



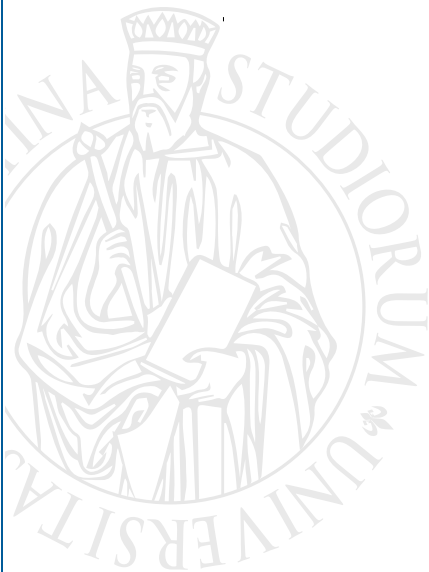
UNIVERSITÀ  
DEGLI STUDI  
FIRENZE

**DISIA**

DIPARTIMENTO DI STATISTICA,  
INFORMATICA, APPLICAZIONI  
"GIUSEPPE PARENTI"

## **Unstable Employment Careers and Completed Fertility before and after Labour Market Deregulation in Italy**

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**DISIA WORKING PAPER  
2022/03**

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# Unstable Employment Careers and Completed Fertility before and after Labour Market Deregulation in Italy

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## Abstract

Labour market instability comes with consequences for fertility decisions. Especially in the southern European context insecure employment situations hamper the transition to parenthood. Most research so far has focused on first childbirth, ignoring potential ‘catching up’ effects and thus the more encompassing view on cohort fertility. This paper extends on this point analysing the consequences of employment insecurities on completed fertility for men and women in Italy. In a cohort perspective, we look at fertility outcomes at age 41 or more among those who experienced labour market deregulation (cohorts born 1966-1975) in comparison with the previous cohort (born 1951-1965), and relate the fertility outcome to the instability of their employment histories. Based on data from a large-scale, nationally representative retrospective survey administrated by the National Statistical Office, we find that fragmented employment careers and atypical employment periods come with lower likelihood to ever become a parent and lower number of children than continuous, stable careers. This paper suggests – for the first time – that the consequences of rising labour market instability for fertility is not only a timing but also a quantum issue, at least for Italy. This is true especially for men and for the younger cohorts.

## Acknowledgements

The authors acknowledge the financial support provided by: (1) the European Union’s Horizon 2020 research and innovation programme / ERC Consolidator Grant Agreement No 725961 (EU-FER project) “Economic Uncertainty and Fertility in Europe” (PI: Daniele Vignoli); (2) the Italian Ministry of University and Research / FARE grant “Narratives” (PI: Daniele Vignoli); and (3) the Italian Ministry of University and Research, 2017 MiUR-PRIN “The Great Demographic Recession” (PI: Daniele Vignoli). The authors are also thankful to the colleagues from the Unit of Population and Society (UPS) of the University of Florence for their comments on a preliminary version of this research.

## 1. Introduction

Up to the crisis of the ford-Keynesian equilibrium, about late 1970s, permanent employment represented the standard work arrangement for the ideal-typical industrial worker, usually maintained for most of one's career. Since the 1980s – as a consequence of the EU-wide process of “Dual-Employment Protection Legislation (EPL) reforms” (Bentolila et al. 2019) – workers' turnover rates have rapidly risen (OECD 2015), especially for workers in the secondary, less protected, labour market. Notwithstanding “flexible forms of employment” have never accounted for more than one fifth of each country's total employment (Eurostat 2020),<sup>1</sup> employment instability has been institutionally concentrated on very specific groups of the working age population – namely the youth (Barbieri 2009) – thus affecting their ability to complete the transition to adulthood and generating rising uncertainty about future earnings and labour market outcomes, as well as life-course opportunities (Bentolila et al. 2021). Employment instability has been documented to have severe consequences for fertility (Alderotti et al. 2021; Kohler et al. 2002); though consequences depend on the macro-contextual situation (Barbieri et al. 2015; Barbieri and Bozzon 2016) and on the characteristics of the individuals, with clearly gendered effects (Vignoli et al. 2012). Empirical studies addressing the fertility consequences of (rising) employment instability have mainly analysed the time-to-event transition to parenthood or higher order childbearing, focussing on the current employment situation – often in terms of fixed-term contracts or employment interruptions (van Wijk et al 2022). This perspective, by looking at specific, single events, mixes timing and probability effects and misses the “overall” life-course impact of the process of labour market deregulation on fertility, which is problematic. Further, it raises concerns relatively to right censoring, which disproportionally concentrates on younger ages. This paper addresses these limitations of prior research by analysing (quasi-)completed fertility, instead of single transitions, in Italy.

Fertility has been declining all over the world, but reached particularly low levels in some contexts, among them southern Europe, with a record-low total fertility rate (TFR) in Italy of 1.19 children per woman registered in 1995 (Istat 2020). In the following years, the Italian period fertility fluctuated at very low levels, with a TFR of 1.24 in 2020 (Istat 2021). While there are multiple causes for these low fertility levels, an aspect that has received major attention is the importance of employment instability and the related economic uncertainties (Alderotti et al. 2021; Vignoli et al. 2020a). Obviously, TFR decline originated *before* the onset of the process of labour market deregulation; however, we maintain that *i*) labour market dualization intervened worsening a long-term social and cultural process, and *ii*) the relevance of these structural constraints to fertility decisions is of particular importance, given that, differently from drivers related to changing preferences or values,

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<sup>1</sup> The only exception being Spain with its 24%

they are, in principle, open for policy interventions and state support to address lower-than-desired fertility (Sobotka and Beaujouan 2014).

In the southern European context, labour market flexibilisation boosted a severe segmentation of the labour market. The literature (Emmenegger et al. 2012; Rueda 2014) now talks about “dualization” to stress the divide between primary and secondary labour market conditions, and its spill-overs on overall life-course quality, with young labour market entrants (and women) particularly at risk of remaining trapped in the secondary labour market and experiencing sequences of interrupted work careers (carousel careers made of repeated spells of employment precarity and subsequent unemployment). Importantly, the increasing employment insecurity concentrated on young people in their childbearing years, with potential side effects on family formation and fertility outcomes. Assessing the impact of these reforms on fertility is not straightforward, for both substantive and methodological reasons. This is true in particular as reforms occurred in a context of rapidly changing family dynamics. Now as the first cohorts affected by deregulation policies start to reach the end of their reproductive period, it becomes possible to assess the consequences of (increased) employment insecurity on *completed* fertility, thus considering also possible recuperation effects. This is where this paper makes its contribution. We investigate the consequence of employment career instability on (quasi-)completed fertility in Italy for men and women, comparing fertility outcomes at age 41 among those who experienced labour market deregulation (cohorts born 1966-1975) with the fertility outcomes of the previous cohorts (born 1951-1965). We investigate the relationship between employment history, measured through a set of indicators capturing employment instability, and the overall number of children. To be clear, we do not claim to explain fertility trends that are the result of many factors, but focus on one, yet important, mechanism (in its various components): *employment instability*.

## **2. Background literature and research hypotheses**

### ***2.1 The Italian context: labour market deregulation at the margin***

In reaction to persistently high unemployment levels, European countries with the 1980s started deregulating their labour markets (Bentolila et al. 2012). At the basis was the idea of a trade-off between employment and equality, according to which only a sharp increase in inequality in either wage and/or job protection would have favoured labour market fluidity and thus pushed firms to rise their labour demand (Bentolila et al., 2019). The expectation was to speed up the labour market entry process (school-to-work transition) and to lower un- and non-employment (mainly among the young and women). Weakening institutional regulation increased individuals’ exposure to labour market

risks, but the specific form of deregulation defined who was mainly exposed. What has been labelled “partial and targeted flexibilization” (Esping-Andersen and Regini 2000) meant that flexibility was increased and legal protection reduced, through the introduction and de-regulation of so-called non-standard or atypical employment relations for particular groups within the labour market – basically either labour market entrants or unskilled (Barbieri 2009) – while leaving substantially unchanged the amount of employment guarantees and legal protections attached to “standard”, permanent employment positions.

The strategy of a stratified reform was common all-over continental Europe (Palier and Thelen 2010; Emmenegger et al. 2012), but the consequences in terms of market dualization were particularly strong in southern Europe. In the Italian context deregulation initiated with the introduction of so-called work-and-training contracts (1983–1984) followed by a weakening of the strict rules for fixed-term contracts and accompanied by the diffusion of new forms of self-employment, sub-contracting, and pseudo-self-employment. The main reform *de facto* leading to the current labour market segmentation dates back to 1997 (riforma Treu), with additional changes in 2003 (legge Biagi). Since then, the use of non-standard/atypical contracts has been continuously extended until a recent (and contradictory) attempt to reregulate their use in 2015 (Jobs Act). An ample literature documented that the expected positive effects on employment rates failed to appear, except for a brief “honeymoon-effect” (Boeri and Garibaldi 2007; Barbieri and Cutuli 2016). In the absence of substantial economic growth, the fears that with these reforms standard forms of employment would have been crowded out for younger cohorts (Kahn 2007) found confirmation. The result was increased employment instability, in Italy, particularly for labour market entrants, yet without significantly increasing (regular) employment or lowering unemployment risks (OECD 2002; Ichino et al. 2003; Barbieri and Scherer 2009; Barbieri and Cutuli 2016). Temporary employment comes with much lower employment stability and higher unemployment risks. Instability is combined with significantly lower salaries, worse employment conditions (OECD 2002, 2006; Barbieri and Cutuli 2009) and high risks of entrapment in what became a “secondary labour market sector” (Blanchard and Landier 2002).

## ***2.2 Employment instability and fertility: research hypotheses***

The decision to have a(nother) child usually requires a certain level of economic well-being and a reasonable level of certainty and predictability of the future financial and occupational situation (Oppenheimer 1994; Kohler et al. 2002; Fahlén and Oláh 2018; Vignoli et al. 2020b) – at least in advanced societies, where children became a choice rather than a natural step in peoples’ lives. Previous contributions documented an existing link between weak economic conditions and declining

fertility levels (Sobotka et al. 2011; Seltzer 2019) on the aggregate level, though most contributions over the last decades regard the micro level consequences of different aspects of employment instability – e.g., unemployment, fixed-time employment contracts – and their relation to family formation and fertility decisions in different contexts in Europe (Andersson et al. 2014; Kreyenfeld et al. 2012).

Adverse effects of employment instability appear to be particularly strong in southern Europe, which is usually attributed to the combination of institutional features of the labour market and the welfare state. Labour market dualization comes with well-documented lower outflows from secondary labour market positions towards stable employment and implies more severe long-term consequences of non-standard employment. Combined with a sub-protective welfare state (Gallie and Paugam 2000), incapable to compensate for low-pay or job-loss and to provide a general supportive context for families, this might explain the strong dependence of family decisions on the individual's labour market situation, hence motivating the choice of Italy as an enlightening case study. Thus, *employment instability* can hamper setting up family (Vignoli et al. 2020a; Alderotti et al. 2021). Previous studies found employment instability to delay the transition to parenthood and to reduce the final number of children (see, e.g., Ciganda 2015 for France). Accordingly, we expect that *greater labour market instability, in its various forms, negatively affects reproductive behaviours (Hypothesis 1)*.

With the progression of employment deregulation, insecurity and instability became increasingly widespread, especially among the young population. Thus, cohorts are exposed to different extents to employment instability and to a fragmentation of careers. Reduced fertility due to a lack of employment stability should have become a relevant phenomenon among the younger cohorts entering the labour market from the late 1980/early 1990s onwards. Beyond this composition effect, we might also expect the *effects* of employment insecurity to have become more pronounced, over cohorts, at least in those contexts where the labour market dualization increased, such as in Italy, and thus the chances to escape from instability declined. This assumption leads to expect that *beyond becoming a quantitatively more relevant phenomenon, we also expect the impact of employment instability on fertility to become more severe over cohorts (Hypothesis 2)*.

The link between labour market insecurity and fertility is theoretically ambiguous and the expectations not always straightforward, especially for women (Barbieri et al. 2015; Vignoli et al. 2020a; Alderotti et al. 2021). Women in fact can rely on the alternative role of mothers (Friedman et al. 1994) if labour market possibilities are limited, especially when they have a partner providing a family income (Vignoli et al. 2012) or can access a generous welfare state (Blossfeld and Mills 2005).

