Transitions to Motherhood in a Low-Fertility Country: Timing, Type, and Order of Life Course Events

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Abstract: This study analyses the key transitions over the course of a woman's life: forming a first union, leaving home, economic independence, and employment. It assesses their association with the probability of motherhood in Spain, a low-fertility country. The study focuses on the timing of these transitions and their particular conditions, as well as the order in which they occur. Data for the analysis are taken from the 2018 Fertility Survey (N = 7,819) conducted by the Spanish National Statistics Institute. We have applied event history models, specifically discrete-time logistic regression models.

The study reveals varying relationships between life transitions and motherhood, emphasizing the relevance of both the order and specific characteristics of each transition. Forming a union is the main transition associated with motherhood, being moderated by the type of union, its stability, and by economic and employment circumstances. Leaving the parental home also shows a strong association with the likelihood of motherhood, although it also appears to be mediated by the woman's economic, union, and employment status. Finally, access to employment favours motherhood, albeit to a lesser extent than the other life transitions.

Keywords: Motherhood · Fertility · Life transitions · Family formation · Childlessness

1   Introduction

This paper examines the transition to motherhood in Spain, a country characterized by very low and late fertility among cohorts born in the 1960s and 1970s, who at the time of analysis had completed their reproductive periods. According to data from the Spanish National Statistics Institute, in 2018 the average number of children per woman was 1.2, and the mean age at first birth was 31. Moreover, 19 percent of women aged 40 or older were childless. This study explores the relationship between the birth of a first child and the key life events that mark young people's transition to adulthood, namely, entering a first co-residential union (marriage or cohabitation), leaving the parental home, achieving economic independence, and

entering employment. Adopting a longitudinal approach allows us to analyse the timing, nature, and ordering of these life transitions.

Low fertility is currently a serious challenge for many European countries. Low fertility and childlessness can be explained in part by changes in values and population preferences, which lead many individuals to prioritize their professional careers and self-fulfilment expectations over family life (*van de Kaa* 1987; *Hakim* 2003). However, low fertility is also linked to unfulfilled preconditions for having desired children (*Baizán et al.* 2003; *González/Jurado-Guerrero* 2006; *Tanturri/ Mencarini* 2008; *Mynarska et al.* 2015). This study focuses on this second perspective.

The transition to motherhood is one of the main challenges women face in their transition to adulthood (*Billari/Liefbroer* 2010; *Sironi et al.* 2015) and often requires certain economic, labour, partnership, or housing conditions (*González/Jurado-Guerrero* 2006) to be met. Unmet preconditions lead directly to a delay in the age of motherhood, and successive delays may ultimately affect total fertility, even resulting in childlessness for some couples (*Berrington* 2004; *Sobotka* 2004; *Kneale/Joshi* 2008). Institutional contexts yield varying conditions for the transition to adulthood and partially explain cross-country differences in fertility rates (*McDonald* 2000; *Billari/ Kohler* 2004; *González/Jurado-Guerrero* 2006; *Adsera* 2011; *Nathan/Pardo* 2019).

Various studies have shown that unmet preconditions – such as achieving a stable partnership (*Baizán et al.* 2003; *Hart* 2019; *Raab/Struffolino* 2020), securing suitable employment (*Bloom/Pebley* 1982; *Heaton et al.* 1999; *Baizán* 2006; *Keizer et al.* 2008; *Mynarska et al.* 2015) which enables financial independence and leaving the parental home (*Aassve et al.* 2002; *Billari/Kohler* 2004; *del Rey et al.* 2023), as well as access to adequate housing (*Jurado Guerrero* 2001, 2003) – lead many couples to postpone having children or even to abandon reproduction plans altogether (*Sobotka* 2004; *Mynarska et al.* 2015). This situation results in many women having fewer children than preferred (*Sobotka/Beaujouan* 2014; *Beaujouan/Berghammer* 2019). The discrepancy between women's fertility intentions and outcomes, along with prior research conducted in other contexts, highlights the need to examine the factors and conditions in women's lives that hinder the transition to motherhood. This focus has driven growing interest in studying key life transitions – particularly forming a union, leaving the parental home, and pursuing a career – which unfold during women's lifespans and may significantly influence motherhood. Moreover, numerous studies have emphasized the critical role these transitions play in motherhood, not only in terms of their timing (the age at which they occur but also regarding the specific conditions and the sequence in which they take place (*Baizán et al.* 2003; *Billari/Kohler* 2004; *González/Jurado-Guerrero* 2006; *Matysiak/Vignoli* 2010; *Tanturri/Mencarini* 2008; *Alderotti* 2022). However, there is a lack of studies systematically examining generally, but also specifically in Southern Europe, key life events associated with the transition to motherhood that also take into account the timing of their occurrence, the sequencing of transitions, and the specific characteristics of each event. For instance, it is essential to consider not only the formation of a union but also the type of partnership (marriage or cohabitation) and its relationship to other events such as achieving economic independence,

leaving the parental home, or entering the labour market. Together, these elements configure distinct pathways in the transition to motherhood.

