see the Appendix for country abbreviations.

The heterogeneity among countries in the incidence of adult child worklessness emerges also for the children of working mothers (Table 2),<sup>15</sup> ranging from 40-50 percent in Spain, Italy and Ireland to about 90 percent in Baltic countries and Sweden. The variation in the share of individuals whose fathers were working during adolescence is much lower. In all countries, this share is close to or above 90 percent, being somewhat lower in Finland and Ireland (88-89 percent). The very low incidence of non-working fathers explains why we could only control for father's working status in the pooled sample, but we could not perform a country-level analysis of their role for children's outcomes.

Finally, the last four columns of Table 2 present simple correlations between the employment status of parents (during adolescence) and that of their adult children (aged 24-35) in each country, measured by the phi coefficient. These provide a first idea of whether and where parents' working condition appears somehow linked to their children's workless status in the early stage of their working life. Almost all correlations are negative, meaning that the incidence of worklessness is lower

<sup>15</sup> We do not distinguish between daughters and sons because percentages are very similar in the two groups.

among individuals who had a working mother or a working father. Correlations between mothers and daughters appear quite large in many countries, and generally larger than the other correlation types. Only in Baltic countries, Greece, Austria and Germany does the Chi squared test not reject the null hypothesis of no association. Again, the magnitude of this correlation is quite different within country groups. For example, in Nordic countries, the correlation between mothers and daughters is -0.08 in Finland and -0.21 in Sweden; in Continental countries, it varies from -0.04 in Austria and Germany to -0.23 in Belgium. Interestingly, in about half of the countries, also the correlation between mothers and sons is significant. It appears particularly large in Hungary, Belgium, Ireland and the UK. The econometric analysis, presented in the next section, verified whether these correlations remain significant after controlling for several individual and country characteristics.

*Table 2* Shares of working mothers and fathers and correlations with their adult children's workless status by country (adult children aged 25-34)

	Share of working		Correlations working parent/workless child (Cramer's V)			
	Mothers	Fathers	Mother-daughters	Father-daughters	Mothers-sons	Fathers-sons
Nordic countries						
FI	0.82	0.89	-0.08	0.00	-0.07	-0.07
SE	0.88	0.96	<b>-0.21</b>	<b>-0.14</b>	0.00	<b>-0.20</b>
English speaking countries						
IE	0.45	0.88	<b>-0.11</b>	<b>-0.15</b>	<b>-0.14</b>	<b>-0.18</b>
UK	0.69	0.92	<b>-0.10</b>	<b>-0.08</b>	<b>-0.12</b>	<b>-0.14</b>
Continental countries						
AT	0.65	0.98	-0.04	-0.02	0.03	-0.04
BE	0.61	0.95	<b>-0.23</b>	<b>-0.16</b>	<b>-0.14</b>	<b>-0.10</b>
DE	0.69	0.92	-0.04	-0.05	<b>-0.06</b>	<b>-0.07</b>
FR	0.70	0.96	<b>-0.19</b>	<b>-0.06</b>	<b>-0.07</b>	0.00
NL	0.57	0.97	<b>-0.17</b>	-0.01	-0.06	-0.01
Mediterranean countries						
EL	0.55	0.98	-0.01	-0.03	0.00	-0.03
ES	0.39	0.98	<b>-0.05</b>	<b>-0.08</b>	-0.02	<b>-0.06</b>
IT	0.47	0.97	<b>-0.14</b>	-0.02	<b>-0.08</b>	<b>-0.06</b>
PT	0.69	0.97	<b>-0.13</b>	<b>-0.10</b>	0.00	-0.07
Central & Eastern countries						
BA	0.90	0.95	-0.02	-0.05	<b>-0.06</b>	<b>-0.09</b>
HU	0.86	0.94	<b>-0.18</b>	-0.03	<b>-0.17</b>	<b>-0.07</b>
PL	0.82	0.97	<b>-0.09</b>	<b>-0.07</b>	-0.01	-0.03
RO	0.76	0.97	<b>-0.24</b>	<b>-0.13</b>	<b>-0.09</b>	<b>-0.16</b>

*Notes:* see the Appendix for country abbreviations. Values in bold indicate a significant Chi squared test of association between the corresponding two variables (at 5% significance level).

Table A1 in the Appendix reports the descriptive statistics for the socioeconomic variables used in the econometric analysis. The data reveal a large degree of heterogeneity across country groups, but also between countries in the same group.

Unemployment rates for young adults (aged 25-34) range from 4 to over 20 percent (the Netherlands vs. Spain and Greece). Female and male unemployment rates are generally quite similar, except in Ireland (where it is higher for women) and Greece (where it is higher for men). Views regarding the role of women in the labor market differ significantly among countries. The share of individuals who disagree with the statement “*When jobs are scarce, men should have more rights to a job*” varies from 2 to 52 percent (Romania vs. the Netherlands). In general, CEE countries have traditional views (shares below 15 percent), while Sweden and the Netherlands appear to have ‘gender equal’ views (about 50 percent), followed by France, Spain and Belgium (between 38 and 44 percent). High shares are also recorded in Portugal and the UK.

The percentage of small children in formal childcare also varies among country groups and between countries in the same group. The highest share is recorded in Sweden (93 percent) and the lowest in Romania (55 percent). Shares are close to or above 80 percent in Sweden, Finland, the UK, Belgium, France, the Netherlands, Spain and Hungary, and below 70 percent in the remaining countries. Number of weeks of paid leave reserved for fathers is zero or close to zero in all CEE countries, Italy, Greece and Ireland. Only the Netherlands, Portugal and Belgium have relatively long paid paternity leave (26, 21 and 15 weeks respectively), while in other countries it varies from 2 weeks (UK, France and Spain) to 9-10 weeks (Finland and Sweden). The length of paid leave for mothers is generally higher in CEE countries, and lower in English speaking countries, with some exceptions (very low in Spain and Poland, and very high in Finland). The maximum length of leave for mothers is generally much higher than paid leave (in half of the countries it is above 100 weeks), with some exceptions where it is the same and quite low (Belgium, the Netherlands, and Italy).

## RESULTS

Estimation results are presented in terms of odds ratios because this allows direct interpretation of the magnitude of the effects associated with our variables of interest. In general, when odds ratios are greater (smaller) than one, the corresponding variable is associated with larger (smaller) worklessness odds. For dummy variables (e.g. having had a working mother), odds ratios equal to  $\gamma$  mean that the odds of being workless for the group represented by the dummy variable (i.e. daughters of working mothers) are  $\gamma$  times the odds of being workless for the remaining group (daughters of non-working mothers).