In particular, periods of non-employment might have different meaning for women and in some cases come with higher chances to become mothers or to have an additional child. Among others, Busetta et al. (2019) show for Italy that his (persistent) joblessness, more than hers, matters for couple's fertility decisions, and single-earner couples are often found to have higher first-birth rates than dual-earner couples (Vignoli et al. 2012). Similarly, non-standard contracts might be indicative of women's choices, rather than constraints, and imply lower labour market attachment and higher family orientation of the women, though most studies actually find that temporary employment delays transition to parenthood also for women (Schmitt 2021; Vignoli et al. 2012). Notwithstanding gender differences may be more pronounced in contexts of traditional gender roles, we expect that, in general, employment situations should become increasingly important also for women (Alderotti 2022), not least because one income is often no longer sufficient to keep families out of poverty (Lohmann and Marx 2019). Therefore, *consequences of employment instability should be generally stronger for men, but employment instability is expected to become more important also for women across cohorts (Hypothesis 3).*

Previous research came with a set of limitations, often due to the available data and the adopted methodological approach. First of all, studies often focussed on the *current employment situation* and its more or less instantaneous effects on fertility transitions, within the methodological framework of event history analysis (EHA). This provides only a limited picture as the impact of employment uncertainty may depend on its timing and duration. Recent research has underlined how cumulative employment instability may affect fertility outcomes (Ciganda 2015; Busetta et al. 2019; Schmitt 2021, van Wijk et al 2022). These findings emphasise the necessity to adopt a broader longitudinal perspective, and to look at the whole quality and structure of work careers – well beyond snapshots of single points in time. We therefore adopt a perspective on career trajectories and expect that *persistent insecurity in terms of prolonged or repeated joblessness, entrapment in secondary/unstable employment and job-carousel careers, have negative consequences for family formation (Hypothesis 4).*

Finally, while parenthood postponement is well documented by past research, this does not necessarily imply any effect on the *total number of children*. In fact, some evidence suggests that persons tend to catch up on fertility at some point, for instance once a stable employment situation is reached (Barbieri et al. 2015), so that the tempo effect does not necessarily translate in a quantum effect. Among the few authors that treated completed fertility, Pailhé and Solaz (2012) show for France that employment instability tends to delay first parenthood but has a relatively weak effect on lifetime fertility. Clark and Lapinteur (2022) instead report job insecurity to reduces family size but not the probability of parenthood itself. Based on these findings, we argue that *unstable employment*

*and accumulation of instability have negative consequences also for completed fertility, but at overall lower levels (Hypothesis 5).*

### **3. Data and Methods**

We use data from the survey “*Famiglie, Soggetti Sociali e Ciclo di Vita*” (FSS), conducted by the Italian Statistical Office (Istat) in 2016. The FSS survey includes high-quality retrospective information on individual fertility and labour market histories with monthly detail, and information about the respondents’ socio-economic background. We focus on individuals aged 41 or more at the time of the interview, i.e., women and men born up to 1975. The choice of age 41 as a threshold was made in order to get as close as possible to the end of individuals’ reproductive age and to include, at the same time, cohorts young enough to have experienced the consequences of the deregulation reforms, studying their (quasi-)completed fertility<sup>2</sup>. Individuals born before 1951 are not included in the study as they did not experience the labour market deregulation process. The resulting analytical sample includes 5,579 women and 5,355 men.

The modelling strategy relies on two sets of analyses. First, we use EHA to replicate, with more recent data and limiting right-censoring due to the age selection, previous studies analysing the relationship between individuals’ employment status and both the transitions to parenthood and to the second child. As regards the transition to parenthood, individuals enter the observation at age 16 and exit at their first child conception leading to a live birth or when they turn 41 – whichever comes first. For the transition to the second child, individuals enter the observation when they have their first child and exit at their second child conception leading to a live birth or when they turn 41, whichever comes first. We employ discrete-time event history models (Allison, 1984) with standard errors clustered at the individual level. In these analyses, the major explanatory variable is the employment condition (time-varying), which distinguishes between employed with permanent working contracts, employed with atypical<sup>3</sup> work contracts, “traditional” self-employed, not employed.

In the second set of analyses, we use multinomial logistic regression (MLR) to analyse the relationship between several indicators of employment history and (quasi-)completed fertility. The dependent variable is the number of children at 41, which we grouped into three categories: no children, one child, two or more children. Unlike EHA, the use of MLR allows to focus on the

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<sup>2</sup> According to ISTAT data, the share of children born to mothers older than 41 was 1% in 2010 and grew up to 3.54% in 2016. The share of children born to fathers older than 39 is substantially larger at approximately 9%.

<sup>3</sup> “Atypical” employment comprises members of cooperatives, seasonal/occasional collaborators, and pseudo self-employed among the self-employed, training/apprenticeship contracts and temporary employees among the dependent employees. In Italy, apprenticeship and training contracts are often used by firms as a leverage to reduce labour costs, thus are not necessarily conducive to a stable work contract with the same firm, once expired.



relationship between employment history and the number of children, without confounding timing and probability effects. In addition, instead of considering single episodes of atypical employment, the “overall” effect of employment histories is taken into consideration. The results of MLRs are reported through average marginal effects (AMEs). Finally, we use Poisson regression models to estimate the number of children at age 41 (or more) for profiles defined by different values on the employment history variables. Because the equidispersion assumption (i.e., the mean and the variance of the data are the same) is violated in our data – which are instead characterised by underdispersion – we opted for a generalised Poisson regression model to avoid underestimating standard errors and misleading inference (Harris et al. 2012).

We use a set of indicators describing individuals’ labour market trajectories between 15 and 41 years of age, with a focus on various aspects of career employment instability: *i*) the number of employment spells, of any kind and duration (0, 1, 2, 3, 4, 5 or more); *ii*) the number of months spent with atypical employment contracts (0, 1-11, 12-23, 24-47, 48 or more); *iii*) the number of non-employment spells longer than three months resulted from a voluntary work interruption, e.g., the desire to stop working to look after children or the desire to change job (continuous variable); *iv*) the number of non-employment spells longer than three months resulted from an involuntary work interruption, e.g., dismissal or end of the contract (continuous variable). These indicators are complemented by the speed of the school-to-work transition: the number of months between leaving the school system and the first significant job experience lasting at least six months (first significant job obtained before completing education, 0-23, 24-47, 48 or more, never worked for more than six months).

The modelling strategies share a common set of control variables. To compare individuals as similar as possible at the moment of leaving the school system, but facing different labour market conditions, we control for detailed information on family background characteristics which are well-known to influence childbearing behaviour (Rijken and Liefbroer 2009; Liefbroer and Elzinga 2012). The family background is operationalized through the following variables: the highest among parents’ educational level (primary, lower secondary, upper secondary or tertiary); whether parents have ever separated or divorced; whether parents have ever been married; both the mother’s and the father’s age at the time of the respondent’s birth; both the mother’s and the father’s social class (measured through a 6-categories grouping of the European Socio-economic Classification, hereafter ESeC; see Rose and Harrison 2007); the number of respondents’ siblings (continuous variable). Among the individuals’ characteristics we consider whether the respondent was born in Italy or abroad; the educational level (primary or lower secondary, upper secondary, tertiary); the macro-area of residence measured at the time of the interview (North-East, North-West, Centre, South). Missing values to

control variables were imputed through multiple imputation by chained equations, although the share of missing values was relatively low (0-4%).

All the analyses were stratified by gender and cohort, i.e., 1951-1965 vs 1966-1975. We reasonably surmise that individuals belonging to the older cohorts have experienced virtually no labour market deregulation, while the younger cohorts have been increasingly exposed to the labour market deregulation process.

## 4. Results

### 4.1. Description

Descriptive statistics of labour market related variables for all cohorts – also those not included in the fertility analysis due to their younger age – are reported in the Table 1<sup>4</sup> (population weights provided by Istat have been applied). We find clear evidence, based on the above-mentioned indicators, that employment careers became less stable across cohorts with the progression of labour market deregulation. To document also more recent trends in deregulation and to compare the cohorts included in the fertility analysis with the younger cohorts, we rely on a descriptive that is not affected by the fact that the younger cohorts are not observable until age 41: the share of individuals whose first job was an atypical one. Such share was 18.7% for men and 24.7% for women born between 1951 and 1955, and increased to 31.0% for men and 35.3% for women born between 1971 and 1975. It further increased to 42.3% and 44.4% for men and women from cohorts 1981-1985. In addition, despite not being observed until age 41 as the older cohorts, the share of men who spent 4 years or more in atypical employment has increased with respect to the cohorts included in the fertility analysis (11.4% for cohorts 1971-1975, 15.07% for cohorts 1976-1980, 20.66% for cohorts 1981-1985). Among women, the average number of involuntary employment interruptions experienced by those from the cohorts 1976-1980 and 1981-1985 is higher compared to any other cohort considered for the fertility analysis. Therefore, our focus on cohorts with completed fertility history represents only the tip of the iceberg: the effects of the precarious employment careers will be even more visible with the subsequent (i.e., after 1975) cohorts. Further, women increasingly entered the labour market, though even in the younger cohorts the share of those who never worked remains substantial (about 20%).

In line with the literature, the data also document a noteworthy decline in the number of children over cohorts: the share of childless men rose from 16.7% in the cohort born 1951-55 to 31.3% for those born 1971-75; figures for women are 13.9% and 24.4%, respectively. The share with two or more

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<sup>4</sup> For a complete version see Tables A1-A2 in the appendix; see Tables B1-B2 in the online supplementary material for the descriptive statistics about the other variables.

children went down by about 15 percentage points (pp) for men and 10 pp for women, reaching 44.7% and 49.9% for men and women, respectively.

**Table 1** Descriptive statistics of labour market related variables by cohort

<b>Men</b>	<b>1951-55</b>	<b>1956-60</b>	<b>1961-65</b>	<b>1966-70</b>	<b>1971-75</b>	<b>1976-80</b>	<b>1981-85</b>
Nr. of children at age 41							
<i>0</i>	16.71%	23.07%	25.28%	32.05%	31.27%	43.29%	61.46%
<i>1</i>	22.71%	24.20%	28.29%	22.42%	23.96%	26.41%	20.93%
<i>2 or more</i>	60.58%	52.73%	46.43%	45.53%	44.77%	30.30%	17.61%
Atypical LM entry	18.73%	22.10%	20.25%	23.47%	31.00%	34.68%	42.29%
Nr. of employment spells							
<i>0</i>	4.14%	6.41%	3.22%	6.69%	7.97%	6.07%	9.83%
<i>5 or more</i>	6.47%	8.24%	9.63%	9.43%	9.53%	11.48%	10.46%
Months spent in atypical employment							
<i>0 months</i>	79.25%	77.19%	77.37%	73.41%	73.41%	60.35%	57.16%
<i>48 months or more</i>	10.83%	9.12%	10.20%	11.40%	11.40%	15.07%	20.66%
Nr. of voluntary work interruptions	0.37	0.36	0.38	0.38	0.39	0.49	0.42
Nr. of involuntary work interruptions	0.13	0.19	0.21	0.23	0.28	0.43	0.39
Time from educ. to 1st empl.							
<i>0-23 months</i>	26.23%	29.55%	32.38%	29.65%	27.58%	32.57%	29.64%
<i>48 months or more</i>	23.33%	22.31%	26.05%	27.83%	27.51%	25.81%	21.26%
<b>Women</b>	<b>1951-55</b>	<b>1956-60</b>	<b>1961-65</b>	<b>1966-70</b>	<b>1971-75</b>	<b>1976-80</b>	<b>1981-85</b>
Nr. of children at age 41							
<i>0</i>	13.94%	15.48%	16.89%	19.35%	24.45%	25.34%	45.14%
<i>1</i>	24.09%	21.83%	24.71%	28.35%	25.68%	26.27%	23.63%
<i>2 or more</i>	61.97%	62.69%	58.40%	52.30%	49.87%	48.39%	31.23%
Atypical LM entry	24.75%	25.75%	31.97%	30.14%	35.30%	37.51%	44.39%
Nr. of employment spells							
<i>0</i>	24.49%	28.06%	28.35%	22.93%	19.99%	19.59%	23.14%
<i>5 or more</i>	3.61%	3.68%	6.17%	7.21%	9.87%	8.71%	10.17%
Months spent in atypical employment							
<i>0 months</i>	79.69%	76.91%	73.15%	71.44%	63.17%	64.53%	58.01%
<i>48 months or more</i>	8.91%	7.44%	9.83%	10.88%	12.05%	13.54%	17.55%
Nr. of voluntary work interruptions	0.43	0.41	0.40	0.49	0.46	0.52	0.41
Nr. of involuntary work interruptions	0.19	0.24	0.33	0.28	0.36	0.40	0.41
Time from educ. to 1 <sup>st</sup> empl.							
<i>0-23 months</i>	22.16%	24.13%	23.35%	25.17%	28.31%	26.98%	28.19%
<i>48 months or more</i>	22.56%	18.11%	18.28%	22.76%	23.78%	20.97%	16.33%

Source: authors' elaboration on FSS 2016 data. Cohorts 1976-80 and 1981-85 not included in the fertility analysis.