This study contributes to the existing literature on the transition to motherhood in two main ways. First, it highlights the specific conditions under which the transition to motherhood takes place in a context of very low and late fertility, particularly within Southern Europe. Second, it demonstrates the relevance of the sequencing and specific characteristics of each life event in shaping the pathways to motherhood.

1.1   The Spanish case

Spain has been characterized for decades by very low fertility rates (*Kohler et al.* 2002), late age at first childbirth, and a high proportion of childless women (*Esteve et al.* 2016; *Esteve/Treviño* 2019; *del Rey et al.* 2022; *Lozano et al.* 2024). According to data from the Spanish National Statistics Institute, the total fertility rate in Spain was 2.2 children per woman in 1980, dropping to 1.16 by 1995, and since then has fluctuated between 1.1 and 1.3 children per woman. Meanwhile, the mean age at first birth, 25 years in the 1980s, has steadily increased, surpassing 31 years by 2018. As for the age at first marriage among women, it rose from 25 years in 1980 to over 33 years in 2020. Regarding the distribution of births by marital status, the share of births to unmarried mothers increased markedly, from under 10 percent in 1990 to nearly 50 percent in 2018. This shift has been accompanied by a general decline in the number of marriages, particularly religious ones, which fell by 26 percent between 1990 and 2018. At the same time, cohabitation has become increasingly common. Although comprehensive data on the prevalence of cohabitation in Spain are lacking, since many partnerships are not officially registered, various survey-based studies have documented a significant increase since the 1990s (*Domínguez-Folgueras/Castro-Martín* 2013; *García-Pereiro et al.* 2015).

The 2018 Fertility Survey (hereinafter FS2018) shows that nearly one in four women aged 40 and older are childless. For Spain a wide fertility gap is also documented – the difference between the number of children women want and the number they have (*Castro-Martín/Martín-García* 2013; *Sobotka/Beaujouan* 2014; *Castro-Martín et al.* 2018; *Beaujouan/Berghammer* 2019). According to FS2018 data, 31.6 percent of women who remained childless at age 40 (constituting 25 percent of the population in that age group) stated that they did not wish to have children, whereas 68.4 percent expressed a desire to do so.

A study of the Spanish case is highly important because of its comparatively very low birth rates, very much delayed union formation, and very high childbearing ages in Europe (*Eurostat* 2020). In addition, recent decades have witnessed a spectacular increase in rates of both cohabitation and divorce, the rapid modernization of women's roles in society through education, and their access to the labour market (*Castro-Martín/Martín-García* 2013; *Esping-Andersen* 2013; *del Rey et al.* 2023). Concerning young people, Spain is characterized by high levels of unemployment and considerable job uncertainty, particularly in the 1980s and 1990s (*Fernández Cordón* 1997; *Jurado-Guerrero* 2001; *Adserà* 2011; *Beaujouan/Berghammer* 2019); scant measures of support for reconciling work and family life (*Billari et al.* 2001;

Beaujouan/Berghammer 2019; Bueno 2020; Bueno/Brinton 2019); and no support at all for leaving home and living independently (Reher 1998; Baizán 2001). As a result, Spain is one of the countries worldwide with the widest fertility gaps and one of the nations with the most delayed transition to motherhood (Castro-Martín et al. 2018; Beaujouan/Berghammer 2019).

Traditionally in Spain, there has been a strong connection between leaving the parental home, entering a co-residential partnership, getting married, and ultimately having a first child (Holdsworth 2000; Baizán et al. 2003; González/Jurado-Guerrero 2006; Domínguez-Folgueras/Castro-Martín 2013; del Rey et al. 2023). However, in recent decades, the country has undergone profound economic, social, and cultural transformations that have significantly affected the life-course events associated with the transition to adulthood (Castro-Martín/Martín-García 2013; Esping-Andersen 2013; del Rey et al. 2023).

This study's main contribution involves revealing the range of factors that facilitate or hinder the transition to motherhood over the course of young people's lives within the context of a very low fertility rate. As far as we know, there are no studies that systematically analyse the impact of these transitions on motherhood within the context of Southern Europe whilst considering both the characteristics and the order of the main life transitions.