### **Mother-daughter intergenerational correlations**

Table 3 shows the estimated odds ratios for young women's worklessness odds (models 1 to 4). For the sample of countries as a whole, there is a significant association between parents' employment status and their daughters' odds of being workless in all models: if parents were working during adolescence, their daughters face lower worklessness odds, with and without controlling for individual and country characteristics. In contrast, parents' type of occupation has a significant 'gross' effect (model 1), which disappears when we control for individual characteristics. This suggests that parents' type of occupation affects their daughters' labor market outcomes through their educational and family related choices, whereas parents' employment status seems to maintain an additional direct effect. Furthermore, mothers appear to play a somewhat more important role than fathers. Having had a working mother is associated with 35-40 percent lower odds of being workless (which corresponds to a reduction of about 25-35 percent in the worklessness probability), compared to a reduction of 17-30 percent (i.e. of about 10-25 percent in the worklessness probability) if they had a working father.

Before presenting the way in which these effects vary across countries, we point out that almost all individual variables (models 2 to 4) have the expected effects: age and education are associated with lower worklessness odds, whereas having a non-EU citizenship and motherhood are associated with higher odds. Differences between single women and women in a couple depend on whether or not the partner is working. Women with a non-employed partner have higher odds of being workless compared to single women, whereas women with an employed partner have lower odds. This matches the evidence about assortative mating and 'within household polarization' (Vincent Corluy and Frank Vandembroucke, 2017). Macro-level variables have also the expected sign (models 3 and 4): young women's odds of being workless are higher in countries with higher female unemployment rates, and lower in countries with more childcare services. None of the remaining macro-variables retain an independent effect.

Figure 1 shows the country-specific odds ratios associated with having had a working mother, which were estimated from model 4.<sup>16</sup> Three aspects are worth noting. First, in all countries the estimated odds ratios are below 1, implying that having had a working mother reduces the daughter's odds of being workless in all countries (only in a few cases are they not significantly different from 1). Second, differences between countries in these odds ratios are large and significant. Odds ratios vary from about 0.9 (not significantly different from 1) in Austria, Greece and Spain, to about 0.5 in Belgium, the Netherlands, Sweden and Romania (corresponding to a reduction of about 40-45 percent of the worklessness probability). Third, the ordering of countries does not correspond to the usual

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<sup>16</sup> Estimates of these odds ratios from model 1 are generally somewhat lower (i.e. gross correlations are larger than net correlations), but the ordering of countries is very similar to that reported in Figure 1. Estimations are available from the authors upon request.

country groups. Among Continental countries, odds ratios are quite small (i.e. effects are quite large) in Belgium, the Netherlands, and France, and quite high or even not significantly different from one in Austria and Germany. The same happens among Mediterranean countries (negligible effects in Greece and Spain, and sizable effects in Italy and Portugal), Nordic countries (large effect in Sweden, much smaller effect in Finland), and CEE countries (Romania, Hungary, Poland and Baltic countries are distributed across the entire country ordering).

*Table 3* Results (odds ratios) of a multilevel logistic model for the probability of being workless - women (aged 25-34)

	Model 1	Model 2	Model 3	Model 4
<b>Individual and background characteristics</b>				
Constant	0.410***	0.463***	0.502***	0.506***
Age	0.978***	0.933***	0.934***	0.934***
Lone-parent family	0.957	0.932	0.933	0.933
Father's high-status occupation	0.766***	1.001	1.004	1.005
Mother's high-status occupation	0.803***	1.011	1.011	1.011
Working father	0.703***	0.831***	0.831***	0.831***
Working mother	0.596***	0.663***	0.662***	0.661***
Non-EU citizenship		2.189***	2.197***	2.195***
Upper secondary education		0.488***	0.488***	0.488***
Tertiary education		0.279***	0.279***	0.278***
Potential experience		0.990	0.990	0.990
Living in a couple		1.328***	1.326***	1.326***
Employed partner		0.595***	0.597***	0.597***
Motherhood status		3.058***	3.048***	3.046***
<b>Socioeconomic variables at the country level</b>				
Female unemployment rate (aged 25-34)			1.041***	1.028*
Egalitarian gender norms			1.014	1.008
Childcare services (< 3 years old)			0.973***	0.981*
Paid leave reserved to fathers				0.979
Paid leave for mothers				1.001
Maximum length of leave for mothers				0.999
Female employment rate (aged 25-34)				
Observations	18,234	18,234	18,234	18,234
Number of groups	17	17	17	17

*Notes:* \*\*\*, \*\*, \* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

Model 1 includes a random intercept and a random slope for the 'Working mother' dummy. Models 2-4 include a random intercept and a random slope for the 'Working mother' and 'Tertiary education' dummies.

The number of groups refers to the countries included in the analysis: Austria, Baltic countries (Estonia, Latvia and Lithuania as a single group), Belgium, Germany, Greece, Finland, France, Hungary, Ireland, Italy, Poland, Portugal, Romania, Sweden, Spain, The Netherlands, The United Kingdom.

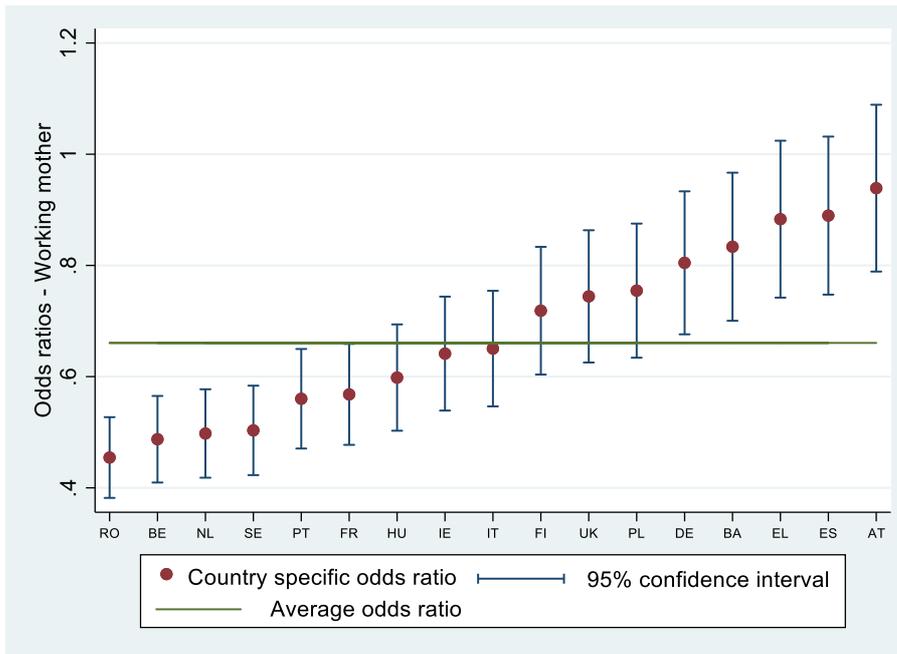


Figure 1 Odds ratios associated with "Working mother" variable for women (aged 25-34) by country  
 Note: 95 percent confidence intervals are represented vertically. Odds ratios estimated from Model 4.