Note: population weights have been applied.

#### **4.2. *Event history analysis for the transition to the first and to the second child***

As a first step, we modelled the transition to parenthood and to the second child through discrete-time EHA. Results are illustrated in Table 2. For the sake of brevity, we only reported the effects of the main explanatory variable – i.e., time-varying employment status – by gender and cohort. In addition to the Odds Ratios (ORs), we reported, for each category of employment status, the yearly variation in the probability of experiencing the event with respect to the reference category (i.e. permanent employment), computed as the AME (which refers to the monthly variation in the probability of having a(nother) child) multiplied by 12, and thus expressed in pp. Full models are reported in the Appendix (see Tables A3-A4).

Starting with the transition to parenthood, results suggest that atypical employment is related to a lower risk of first birth, especially among the younger cohorts facing labour market deregulation. For example, the odds of having the first child for men working with atypical contracts are lower – compared to those working with permanent contracts – by 28% for the cohorts 1951-1965 and by 44% for the cohorts 1966-1975, which correspond to a decrease in the yearly probability of having the first child by 1.5 pp and 1.9 pp, respectively. A similar – but weaker – effect is detected among women, with virtually no changes across cohorts (OR=0.81 and OR=0.79 for the cohorts 1951-1965 and 1966-1975, respectively).

While self-employment is generally not substantially different from permanent employment, non-employment plays a detrimental role, especially among men. With respect to their counterparts with permanent employment, the ORs of transition to parenthood for non-employed men are 0.43 and 0.44 (corresponding to a decrease in the yearly probability of having the first child by 3.1 pp and 2.4 pp) for the cohorts 1951-1965 and 1966-1975, respectively. Among women, a weaker, negative effect of non-employment on the probability of having the first child is detected only for the youngest cohorts (OR=0.88, corresponding to a variation of -0.7 pp in the yearly probability of conception). This result suggests a partial convergence in men's and women's behaviours. On the one hand, it could indicate that young male breadwinner couples are increasingly struggling to find the resources for childbearing. On the other hand, it can be seen as a signal that work and family have become less incompatible among the younger cohorts of women, both from a cultural and an institutional point of view.

When looking at the transition to the second child, no significant association with employment status emerges among men and women from the cohorts 1951-1965. Conversely, among men from the recent cohorts, both experiencing atypical employment and non-employment are related to a lower yearly probability of having the second child by 9.4 pp and 6.4 pp, respectively, compared to having a permanent contract (OR=0.67 for atypical employment; OR=0.77 for non-employment). As regards

women from the recent cohorts, the monthly probability of having the second child decreases by 5.2 pp (OR=0.80) if they are in atypical employment and increases by 6.6 pp (OR=1.25) for self-employed, while it does not change significantly for non-employed, with respect to women who have a permanent contract.

Overall, these results confirm previous findings – that suffered from being estimated on largely right-censored cohorts (e.g., Barbieri et al. 2015; Vignoli et al. 2012) – showing that, in line with hypothesis 1, experiencing employment insecurity and/or non-employment hampers both the transition to first and second birth. As expected, such relationships are stronger for recent cohorts and for men, confirming hypotheses 2 and 3.

**Table 2** – Discrete-time EHA models, transition to the first child and to the second child. Odds Ratios (OR) and percentage variations in the monthly risk of experiencing the event (% change) are reported.

<b>Transition to the first child</b>												
	<i>Cohorts 1951-65</i>						<i>Cohorts 1966-75</i>					
	MEN			WOMEN			MEN		WOMEN			
	OR	yearly change		OR	yearly change		OR	yearly change	OR	yearly change		
Employment (ref. permanent)												
<i>Atypical empl.</i>	0.72	***	-1.5 pp	0.81	**	-1.2 pp	0.56	***	-1.9 pp	0.79	**	-1.1 pp
<i>Self-empl.</i>	0.90	*	-0.5 pp	1.06		0.3 pp	1.02		0.1 pp	0.91		-0.5 pp
<i>No work</i>	0.43	***	-3.1 pp	0.99		-0.1 pp	0.44	***	-2.4 pp	0.88	**	-0.7 pp
<i>N</i>	3,013			3,133			2,335		2,374			
<i>Person-months</i>	582,961			466,234			489,873		405,721			
<b>Transition to the second child</b>												
	<i>Cohorts 1951-65</i>						<i>Cohorts 1966-75</i>					
	MEN			WOMEN			MEN		WOMEN			
	OR	yearly change		OR	yearly change		OR	yearly change	OR	yearly change		
Employment (ref. permanent)												
<i>Atypical empl.</i>	1.05		1.6 pp	0.92		-2.2 pp	0.67	***	-9.4 pp	0.80	*	-5.2 pp
<i>Self-empl.</i>	1.07		1.8 pp	1.13		3.7 pp	0.99		-0.0 pp	1.25	*	6.6 pp
<i>No work</i>	0.88		-2.9 pp	0.92		-2.1 pp	0.77	**	-6.4 pp	0.96		-0.9 pp
<i>N</i>	2,433			2,662			1,621		1,845			
<i>Person-months</i>	75,258			72,101			42,557		50,513			

Source: authors' elaboration on FSS 2016 data. Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, both parents' age and social class (ESeC) when the respondent was 14, number of siblings, respondent's place of birth and educational level.

### 4.3. *The analysis of quasi-completed fertility at age 41*

Table 3 shows the results of the MLRs on the number of children at age 41 separately by gender and cohort. Average marginal effects are reported. We only show the AMEs relative to the variables about employment careers for the probability of being childless or having two or more children at age 41 – AMEs for the probability of having one child are omitted, but full models are provided in the Appendix, see Tables A5-A6. To measure employment instability, we rely on the information on employment trajectories. The experience of atypical employment for older cohorts is largely unrelated to the number of children at age 41, while a negative relationship emerges in the recent cohorts. For example, among men born between 1966 and 1975, those who spent more than four years in atypical employment (12.5% of men from those cohorts in the analytical sample) are 10.6 pp more likely to be childless and 8.4 pp less likely to have two or more children by age 41 with respect to those who spent zero months in atypical employment, *ceteris paribus*. Among women from the same cohorts, those who spent more than four years in atypical employment (about 13.1% of women from those cohorts in the analytical sample) are 4.3 pp more likely to be childless and 3.6 pp less likely to have two or more children by age 41 than those who never experienced atypical employment, notwithstanding the high uncertainty around our estimates.

Regarding employment instability, results show that having several employment spells (4 or 5 or more) is related to lower chances of childlessness by age 41 among men, both among older and younger cohorts. For instance, men who experienced five or more employment spells are 7.7 pp (cohorts 1951-1965) and 10.1 pp (cohorts 1966-1975) less likely to remain childless than those who had a single employment spell. Note that this indicator is ambiguous, as it might signal career fragmentation as well as career mobility, and its interpretation thus not completely clear. Among women, the number of employment spells plays a significant role especially among the younger cohorts, suggesting a negative interplay with fertility (e.g., women who experienced four employment spells are 14.4 pp less likely to have two or more children by age 41 compared to women who had a single employment spell).

When it comes to work interruptions, whether voluntary or involuntary, they are negatively related to childbearing among men, although involuntary interruptions have a stronger negative effect in the younger cohorts. On average, experiencing an additional involuntary work interruption increases the probability of being childless at 41 by 2.6 pp among the older cohorts and by 5.9 pp among the younger cohorts. Notwithstanding the magnitude of the effect, the number of individuals in the sample who experienced more than one involuntary work interruption is low (3.5% among men from the older cohorts and 5.0% among the younger cohorts). Conversely, among women, voluntary work interruptions have a positive effect on fertility in the older cohorts – for example, each additional

voluntary work interruption is associated to a 5.1 pp increase in the probability of having two or more children at 41– but the effect becomes smaller for the younger cohorts. The relationship between the number of involuntary work interruptions and the number of children by age 41 is not statistically significant among women.

Finally, the time elapsed between the completion of education and the beginning of the first relevant employment spell (i.e., longer than 6 months) plays a negative role on completed fertility levels especially among older cohorts. Among those born in 1951-1965, compared to those who had their first relevant employment within two years since exiting the school system, men who had their first relevant job more than 4 years later are 5.2 pp less likely to have two or more children by age 41, and women who had their first significant employment experience more than 4 years later are 7.0 pp more likely to be childless.

Results confirm that also for completed fertility employment instability comes with negative consequences (hypothesis 5). This is an important addition to previous research and suggests that recuperation does not take place to a sufficient extent. Findings also in this case confirm a stronger negative effect of unstable labour market careers among the youngest cohorts directly affected by labour market deregulation (hypothesis 2), and suggest a partial gender convergence in the effects of the labour-market related variables on fertility, not only in terms of the risks of transition to parenthood, but also in terms of number of children at 41 – a result that is in line with our hypothesis 3. Importantly, career trajectories in terms of number of (non-)employment episodes and time spent into instable employment turn out to be relevant, and provide a more nuanced picture. It is rather the persistency in instable employment and the accumulation of instability to reduce fertility outcome than the single episode (hypothesis 4) – thus exactly those aspects that increase with labour market dualization.

**Table 3** – Multinomial logistic regression on the number of children at 41, labour-related variables. AMEs

	<i>Cohorts 1951-1965</i>				<i>Cohorts 1966-1975</i>			
	MEN		WOMEN		MEN		WOMEN	
	0	2+	0	2+	0	2+	0	2+
Months atyp. empl. (ref. 0)								
<i>1-11 months</i>	0.022	-0.011	0.029	0.039	0.051	-0.008	-0.015	0.050
<i>12-23 months</i>	-0.008	0.036	0.033	0.012	0.031	0.009	-0.018	0.024
<i>24-47 months</i>	-0.036	0.068	-0.029	0.076 *	-0.018	-0.028	-0.026	-0.028
<i>48 months or more</i>	-0.006	-0.026	0.001	0.053	0.106 ***	-0.084 ***	0.043 *	-0.036
Nr. of empl. spells (ref.1)								
0	0.077	0.027	0.110	0.118 **	0.135	-0.025	-0.085 *	-0.021
2	-0.036 *	0.027	0.021	-0.079 ***	-0.076 ***	0.066 **	0.022	-0.026
3	-0.047 *	0.023	0.033	-0.052	-0.081 **	0.052	0.035	-0.056
4	-0.049	-0.001	0.022	-0.084 *	-0.108 ***	0.027	0.116 ***	-0.144 ***
5 or more	-0.077 **	0.023	0.063	-0.082	-0.101 **	0.026	0.104 **	-0.157 ***
N of voluntary work interrup.	0.033 ***	-0.028 **	-0.050 ***	0.051 ***	0.027 **	-0.033 **	-0.025 *	0.037 **
N of involunt. work interrup.	0.026 ***	-0.031 **	0.005	-0.019	0.059 ***	-0.043 ***	-0.001	0.009
Time between educ. and first relevant job (ref. <24 m.)								
<i>Before complet. educ.</i>	0.024	-0.011	0.043 **	-0.026	-0.038	0.045	-0.001	0.015
<i>24-47 months</i>	0.023	0.006	0.034 *	-0.049 *	-0.050 *	0.029	0.014	0.019
<i>48 months +</i>	0.033	-0.052 **	0.070 ***	-0.035	0.046 *	-0.036	0.051 **	-0.041
<i>Never worked &gt; 6 months</i>	0.124	-0.248 ***	0.063	-0.107 **	0.099	-0.151 *	0.156 **	0.018
<i>N</i>	3,019		3,187		2,336		2,392	

Source: authors' elaboration on FSS 2016 data. Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Control variables are the same as in Table 2.