2 Theoretical framework and hypotheses

An analysis of the transition to motherhood from a life course perspective reveals the importance of several life transitions associated with the birth of a first child, such as a woman's partnership history, leaving home, economic independence, and employment (Baizán et al. 2003; González/Jurado-Guerrero 2006; Tanturri/ Mencarini 2008; Mynarska et al. 2015). Nevertheless, it is not easy to establish a causal relationship between union and motherhood, while it may be assumed that the desire to become a mother favours leaving home and co-residential union. Various authors (Baizán et al. 2003; del Rey et al. 2022) have reported that a first birth and a first union, mainly marriage, are part of the same process of family formation in Spain. Although in general there continues to be a strong synchrony between leaving the parental home, forming a co-residential union, and the birth of the first child, in more recent generations cohabitation has gained ground over marriage (Dominguez-Folgueras/Castro-Martín 2013; García-Pereiro et al. 2015), and exits from the parental home without a partner have increased (del Rey et al. 2023). These complicate the transition to the birth of the first child. In any case, given the strong interrelation of these events, we adopt a descriptive approach to the analysis of the results.

2.1 Union formation and motherhood

Union formation is the domain with the most obvious link to childbearing behaviour (Baizán et al. 2003; Mynarska et al. 2015; Nishikido et al. 2022). A committed union

is one of the main factors informing the decision to have children, as most births occur within a relationship, whereby the absence of a partner correlates closely with childlessness (*Raab/Struffolino* 2020). Nonetheless, besides the importance of forming a union, other studies report that the age when the first union is formed, union stability, and union status are major influences on fertility (*Baizán et al.* 2003; *Tanturri/ Mencarini* 2008; *Mynarska et al.* 2015; *Mikolai* 2017; *Hart* 2019; *Raab/Struffolino* 2020; *Compans/Beaujouan* 2022). The longer the delay in union formation, the greater the risk of childlessness; by contrast, an early union increases the probability of motherhood (*Keizer et al.* 2008; *Compans/Beaujouan* 2022). Other studies find that in addition to the effect of late formation of unions on fertility, many late unions are fleeting and are one of multiple unions, whereas a young and stable union increases the probability of motherhood (*Keizer et al.* 2008; *Hart* 2019; *Nishikido et al.* 2022). However, the probability that a woman will become a mother or remain childless is today informed less by whether she is married than by whether she is in a stable or long-term relationship (*Keizer et al.* 2008).

Several studies report a strong relationship between the prevailing type of union and fertility, with the effects of union formation on the birth of a first child being considerably more significant for marriage than for cohabitation (*Baizán et al.* 2003; *Dominguez-Folgueras/Castro-Martín* 2013). Although this situation has been evolving in Spain in recent years, cohabitation still often constitutes a preliminary stage to both marriage and motherhood (*García-Pereiro et al.* 2015). Nevertheless, births outside marriage have increased substantially, rising from 11 percent in 1995 to 35 percent in 2010 (*Dominguez-Folgueras/Castro-Martín* 2013), a trend that mirrors developments observed in other countries (*Schnor/Jalovaara* 2020; *Cherlin* 2021; *Trimarchi/Van Bavel* 2017).

H1. We expect forming a co-residential union to have a positive association with the risk of a first birth. However, we anticipate this association to be stronger in the case of marriage compared to cohabitation and within the context of a long-term relationship (duration of more than 5 years).

2.2 Leaving home, economic independence, and motherhood

Leaving the parental home and achieving economic independence are two transitions that, on the one hand, tend to be closely linked to the moment of union, and on the other, could directly affect the transition to motherhood (*Billari et al.* 2001; *Billari/ Liefbroer* 2010). Being financially independent and living outside of the parental home provide part of the "minimal set of conditions for motherhood" (*González/ Jurado-Guerrero* 2006). Both transitions tend to coincide in time, particularly in Southern Europe (*Holdsworth* 2000; *del Rey et al.* 2023; *Meggiolaro/Ongaro* 2024), because attaining economic independence facilitates both leaving the parental home and forming co-residential unions. However, some individuals undertake this transition without being economically independent. In this sense, the establishment of a co-residential union may rely on the pooled economic resources of the couple.

Whilst being financially independent is fundamental to being considered an adult, the economic situation can affect other transitions to adulthood as well,

such as establishing independent living arrangements, marrying, and having children (*Sinori/Fustemberg* 2012). For the case of Spain, *del Rey et al.* (2023) find that achieving economic independence generally facilitates men's departure from the parental home. However, in the case of women, it reduces the likelihood of leaving the parental home to marry or cohabit, although it increases the probability of leaving to live alone.

At this point, it is important to note that, since decisions regarding childbearing are generally made by a couple jointly (*Corijn et al.* 1996; *Bauer/Kneip* 2013), certain transitions experienced by women may be influenced by their partner's situation. In our specific case, ceasing to be economically dependent on one's parents may result either from the woman's own financial independence or from the resources provided by her partner – an aspect we are unable to control for in this study.

Leaving the parental home traditionally tends to coincide with union formation, primarily through marriage and, more recently, also through cohabitation (*González* 2001; *Jurado-Guerrero* 2001; *González/Jurado-Guerrero* 2006; *Holdsworth* 2000). In most cases, the desire to live independently with one's partner is the main factor driving the decision to leave the parental home. Leaving home involves the formation of a new household and greater autonomy for young people in all aspects of social life and decision-making, including many fertility-related decisions (*Billari/ Kohler* 2004). In Spain, marriage and cohabitation are the traditional reasons for leaving home (*Holdsworth* 2000), although recent studies report that more people are leaving home before forming coresidential union (*del Rey et al.* 2023).

