

**Pre-Birth Employment Instability and Maternal Labour Market Transitions  
Following the Birth of the First Child in Italy and Sweden:  
A Competing Risks Analysis**

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## **1. Motivation**

The focus of this paper is on first labour market transitions following the birth of the first child as they represent a crucial stage in women's life-course employment careers. The arrival of a newborn carries financial strains and potential constraints for the labour market opportunities and choices of women, in terms of childcare and additional domestic responsibilities.

The literature suggests that in the majority of Western advanced societies women still provide most of the care for children (and other dependents) within households and tend to curb and adjust their labour market participation in response to changing family responsibilities over the life course (Stier, Lewin-Epstein, & Braun, 2001; Anxo, Fagan, Cebrián, & Moreno, 2007). Such labour market adjustments hinge upon the length of family-related work interruptions, which are given by periods of economic inactivity connected to a childbirth.

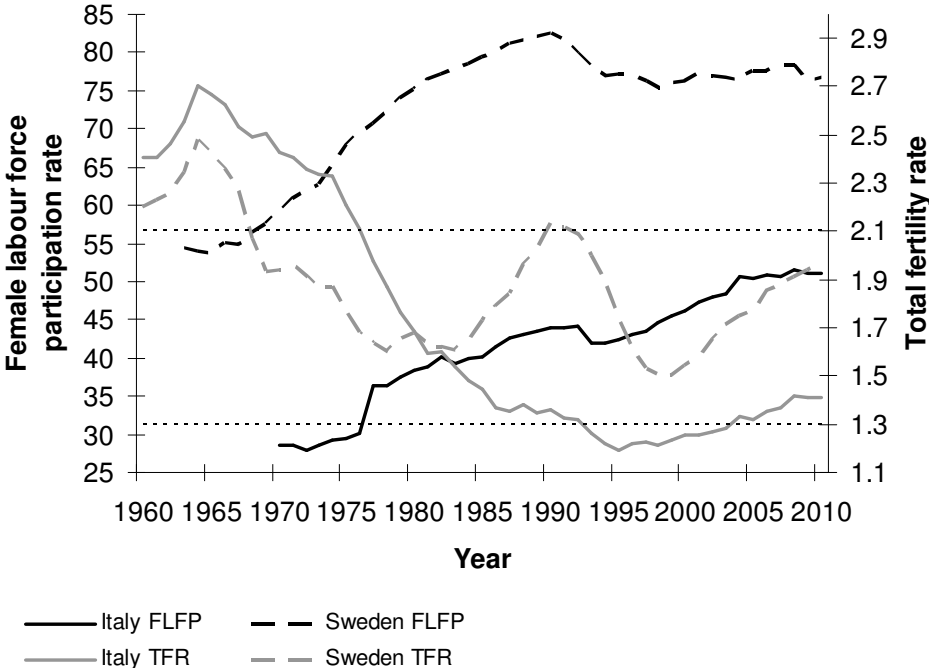
Work interruptions related to childbearing and rearing *in primis* entail forgone work experience. They may disrupt women's careers as many mothers experience downward occupational mobility (Jonsson & Mills, 2001; Aisenbrey, Evertsson, & Grunow, 2009). Additionally, work interruptions may have important repercussions on mothers' lifetime earnings, mainly due to the depreciation (atrophy) of human capital and obsolescence of job-related qualifications and skills during periods of economic inactivity (Harkness & Waldfogel, 2003; Gangl & Ziefle, 2009).