#### 4.4. Predicted fertility outcomes for profiles with different employment histories

But what are the implications of the effects of the different labour market characteristics found in previous models for (quasi-)completed cohort fertility? To substantiate the findings presented so far, Figure 1 displays the predicted number of children at 41 – i.e., mimicking a cohort fertility estimate – estimated through generalised Poisson regression models, separately by gender and cohort, for different profiles. Full models are reported in the Appendix (see Table A7). The characteristics of the profiles were chosen in order to represent, on the one hand, a precarious work-career, and on the other hand, a stable work-career, sticking to realistic combinations of values of the labour market variables.



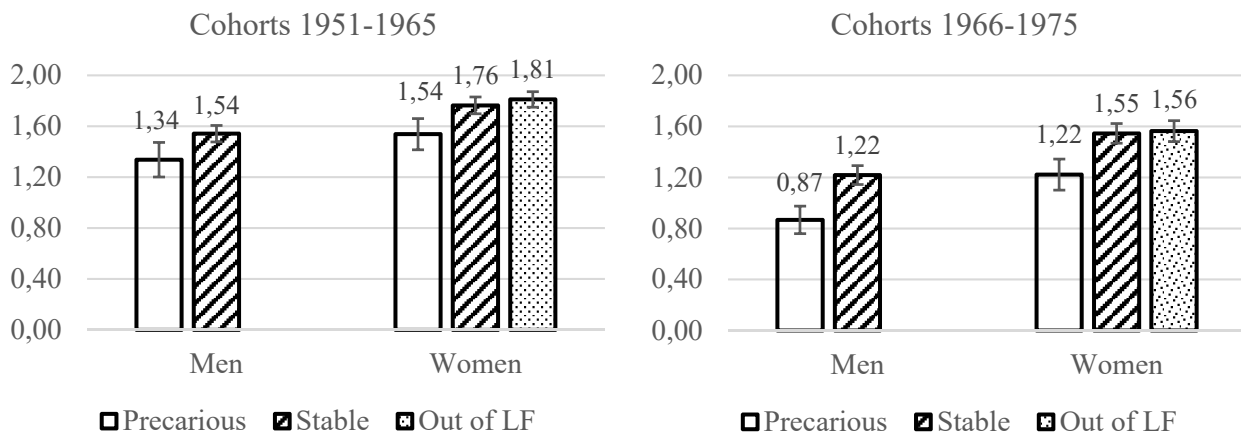
The “precarious career” profile illustrates an individual who started the first significant job more than 4 years after completing education (23.5% of the sample), had three employment spells (14.5% of the sample) and two involuntary non-employment spells (2.9% of the sample), and spent more than 4 years in atypical employment (14.3% of the sample). The “stable career” profile describes an individual who started the first significant job within 2 two years after completing education (28% of the sample), who had only one employment spell (33.1% of the sample), who spent no time in atypical employment (70.3% of the sample) and who has never experienced involuntary non-employment spells (83.2% of the sample). A third profile is defined for women who have never entered the labour market by age 41.<sup>5</sup>

Among men, having a precarious working career translates into a significantly lower predicted number of children by age 41 compared to their counterparts with a more stable employment career. Such difference is particularly pronounced among men born between 1966 and 1975 and much weaker in the older cohort. Indeed, among the older cohorts the predicted number of children for a man with a precarious employment career is 1.34, while for a man with a stable career is 1.54; conversely, the gap widens among the recent cohorts, i.e., 0.87 for the precarious profile vs. 1.22 for the stable profile. Among women, the predicted number of children for those from older cohorts with a precarious career is 1.54, compared to 1.76 for their counterpart with a stable employment career. The predicted number of children for women who have never entered the labour market among the older cohorts is 1.81. Similar to men, also among women the difference between the precarious and the stable profile becomes larger in the recent cohorts, i.e., 1.22 vs. 1.55, while the prediction for the category of women who have never entered the labour market is close to the stable profile, i.e., 1.56. In sum, having a fragmented employment career is associated to lower fertility for men and women, and the effect of career instability is particularly evident when looking at men born in the youngest cohorts. These differences, while re-confirming once more our research hypotheses (especially hypotheses 4 and 5), are substantial and come with relevant implications for the consequences of labour market deregulation for very low fertility countries of Southern Europe.

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<sup>5</sup> The share of women who have never entered the labour market is 20.3%.

**Figure 1** – Predicted number of children by age 41, separately by cohort, gender and profile



Source: authors’ elaboration on FSS 2016 data.

Note: prediction from Poisson regression models (reported in Table A7). Control variables are the same as in Table 2.

#### 4.5. Additional analyses and robustness checks

Our results are confirmed across a large set of additional analyses and robustness checks. For space reasons, results are not shown here but are available upon request. First, we re-estimated the MLRs restricting the sample to individuals who have ever worked. Limiting the sample to individuals who have ever had an employment spell reduces collinearity between labour market-related variables, as the categories for individuals who have never worked are dropped from all the labour market-related variables.<sup>6</sup> Furthermore, this allows adding a variable about respondent’s highest social class reached (International Socio-Economic Index of occupational status, ISEI – see Ganzeboom et al. 1992), and a variable about social mobility. The latter distinguishes between (i) people who only experienced upward mobility during their career, i.e., who moved to a higher social class and never downgraded; (ii) people who experienced only downward mobility, i.e. who moved to a lower social class and never upgraded; (iii) people who experienced both upward and downward mobility; (iv) and people who have never experienced social mobility by age 41. Results (shown in Tables B3-B4 in the online appendix) show few (and negligible) differences compared to the main models, as far as the variables on employment histories are concerned. The variables about ESeC and social mobility are seldom substantially and statistically significant; however, they support the ‘role incompatibility’ hypothesis among women, since high ESeC and upward mobility are related to higher chances of (or preferences for: Hakim 2015) childlessness among women.

Second, we replicated the MLRs adding interaction terms between education and labour market-related variables to test potentially heterogeneous effects of employment instability between the

<sup>6</sup> As a further check against potential multicollinearity issues, we verified that the overall pattern of results does not change if we exclude from the model some of the labour market-related variables, or if we consider them one by one.

higher and the lower educated. Unfortunately, cells size becomes small, and estimates have low statistical precision. However, the results are in line with previous literature as they suggest that the negative effect of temporary employment on fertility is stronger among higher educated women (Vignoli et al. 2020a). Results are reported in the online appendix (see Tables B5-B8).

As we are interested in the total effect of employment instability, we did not control for mediators in the main analyses. Nonetheless, a relevant mediator in the relation between employment and fertility is couple formation. Couple formation is a selective process (Corti and Scherer 2021) and especially men with less “successful” employment situations may be less appealing as partners. Thus, a possible reason why biological reproduction is lower for more unstable employment patterns might be that these persons are less often in a partnership. We re-estimated the MLRs adding a control for union history (ever married vs. ever cohabited without getting married vs. never married nor cohabited). As to be expected, once accounted for union history, results about labour-market insecurity measures show smaller magnitude and lower significance, suggesting that union formation mediates a substantial part of the relationship between employment and fertility (e.g., Aassve et al. 2006; Miettinen and Jalovaara 2020). Results are shown in the online appendix (see Tables B9-B10).

## 5. Discussion

Based on more recent data and extending the analysis beyond transitions to parenthood by considering (quasi-)completed fertility, we were able to assess that employment instability comes with negative consequences for fertility decisions (*Hypothesis 1*), and increasingly does so over time, as younger cohorts are affected by reforms to deregulate the labour market (*Hypothesis 2*). Therefore, not only did employment instability increase over cohorts with the deregulation in due course, but also the adverse effects for demographic behaviour became stronger for the younger cohorts, directly affected by labour market deregulation reforms.

We found re-confirmation for instability reducing the transitions to parenthood and to a second child, also on data that is not affected by right censoring. The novel contribution, though, regards the analysis of completed fertility and more encompassing measures of insecurity, based on career trajectories. Results confirm that also for (quasi-)completed fertility employment instability comes with negative consequences, i.e., a higher probability of remaining childless and a lower probability of having two or more children. Hence, employment instability not only leads to a postponement of fertility decisions, but actually lowers overall fertility (*Hypothesis 5*), as recuperation does not take place to a sufficient extent. The analysis of the consequences of employment trajectories for completed fertility also highlights that the negative effect of employment instability is mainly a question of fragmented employment careers, which are associated to lower fertility (*Hypothesis 4*),

rather than single episodes of involuntary work interruptions or atypical employment. In general, effects are stronger among men, as to be expected in a still rather traditional context as the Italian one, while in the case of women, effects suggest that higher education as well as stronger labour market attachment are associated with lower fertility. Yet, own employment situations gain importance also among women (*Hypothesis 3*) in the younger cohorts, for whom we find clear signals of a gender convergence in the effects of the labour-market instability.

However, one thing is to assess the effect of employment instability for individuals' fertility decisions, another is to assess the *general impact of labour market deregulation on fertility*. The fertility consequences of deregulation are much more difficult to be evaluated, but to assess its importance for societies a shift from period to cohort fertility is essential. To quantify the impact of labour market deregulation in detail goes beyond the possibilities of this paper, but for sure, the documented "precarious employment effects" add to the existing cohort trends, further exacerbating declining fertility.

This work is not free of limitations. Employment histories in the FSS data have been collected retrospectively and might therefore be affected by memory bias (Manzoni et al. 2010), which possibly underestimates employment instability, especially among the older cohorts. We also had to concentrate on employment instability only, though other objective (e.g., income) and subjective sources of employment/economic uncertainty may be relevant as well (van Wijk, de Valk, and Liefbroer 2021). Individuals' perceptions of life insecurity and their subjective framing of the situation – as well as women's views and attitudes about their role – may considerably complement the objective situation of employment instability, affecting individual's decision about fertility (Ciganda 2015; Kreyenfeld 2010; Guetto et al. 2022; Vignoli et al., 2020b). The diffusion of feelings of uncertainty linked to the dominant narrative of growing precarisation might, on the one hand, add to the negative effects of labour market reforms over cohorts, independently of individuals' objective situations. On the other hand, the negative effect of employment instability might be partly counterbalanced by instable employment becoming more "normal" over cohorts. Unfortunately, information on income or subjective perceptions is not available in the data. Finally, to assess completed fertility, the two decades since the introduction of labour market reforms still represent a limited time span.

## **6. Conclusion**

This is the first study that investigates the effects of employment instability on completed fertility in Italy, providing a novel insight. Whereas some years ago the sociodemographic literature (prudently) advised about a possible catch-up in employment instability-induced fertility postponement, this

paper suggests instead that, at least for Italy, the consequence of rising labour market instability for fertility is not only a timing but also a quantum issue.

Labour market deregulation made its contribution through the increase in insecure and unstable employment careers and through increasingly negative effects of these situation, due to the process of labour market dualization. In a country, like Italy, with already very low fertility, this cannot but contribute to massive societal aging and population decline. Further, these insecurity effects are already substantial in the younger cohorts and can reasonably be expected to further grow among those cohorts excluded from our analyses because they did not complete their fertility history yet. Recent policy decisions pointed towards a partial (and controversial) re-regulation of employment, as there is increasing awareness of the negative consequences of rising career fragmentation and instability. From a demographic perspective, if we belief in our results, interventions seem urgent.