The timing of leaving home is influenced by interactions between young people, their families, and their social, institutional, and cultural contexts (*Billari/Liefbroer* 2007). This combination of factors explains variation in the reasons for leaving home across countries (*Fernández Cordón* 1997; *Billari et al.* 2001; *Jurado-Guerrero* 2003), with access to housing being a decisive factor in Southern Europe (*Holdsworth* 2000; *Jurado-Guerrero* 2003; *Billari/Liefbroer* 2007). Leaving home today reveals a broad range of trajectories and major differences across countries, albeit increasingly decoupled from the formation of a new family and favouring an independent life (*Billari et al.* 2001; *Aassve et al.* 2002; *del Rey et al.* 2023).

H2. We expect both leaving home and achieving economic independence to be positively associated with the risk of having a first birth. However, we also anticipate a stronger relationship when leaving home is combined with economic independence.

2.3   Employment and motherhood

Employment is another factor closely linked to fertility and the transition to motherhood. Historically, employment has been associated with lower fertility and delayed motherhood, so non-working women have demonstrated higher and earlier fertility, whereas those more involved in their careers and in better jobs have tended to demonstrate a lower fertility rate. The reason for this incompatibility between work and motherhood involves opportunity costs (*Becker* 1981), as well as a preference for career over childrearing (*Hakim* 2003). Education plays a key role in

both cases, insofar as it increases the opportunity cost of motherhood and tends to favour the focus on improving a woman's career and her job promotion prospects. This therefore means that a higher level of education and a better job tend to delay motherhood compared to those women with less schooling and lower-paid jobs, as highly educated women adapt their family life to their work commitments (*Blossfeld/Huinink* 1991; *Brewster/Rindfuss* 2000; *Mynarska et al.* 2015).

Over the past decades, the relationship between work and fertility has changed in numerous developed societies, where employment has become a requirement for rather than an obstacle to motherhood (*Esping-Andersen* 2009; *McDonald* 2000; *Baizán et al.* 2002; *Baizán* 2006; *González/Jurado-Guerrero* 2006). In this transformation, the overall rise in educational attainment and the massive entry of women into the labour market played a fundamental role, leading to a shift in the age of motherhood and in the incidence of childlessness (*Jalovaara et al.* 2019). Access to the labour market in recent years has become significantly delayed due to the prolonged duration of educational participation (*Baizán et al.* 2002; *del Rey et al.* 2022). This delayed entry into the labour market, combined with many women delaying family formation until they have achieved their career goals, have led in turn to a general postponement of motherhood (*Blossfeld/Huinink* 1991; *Baizán et al.* 2002).

Although female employment rates are associated with higher fertility levels and lower proportions of childless women (*Ahn/Mira* 2002; *Myrskylä et al.* 2009), this is an evolving and complex relationship (*Tomatis/Impicciatore* 2023), particularly in Southern Europe (*Baizán* 2006; *Matysiak/Vignoli* 2008, 2010; *Mynarska et al.* 2015; *Alderotti et al.* 2021; *Alderotti* 2022). Nonetheless, certain constants persist regarding the interplay between access to employment and the transition to motherhood. First, stable employment provides financial security, which can create favourable conditions for motherhood. In contrast, precarious employment and unemployment tend to delay the transition to motherhood and reduce the number of children (*Baizán* 2006; *González/Jurado-Guerrero* 2006; *Adserà* 2011; *Vidal-Coso/Miret-Gamundi* 2017; *Glavin et al.* 2020; *Alderotti et al.* 2021; *del Rey et al.* 2022). Finally, note should be taken of the important influence a couple's employment status has on childbearing decisions (*Baizán* 2006; *Vidal-Coso/Miret-Gamundi* 2017; *Grande et al.* 2022), an aspect that we do not address in this study due to the scarcity of data sources.

H3. We expect a first job to have a positive relationship with the likelihood of motherhood, although we anticipate varying results depending on job type and stability or duration. Specifically, we expect greater job stability to be associated with a higher likelihood of motherhood.

Finally, although several studies highlight the importance to fertility of the timing and conditions of life transitions, only a handful adopt this approach in Southern Europe. Fewer still cover the order of such events (*González/Jurado-Guerrero* 2006; *Mynarska et al.* 2015). We therefore include the following hypotheses:

H4. We expect a long-term union (cohabitation or marriage) combined with employment or economic independence to be associated with a higher likelihood of motherhood compared to unions formed without these characteristics.

H5. We expect that leaving the parental home in combination with forming a co-residential partnership, having a job, or achieving economic independence will be associated with a higher likelihood of motherhood compared to leaving home without these characteristics.