In order to examine whether the cross-country differences highlighted in Figure 1 are somehow related to some characteristics of these countries, we augmented model 4 with interaction terms between each socioeconomic variable and the working-mother dummy (see Appendix, Table A2). The effects associated with all variables were very similar to those obtained for model 4. The interaction term between the working-mother dummy and the female unemployment rate was significant, suggesting that the correlation between having had a working mother and her daughter's odds of being workless is lower in countries with higher female unemployment rates (odds ratio equal to 1.021). A possible interpretation of this result is that working mothers influence mainly their daughters' participation decision, and have only a small or negligible effect on their unemployment risk. When female unemployment rate is high, the relative importance of unemployed young women among the workless group increases, and the correlation with their mothers' employment status decreases. We verified this hypothesis in the last step of our analysis, when we considered the risk of unemployment and inactivity separately.

Among the other socioeconomic variables, only the length of the parental leave reserved to *fathers* is significantly correlated with the working-mother effect. The estimated odds ratio (0.981) suggests that the effect of having had a working mother is *larger* where the parental leave reserved to fathers is longer. This finding is counter-intuitive, but it is in line with the hypothesis advanced in section 2 on how societal influence on women's preferences and constraints may affect the *observed* correlation between mothers' and daughters' employment status, especially if young women with children are

included in the analysis. Indeed, if daughters of working mothers have stronger preferences for labor market participation, compared to daughters of non-working mothers, this difference in preferences will show up more in contexts where women face less constraints on their choices, and in particular where women are not necessarily the primary ‘care-providers’ (because they can rely on their partner’s help or on childcare services. Hence, the correlation between mothers’ and daughters’ labor market outcomes would be large. In contexts where the burden of childcare falls more on young mothers, they may be ‘forced’ not to participate, and their employment status may reflect their preferences much less. This would lead to a lower correlation between mothers’ and daughters’ employment status, because the latter would not reflect the correlation in preferences. Indeed, odds ratios associated with a working-mother are also smaller in contexts with more egalitarian gender norms and more childcare services, although the effect is not statistically significant. We will elaborate more on this aspect when we present the separate analyses for young women with and without children.

### **Mother-son intergenerational correlations**

Interestingly, mothers’ employment (during adolescence) is significantly correlated also with their sons’ employment outcomes, as young adults (Table 4).<sup>17</sup> Similarly to what was observed for daughters, parents’ occupation has a significant ‘gross’ effect on their sons’ worklessness odds (model 1), but it disappears when we control for individual characteristics. In contrast, parents’ employment status remains significant across all models, with slightly larger effects associated with father’s employment (about 30-35 percent lower probability of being workless) compared to mother’s employment (20-25 percent lower probability). Note that the magnitude of these effects is in line with the one estimated for daughters, but the role of the two parents is reversed: daughters had 25-35 percent lower probability of being workless if they had a working mother, and 10-25 percent lower probability if they had a working father.

Individual characteristics have similar effects on the worklessness odds for sons and daughters, except for being in a couple and having children. Young men in a couple have lower odds of being workless (while young women have higher odds), and the presence of children has no significant effect (while it has a huge effect for women). The only socioeconomic variable that affects young men’s worklessness odds is the unemployment rate, which, as expected, is associated with higher odds.

Variability across countries of the working mother effect is much lower for sons than for daughters (Figure 2). Only Hungary displays a (significantly) larger effect compared to all other countries (the odds ratio is 0.54, corresponding to a 40 percent reduction in the probability of being workless), while

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<sup>17</sup> We excluded the Netherlands from the estimation sample because of the small share of workless men aged 25-34 (2.8 percent).

Austria, Spain, Poland and Greece display a smaller effect (above 0.8, corresponding to a reduction of about 10-15 percent in the probability of being workless). All the remaining countries have very similar odds ratios (very close to the mean 0.72, which corresponds to a reduction of the worklessness probability of about 20-25 percent). The small differences in these odds ratios across countries do not appear correlated with any macro-level variable. Indeed, if we augment model 4 with interaction terms between having had a working mother and the macro-level variables, none of these interactions is significant.<sup>18</sup>

*Table 4* Results (odds ratios) of a multilevel logistic model for the probability of being workless - men (aged 25-34)

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Individual and background characteristics</b>					
Constant	0.204***	0.166***	0.172***	0.171***	0.171***
Age	0.933***	0.996	0.997	0.998	0.998
Lone-parent family	1.049	1.003	1.004	1.005	1.006
Father's high-status occupation	0.823***	0.991	0.993	0.994	0.994
Mother's high-status occupation	0.782***	0.964	0.967	0.969	0.97
Working father	0.613***	0.670***	0.667***	0.666***	0.667***
Working mother	0.716***	0.738***	0.736***	0.736***	0.728***
Non-EU citizenship		1.645***	1.645***	1.643***	1.638***
Upper secondary education		0.400***	0.401***	0.398***	0.398***
Tertiary education		0.219***	0.219***	0.215***	0.216***
Potential experience		0.978**	0.977**	0.976**	0.976**
In a couple		0.461***	0.463***	0.465***	0.465***
Employed partner		0.548***	0.548***	0.548***	0.548***
Fatherhood status		1.129	1.131	1.129	1.128
<b>Socioeconomic variables at the country level</b>					
Male unemployment rate (aged 25-34)			1.055***	1.049***	1.048***
Egalitarian gender norms			1.005	1.008	1.008
Childcare services (< 3 years old)				0.997	0.997
Paid leave reserved to fathers				0.981	0.981
Paid leave for mothers				1.000	1.000
Maximum length of leave for mothers				0.998*	0.998*
<b>Cross-level effect</b>					
Working mother # Male unemployment rate					1.014
Observations	16,589	16,589	16,589	16,589	16,589
Number of groups	16	16	16	16	16

*Notes:* \*\*\*, \*\*, \* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

Model 1 includes a random intercept and a random slope for the 'Working mother' dummy. Models 2-5 include a random intercept and a random slope for the 'Working mother' and 'Tertiary education' dummies.

The number of groups refers to the countries included in the analysis (see notes to table 3).

<sup>18</sup> The only significant interaction is with the length of paid maternal leave, but the result is entirely driven by Hungary. If we drop Hungary from the sample, the interaction term is no longer significant.

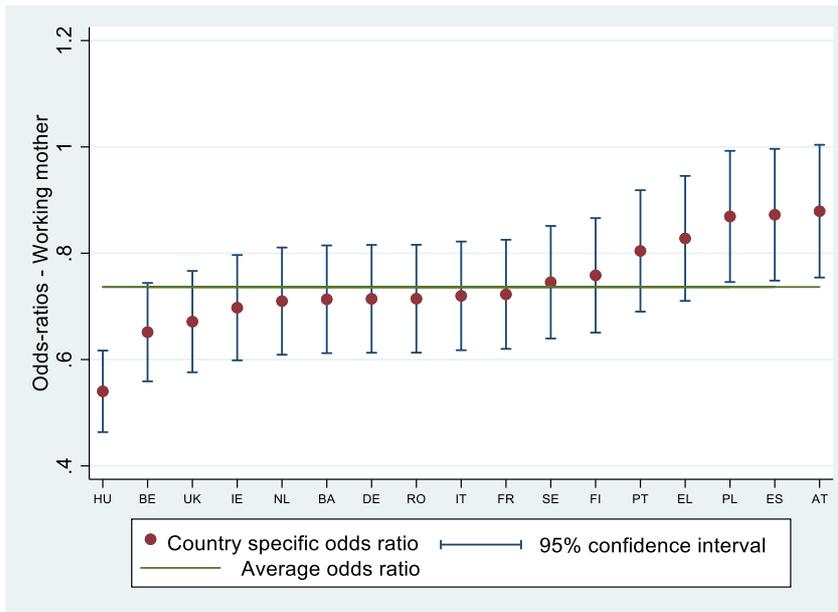


Figure 2 Odds ratios associated with "Working mother" variable for men (aged 25-34) by country  
 Note: 95 percent confidence intervals are represented vertically. Odds ratios estimated from Model 4.