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## Appendix

**Table A1** – Descriptive statistics for the dependent variable and for the main explanatory variables (i.e., those related to the labour market), men

	Birth cohort						
	1951-55	1956-60	1961-65	1966-70	1971-75	1976-80	1981-85
Nr. of children at age 41							
<i>0</i>	16.71%	23.07%	25.28%	32.05%	31.27%	43.29%	61.46%
<i>1</i>	22.71%	24.20%	28.29%	22.42%	23.96%	26.41%	20.93%
<i>2 or more</i>	60.58%	52.73%	46.43%	45.53%	44.77%	30.30%	17.61%
Nr. of employment spells							
<i>0</i>	4.14%	6.41%	3.22%	6.69%	7.97%	6.07%	9.83%
<i>1</i>	37.65%	36.34%	34.18%	32.68%	30.15%	34.10%	36.24%
<i>2</i>	28.95%	24.58%	28.27%	27.75%	25.58%	22.86%	22.10%
<i>3</i>	14.25%	15.38%	15.50%	16.87%	16.74%	16.53%	12.39%
<i>4</i>	8.53%	9.04%	9.21%	6.58%	10.33%	8.86%	8.69%
<i>5 or more</i>	6.47%	8.24%	9.63%	9.43%	9.53%	11.48%	10.46%
Months spent in atypical employment							
<i>0 months</i>	79.25%	77.19%	77.37%	73.41%	73.41%	60.35%	57.16%
<i>1-12 months</i>	3.29%	6.19%	5.06%	6.31%	9.04%	10.65%	7.96%
<i>12-23 months</i>	3.29%	3.30%	3.87%	4.31%	5.62%	5.15%	6.99%
<i>24-47 months</i>	3.34%	4.19%	3.49%	4.56%	7.27%	8.78%	7.23%
<i>48 months or more</i>	10.83%	9.12%	10.20%	11.40%	11.40%	15.07%	20.66%
Nr. of voluntary work interruptions	0.37	0.36	0.38	0.38	0.39	0.49	0.42
Nr. of involuntary work interruptions	0.13	0.19	0.21	0.23	0.28	0.43	0.39
Time from end of educ. to 1 <sup>st</sup> employment > 6 months							
<i>First work before completing educ.</i>	25.63%	22.06%	20.22%	19.25%	18.56%	17.78%	19.19%
<i>0-23 months</i>	26.23%	29.55%	32.38%	29.65%	27.58%	32.57%	29.64%
<i>24-47 months</i>	18.76%	18.62%	17.40%	15.38%	16.03%	15.14%	14.31%
<i>48 months or more</i>	23.33%	22.31%	26.05%	27.83%	27.51%	25.81%	21.26%
<i>Never worked for more than 6 months</i>	6.05%	6.67%	3.78%	7.42%	9.96%	6.43%	10.71%

Source: authors' elaboration on FSS 2016 data. Cohorts 1976-80 and 1981-85 not included in the analysis.

**Table A2** – Descriptive statistics for the dependent variable and for the main explanatory variables (i.e., those related to the labour market), women

	Birth cohort						
	1951-55	1956-60	1961-65	1966-70	1971-75	1976-80	1981-85
Nr. of children at age 41							
0	13.94%	15.48%	16.89%	19.35%	24.45%	25.34%	45.14%
1	24.09%	21.83%	24.71%	28.35%	25.68%	26.27%	23.63%
2 or more	61.97%	62.69%	58.40%	52.30%	49.87%	48.39%	31.23%
Nr. of employment spells							
0	24.49%	28.06%	28.35%	22.93%	19.99%	19.59%	23.14%
1	35.36%	32.21%	28.69%	29.45%	26.61%	31.62%	28.95%
2	22.31%	19.55%	19.82%	19.88%	21.21%	19.60%	17.56%
3	10.12%	11.33%	10.66%	14.20%	13.66%	12.06%	12.90%
4	4.11%	5.17%	6.31%	6.33%	8.66%	7.85%	6.99%
5 or more	3.61%	3.68%	6.17%	7.21%	9.87%	8.71%	10.17%
Months spent in atypical employment							
0 months	79.69%	76.91%	73.15%	71.44%	63.17%	64.53%	58.01%
1-12 months	4.66%	6.80%	8.20%	6.83%	8.98%	7.85%	8.78%
12-23 months	3.12%	4.32%	4.14%	4.54%	6.50%	6.62%	6.04%
24-47 months	3.62%	4.53%	4.69%	6.31%	9.30%	7.46%	9.62%
48 months or more	8.91%	7.44%	9.83%	10.88%	12.05%	13.54%	17.55%
Nr. of voluntary work interruptions	0.43	0.41	0.40	0.49	0.46	0.52	0.41
Nr. of involuntary work interruptions	0.19	0.24	0.33	0.28	0.36	0.40	0.41
Time from end of educ. to 1 <sup>st</sup> employment > 6 months							
First work before completing educ.	15.26%	14.59%	16.29%	16.13%	13.61%	17.30%	16.86%
0-23 months	22.16%	24.13%	23.35%	25.17%	28.31%	26.98%	28.19%
24-47 months	13.73%	12.01%	11.35%	11.12%	12.39%	11.72%	10.95%
48 months or more	22.56%	18.11%	18.28%	22.76%	23.78%	20.97%	16.33%
Never worked for more than 6 months	26.29%	31.12%	30.24%	24.16%	21.59%	21.21%	23.12%

Source: authors' elaboration on FSS 2016 data. Cohorts 1976-80 and 1981-85 not included in the analysis.

**Table A3** – Discrete-time event history analysis, **transition to the first child**, full models. ORs are reported

	<i>Cohorts 1951-65</i>			<i>Cohorts 1966-75</i>				
	MEN		WOMEN	MEN		WOMEN		
Cohort (ref. 1951-55)	0.00		0.00					
<i>1956-60</i>	0.79	***	0.96					
<i>1961-65</i>	0.68	***	0.81	***				
Cohort (ref. 1966-70)				0.00		0.00		
<i>1971-75</i>				0.91	*	0.92		
Parental educ. (ref. primary)								
<i>Lower secondary</i>	0.93		0.86	***	1.07	0.91		
<i>Upper secondary / tertiary</i>	0.90		0.77	***	1.00	0.81	**	
Parents ever divorced (ref. no)								
<i>yes</i>	1.00		0.98		1.04	0.93		
Parents ever married (ref. yes)								
<i>no</i>	1.22		1.29		0.82	0.94		
Mother's age at respondent's birth	0.99	*	0.99		0.99	1.00		
Father's age at respondent's birth	0.99	**	0.99		0.98	**		
Mother's ESeC (ref. 6)								
<i>1</i>	0.82		0.86		0.90	0.90		
<i>2</i>	0.86		0.67	*	0.91	0.68	***	
<i>3</i>	0.90		0.82	*	0.96	0.88		
<i>4</i>	0.94		1.03		1.08	1.04		
<i>5</i>	1.01		0.88		0.96	0.87		
<i>Not employed</i>	0.92		0.83	***	0.86	*	0.80	***
<i>Deceased</i>	1.11		1.10		0.93	1.01		
Father's ESeC (ref. 6)								
<i>1</i>	1.03		1.06		1.03	1.14		
<i>2</i>	0.92		1.23	**	1.06	1.06		
<i>3</i>	1.06		1.14	*	0.99	0.99		
<i>4</i>	1.06		1.05		0.99	0.97		
<i>5</i>	0.95		0.97		0.86	0.92		
<i>Not employed</i>	1.05		1.22		1.04	0.90		
<i>Deceased</i>	0.99		1.18		0.74	*	0.93	
Number of siblings	1.06	***	1.05	***	1.09	***	1.05	***
Place of birth (ref. Italy)								
<i>Abroad</i>	1.09		1.00		1.56	***	1.31	***
Education (ref. up to lower sec.)								
<i>Still studying</i>	0.69	***	0.37	***	0.61	***	0.34	***
<i>Upper secondary</i>	0.89	**	0.82	***	0.87	**	0.87	**
<i>tertiary</i>	0.97		0.94		0.87		0.97	
Area of residence (ref. North-W)								
<i>North-East</i>	1.05		1.01		1.06		0.97	
<i>Centre</i>	1.29	***	1.16	**	1.24	**	1.10	
<i>South</i>	1.55	***	1.16	**	1.43	***	1.20	**
Empl. status (ref. permanent)								
<i>Atypical employment</i>	0.72	***	0.80	**	0.56	***	0.79	**
<i>Self-employment</i>	0.90	*	1.06		1.02		0.91	
<i>No work</i>	0.43	***	0.99		0.44	***	0.88	**

Time (months)	1.03 ***	1.02 ***	1.04 ***	1.02 ***
Time squared (months)	0.99 ***	0.99 ***	0.99 ***	0.99 ***
N	3,013	3,133	2,335	2,374
Person-months	582,961	466,234	489,873	405,721

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

ESeC legend: 1 "Employers, mgrs/professionals, higher technicians" 2 "Intermediate occupations, technicians" 3 "Small employers and self-employed (non-agriculture)" 4 "Small employers and self-employed (agriculture)" 5 "Lower sales and service" 6 "Lower technical, routine"

**Table A4** – Discrete-time event history analysis, **transition to the second child**, full models. ORs are reported

	<i>Cohorts 1951-65</i>		<i>Cohorts 1966-75</i>	
	MEN	WOMEN	MEN	WOMEN
Cohort (ref. 1951-55)				
<i>1956-60</i>	0.97	0.95		
<i>1961-65</i>	1.12 *	1.00		
Cohort (ref. 1966-70)				
<i>1971-75</i>			1.15 **	1.17 **
Parental educ. (ref. primary)				
<i>Lower secondary</i>	1.07	1.22 ***	1.05	0.99
<i>Upper secondary / tertiary</i>	1.10	1.07	1.02	1.14
Parents ever divorced (ref. no)				
<i>yes</i>	0.68 *	1.02	0.75	0.96
Parents ever married (ref. yes)				
<i>no</i>	1.01	0.95	0.75	1.01
Mother's age at respondent's birth	1.00	0.99	1.00	1.01
Father's age at respondent's birth	1.00	1.00	1.00	1.00
Mother's ESeC (ref. 6)				
<i>1</i>	1.11	0.81	1.04	1.06
<i>2</i>	1.79 **	0.84	1.22	1.30
<i>3</i>	1.57 ***	0.91	1.63 ***	1.07
<i>4</i>	1.49 ***	0.94	1.15	1.47 **
<i>5</i>	1.09	0.78	1.28	1.22
<i>Not employed</i>	1.17 *	0.95	1.36 ***	1.13
<i>Deceased</i>	0.97	1.11	2.21 ***	0.74
Father's ESeC (ref. 6)				
<i>1</i>	0.96	1.05	1.31 **	1.07
<i>2</i>	1.23	0.84	1.00	0.92
<i>3</i>	0.96	1.06	0.96	0.90
<i>4</i>	1.11	1.08	1.01	0.86
<i>5</i>	0.87	1.08	0.65 **	0.93
<i>Not employed</i>	1.13	0.83	1.19	1.02
<i>Deceased</i>	1.00	1.20	1.08	1.14
Number of siblings	1.01	1.01	1.00	0.98
Place of birth (ref. Italy)				
<i>Abroad</i>	1.16	0.97	0.78 **	0.74 **
Education (ref. up to lower sec.)				
<i>Still studying</i>	0.84	0.87	1.14	0.89
<i>Upper secondary</i>	1.14 **	1.38 ***	1.25 ***	1.39 ***
<i>Tertiary</i>	1.71 ***	2.37 ***	2.15 ***	2.10 ***
Area of residence (ref. North-W)				
<i>North-East</i>	0.94	0.95	0.98	1.06
<i>Centre</i>	0.87	0.91	0.89	0.85
<i>South</i>	1.03	1.18 **	0.97	0.80 **
Empl. status (ref. permanent)				
<i>Atypical employment</i>	1.06	0.92	0.67 ***	0.80
<i>Self-employment</i>	1.07	1.13	0.99	1.25 **
<i>No work</i>	0.88	0.92	0.77 **	0.97

Age at first childbirth	0.89 ***	0.85 ***	0.92 ***	0.90 ***
Time (months)	1.03 ***	1.03 ***	1.03 ***	1.03 ***
Time squared (months)	0.99 ***	0.99 ***	0.99 ***	0.99 ***
N	2,433	2,662	1,621	1,845
Person-months	75,258	72,101	42,557	50,513

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

ESeC legend: 1 "Employers, mgrs/professionals, higher technicians" 2 "Intermediate occupations, technicians" 3 "Small employers and self-employed (non-agriculture)" 4 "Small employers and self-employed (agriculture)" 5 "Lower sales and service" 6 "Lower technical, routine"

**Table A5** – Multinomial logistic regression on the number of children at 41, **cohorts: 1951-1965**, full models. Relative Risk Ratios are reported

