

Do Women Working in the Public Sector Have it Easier to Become Mothers in Spain?

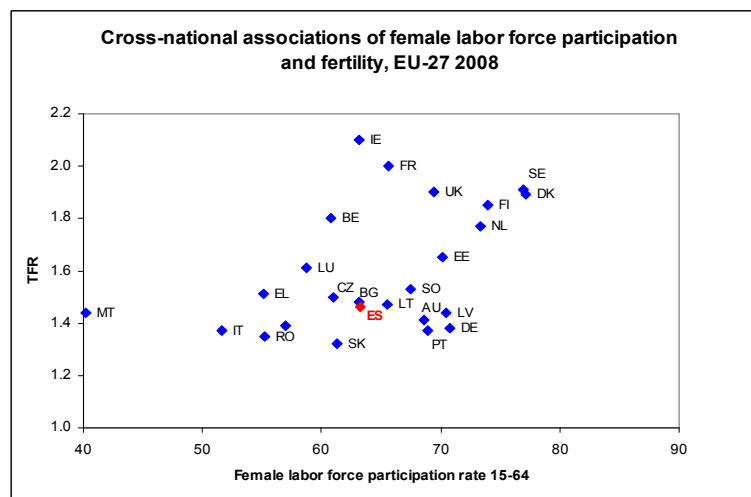
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Women's participation in the labor market affects personal autonomy, household income and childbearing costs (direct and opportunity costs). Over the past 50 years, the rapid increase in women's labor force participation in Western societies coincides with a steady decline in fertility. Research shows that, at the macro level, the correlation between women's employment and total fertility rates was negative and significant in the 1970s and early 1980s. However, by the late 1980s, the correlation became positive and equally significant (Brewster & Rindfuss, 2000; Ahn & Mira, 2002; Billari & Kohler, 2004). First, Graph1 shows that nowadays, countries with higher levels of female participation rates also have higher total fertility. At the individual level, there generally exists a negative correlation between women's participation in the labor market and fertility, although there are important variations among recent cohorts and across countries: this relationship is shown to be negative for Southern European countries (Baizán, 2005; Solera and Bettio, 2007), while it is positive in the Nordic countries (Hoem 1993).

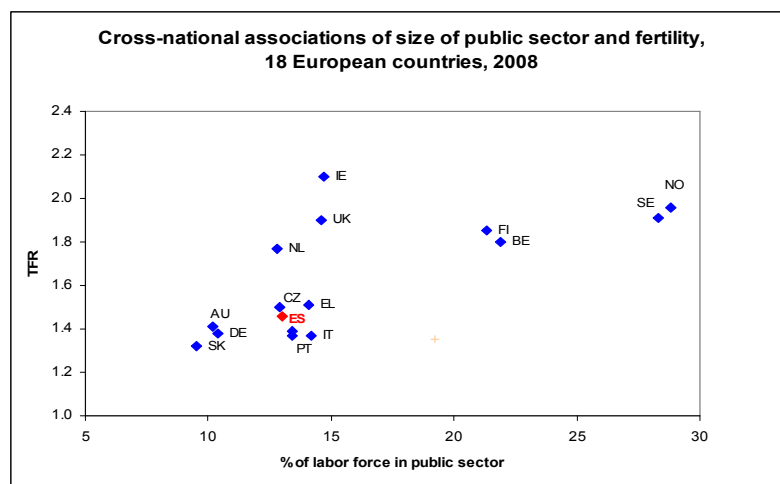
GRAPH 1:



Source: EUROSTAT

Second, research also demonstrates that in those countries where overall female employment is high, public sector employment is often an important contributor and fertility tends to be higher in countries with larger public sectors (see Graph 2).

GRAPH 2:



Sources: EUROSTAT and OECD (2009), *Government at a Glance* 2009.

Our aim in this paper is to test empirically whether and how public employment affects women's reproductive behavior (transition to first birth) in Spain.

(i) The role of human capital accumulation:

The human capital literature predicts that the more women accumulate human capital and the higher the level of women's job opportunities, the higher the relative cost of children and therefore, the lower the demand for them (Becker, 1981). Hence, a negative relationship is expected between women's education level and participation in the labor market and the probability of becoming mothers ("Human capital hypothesis" (H_1)).

(ii) The role of work conditions:

However, as noticed, the conflict or compatibility between work and family responsibilities depends on the work conditions. A recent work shows that there are differences in women's fertility according to their occupational choice and demonstrates that health and teaching professionals show an advantage in harmonizing work and motherhood in Spain (Martín-García, 2010). This finding is consistent with the idea that not only the effect of variation in the distribution across occupational categories in the

labor market on women's fertility is explicable by each woman's specific attitudes towards motherhood and career but also by her employment conditions at the workplace. In this sense, public sector employment may improve women's chances of combining a career with childbearing, because of the stability it provides and lower anticipated costs of childbearing, implying higher transition rates to first birth, once we control education level ("Public sector employment hypothesis" (**H₂**)).

Previous research on the effect of public sector employment on fertility:

- Esping-Andersen *et al.*, 2002: Being employed in the public sector raises fertility;
- Adsera, 2005: Connection between public sector employment and faster transitions to births at the aggregate and individual level (data from ECHP 1994-2000 for 13 countries);
- Solera and Bettio, 2007: Fertility tends to be higher among well educated women in the public sector in Italy;
- Baizán, 2005: Working in the public sector increases the probability of transition to higher parities in Denmark, Italy, UK and Spain, but in the last two countries the effect is not statistically significant (data from ECHP 1993-2000).