3   Methodology

3.1   Data

The data source for this study is the 2018 Fertility Survey (FS2018), a nationally representative survey conducted by the Spanish National Statistics Institute (INE) in 2018. The survey involved 14,446 women aged between 18 and 55. The FS2018 is a retrospective survey, allowing for the application of a longitudinal perspective to the study of fertility. In other words, it provides a complete record of births, unions, leaving the parental home, economic independence, and employment.

To obtain the most homogeneous sample possible, we selected women who have completed their reproductive stage, specifically those aged 45 years or older. These individual records have been converted into person-years, whereby each personal record was divided into one-year periods from the age of 20[1] through to the birth of the first child, or until the age of 45 if the women had no children. This transformation of the data from a wide format to a long one entails that the initial number of women aged 45 and over (5,367 cases, born in the 1960s and 1970s) becomes 74,289 person-years. The use of this format for the records enables us to readily include the following as time-varying covariates: age when first forming a union, age of first job, age of leaving the parental home, and age of economic independence, while at the same time establishing their order and analysing their influence on the first birth.

Table 1 displays the main characteristics of the women aged 45 and older in the analysis. These descriptive data reveal certain differences in the sample's make-up between women with and without children, whose percentages differ according to level of education, religion, country of birth, and number of siblings. The biggest

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[1]   We sought to align the onset of the reproductive period with the completion of education. However, the survey does not allow us to include education as a time-varying covariate, which would have enabled us to begin observation at an earlier age without biasing the estimates. The survey only records the highest level of education attained and the year it was completed. For this reason, we set the starting point of observation at age 20, an age at which only 5 percent of the women in the sample had had their first child, and which approximates the age at which university education is typically completed (it being actually slightly later). Starting observation at an earlier age, such as 16, would have anticipate the effect of education at an age far removed from its actual occurrence, thereby distorting the estimates. Conversely, delaying the onset of observation beyond age 20 would exclude a period in which a substantial share of first births occurs among women with lower levels of education: between ages 20 and 25, 37 percent of first births among women without university education are recorded. Importantly, the results of the models regarding the effect of life-course events on the transition to motherhood remain robust regardless of whether observation begins at age 16, 20, or 25.

differences depend on whether the woman has formed a first stable union, left home, or become economically independent, but not so much on whether they have been employed.

3.2 Variables

The dependent variable is age at first birth (event = 1), and women enter the observation upon turning 20 and exit when they have their first child or when they reach the age of 45 without having had children, being considered censored cases (event = 0).

The explanatory variables are women's age at their main life transitions, namely, first union, leaving home, economic independence, and first job, which are added as time-varying covariates (TVCs). TVCs enable a more accurate estimation of the association between events and facilitate the precise establishment of the sequence of different transitions.

First union: this transition involves analysing the age at which a woman forms a first co-residential union, its type (cohabitation or marriage), and its duration or stability (more or less than five years).

Leaving the parental home: we determine the age at which a woman leaves home for the first time,[2] with or without economic independence. Additionally, upon leaving the parental home, we investigate the potential association between forming a union, finding a job, and the likelihood of motherhood.

Economic independence: this variable is the age at which a woman states she became economically independent from her parents.[3]

First job[4]: this transition considers the age at which a woman gets her first job, along with its characteristics (self-employed or employer, employee with a permanent contract, employee with a fixed-term contract; employee without a formal contract) and duration (more or less than five years).

The control variables include key sociodemographic characteristics associated with motherhood such as education, age cohort, religious beliefs, and country of birth, all of which are treated as constant variables in the model (Table 1).

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[2] We lack information on potential returns to the parental home or subsequent departures from it beyond the first occurrence.

[3] In our case, economic independence refers to the age at which the person indicates that he/she started to be economically independent from his/her parents (questions 4.9 and 4.10 of the 2018 Fertility Survey).

[4] We have chosen to focus exclusively on the transition to the first job, despite having data recorded for up to the top five jobs performed. However, apart from the first job and the current job, the remaining job records contain a significant number of missing cases.