This result is different from that of McGinn, Ruiz Castro and Long Lingo (2019) who found no significant effect of mothers' employment on their sons' likelihood of being employed. This difference could be due to the age of sons, to an omitted variable bias, or to the countries and cohorts included in the analysis. First, they considered men aged 18-60 whereas we focus on young men aged 25-34. Indeed, if we include all sons aged 25-60, the average effect associated with mothers' employment is reduced (the 'average' odds ratio becomes 0.87), although still significantly different from one. Second, they did not control for paternal employment status. If fathers' employment is positively associated with their sons' probability of being employed, by omitting this variable, the coefficient associated with maternal employment would be biased upward or downward according to the sign of the correlation between father's and mother's employment. In our sample of men aged 25-60, the correlation between parents' employment status is negative for almost all countries (which would imply a reduction of the estimated effect for mothers), but very small.<sup>19</sup> Third, by including all men aged 18-60 from 2000 onwards, they considered also cohorts of men born in the 1940s and 1950s, when female participation was quite low. The correlation between mothers' and sons' employment status for these cohorts is likely to be lower. Unfortunately, having only a cross-section, we are unable to distinguish between age and cohort effects, but we think that the combination of these two effects could explain the difference between our results and those of McGinn, Ruiz Castro and Long Lingo (2019).

<sup>19</sup> Interestingly, if we restrict the sample to young men aged 25-34, the correlation between parents' employment increases in all countries, becoming either less negative or actually positive.

Our findings suggest that in the majority of European countries, mothers' employment during adolescence plays a role for their sons' employment outcomes, reducing their worklessness probability by about 20-25 percent. As discussed in the literature section, this correlation could be due to the influence of mothers' work experience on their sons' values and attitudes, in particular the value they attach to paid work vs. welfare dependency, and the effort they are willing to make to find and maintain a job. It could also be related to mothers' role in developing soft skills that are valued in the labor market, such as the ability to organize and manage time and activities, to be flexible and/or to work under pressure.

### **Correlations for young women with and without children**

In order better to understand the variation across countries in the mother-daughter correlation, we ran separate estimations of models 4 to 10 for young women (aged 25-34) with and without children (see Appendix, Table A3). Cross-country differences in the odds ratios associated with having had a working mother are much less pronounced for childless women than for women with children (Figures 3 and 4). Indeed, among the former, odds ratios are very similar for the majority of countries, ranging from 0.64 in Finland to about 0.8 in Poland (which corresponds to a reduction of 30 and 16 percent of the worklessness probability, respectively). Only four countries display significantly different correlations: Romania, where the odds ratio is particularly low (0.5), and Austria, Spain and Greece, where the odds ratio is not significantly different from 1. Since childless women face fewer constraints on their participation decision, this result suggests that working mothers do have an effect on their daughters' preferences and that this effect is quite similar among countries, corresponding to a reduction in the probability of being workless of about 20 to 30 percent.

In contrast, among women with children, there is more variation among countries. Having had a working mother has a significantly larger effect in Belgium, the Netherlands and Sweden than in Germany or Finland. The estimated odds ratios imply a reduction of the probability of being workless of more than 40 percent in the Netherlands and Sweden, and of about 15 percent in Germany or Finland. These results confirm our hypothesis that the correlation between mothers' and daughters' working status depends on both the influence of mothers on daughters' preferences and the presence of constraints on women's choices. If having had a working mother leads to stronger preferences for working, especially when daughters have children, we should observe larger correlations for women with children compared to childless women, in contexts where women face fewer constraints on their participation choice. Indeed, this happens in Sweden, the Netherlands, Belgium and Portugal, where childcare availability is higher and parental leaves reserved to fathers are longer. On the contrary, we should observe smaller differences between the odds ratios associated with the working mother dummy for women with and without children in contexts where women's participation decision in the presence of very young children is more constrained. This is the case in CEE countries, Austria,

Germany and Ireland. However, differences between the two groups are negligible also in France and in the UK, which have relatively mother-friendly institutions (i.e. childcare services and parental leave reserved to fathers). In these countries, either the effect of mothers' employment on their daughters' preferences for participation is independent of the presence of children, or the effect is actually stronger when daughters have children, but the latter face more constraints on their participation choices than in Sweden, the Netherlands, Belgium and Portugal. Three countries display a pattern of correlation that is more difficult to interpret. In Italy and Greece, the odds ratios associated with the working mother dummy for women with children are much lower than those for childless women, whereas in Finland the opposite occurs. Results for Italy and Greece are consistent with working mothers' having stronger effects on daughters' participation when they have children, but in these countries low childcare services should somehow mask this difference. In Finland, either working mothers have stronger effects for childless daughters' preferences, or they have similar effects on the preferences in the two groups, but the observed correlation for women with children is higher because they face some constraints on their participation.

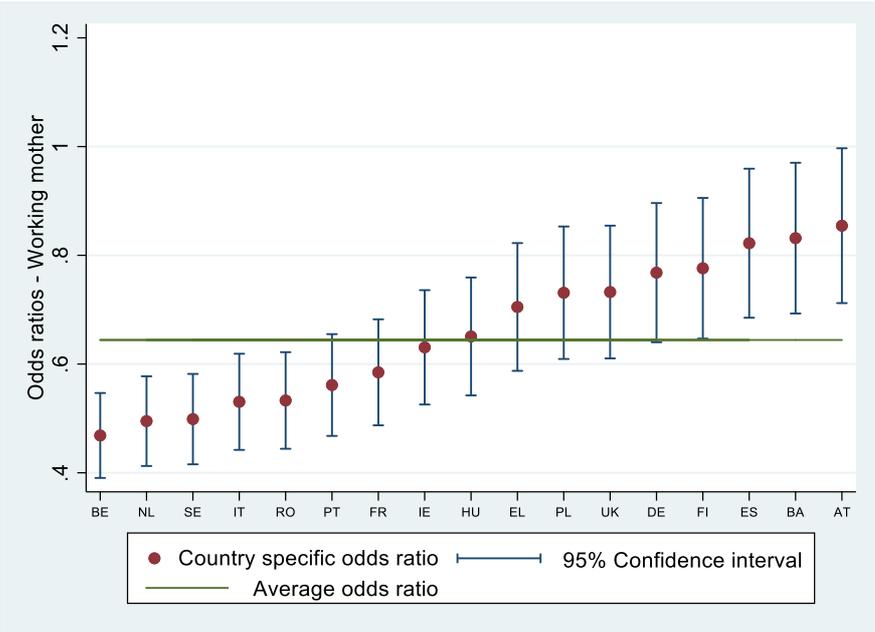


Figure 3 Odds ratios associated with "working mother" for women with children (aged 25-34) by country  
 Note 95 percent confidence intervals are represented vertically. Odds ratios are estimated from model 4.