	MEN		WOMEN	
	<i>No children</i>	<i>2+ children</i>	<i>No children</i>	<i>2+ children</i>
Cohort (ref. 1951-55)				
<i>1956-60</i>	1.27 *	0.83	1.03	1.10
<i>1961-65</i>	1.20	0.66 ***	1.07	0.95
Parental educ. (ref. primary)				
<i>Lower secondary</i>	0.86	0.86	1.06	0.90
<i>Upper secondary / tertiary</i>	0.92	0.82	1.57 *	1.05
Parents ever divorced (ref. no)				
<i>yes</i>	0.67	0.60 **	1.41	1.11
Parents ever married (ref. yes)				
<i>no</i>	0.84	0.49 *	0.50	0.47 **
Mother's age at respondent's birth	1.01	0.98	1.03 *	1.01
Father's age at respondent's birth	1.02	1.01	1.01	0.99
Mother's ESeC (ref. 6)				
<i>1</i>	1.24	0.96	0.90	0.77
<i>2</i>	1.72	1.60	2.11	1.46
<i>3</i>	0.76	0.56 **	0.91	0.82
<i>4</i>	0.75	0.75	0.69	1.17
<i>5</i>	0.81	1.01	1.05	0.85
<i>Not employed</i>	0.75	0.71 **	0.99	0.83
<i>Deceased</i>	0.53	0.65	0.92	1.04
Father's ESeC (ref. 6)				
<i>1</i>	1.07	1.11	0.48 ***	0.65 **
<i>2</i>	1.09	0.82	0.34 ***	0.71
<i>3</i>	0.99	1.03	0.74	1.17
<i>4</i>	1.07	1.29	0.97	1.04
<i>5</i>	1.12	0.88	0.55 **	0.57 ***
<i>Not employed</i>	0.83	0.68 *	0.96	1.05
<i>Deceased</i>	1.30	1.25	0.68	0.97
Number of siblings	1.00	1.18 ***	0.97	1.13 ***
Place of birth (ref. Italy)				
<i>Abroad</i>	1.21	1.29	1.64 **	1.32
Education (ref. up to lower sec.)				
<i>Upper secondary</i>	1.13	0.96	1.50 ***	1.07
<i>Tertiary</i>	1.34	0.80	2.44 ***	1.18
Area of residence (ref. North-W)				
<i>North-East</i>	1.05	1.35 **	0.95	1.03
<i>Centre</i>	0.86	1.47 ***	0.62 **	1.07
<i>South</i>	1.20	3.23 ***	1.30	2.05 ***
Nr. of empl. spells (ref. 1)				
<i>0</i>	2.44	1.96	1.27	1.96 **
<i>2</i>	0.82	1.02	0.91	0.68 **
<i>3</i>	0.72 *	0.95	1.13	0.84
<i>4</i>	0.65 *	0.81	0.90	0.66 *
<i>5 or more</i>	0.54 **	0.84	1.32	0.79
Months in atypical empl. (ref. 0)				
<i>1-11 months</i>	1.16	1.03	1.66 **	1.49 **
<i>12-23 months</i>	1.09	1.23	1.50	1.26
<i>24-47 months</i>	0.96	1.34	1.06	1.54 *

	<i>48 months or more</i>	0.85		0.83		1.28		1.41	**
Nr of voluntary work interruptions		1.19	**	0.96		0.72	***	1.11	
Nr of involuntary work interruptions		1.10		0.91		0.97		0.91	
Time from educ to 1st relevant job (ref. 0-23 months)									
	<i>First work before completing educ.</i>	1.19		1.03		1.49	**	1.03	
	<i>24-47 months</i>	1.28		1.16		1.21		0.85	
	<i>48 months or more</i>	1.09		0.82		1.91	***	1.10	
	<i>Never worked &gt; 6 months</i>	1.07		0.33	**	1.30		0.67	
N		3,019			3,187				

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

ESeC legend: 1 "Employers, managers/professionals, higher technicians" 2 "Intermediate occupations, technicians" 3 "Small employers and self-employed (non-agriculture)" 4 "Small employers and self-employed (agriculture)" 5 "Lower sales and service" 6 "Lower technical, routine"



**Table A6** – Multinomial logistic regression on the number of children at 41, **cohorts: 1966-1975**, full models. Relative Risk Ratios are reported

	MEN		WOMEN	
	<i>No children</i>	<i>2+ children</i>	<i>No children</i>	<i>2+ children</i>
Cohort (ref. 1966-70)				
<i>1971-75</i>	1.09	1.01	1.19	1.09
Parental educ. (ref. primary)				
<i>Lower secondary</i>	0.89	0.92	1.07	0.94
<i>Upper secondary / tertiary</i>	0.85	0.79	1.09	0.92
Parents ever divorced (ref. no)				
<i>yes</i>	1.15	1.01	1.38	1.01
Parents ever married (ref. yes)				
<i>no</i>	0.98	0.60	1.04	0.64
Mother's age at respondent's birth	1.01	0.99	0.99	1.02
Father's age at respondent's birth	1.03 *	1.01	1.01	0.97 **
Mother's ESeC (ref. 6)				
<i>1</i>	1.05	0.72	1.06	0.87
<i>2</i>	0.76	0.66	1.55	0.88
<i>3</i>	1.22	0.99	1.41	1.01
<i>4</i>	0.75	0.61	1.27	1.47
<i>5</i>	1.06	0.84	1.39	1.00
<i>Not employed</i>	1.18	0.85	1.43 *	0.86
<i>Deceased</i>	0.40 *	0.36 **	1.02	1.18
Father's ESeC (ref. 6)				
<i>1</i>	1.07	1.22	0.93	1.21
<i>2</i>	1.14	1.21	0.81	0.87
<i>3</i>	1.01	1.18	1.22	1.24
<i>4</i>	1.08	1.21	0.91	0.78
<i>5</i>	1.44	1.17	1.18	1.09
<i>Not employed</i>	0.96	1.24	1.47	1.44
<i>Deceased</i>	1.96 *	1.43	0.63	0.63 *
Number of siblings	0.95	1.15 ***	0.98	1.08 **
Place of birth (ref. Italy)				
<i>Abroad</i>	0.78	1.49 **	0.78	0.93
Education (ref. up to lower sec.)				
<i>Upper secondary</i>	1.07	0.93	1.09	0.86
<i>Tertiary</i>	1.39 *	1.04	1.60 **	0.95
Area of residence (ref. North-W)				
<i>North-East</i>	0.93	1.09	1.12	1.15
<i>Centre</i>	0.95	1.40 *	0.84	0.89
<i>South</i>	0.78	1.67 ***	1.36 *	1.49 ***
Nr. of empl. spells (ref. 1)				
<i>0</i>	2.86 *	1.89	0.40 *	0.65
<i>2</i>	0.74 *	1.12	1.09	0.93
<i>3</i>	0.67 **	1.01	1.07	0.82
<i>4</i>	0.50 ***	0.78	1.41	0.65 *
<i>5 or more</i>	0.52 **	0.79	1.23	0.57 **
Months in atypical empl. (ref. 0)				
<i>1-11 months</i>	1.45 *	1.20	1.08	1.28
<i>12-23 months</i>	1.34	1.23	0.94	1.08
<i>24-47 months</i>	0.78	0.78	0.73	0.77
<i>48 months or more</i>	1.54 **	0.89	1.23	0.95

Nr of voluntary work interruptions	1.07	0.89	0.93	1.13	*
Nr of involuntary work interruptions	1.31	***	0.97	1.03	1.05
Time from educ. to 1st relevant job (ref. 0-23 months)					
<i>First work before completing educ.</i>	0.90	1.14	1.04	1.08	
<i>24-47 months</i>	0.76	0.98	1.21	1.16	
<i>48 months or more</i>	1.21	0.96	1.33	*	0.94
<i>Never worked &gt; 6 months</i>	1.10	0.53	4.47	***	2.44
N		2,336		2,392	

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

ESeC legend: 1 "Employers, mgrs/professionals, higher technicians" 2 "Intermediate occupations, technicians" 3 "Small employers and self-employed (non-agriculture)" 4 "Small employers and self-employed (agriculture)" 5 "Lower sales and service" 6 "Lower technical, routine"

**Table A7** – Generalised Poisson regression on the **number of children** at age 41.

	<i>Cohorts 1951-65</i>		<i>Cohorts 1966-75</i>	
	MEN	WOMEN	MEN	WOMEN
Cohort (ref. 1951-55)				
<i>1956-60</i>	-0.10 ***	-0.01		
<i>1961-65</i>	-0.16 ***	-0.05 *		
Cohort (ref. 1966-70)				
<i>1971-75</i>			-0.01	-0.01
Parental educ. (ref. primary)				
<i>Lower secondary</i>	0.01	-0.04	0.01	-0.02
<i>Upper secondary / tertiary</i>	-0.05	-0.05	-0.03	-0.05
Parents ever divorced (ref. no)				
<i>yes</i>	-0.02	-0.05	-0.02	-0.04
Parents ever married (ref. yes)				
<i>no</i>	-0.11	-0.11	-0.15	-0.15
Mother's age at respondent's birth				
Father's age at respondent's birth	-0.01 **	-0.01	-0.01	0.01
Parental educ. (ref. primary)	-0.01	-0.01	-0.01	-0.01 *
Mother's ESeC (ref. 6)				
<i>1</i>	-0.03	-0.06	-0.12	-0.01
<i>2</i>	-0.04	-0.11	0.00	-0.08
<i>3</i>	-0.11	-0.03	-0.07	-0.04
<i>4</i>	0.02	0.01	-0.13	0.11
<i>5</i>	0.03	-0.06	-0.12	-0.02
<i>Not employed</i>	-0.03	-0.05 *	-0.09 *	-0.07 *
<i>Deceased</i>	0.01	0.03	-0.09	0.02
Father's ESeC (ref. 6)				
<i>1</i>	0.02	0.02	0.06	0.11 *
<i>2</i>	-0.05	0.05	0.02	-0.01
<i>3</i>	0.01	0.07 *	0.05	0.03
<i>4</i>	0.06	0.07	0.10	-0.02
<i>5</i>	-0.06	-0.04	-0.05	0.02
<i>Not employed</i>	-0.07	0.01	0.09	0.07
<i>Deceased</i>	0.02	0.05	-0.08	-0.02
Number of siblings	0.05 ***	0.04 ***	0.06 ***	0.03 ***
Place of birth (ref. Italy)				
<i>Abroad</i>	0.06	0.04	0.21 ***	0.09 **
Education (ref. up to lower sec.)				
<i>Upper secondary</i>	-0.07 **	-0.08 ***	-0.10 **	-0.09 **
<i>Tertiary</i>	-0.16 ***	-0.15 ***	-0.12 *	-0.17 ***
Area of residence (ref. North-W)				
<i>North-East</i>	0.09 **	0.02	0.08	0.03
<i>Centre</i>	0.14 **	0.08 *	0.14 **	-0.02
<i>South</i>	0.33 ***	0.17 ***	0.26 ***	0.04
Nr. of empl. spells (ref. 1)				
<i>0</i>	-0.05	0.21 ***	-0.16	0.18
<i>2</i>	0.01	-0.10 ***	0.11 *	-0.02
<i>3</i>	0.04	-0.09 **	0.09 *	-0.09 *
<i>4</i>	-0.01	-0.11 *	0.08	-0.22 ***
<i>5 or more</i>	0.06	-0.17 **	0.07	-0.21 **
Months in atypical empl. (ref. 0)				

<i>1-11 months</i>	-0.03		0.03		-0.05		0.05
<i>12-23 months</i>	0.08		-0.02		0.04		0.04
<i>24-47 months</i>	0.09		0.08		0.01		0.02
<i>48 months or more</i>	-0.02		0.06		-0.13	**	-0.07
Nr of voluntary work interrupt.	-0.04	**	0.09	***	-0.05	**	0.05
Nr of involuntary work interrupt.	-0.04		-0.02		-0.12	***	0.01
Time from educ. to 1st relevant job (ref. 0-23 months)							
<i>First work before completing educ.</i>	-0.04		-0.03		0.06		0.01
<i>24-47 months</i>	-0.04		-0.07	**	0.06		-0.03
<i>48 months or more</i>	-0.09	**	-0.07	**	-0.07		-0.08
<i>Never worked &gt; 6 months</i>	-0.33	**	-0.15	*	-0.28		-0.14
N	3,019		3,187		2,336		2,392

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

ESeC legend: 1 "Employers, mgrs/professionals, higher technicians" 2 "Intermediate occupations, technicians" 3 "Small employers and self-employed (non-agriculture)" 4 "Small employers and self-employed (agriculture)" 5 "Lower sales and service" 6 "Lower technical, routine"