Tab. 1:   Descriptive data: women aged 45 and over

	Event: first birth		N (cases)	%
	0	1		
	in percent			
Cohort				
1962-1969	19.3	80.7	3,737	69.6
1970-1978	19.1	80.9	1,630	30.4
Country of birth				
Spain	19.0	81.0	4,854	90.4
Other	21.6	78.4	513	9.6
Education				
Primary or below	15.9	84.1	1,145	21.3
Lower secondary	16.6	83.4	1,466	27.3
Upper Secondary	20.9	79.1	1,283	23.9
Tertiary	23.1	76.9	1,473	27.4
Religion				
Catholic	17.0	83.0	3,781	70.4
Other	22.2	77.8	225	4.2
None (non-believer)	23.2	76.8	850	15.8
N.A. (no answer)	28.4	71.6	511	9.5
Number of siblings				
0	31.6	68.4	256	4.8
1-2	19.7	80.3	2,619	48.8
3 and more	17.5	82.5	2,492	46.4
Partner (marriage or cohabitation)				
No	83,6	16,4	427	8.0
Yes:	20,6	79,4	4,940	92.0
Cohabitation	41.0	59.0	561	10.5
Marriage	18.0	82.0	4,379	81.6
Leaving the parental home				
No	35.2	64.8	781	14.6
Yes	16.5	83.5	4,586	85.4
Age at leaving the parental home				
20 or before	18.9	22.3	985	21.5
21-25	27.3	38.6	1,650	36.0
26-30	28.4	29.3	1,334	29.1
31-35	14.9	7.9	437	9.5
36-40	5.8	1.3	108	2.4
41-45	3.4	0.5	53	1.2
After 45	1.3	0.1	19	0.4
Economic independence of parents				
No	35.1	64.9	815	15.2
Yes	16.4	83.6	4,552	84.8

Tab. 1:   Continuation

| | Event: first birth | | | |
| | 0 | 1 | N (cases) | % |
	in percent			
Age at economic independence				
20 or before	26.2	31.9	1,393	30,.6
21-25	36.3	41.8	1,843	40.5
26-30	25.0	21.2	1,004	22.1
31-35	8.6	4.2	238	5.2
36-40	2.7	0.7	53	1.2
41-45	0.7	0.1	12	0.3
After 45	0.6	0.1	9	0.2
First job				
No	17.6	82.4	431	8.0
Yes	19.4	80.6	4,936	92.0
Total	*19.2*	*80.8*	*5,367*	

Source: *INE's FS2018*

3.3   Model

As one of this study's overarching aims is to analyse the association of each one of the transitions on the birth of the first child, we have chosen to use *event history analysis*. A discrete-time model has therefore been used to study the probability of a first birth depending on the explanatory variables. We have specifically applied a logistic model for estimating the relationships of each one of the explanatory variables, time constant and time-varying covariates, and the probability of the event occurring year-by-year between the ages of 20 and 45.[5] Discrete-time modelling enables us to establish the order of the relevant transitions throughout the women's lives and to analyse their influence on the likelihood of motherhood.

The discrete-time logistic regression model is defined as follows:

$$h(t|x) = 1 - \exp \{-\exp(\beta_0 t + x'\beta\}, \text{ with } x'\beta = (x_1 \beta_1 + x_2 \beta_2 + ... + x_n \beta_n)$$

where h(t|x) is the conditional probability or risk of a first birth as a function of time (t) and a series of explanatory variables (x), with β being its parameters. This provides coefficients that indicate the effect or relationship of the women's age (t) on the probability of motherhood.

Finally, we opted for a Generalized Additive Model (GAM) to reduce the number of parameters involved in estimating the year-by-year effect of age from 20 to 45 years (see Appendix). This approach yields a parsimonious model while allowing us to capture potential non-linear relationships (*Wood* 2017).

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[5]   Although for many transitions we have information on the month and year of the event occurrence, we have chosen to use only the year due to the high number of missing cases in the monthly records.
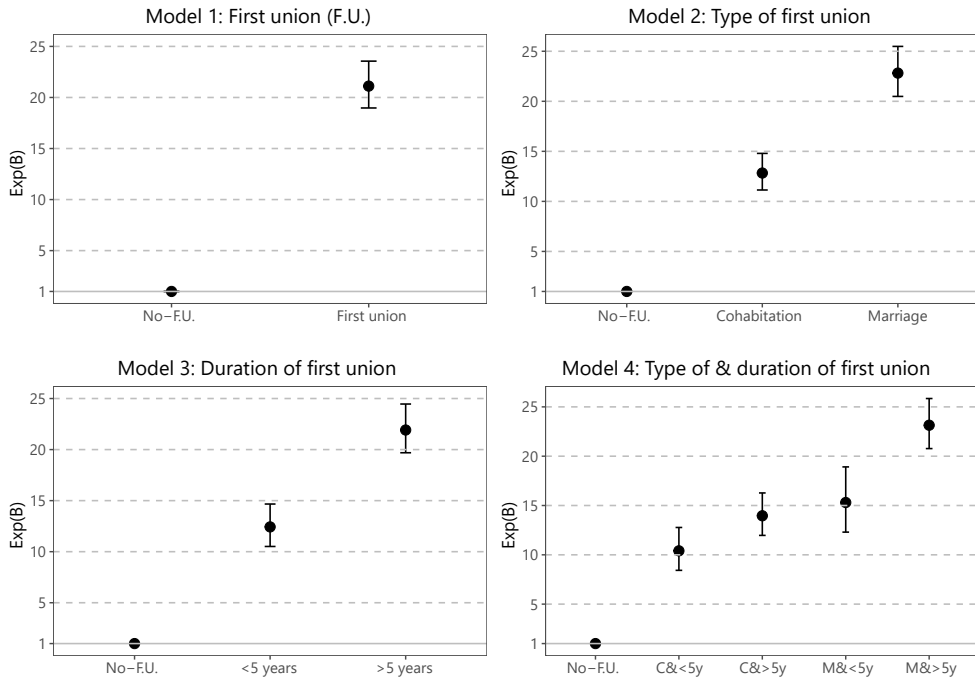
4   Results