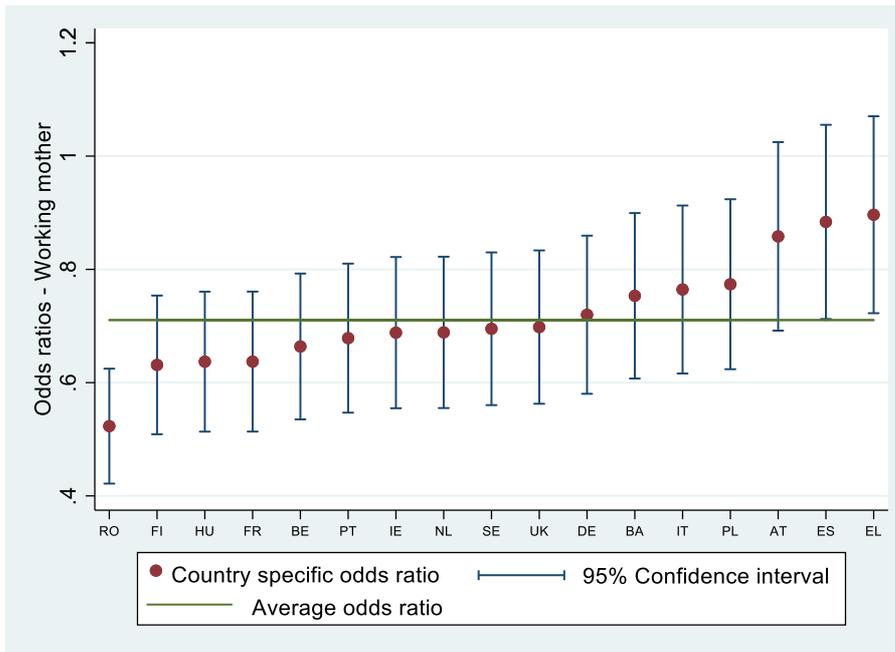


Figure 4 Odds ratios associated with "working mother" for women without children (aged 25-34) by country  
 Note: 95 percent confidence intervals are represented vertically. Odds ratios are estimated from model 4.

In terms of the relationship between these country-specific effects and the socioeconomic contexts (Appendix, Tables A4 and A5), estimates of the interaction terms show that, for childless women, the working mother effect is correlated only with the unemployment rate and goes in the direction discussed above. In contrast, for women with children, both childcare availability and the length of paternal leave reserved for fathers appear to be correlated with the working mother effect (again in the same direction discussed above). This result confirms our interpretation that in contexts where the burden of childcare falls more on women, the *observed* correlation between mothers' employment and their daughters' labor market outcomes is lower. This seems to suggest that the 'constraints' related to the socioeconomic context (that restrain maternal employment) tend to prevail over preferences and attitudes shaped in the family of origin during adolescence.

### Distinguishing between unemployment and inactivity

We now move to the last step of our analysis, where we distinguished between unemployment and inactivity. For sample size reasons, only 13 countries could be considered. Table 5 shows the results, expressed as risk ratios relative to employment (our reference category for the multinomial logit model). If the reported estimate is smaller (larger) than one, an increase in the corresponding variable reduces (increases) the unemployment or inactivity risk, i.e. the ratio between the probability of unemployment (or the probability of inactivity) and the probability of employment. For example, the inactivity risk ratio associated with the working mother dummy corresponds to:

$$ITTP = \frac{\Pr[I|WM]/\Pr[E|WM]}{\Pr[I|NWM]/\Pr[E|NWM]}$$

where  $\Pr[I|WM]$  and  $\Pr[E|WM]$  are the probabilities of being inactive and of being employed conditional on having had a working mother, while  $\Pr[I|NWM]$  and  $\Pr[E|NWM]$  are the corresponding probabilities if individuals had a non-working mother.

*Table 5* Results of multilevel multinomial logit models with three categories (employed, unemployed and inactive) for young women (aged 25-34). Results are expressed as relative risk ratios with respect to employment

	Model 1		Model 2		Model 3	
	Unempl.	Inactive	Unemp.	Inactive	Unempl.	Inactive
<b>Individual and background characteristics</b>						
Constant	0.173***	0.213***	0.242***	0.189***	0.240***	0.201***
Age	0.001***	6.567**	0.011***	0.000***	0.010***	0.000***
Lone-parent family	1.094	0.865*	1.068	0.857*	1.069	0.858*
Father's high-status occupation	0.822***	0.662***	0.96	0.951	0.961	0.953
Mother's high-status occupation	0.799***	0.830***	0.92	1.146*	0.922	1.146*
Working father	0.736***	0.674***	0.843*	0.813**	0.845*	0.814**
Working mother	0.689***	0.571***	0.728***	0.648***	0.728***	0.645***
Non-EU citizenship			1.770***	2.677***	1.771***	2.688***
Upper secondary education			0.557***	0.435***	0.559***	0.436***
Tertiary education			0.294***	0.240***	0.295***	0.240***
Potential experience			0.019***	1.697	0.019***	1.747
In a couple			1.170*	1.754***	1.169*	1.754***
Employed partner			0.424***	0.797***	0.426***	0.798***
Motherhood			1.639***	5.508***	1.631***	5.492***
<b>Socioeconomic variables at the country level</b>						
Female unemployment rate (aged 25-34)					1.057***	1.002
Childcare services (< 3 years old)					0.991	0.966***
Observations	14,514	14,514	14,514	14,514	14,514	14,514
Number of groups	11	11	11	11	11	11

*Note:* \*\*\*, \*\*, \* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

All models include a random intercept and a random slope for the 'Working mother' dummy.

The number of groups refers to the countries included in the analysis: Baltic countries (Estonia, Latvia and Lithuania as a single group), Belgium, Germany, Greece, France, Hungary, Ireland, Italy, Poland, Portugal, Spain.

In all models, parents' employment (when their daughters were about 14) are associated with a lower risk of both unemployment and inactivity. The effect of mother's employment is somewhat larger than that of father's employment, and it is slightly larger for inactivity than for unemployment, but the latter is not negligible (about 30 percent lower unemployment risk ratio). This means that mothers' employment is important not only for the possible transmission of participation preferences, but also for the development of skills and attitudes that facilitate their daughters' probability of finding a job.