## Online Appendix

**Table B1** – Descriptive statistics for the control variables, men (N=5,355)

	Birth cohort				
	1951-55	1956-60	1961-65	1966-70	1971-75
Parental education					
<i>Primary</i>	76.2%	68.9%	60.9%	51.8%	40.1%
<i>Lower secondary</i>	14.1%	17.1%	23.3%	28.7%	37.7%
<i>Upper secondary / tertiary</i>	7.6%	11.3%	13.8%	17.6%	20.7%
<i>Missing</i>	2.1%	2.7%	2.0%	1.9%	1.5%
Parents ever divorced					
<i>No</i>	94.1%	95.8%	94.5%	93.5%	91.5%
<i>Yes</i>	3.5%	2.7%	3.7%	4.8%	6.7%
<i>Missing</i>	2.4%	1.5%	1.8%	1.7%	1.8%
Parents ever married					
<i>No</i>	1.8%	0.8%	1.4%	1.9%	1.9%
<i>Yes</i>	96.5%	97.7%	97.1%	96.6%	96.7%
<i>Missing</i>	1.7%	1.5%	1.5%	1.5%	1.4%
Mother's age	28.9	29.3	29.3	28.7	28.4
Father's age	32.8	33.1	33.5	32.9	32.3
Mother's ESeC					
1	2.3%	2.8%	5.1%	5.6%	7.6%
2	0.7%	1.1%	1.8%	2.0%	3.1%
3	4.9%	5.3%	6.3%	7.3%	7.3%
4	5.9%	4.8%	3.8%	2.7%	1.8%
5	2.0%	2.1%	2.6%	3.5%	3.8%
6	12.0%	13.0%	12.1%	12.8%	10.5%
<i>Not employed</i>	67.2%	66.3%	64.2%	62.6%	62.7%
<i>Dead</i>	1.3%	1.0%	1.2%	1.3%	1.2%
<i>Missing</i>	3.7%	3.6%	2.9%	2.2%	2.0%
Father's ESeC					
1	8.6%	9.1%	14.2%	14.0%	16.3%
2	3.2%	4.2%	3.0%	5.6%	4.9%
3	14.1%	13.6%	14.9%	15.4%	18.5%
4	13.5%	11.4%	8.5%	7.5%	6.2%
5	4.3%	4.9%	4.9%	5.0%	6.0%
6	42.3%	44.2%	42.2%	40.3%	39.2%
<i>Not employed</i>	4.0%	4.7%	4.4%	4.0%	3.9%
<i>Dead</i>	4.8%	3.6%	4.5%	3.8%	2.2%
<i>Missing</i>	5.2%	4.3%	3.4%	4.4%	2.8%
Number of siblings	2.8	2.6	2.5	2.1	2.0
Place of birth					
<i>Italy</i>	95.6%	94.8%	92.3%	90.2%	88.3%
<i>Abroad</i>	4.1%	4.2%	7.4%	9.2%	11.1%
<i>Missing</i>	0.3%	1.0%	0.3%	0.6%	0.6%
Respondent's education					
<i>Up to lower secondary</i>	52.4%	46.0%	44.2%	40.2%	36.6%

	<i>Upper secondary</i>	36.2%	41.0%	42.7%	44.9%	46.3%
	<i>Tertiary</i>	11.4%	13.0%	13.1%	14.9%	17.1%
Area of residence						
	<i>North-West</i>	20.3%	19.1%	20.7%	22.0%	19.4%
	<i>North-East</i>	21.2%	25.6%	25.3%	26.9%	22.9%
	<i>Centre</i>	16.7%	17.1%	15.9%	16.3%	18.4%
	<i>South</i>	41.8%	38.2%	38.1%	34.8%	39.3%
N		980	968	1,071	1,218	1,118

*ESeC legend: 1 "Employers, mgrs/professionals, higher technicians" 2 "Intermediate occupations, technicians" 3 "Small employers and self-employed (non-agriculture)" 4 "Small employers and self-employed (agriculture)" 5 "Lower sales and service" 6 "Lower technical, routine"*

*Source: authors' elaboration on FSS 2016 data*

**Table B2** – Descriptive statistics for the control variables, women (N=5,579)

	Birth cohort				
	1951-55	1956-60	1961-65	1966-70	1971-75
Parental education					
<i>Primary</i>	74.4%	68.2%	62.9%	51.8%	40.9%
<i>Lower secondary</i>	13.2%	16.2%	22.1%	27.6%	33.6%
<i>Upper secondary / tertiary</i>	9.4%	12.6%	13.0%	19.1%	24.1%
<i>Missing</i>	3.0%	3.0%	2.0%	1.5%	1.4%
Parents ever divorced					
<i>No</i>	94.9%	94.5%	95.7%	90.5%	91.4%
<i>Yes</i>	3.1%	3.8%	2.8%	7.7%	7.7%
<i>Missing</i>	2.0%	1.7%	1.5%	1.8%	0.9%
Parents ever married					
<i>No</i>	1.8%	2.2%	1.5%	3.2%	1.8%
<i>Yes</i>	97.2%	95.9%	97.1%	96.0%	97.2%
<i>Missing</i>	1.0%	1.9%	1.4%	0.8%	1.0%
Mother's age	29.1	29.3	29.3	28.7	28.2
Father's age	33.3	33.5	33.2	32.5	32.1
Mother's ESeC					
<i>1</i>	3.7%	3.8%	4.7%	6.9%	8.4%
<i>2</i>	0.7%	1.1%	2.1%	2.8%	4.4%
<i>3</i>	5.7%	7.4%	6.0%	8.6%	8.2%
<i>4</i>	7.2%	3.8%	5.6%	2.8%	3.2%
<i>5</i>	2.1%	2.4%	3.0%	3.6%	5.1%
<i>6</i>	15.2%	13.0%	15.0%	13.4%	14.6%
<i>Not employed</i>	60.5%	64.1%	59.5%	58.9%	52.5%
<i>Dead</i>	2.1%	1.4%	1.2%	1.0%	0.8%
<i>Missing</i>	2.8%	3.0%	2.9%	2.0%	2.8%
Father's ESeC					
<i>1</i>	10.3%	12.2%	11.5%	15.3%	16.6%
<i>2</i>	3.3%	3.9%	4.1%	5.5%	5.5%
<i>3</i>	12.3%	14.3%	15.0%	17.0%	17.1%
<i>4</i>	12.8%	9.1%	8.6%	6.6%	5.9%
<i>5</i>	4.2%	5.1%	4.3%	5.0%	6.9%
<i>6</i>	43.3%	42.1%	44.4%	39.6%	38.1%
<i>Not employed</i>	3.8%	3.9%	3.3%	3.4%	3.9%
<i>Dead</i>	4.8%	4.4%	4.4%	3.7%	2.8%
<i>Missing</i>	5.2%	5.0%	4.4%	3.9%	3.2%
Number of siblings	2.6	2.7	2.4	2.2	1.9
Place of birth					
<i>Italy</i>	93.6%	92.1%	89.1%	85.7%	86.6%
<i>Abroad</i>	5.9%	7.7%	10.5%	13.9%	13.2%
<i>Missing</i>	0.5%	0.2%	0.4%	0.4%	0.2%
Respondent's education					
<i>Up to lower secondary</i>	57.7%	47.5%	41.8%	35.8%	29.2%
<i>Upper secondary</i>	28.7%	38.4%	42.2%	44.4%	47.0%
<i>Tertiary</i>	13.6%	14.1%	16.0%	19.8%	23.8%
Area of residence					

<i>North-West</i>	22.0%	20.5%	20.3%	19.6%	22.2%
<i>North-East</i>	24.0%	22.8%	24.5%	23.3%	24.6%
<i>Centre</i>	18.6%	17.7%	17.3%	17.8%	16.4%
<i>South</i>	35.4%	39.0%	37.9%	39.3%	36.8%
N	958	1,094	1,135	1,191	1,201

*ESeC legend: 1 "Employers, mgrs/professionals, higher technicians" 2 "Intermediate occupations, technicians" 3 "Small employers and self-employed (non-agriculture)" 4 "Small employers and self-employed (agriculture)" 5 "Lower sales and service" 6 "Lower technical, routine"*

*Source: authors' elaboration on FSS 2016 data*



**Table B3** – Multinomial logistic regression on the number of children at 41, cohorts: 1951-1965, labour-related variables, individuals who have worked at least once before 41. AMEs are reported

	Men (N=2,842)					Women (N=2,423)				
	childless	1 child	2+ children			childless	1 child	2+ children		
<b>Nr. of empl. spells (ref. 1)</b>										
2	-0.030	0.022	0.008			-0.002	0.059 **	-0.057 *		
3	-0.042	0.043	-0.001			0.005	0.014	-0.019		
4	-0.045	0.081 **	-0.036			-0.007	0.045	-0.038		
5 or more	-0.077 **	0.088 *	-0.011			0.033	0.004	-0.037		
<b>Months in atypical empl. (ref. 0)</b>										
1-11 months	0.020	-0.004	-0.016			0.028	-0.075 **	0.047		
12-23 months	-0.009	-0.030	0.039			0.028	-0.051	0.022		
24-47 months	-0.030	-0.028	0.058			-0.025	-0.053	0.079 *		
48 months or more	-0.004	0.026	-0.023			-0.001	-0.058 **	0.059 *		
<b>Nr. of voluntary work interruptions</b>										
	0.033 ***	-0.003	-0.029 **			-0.053 ***	-0.001	0.054 ***		
<b>Nr. of involuntary work interruptions</b>										
	0.026 **	0.005	-0.031 *			0.005	0.018 *	-0.024 *		
<b>Time between educ. and first relevant job (ref. 0-23 months)</b>										
First work before completing educ.	0.023	-0.015	-0.008			0.049 **	-0.024	-0.026		
24-47 months	0.025	-0.029	0.004			0.039 *	0.010	-0.048 *		
48 months or more	0.036 *	0.017	-0.053 **			0.086 ***	-0.047 *	-0.040		
Never worked for more than 6 months	0.102	0.173	-0.275 **			0.073	-0.002	-0.071		
<b>Highest ISEI</b>										
	-0.001	-0.001	0.002 **			0.001 **	-0.001	-0.001		
<b>Social mob. (ref. only upward)</b>										
Only downward	-0.041	0.061 *	-0.020			-0.029	-0.062 **	0.091 ***		
Up & down	-0.005	0.002	0.002			-0.009	-0.002	0.011		
No mobility	-0.003	0.035	-0.032			-0.044 *	-0.023	0.067 **		

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, age of respondents' mother and father, mother's and father's ESeC when the respondent was 14, number of siblings, place of birth, respondent's educational level.

**Table B4** – Multinomial logistic regression on the number of children at 41, cohorts: 1966-1975, labour-related variables, individuals who have worked at least once before 41. AMEs are reported

	Men (N=2,185)					Women (N=1,962)				
	childless		1 child	2+ children		childless		1 child	2+ children	
Nr. of empl. spells (ref. 1)										
2	-0.052	*	0.003	0.049		0.008		0.009	-0.017	
3	-0.059		0.012	0.047		0.029		0.026	-0.054	
4	-0.083	*	0.055	0.028		0.116	**	0.030	-0.146	***
5 or more	-0.084	*	0.052	0.032		0.106	*	0.051	-0.157	***
Months in atypical empl. (ref. 0)										
1-11 months	0.054		-0.049	-0.005		-0.026		-0.037	0.063	
12-23 months	0.018		-0.046	0.027		-0.022		-0.012	0.033	
24-47 months	-0.008		0.045	-0.036		-0.029		0.051	-0.022	
48 months or more	0.105	***	-0.024	-0.081	**	0.042		-0.008	-0.034	
Nr. of voluntary work interruptions										
	0.025	*	0.006	-0.031	**	-0.023	*	-0.016	0.038	**
Nr. of involuntary work interruptions										
	0.056	***	-0.017	-0.039	**	-0.002		-0.010	0.012	
Time between educ. and first relevant job (ref. 0-23 months)										
First work before completing educ.	-0.035		-0.012	0.046		-0.001		-0.015	0.015	
24-47 months	-0.046		0.021	0.025		0.019		-0.032	0.013	
48 months or more	0.058	**	-0.13	-0.046		0.063	**	-0.023	-0.040	
Never worked for more than 6 months	0.090		0.189	-0.279	**	0.252	***	-0.143	**	-0.109
Highest ISEI										
	-0.001	*	0.000	0.001		0.001		0.000	-0.001	
Social mob. (ref. only upward)										
Only downward	0.057		-0.034	-0.023		-0.067	*	0.055	0.012	
Up & down	0.053		0.001	-0.054		-0.078	**	0.064	*	0.014
No mobility	0.048		-0.023	-0.025		-0.063	*	0.048	0.015	

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, age of respondents' mother and father, mother's and father's ESeC when the respondent was 14, number of siblings, place of birth, respondent's educational level.