4.1   Forming a first coresidential union and the probability of motherhood

The analysis of the first union considers different situations that may affect motherhood (Fig. 1 and 2). The first model examines the relationship between the transition to the first union and motherhood, specifically considering the age at which women began living with their partner. The second model incorporates union status, distinguishing between cohabitation and marriage. The third model assesses the stability of the first union based on the time spent together, differentiating between durations of less than five years and five years or more. The fourth model includes an interaction between the type of union and its duration. Finally, the fifth and sixth models analyse different transitions to the first union in relation to the timing of economic independence and obtaining a first job, allowing us to determine whether the women were economically independent and employed at the time.

The initial model shows that a first union leads to a 21-fold increase in the probability of a first birth over those not living with a partner (Fig. 1, Model 1). As noted in other studies, forming a union is a prerequisite for motherhood (*González/ Jurado-Guerrero* 2006; *Mynarska et al.* 2015). Nevertheless, among those women who have formed at least one union,[6] both type of partnership and its stability have a statistically significant correlation with the probability of motherhood. Cohabitation in this first relationship has a weaker association with the probability of motherhood compared to marriage (12.8 times vs. 22.8 times, respectively, compared to those not living with a partner, Fig. 1, Model 2). In other words, a union involving marriage is a life event that is linked more closely to motherhood than one involving cohabitation (*Baizán et al.* 2003; *Dominguez-Folgueras/Castro-Martín* 2013). Indeed, in many cases, it is quite likely that the desire to have a child is one of the reasons for entering into marriage, given the strong interrelationship between motherhood and marriage. Regarding the duration of the first union, there are significant differences in the association between motherhood and unions lasting less than five years compared to those lasting five years or more (12.4 and 21.9, respectively, see Fig. 1, Model 3). When introducing an interaction between the type of union and its duration, the results remain consistent (Fig. 1, Model 4): the previously observed differences between cohabitation and marriage persist, and in both cases a longer duration is associated with a higher probability of having a first child. These results enable us to highlight the importance of the type of union and its stability or duration in the probability of motherhood.

The two following models include an interaction between the type of union and economic independence and access to the labour market (Fig. 2 and Table A2). In both interactions, the formation of a marriage whether with or without economic

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[6]   In the Spanish case, 76 percent of women over the age of 45 have had only one co-residential union (FS2018).

Fig. 1:   Union transition and the probability of motherhood (Exp(B)): age, type, and duration

F.U. = first union; C&<5y = cohabitation and less 5 years; C&>5y = cohabitation and 5 and more years; M&<5y = marriage and less 5 years; M&>5y = marriage and 5 and more years).
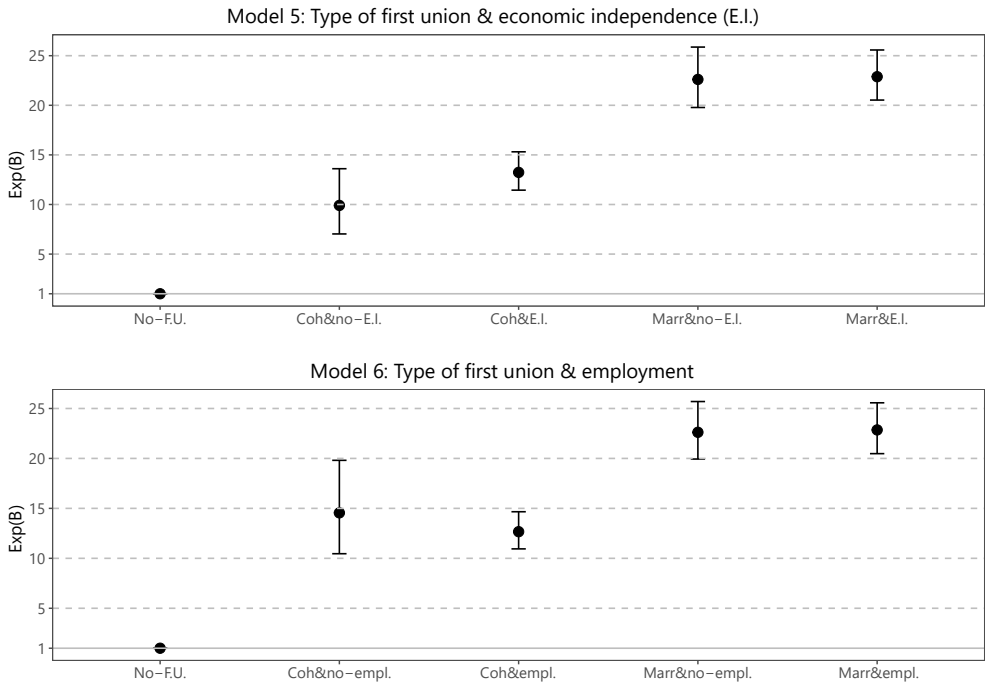Source: Results from Table A1, Appendix. *INE's FS2018*