Before observing how this effect varies across countries, to be stressed is the role of individual and socioeconomic variables. As expected, not being a EU citizen increases both unemployment and inactivity risks, while a higher educational level reduces both risks. Individual potential experience reduces the unemployment risk, but has no significant effect on participation. On the contrary, being in a couple is associated with a higher inactivity risk, but the effect on unemployment is much lower and significant only at 10 percent level. Interestingly, having an employed partner reduces both the unemployment and inactivity risk, whereas the presence of children increases both risks (although with much stronger effects on participation). A higher female unemployment rate is associated with a higher unemployment risk, with no effects on participation, whereas the availability of childcare services is associated with a significantly lower inactivity risk and no significant effects on the unemployment risk. None of the other variables had a significant effect, and we dropped them from the model.

We illustrate cross-country differences in the role of mothers' employment by means of inactivity odds ratios and unemployment risk ratios. In particular, we want to disentangle the role of mothers for their daughters' participation decision, and the role of mothers for their daughters' likelihood of (not) finding a job, conditional on their participation. While the latter corresponds simply to the unemployment risk ratio, the former does not correspond to the inactivity risk ratio discussed above, but to the inactivity odds ratio. Indeed, the latter is defined as:

$$Ior = \frac{Pr[U|WM]/(Pr[E|WM]+Pr[U|WM])}{Pr[U|NWM]/(Pr[E|NWM]+Pr[U|NWM])}$$

where  $Pr[U|WM]$  and  $Pr[U|NWM]$  are the probabilities of being unemployed conditional on having had a working mother and a non-working mother, respectively. If mothers' employment had an effect only on participation preferences, we should observe inactivity odds ratios smaller than one and unemployment risk ratios close to one.

In order to compute the country-specific inactivity odds ratio, we predicted for each woman in our sample her individual inactivity odds ratio, and then calculated the average of these odds ratios by country. These odds ratios are quite similar to the inactivity risk ratios), but are much clearer in terms of their interpretation. Figure 5 illustrates the inactivity odds ratios and unemployment risk ratios for model 3.<sup>20</sup> The shape of the dots indicates whether the ratios are significantly different from one (see the legend for more details).

In almost all countries there is a significant correlation between maternal employment and daughters' inactivity or unemployment, although its magnitude varies across countries. In some

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<sup>20</sup> Estimated effects on inactivity and unemployment from model 1 are slightly larger and generally both relative risk ratios are significantly different from 1, except in Germany, Greece, Spain, and the Baltic countries where none of them is significant.

countries the association between having had a working mother and a young woman’s inactivity and unemployment odds is similar (stronger in Belgium and Italy, somewhat weaker in Ireland and Portugal), while in other countries, mothers play a more relevant role for their daughters’ unemployment odds (France, Hungary and Poland). In Germany, Greece, Spain, and Baltic countries mothers’ employment status plays no significant role either for inactivity or for unemployment.

These results suggest that mother’s employment during adolescence can play a role not only in transmitting participation preferences, but also in facilitating successful integration into the labor market. Differences among countries are difficult to interpret, and more adequate datasets (especially in terms of sample size) would be necessary to understand them better.

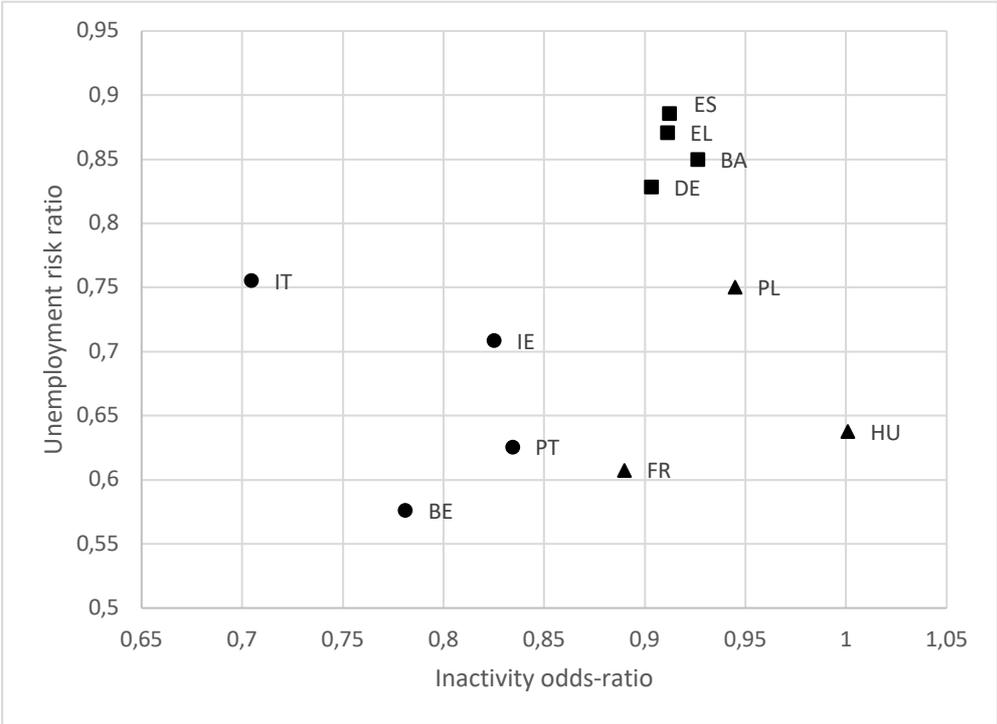


Figure 5 Inactivity odds ratios and unemployment risk-ratios associated with the ‘Working mother’ dummy for women (aged 25-34) by country

Note: Odds ratios and risk-ratios are estimated from Model 3

Legend: Circle: both significant; square: none significant; diamond: only inactivity significant; triangle: only unemployment significant

### CONCLUSIONS

This paper has presented a comparative analysis of the correlation between mothers’ employment during adolescence and their children’s labor market outcomes at about 30 years of age in 19 European countries. Previous studies generally consider a single country, and focus on the link either between fathers and sons or between mothers and daughters. Thus, they do not provide information on the extent to which these correlations are affected by the socioeconomic context prevailing at the

country level when young adults' decisions about labor market participation are taken, and labor market outcomes are determined. Moreover, the role played by maternal employment while growing up remains almost unexplored for young men.

Beliefs, preferences and attitudes are important pathways for the intergenerational transmission of labor market outcomes. As well documented in the literature, experiencing maternal employment during adolescence plays a crucial role in shaping the conceptualization of gender identity and gender norms, as well as the sense of stigma associated with worklessness and attitudes towards relying on welfare benefits. Working mothers could play a role also in transmitting and/or developing soft skills that are valued in the labor market, such as the ability to organize and manage time and activities, to be flexible and/or to work under pressure. And the socioeconomic context prevailing at the national level may affect the strength of both these channels. Indeed, the rich and varied literature on gender norms suggests that women's attitudes and preferences for labor market participation – shaped to a large extent during adolescence – are influenced both by their family of origin (i.e. mother's working status during adolescence), and the values and attitudes prevailing in their place of socialization and in the society at large. But societal gender norms and institutions affect also the 'constraints' that young adult women face within the household (in terms of bargaining power) or in society at large (through services and social policies). And the strength of these constraints may reduce the observed intergenerational correlations because women's actual choices may not reflect their preferences for paid work, not because there is no transmission of preferences.