### **1.1 From microeconomic to institutional explanations**

During the 1960s, a negative cross-country correlation between fertility and female labour force participation was observed in OECD countries. This was in line with the traditional microeconomic theories of the household which hold that rising women's earning power increased the opportunity cost of time allocated to childbearing and childrearing. As a result, women increasingly entered the labour market and had fewer children (Becker, 1965). Since the mid-1980s the negative macro-level correlation has shifted to a positive one (Brewster & Rindfuss, 2000; Engelhardt & Prskawetz, 2004). Female labour force participation and fertility are lower in Southern and most Central-Eastern European countries. Conversely, Scandinavian countries together with France and the Netherlands have higher female labour force participation and higher fertility. The weakening of the relationship between fertility and participation is due to the rapid fertility decline in Southern European countries, such as Italy and Spain, starting from the mid-1970s. These countries are at the lowest end of the spectrum with smaller rises in the already-lower participation rates and a substantial fertility decline, well below replacement rates. In contrast, in Northern European countries, birth rates decreased only slightly, while the proportion of women in the labour force increased considerably. Total period fertility rates and female labour force participation rates from 1960 until 2010 for Italy and Sweden are shown in figure 1.

The reversal of the cross-country correlation between fertility and labour force participation has challenged the existing knowledge and called for alternative explanations. Within the welfare regime and gender regime literature, recent studies have focused on the role played by the cross-national variation in institutional settings (e.g. social and family policies) and the structural characteristics of labour markets. In particular, increasing attention is paid on the role of social and family policies in lessening the costs of childbearing and childrearing by offering support for women to combine paid work and family responsibilities (Esping-Andersen, 1999; Gornick & Meyers, 2003). For instance, in Southern European countries, characterised by the persistence of the male-breadwinner family model, the development of work-family reconciliation policies has been rather fragmented, lacking coherence and consistency.

**Figure 1 - Female labour force participation (FLFP) and total period fertility (TFR) rates – Italy and Sweden, 1960-2010**



Note: Dotted lines indicate fertility rates at population replacement and lowest-low fertility levels. Data concerning years 1980-2009 are from Family Database (OECD, 2014a) and Labour Force Statics database (OECD, 2014b); data concerning year 2010 are from Eurostat (2014) and national statistical offices. Source: Eurostat, 2014; OECD, 2014a, 2014b.

In contrast, Nordic countries, pursuing gender equality and promoting a dual-earner family model, stand out in terms of their more generous reconciliation policies and the comprehensive and reliable infrastructure for early childcare.

During the 1980s and 1990s, with the positive turn of the relationship between female labour force participation and fertility, the picture - both at the macro and micro levels - became more complex. In response to rising unemployment levels, several European countries adopted different labour market deregulation strategies leading to different employment outcomes for young and female workers, who are increasingly found on the fringes of the labour force and show ever-larger difficulties in finding stable employment (Blossfeld, Klijzing, Mills, & Kurz, 2005).

The different forms of labour market deregulation and their consequences in terms of risks of unstable employment are moderated by the national configurations of welfare regime institutions, labour market structures, education systems and household arrangements. In Southern European countries, characterised by high levels of labour market rigidities and a strong insider-outsider polarisation, the process of labour market deregulation occurred at the ‘margins’ of the labour force. Deregulation affected specific groups of the population, namely young adults at labour market entry, women following employment interruptions due to childbearing, the unemployed and low-skilled workforce. Several authors highlight the emergence of increasing social inequalities driven by age and birth cohort divides in Southern European countries, where the family has traditionally played a strong compensatory role for lack of (stable) employment and housing opportunities (Barbieri, 2009; Buchholz, Kolb, Hofäcker, & Blossfeld, 2011). In Nordic countries, high levels of labour market deregulation have generally been accompanied by weaker age- and cohort-based polarisations (Buchholz & Blossfeld, 2012; Chauvel & Schröder, 2014).

The analysis of the association between women’s employment instability and fertility requires consideration of individual labour-market and childbearing trajectories over the life course. The latter is

seen as an institutionally embedded sequence of key biographical events and stages (including transitions between events and stages) pertaining to interrelated life domains, such as education, work and family (Kohli, 2007; Mayer, 2009). Whilst first and subsequent childbearing events mark the entrance and progression of a woman along an absorbing or irreversible motherhood career, this is not necessarily the case for employment trajectories. Employment trajectories are much more fluid over the life course, entailing frequent movements into and out of paid employment.

## 2. Method and data

This paper investigates the labour market behaviour of new mothers in Italy and Sweden, by taking into account post-birth transitions from non-employment to full-time employment, part-time employment and temporary employment within a competing risks framework (Fine & Gray, 1999). In particular, a period of economic inactivity due to a first birth can end in four possible destination states: full-time employment, part-time employment, temporary employment and continued non-employment (reference category).