Data, variables and method

The data used here is taken from the Spanish Survey on Fertility and Values, a retrospective survey conducted in 2006 (Delgado, 2006). This survey uses a monthly time scale and provides individual-level data on full family and work histories. Our sample includes women born after 1950 in order to minimize recall errors and homogenize women's employment trajectories. An important number of cases with missing or inconsistent information had to be excluded. The final sample covers a total of 5,271 women regardless of union status. The dependent variable is taken as the time of birth minus 9 months to measure as closely as possible the moment when the decision to have a child was taken and to avoid changes that may occur between conception and birth, such as the women's exit from the workforce. Observation begins at the age of 15 and ends with the conception of the first child or, for right-censored cases, with the date of the interview.

The main independent variable in this study is the woman's employment status. This time-varying covariate consists of two categories: not employed (ref.) vs. employed in the labor market. In a second step, we maintain non-working women and differentiate those who work in three categories: employed in the public sector, employed in the private sector (ref.) and self-employed and others. Both piecewise linear models applied here include age as the baseline. In addition, we include four birth cohorts: 1950-1959 (ref.), 1960-1969, 1970-1979, and 1980-1991, nationality and the number of siblings. Models are also controlled by the woman's partnership status, a time-varying covariate which indicates whether the woman is not in union (ref.) vs. married or cohabiting.

Methodology: life course analysis; proportional hazard models.

We model women's participation in the labor market as a time-varying process over the life course, and then we estimate the effects on the probability of having the first birth. This model can be mathematically expressed as follows:

$$\ln h(t) = y(t) + \sum_j a_j x_j + \sum_i \alpha_i w_i(t) \quad (1)$$

The subscript for an individual is removed for simplicity. $y(t)$ denotes a piecewise linear spline that represents the duration's effect on intensity. The $\{x_j\}$ denotes fixed time-invariant covariates; and $\{w_i(\cdot)\}$ are a set of time-varying covariates whose values change at discrete times in the spell, and are constant over the time span between those changes (Baizán *et al* 2003).

Summary of preliminary results

Model 1 and 2 are aimed at empirically analyzing the two hypotheses included in the theoretical section. Findings are presented as follows. First, in Model 1 we see the impact of the woman's education level and activity status on the risk of having the first birth. Secondly, we investigate in Model 2 whether the effect of women's employment status differs according to the employment sector. All risks in the models are relative (Table 1).

- (i) Women's employment status:

Results corroborate the New Home Economics prediction that the higher the level of women's education and job opportunities, the higher the value of their time and therefore, the higher the opportunity cost of children. We find a strong negative significant effect of education when explaining the birth of the first child. Furthermore, Model 1 shows that being employed reduces the probability of having the first birth with respect to women who are out of the workforce (0.79***) ($H_1\checkmark$). These results are consistent with the hypothesized prediction that, in a context of insufficient childcare and of unstable work conditions with high unemployment rates and high temporary contracts, Spanish women try to consolidate their careers before even thinking of forming a family.

(ii) Women's sector employment:

As discussed in the theoretical section, the results shown above with regard to the impact of women's employment status should be complemented with the inclusion of the variable "sector employment". Non-working women have higher transition rates to motherhood than working women (1.31***) but the inclusion of women's sector employment qualifies our previous results. As demonstrated in Table 1, among working women, the decision to have the first child is positively affected by working in the public sector (1.14*) relative to working in the private sector (ref.) ($H_2\checkmark$). Self-employed women have higher rates of transition to the first child than women in the private sector but differences are not statistically significant (1.10).

(...)

TABLE 1: Relative risks of having the first birth (conception) according to the woman's labor force status and employment sector.

	MODEL 1	MODEL 2
Parameters	R.R	R.R
Baseline constant ^a	-4.26***	-4.54***
Age 15–20 (slope)	0.29***	0.29***
Age 21–24 (slope)	-0.06***	-0.06***
Age 25–27 (slope)	-0.02	-0.02
Age 28–32 (slope)	0.01	0.01
Age 32+ (slope)	-0.21***	-0.21***
BIRTH COHORTS		
1950 – 1959 [ref.]		
1960 – 1969	0.85***	0.85***
1970 – 1979	0.65***	0.66***
1980 – 1991	0.41***	0.41***
NUMBER OF SIBLINGS		
No siblings	1.11	1.10
1 – 2 [ref.]		
3 +	1.10***	1.10***
NATIONALITY		
Spanish	0.68***	0.68***
Foreigner [Ref.]		
EDUCATIONAL LEVEL		
Primary	1.20***	1.21***
Lower Secondary [ref.]		
Upper Secondary	0.76***	0.76***
University	0.55***	0.54***
PARTNERSHIP STATUS		
Not in union [ref.]		
Cohabiting	7.58***	7.57***
Married	16.80***	16.77***
EMPLOYMENT STATUS		
Not employed [ref.]		
Employed	0.79***	
EMPLOYMENT SECTOR STATUS		
Not employed		1.31***
Employed Public Sector		1.14**
Employed Private Sector [ref.]		
Self-employed and others		1.10
Log Likelihood	-16036.31	-16034.28

Significance levels: ***=p<0.01, **=p<0.05, *=p<0.10.

^a Estimates.

Time periods from age 15 to 20; from 21 to 24; from 25 to 27; from 28 to 32; and then at open intervals.

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