By estimating various multilevel logit models for the probability of being workless (i.e. unemployed or inactive), we have highlighted that there is a significant correlation between mothers' employment during adolescence and both sons' and daughters' worklessness odds at about 30 year of age, even after controlling for individual and country characteristics. On average, having had a working mother is associated, *coeteris paribus*, with a reduction in the probability of being workless of about 25 to 35 percent for daughters and 20 to 25 percent for sons. These results suggest that mothers' employment while growing up not only plays a role in shaping daughters' preferences for labor market participation, but it also influences their sons' and daughters' attitudes and/or skills that favor successful integration into the labor market. This interpretation is also supported by a supplementary analysis in which we distinguished between unemployment and inactivity for daughters (in a subsample of countries). Indeed, having had a working mother reduces both daughters' inactivity and unemployment odds.

Cross-country differences in the correlations between mothers' employment during adolescence and their children's worklessness odds are much larger for daughters than for sons, and do not reflect the usual country groupings. Indeed, correlations are particularly large in Romania, Belgium, the Netherlands and Sweden, while they are not significant in Austria, Greece and Spain. Interestingly, cross-country differences in these correlations are very similar for sons and childless daughters, while

there is much more variation across countries for daughters with children. For the latter, having had a working mother is associated with a reduction of the worklessness probability of more than 40 percent in Belgium, the Netherlands and Sweden, and of about 15 percent in Germany or Finland. For sons, the small cross-country differences do not appear to be correlated with any socioeconomic variable, while for childless daughters, correlations are closer in countries where the female unemployment rate is lower. For women with children, they are closer where the parental leave reserved for fathers is longer, the use of childcare services is more widespread, and the maximum length of maternal leave is shorter.

These results suggest that the correlation between mothers' and daughters' working status depends on both the influence of mothers on daughters' preferences and the presence of constraints on women's choices. In particular, in contexts where the burden of childcare falls more on women, the *observed* correlation between mothers' employment and their daughters' labor market outcomes could be lower because the 'constraints' that restrain maternal employment tend to prevail over preferences and attitudes shaped in the family of origin during adolescence. This suggests that it would be wrong to interpret a small intergenerational correlation as evidence of a weak influence on daughters' preferences for participation. It also suggests that in many European countries there is still a pressing need to reduce the constraints on women's participation.

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## APPENDIX

### Country abbreviations

AT:	Austria
BA:	Baltic countries (Estonia, Latvia and Lithuania)
BE:	Belgium
DE:	Germany
EL:	Greece
ES:	Spain
FI:	Finland
FR:	France
HU:	Hungary
IE:	Ireland
IT:	Italy
NL:	The Netherlands
PL:	Poland
PT:	Portugal
RO:	Romania
SE:	Sweden
UK:	The United Kingdom

### SOURCES AND DESCRIPTION OF SOCIOECONOMIC VARIABLES

#### OECD Family database and Multilinks Database on Intergenerational Policy Indicators

Paid leave for mothers: Total weeks of paid maternity, parental and home care payments available to mother, *OECD Family database*, 2011. For Baltic countries and Romania, we referred to *Multilinks Database on Intergenerational Policy Indicators*, 2009.

Paid leave reserved to fathers: Total weeks of paid leave reserved for exclusive use by the father, *OECD Family database*, 2011. For Baltic countries and Romania, we referred to *Multilinks Database on Intergenerational Policy Indicators*, 2009.

Maximum length of leave for mothers: Maximum weeks of job-protected maternity, parental and home care leave available to mothers, regardless of income support, *OECD Family database*, 2011. For Baltic countries and Romania, we referred to *Multilinks Database on Intergenerational Policy Indicators*, 2009.

#### EUROSTAT database

Female/Male unemployment rate (25-34 years of age): Female and male unemployment rate for individual aged 25-34 years. We computed the unemployment rate using data on *Population by sex, age, citizenship and labour status (1 000)* [lfsa\_pganws], 2011

Childcare services (< 3 years old): Children in formal childcare or education by age group and duration - % over the population of each age group - Less than 3 years old [ilc\_caindformal], 2011

#### European Values Survey

Egalitarian gender norms: proportion of individuals aged 15-64 who disagreed with the statement "Jobs are scarce: giving men priority", in 2008.

Table A1 Descriptive statistics of socioeconomic variables at the country level

	Female unemployment rate, aged 25-34 (%)	Male unemployment rate, aged 25-34 (%)	Egalitarian gender norms (%)	Childcare services < 3 years old (%)	Paid leave reserved to fathers (weeks)	Paid leave of mothers (weeks)	Maximum length of leave for mothers (weeks)
Nordic countries							
FI	7.79	7.14	26	84	9.0	159	159.0
SE	7.23	7.45	51	93	10.0	60	85.0
English speaking countries							
IE	20.45	13.27	21	70	0.0	26	56.0
UK	8.07	7.68	34	83	2.0	39	65.0
Continental countries							
AT	4.71	5.28	14	69	8.7	60	103.3
BE	8.83	8.54	38	84	15.0	28	28.0
DE	6.97	5.92	24	61	8.7	58	162.0
FR	10.00	10.78	44	89	2.0	42	162.0
NL	3.93	4.48	52	91	26.4	42	42.0
Mediterranean countries							
EL	21.09	28.42	19	65	0.4	43	58.2
ES	23.77	23.13	39	77	2.1	16	166.0
IT	10.19	13.61	26	69	0.0	47.7	47.7
PT	13.42	14.77	35	65	21.3	30.1	134.1
Central & Eastern countries							
BA	16.26	12.93	15	67	0.0	121.77	139.0
HU	10.15	11.40	8	85	1.0	160	160.0
PL	8.80	11.62	3	64	1.0	22	178.0
RO	8.37	6.81	2	55	0.0	112.17	112.2

Note: see this Appendix for the specification of variables and sources.

Table A2 Results (odds ratios) of a multilevel logistic model with cross-level effects for the probability of being workless - women (aged 25-34)

	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Constant	0.506***	0.506***	0.505***	0.505***	0.506***	0.504***
<b>Parents' employment status</b>						
Working father	0.832***	0.832***	0.832***	0.832***	0.831***	0.832***
Working mother	0.667***	0.664***	0.668***	0.678***	0.660***	0.673***
<b>Socioeconomic variables at the country level</b>						
Female unemployment rate (25-34)	1.028*			1.028*		
Egalitarian gender norms	1.008			1.008		
Formal childcare (< 3 years old)	0.981*			0.981		
Paid leave reserved to fathers	0.979	0.979	0.979	0.979	0.979	0.979
Paid leave for mothers	1.001	1.001	1.001	1.001	1.001	1.001
Maximum length of leave for mothers	0.999	0.999	0.999	0.999	0.999	0.999
<b>Cross-level effects</b>						
Working mother interacted with:						
Female unemployment rate (25-34)	1.021*					
Gender egalitarian norms		0.989				
Childcare services (< 3 years old)			0.993			
Paid leave reserved to fathers				0.981*		
Paid leave for mothers					1.000	
Maximum length of leave for mothers						1.002
Observations	18,234	18,234	18,234	18,234	18,234	18,234
Number of groups	17	17	17	17	17	17

Note: \*\*\*, \*\*, \* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

The table presents the results, in terms of odds ratios, of a multilevel logistic regression modeling the probability of being workless. All models include a random intercept and a random slope for 'Working mother' and 'Tertiary education' dummies. Other control variables: age, citizenship, education, potential experience, motherhood, living in a couple, employed partner, father's and mother's high-status occupation.