Competing risks model belong to the family of semi-parametric hazard models and can be considered an extension of the standard (single risk) Cox proportional hazards model. Proportional hazards models have the advantage of not requiring any assumptions, and therefore any *a priori* knowledge, of the functional form or distribution of the baseline hazard. In addition, competing risks models do not assume the independence of competing risks, differently from standard single risk hazard models. For instance, in this study, the hazard for a first-time mother of experiencing a transition to full-time employment is dependent on her not having experienced a prior transition to part-time employment (which is considered a competing destination state) and *vice versa*. A competing risks model does not make such assumption and thus is regarded an appropriate model to use for the study of maternal labour market transitions. Moreover, the proportional hazards assumption implies that the shape of the duration dependence (the baseline hazard) is the same for all individuals and is maintained over time. In other words, the regressors change the hazard rates with the same proportion at each observed point in time, hence allowing the level of the hazard to change across individuals.

In this paper, the analyses conducted for Italy and Sweden are based on the comparison between two data sources: the Fertility and Family Survey (FFS) (for Italy and Sweden) and the Generations and Gender Surveys (GGS) (for Italy). The aim is to contrast the pre-birth experience of unstable employment of cohorts of women born before and after 1960. While FFS data cover the experience of female cohorts for the period up to the early and the mid-1990s (for Sweden and Italy, respectively), more recent GGS data cover the experience of similar cohorts up to the late 2000s (for Italy) and early 2010s (for Sweden). The comparison of these two data sources offers the opportunity to contrast the experience of different cohorts of women who entered the labour market and spent critical stages of their reproductive and employment careers during historical periods characterised by different economic recessions.

## 3. Results

Preliminary results based on FFS data reveal two important points. In Italy, an increasing divergence was observed in part-time transitions, by the number of children under three years, between mothers with longer prior experience of part-time work, on the one hand, and those with no prior part-time experience, on the other. The corresponding interaction terms were not significant for Sweden. This result for Italy seems to point towards the emergence of a path-dependent trend, over time and cohorts, in part-time employment around first births. The institutional view seems to retain some explanatory power for the Italian finding, as it emphasises the role of contextual factors such as, most likely, a labour market structure traditionally characterised by limited full-time job opportunities for women and modest part-time job opportunities, mostly within the public sector.

The second important point concerns maternal transitions to full-time work following a first birth. Generally, for earlier cohorts, the association with prior employment instability by number of children aged under three years was negative, in Italy, and turned from negative to positive, when number of children exceeded one, in Sweden. For later cohorts in both countries the association, albeit negative, did not differ by number of small children. These results seem to indicate a general converging trend by which, over time, Italian and Swedish mothers became increasingly similar, in terms of their association

between pre-birth experience of unstable employment and post-birth transitions to full-time work, by number of under-threes at home.

As documented by several accounts, one possible explanation for the cross-cohort trend for Sweden may be linked to the strong and rapid expansion of family policies, which occurred with the development of the speed-premium parental-leave reforms of the 1980s and 1990s. These policy changes may have triggered adverse consequences for the most recent cohort of Swedish mothers, in terms of delayed transitions to full-time work (see e.g. Datta Gupta et al., 2008; Evertsson & Duvander, 2011). It is not possible to exclude whether these policy changes may have partly interacted with changes in the labour market, following the economic recession of the early 1990s.

#### 4. Next steps

The comparative preliminary analyses conducted on FFS data will be integrated with similar analyses based on GGS data, initially for Italy and subsequently for Sweden. In particular, the competing risks models will be extended by considering temporary employment as an additional destination state to those of full-time employment, part-time employment and non-employment investigated with FFS data. By including results based on GGS data, the comparative focus of the paper will be expanded allowing for a contrast of different cohorts of mothers experiencing employment instability during the economic recessions of the early 1980s and 1990s versus the most recent economic recession of the late 2000s.

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