**Table B5** – Multinomial logistic regression on the number of children at 41, cohorts: 1951-1965, labour-related variables interacted with education. AMEs are reported, men (N=2,842)

	Low education					High education					
	childless		1 child	2+ children		childless		1 child	2+ children		
Nr. of empl. spells (ref. 1)											
0	0.058		-0.071	0.013		-0.237	***	-0.253	***	0.489	***
2	-0.048	**	0.008	0.039		0.025		0.010		-0.036	
3	-0.055	**	0.015	0.040		-0.034		0.089		-0.053	
4	-0.066	**	0.057	0.009		0.055		-0.034		-0.021	
5 or more	-0.085	**	0.041	0.043		-0.089		0.262	*	-0.173	
Months in atypical empl. (ref. 0)											
1-11 months	0.028		-0.033	0.004		-0.010		0.146		-0.136	
12-23 months	0.019		-0.032	0.014		-0.186	**	0.062		0.124	
24-47 months	-0.041		-0.016	0.057		0.007		-0.165	**	0.158	
48 months or more	-0.018		0.036	-0.019		0.025		0.001		-0.027	
Nr. of voluntary work interruptions											
	0.029	**	-0.001	-0.029	**	0.080	*	-0.075	*	-0.006	
Nr. of involuntary work interruptions											
	0.021	*	0.007	-0.028	*	0.090		0.021		-0.112	
Time between educ. and first relevant job (ref. 0-23 months)											
First work before completing educ.	0.018		-0.015	-0.003		0.045		0.003		-0.048	
24-47 months	0.016		-0.034	0.018		0.070		0.006		-0.077	
48 months or more	0.024		0.007	-0.031		0.008		0.184	**	-0.193	**
Never worked for more than 6 months	0.127		0.056	-0.183	**	-0.016		0.551	***	-0.534	

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, age of respondents' mother and father, mother's and father's ESeC when the respondent was 14, number of siblings, place of birth.

**Table B6** – Multinomial logistic regression on the number of children at 41, cohorts: 1951-1965, labour-related variables interacted with education. AMEs are reported, women (N=2,423)

	Low education						High education					
	childless		1 child		2+ children		childless		1 child		2+ children	
Nr. of empl. spells (ref. 1)												
0	-0.034		-0.088	**	0.123	**	-0.084		0.143		-0.060	
2	0.014		0.064	**	-0.078	***	0.027		0.061		-0.089	
3	0.049	*	0.027		-0.077	**	-0.064		-0.001		0.064	
4	0.012		0.071		-0.083	*	0.087		0.049		-0.137	
5 or more	0.070		0.029		-0.100	*	0.069		-0.027		-0.041	
Months in atypical empl. (ref. 0)												
1-11 months	0.012		-0.061	**	0.049		0.212	**	-0.142	**	-0.070	
12-23 months	0.017		-0.031		0.013		0.146		-0.129	*	-0.018	
24-47 months	-0.028		-0.046		0.074	*	-0.001		-0.122	*	0.123	
48 months or more	-0.004		-0.039		0.044		0.031		-0.119	**	0.089	
Nr. of voluntary work interruptions												
	-0.051	***	-0.001		0.052	***	-0.070	*	-0.005		0.075	*
Nr. of involuntary work interruptions												
	0.008		0.012		-0.021		-0.024		0.031		-0.006	
Time between educ. and first relevant job (ref. 0-23 months)												
First work before completing educ.	0.053	**	-0.007		-0.046		0.055		-0.042		-0.013	
24-47 months	0.023		0.022		-0.045		0.092		0.008		-0.084	
48 months or more	0.052	***	-0.019		-0.033		0.129	*	-0.115	*	-0.014	
Never worked for more than 6 months	0.048		0.055		-0.104	*	0.217		-0.071		-0.145	

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, age of respondents' mother and father, mother's and father's ESeC when the respondent was 14, number of siblings, place of birth.

**Table B7** – Multinomial logistic regression on the number of children at 41, cohorts: 1966-1975, labour-related variables interacted with education. AMEs are reported, men (N=2,185)

	Low education						High education					
	childless		1 child		2+ children		childless		1 child		2+ children	
Nr. of empl. spells (ref. 1)												
0	0.206	*	-0.112	*	-0.094		-0.187		-0.143		0.330	
2	-0.074	**	0.016		0.058	*	-0.082		-0.013		0.096	
3	-0.051		0.047		0.004		-0.241	***	-0.020		0.261	***
4	-0.098	**	0.089	**	0.009		-0.185	*	0.038		0.146	
5 or more	-0.085	*	0.077	*	0.008		-0.194	*	0.087		0.107	
Months in atypical empl. (ref. 0)												
1-11 months	0.081	*	-0.065	**	-0.015		-0.059		0.025		0.034	
12-23 months	0.027		-0.034		0.007		0.075		-0.067		-0.008	
24-47 months	-0.038		0.051		-0.013		0.106		0.016		-0.122	
48 months or more	0.095	***	-0.004		-0.091	***	0.182	**	-0.115	**	-0.068	
Nr. of voluntary work interruptions												
	0.026	*	-0.003		-0.023		0.035		0.048		-0.083	
Nr. of involuntary work interruptions												
	0.057	***	-0.014		-0.043	**	0.066	*	-0.032		-0.033	
Time between educ. and first relevant job (ref. 0-23 months)												
First work before completing educ.	-0.042		-0.009		0.050		-0.021		0.014		0.006	
24-47 months	-0.046		0.011		0.035		-0.074		0.092		-0.017	
48 months or more	0.046	*	-0.017		-0.029		0.040		0.088		-0.128	
Never worked for more than 6 months	0.059		0.071		-0.130		0.248		0.024		-0.272	*

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.010$ .

Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, age of respondents' mother and father, mother's and father's ESeC when the respondent was 14, number of siblings, place of birth.

**Table B8** – Multinomial logistic regression on the number of children at 41, cohorts: 1966-1975, labour-related variables interacted with education. AMEs are reported, women (N=1,962)

	Low education					High education				
	childless	1 child	2+ children			childless	1 child	2+ children		
Nr. of empl. spells (ref. 1)										
0	-0.057	0.087	-0.307			-0.249 ***	0.675 ***	-0.426 ***		
2	0.026	0.013	-0.039			0.012	-0.031	0.019		
3	0.026	0.059	-0.085 **			0.095	-0.113 ***	0.018		
4	0.110 **	0.053	-0.163 ***			0.139	-0.055	-0.085		
5 or more	0.115 **	0.051	-0.166 ***			0.114	0.049	-0.164		
Months in atypical empl. (ref. 0)										
1-11 months	-0.014	-0.033	0.047			-0.025	0.008	0.017		
12-23 months	-0.024	-0.047	0.071			-0.003	0.130	-0.127		
24-47 months	-0.026	0.081 *	-0.055			-0.047	0.017	0.031		
48 months or more	0.013	-0.019	0.005			0.113 *	0.041	-0.154 **		
Nr. of voluntary work interruptions										
	-0.029 **	-0.027 *	0.056 ***			-0.018	0.022	-0.004		
Nr. of involuntary work interruptions										
	0.002	-0.008	0.005			-0.018	-0.018	0.035		
Time between educ. and first relevant job (ref. 0-23 months)										
First work before completing educ.	-0.013	-0.027	0.039			-0.008	0.005	0.003		
24-47 months	0.029	-0.033	0.003			-0.039	-0.040	0.080		
48 months or more	0.054 **	-0.017	-0.037			-0.019	-0.003	0.021		
Never worked for more than 6 months	0.102	-0.177 **	0.075			0.472 **	-0.295 ***	-0.177		

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, age of respondents' mother and father, mother's and father's ESeC when the respondent was 14, number of siblings, place of birth, respondent's educational level.

**Table B9** – Multinomial logistic regression on the number of children at 41, cohorts: 1951-1965, labour-related variables with control for union history. AMEs are reported

	Men (N=2,842)			Women (N=2,423)		
	childless	1 child	2+ children	childless	1 child	2+ children
<b>Nr. of empl. spells (ref. 1)</b>						
0	0.002	-0.093	0.091	-0.005	-0.093 **	0.099 **
2	-0.008	0.002	0.006	0.017	0.056 **	-0.073 ***
3	-0.028	0.017	0.010	0.001	0.023	-0.024
4	-0.011	0.039	-0.028	0.009	0.063	-0.071 *
5 or more	-0.014	0.035	-0.021	0.003	0.024	-0.027
<b>Months in atypical empl. (ref. 0)</b>						
1-11 months	0.022	-0.005	-0.017	-0.006	-0.063 **	0.069 **
12-23 months	-0.051 *	-0.015	0.066	-0.006	-0.038	0.045
24-47 months	-0.018	-0.032	0.050	-0.018	-0.061 *	0.079 *
48 months or more	-0.010	0.032	-0.022	-0.005	-0.052	0.057 **
<b>Nr. of voluntary work interruptions</b>						
	0.020 **	-0.003	-0.017	-0.016 *	-0.008	0.024 **
<b>Nr. of involuntary work interruptions</b>						
	-0.001	0.012	-0.011	0.011 *	0.013	-0.025 **
<b>Time between educ. and first relevant job (ref. 0-23 months)</b>						
First work before completing educ.	0.022	-0.013	-0.009	0.025 *	-0.013	-0.012
24-47 months	0.018	-0.027	0.009	0.032 *	0.019	-0.051 **
48 months or more	0.042 **	0.014	-0.057 **	0.042 **	-0.030	-0.012
Never worked for more than 6 months	0.097	0.129	-0.226 ***	0.038	0.054	-0.092 *
<b>Union status (ref. ever married)</b>						
Ever cohabited (but not married)	0.698 ***	-0.135 ***	-0.563 ***	0.508 ***	0.040	-0.548 ***
Never cohabited or married	0.798 ***	-0.215 ***	-0.584 ***	0.748 ***	-0.145 ***	-0.602 ***

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, age of respondents' mother and father, mother's and father's ESeC when the respondent was 14, number of siblings, place of birth, respondent's educational level, union history.

**Table B10** – Multinomial logistic regression on the number of children at 41, cohorts: 1966-1975, labour-related variables with control for union history. AMEs are reported

	Men (N=2,185)			Women (N=1,962)		
	childless	1 child	2+ children	childless	1 child	2+ children
Nr. of empl. spells (ref. 1)						
0	0.066	-0.094	0.028	-0.072 *	0.101	-0.029
2	-0.040 *	0.001	0.039	0.011	0.005	-0.017
3	-0.041	0.017	0.024	0.043	0.021	-0.064 *
4	-0.064 **	0.065	-0.002	0.095 **	0.032	-0.127 ***
5 or more	-0.021	0.051	-0.030	0.055	0.061	-0.116 **
Months in atypical empl. (ref. 0)						
1-11 months	0.015	-0.031	0.016	-0.001	-0.040	0.041
12-23 months	0.027	-0.038	0.012	-0.021	-0.003	0.024
24-47 months	-0.029	0.043	-0.014	-0.033	0.052	-0.019
48 months or more	0.070 ***	-0.011	-0.058 *	0.008	0.001	-0.008
Nr. of voluntary work interruptions						
	0.009	0.010	-0.018	-0.018	-0.014	0.032 **
Nr. of involuntary work interruptions						
	0.026 ***	-0.008	-0.017	-0.002	-0.008	0.011
Time between educ. and first relevant job (ref. 0-23 months)						
First work before completing educ.	-0.038 *	-0.010	0.049 *	-0.007	-0.013	0.020
24-47 months	-0.042 *	0.018	0.025	0.016	-0.029	0.013
48 months or more	0.026	-0.004	-0.021	0.024	-0.005	-0.019
Never worked for more than 6 months	0.028	0.075	-0.103	0.124 **	-0.167 **	0.043
Union status (ref. ever married)						
Ever cohabited (but not married)	0.567 ***	-0.115 ***	-0.452 ***	0.444 ***	-0.015	-0.429 ***
Never cohabited or married	0.677 ***	-0.204 ***	-0.473 ***	0.645 ***	-0.132 ***	-0.513 ***

Note: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Control variables include birth cohort, parental education, parents' union dissolution, parents ever married, age of respondents' mother and father, mother's and father's ESeC when the respondent was 14, number of siblings, place of birth, respondent's educational level, union history.