The number of groups refers to the countries included in the analysis: Austria, Baltic countries (Estonia, Latvia and Lithuania as a single group), Belgium, Germany, Greece, Finland, France, Hungary, Ireland, Italy, Poland, Portugal, Romania, Sweden, Spain, The Netherlands, The United Kingdom.

Table A3 Results (odds ratios) of a multilevel logistic model for the probability of being workless - women with and without children (aged 25-34)

	Women with children (Model 4)	Women without children (Model 4)
<b>Individual and background characteristics</b>		
Constant	0.784*	0.286***
Age	0.910***	0.981
Lone-parent family	0.929	1.019
Father's high-status occupation	1.043	0.982
Mother's high-status occupation	1.113	0.894
Working father	0.877	0.732**
Working mother	0.644***	0.711***
Non-EU citizenship	2.269***	2.421***
Upper secondary education	0.518***	0.378***
Tertiary education	0.312***	0.174***
Potential experience	1.003	0.956***
In a couple	2.004***	1.133
Employed partner	0.604***	0.470***
<b>Socioeconomic variables at the country level</b>		
Female unemployment rate (25-34)	1.002	1.065***
Egalitarian gender norms	1.013	1.007
Childcare services (< 3 years old)	0.974	0.987
Paid leave reserved to fathers	0.980	0.981
Paid leave for mothers	1.001	1.000
Maximum length of leave for mothers	1.000	0.998
Observations	9,904	8,330
Number of groups	17	17

Note: \*\*\*, \*\*, \* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

Model 4 includes a random intercept and a random slope for 'Working mother' and 'Tertiary education' dummies.

The number of groups refers to the countries included in the analysis: Austria, Baltic countries (Estonia, Latvia and Lithuania as a single group), Belgium, Germany, Greece, Finland, France, Hungary, Ireland, Italy, Poland, Portugal, Romania, Sweden, Spain, The Netherlands, The United Kingdom.

*Table A4* Results (odds ratios) of a multilevel logistic model with cross-level effects for the probability of being workless - women with children (aged 25-34)

	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Constant	0.787*	0.785*	0.781*	0.784*	0.781*	0.779*
<b>Parents' employment status</b>						
Working father	0.878	0.879	0.880	0.879	0.877	0.879
Working mother	0.647***	0.646***	0.659***	0.661***	0.648***	0.671***
<b>Socioeconomic variables at the country level</b>						
Female unemployment rate (25-34)	1.002	1.002	1.001	1.002	1.002	1.002
Egalitarian gender norms	1.013	1.014	1.012	1.012	1.013	1.012
Formal childcare (< 3 years old)	0.974	0.974	0.975	0.974	0.974	0.974
Paid leave reserved to fathers	0.980	0.979	0.979	0.980	0.980	0.980
Paid leave for mothers	1.001	1.001	1.001	1.001	1.001	1.001
Maximum length of leave for mothers	1.000	1.000	1.000	1.000	1.000	1.000
<b>Cross-level effects</b>						
Working mother interacted with:						
Female unemployment rate (25-34)	1.017					
Gender egalitarian norms		0.990				
Childcare services (< 3 years old)			0.990*			
Paid leave reserved to fathers				0.979**		
Paid leave for mothers					1.001	
Maximum length of leave for mothers						1.003**
Observations	9,904	9,904	9,904	9,904	9,904	9,904
Number of groups	17	17	17	17	17	17

*Note:* \*\*\*, \*\*, \* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

The table presents the results, in terms of odds ratios, of a multilevel logistic regression modeling the probability of being workless. All models include a random intercept and a random slope for 'Working mother' and 'Tertiary education' dummies. Other controls: age, citizenship, education, potential experience, living in a couple, employed partner, father's and mother's high-status occupation.

The number of groups refers to the countries included in the analysis: Austria, Baltic countries (Estonia, Latvia and Lithuania as a single group), Belgium, Germany, Greece, Finland, France, Hungary, Ireland, Italy, Poland, Portugal, Romania, Sweden, Spain, The Netherlands, The United Kingdom.

Table A5 Results (odds ratios) of a multilevel logistic model with cross-level effects for the probability of being workless - women without children (aged 25-34)

	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Constant	0.287***	0.286***	0.286***	0.286***	0.292***	0.286***
<b>Parents' employment status</b>						
Working father	0.732**	0.732**	0.732**	0.733**	0.726***	0.732**
Working mother	0.727***	0.709***	0.711***	0.714***	0.723***	0.710***
<b>Socioeconomic variables at the country level</b>						
Female unemployment rate (25-34)	1.064***	1.065***	1.065***	1.065***	1.069***	1.065***
Egalitarian gender norms	1.008	1.007	1.007	1.006	1.008	1.007
Formal childcare (< 3 years old)	0.986	0.987	0.987	0.987	0.986	0.987
Paid leave reserved to fathers	0.981	0.981	0.981	0.981	0.982	0.981
Paid leave for mothers	1.000	1.000	1.000	1.000	1.001	1.000
Maximum length of leave for mothers	0.998	0.998	0.998	0.998	0.998	0.998
<b>Cross-level effects</b>						
Working mother interacted with:						
Female unemployment rate (25-34)	1.025**					
Gender egalitarian norms		0.994				
Childcare services (< 3 years old)			1.001			
Paid leaves reserved to fathers				0.992		
Paid leaves of mothers					0.995***	
Maximum length of leaves for mothers						1.000
Observations	8,330	8,330	8,330	8,330	8,330	8,330
Number of groups	17	17	17	17	17	17

Note: \*\*\*, \*\*, \* denote statistical significance at the 1, 5, and 10 percent levels, respectively.

The table presents the results, in terms of odds ratios, of a multilevel logistic regression modeling the probability of being workless. All models include a random intercept and a random slope for 'Working mother' and 'Tertiary education' dummies. Other controls: age, citizenship, education, potential experience, living in a couple, employed partner, father's and mother's high-status occupation.

The number of groups refers to the countries included in the analysis: Austria, Baltic countries (Estonia, Latvia and Lithuania as a single group), Belgium, Germany, Greece, Finland, France, Hungary, Ireland, Italy, Poland, Portugal, Romania, Sweden, Spain, The Netherlands, The United Kingdom.