independence, and with or without employment, shows a stronger association with the transition to motherhood than cohabitation. When individuals are economically independent from their parents at the time the union is formed, whether in cohabitation or marriage, the association with motherhood increases slightly (Fig. 2, Model 5). However, being employed at the time of union formation does not lead to a stronger association with the transition to motherhood; in fact, it is slightly reduced in both cohabitation and marriage (Fig. 2, Model 6).

4.2   Leaving the parental home, economic independence, and the probability of motherhood

Economic independence and leaving the parental home are closely correlated. FS2018 reveals that 62 percent of women undertook both transitions at the same time. This suggests that the relationship between these transitions and motherhood, as well as their order, may serve as an indicator of different life events. Leaving the parental home with or without economic independence involves fundamentally

Fig. 2: Type of union transition and the probability of motherhood according to economic independence and employment (Exp(B))

Model 5: Type of first union & economic independence (E.I.)

Model 6: Type of first union & employment

F.U. = first union; Coh = cohabitation; Marr = marriage; E.I.= economic independence; empl. = Employment.

Source: Results from Table A2, Appendix. *INE's FS2018*

different scenarios. In addition, we have identified diverse circumstances associated with leaving home in relation to the transitions into a first union and a first job.

Economic independence from parents[7] prompts a 3.4-fold increase in the probability of motherhood (Fig. 3, Model 8). In the case of leaving the parental home, the probability of motherhood increases by a factor of 5.4 (Fig. 3, Model 7).

The order of these transitions has a different and significant association with the probability of motherhood depending on whether leaving the parental home involves economic independence (Fig. 4, Model 9): 5.6 times if it does, and 3.8 times if it does not, strongly confirming the importance of leaving home, and more so with economic independence. The interaction between leaving the parental home and marital status reveals markedly different outcomes. On the one hand, there are no differences in the transition to motherhood between those who leave the

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[7] Although we do not have information on the cause of economic independence, in 23.8 percent of cases, the age at first employment coincides with the age at which economic independence is achieved.

Fig. 3:   Leaving the parental home, economic independence, and the probability of motherhood (Exp(B))
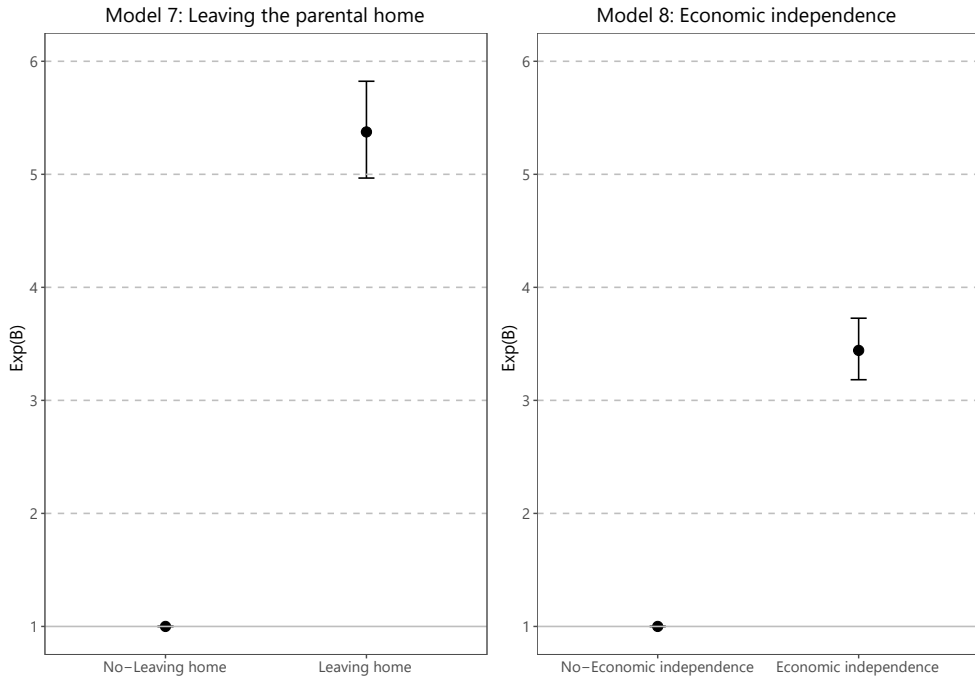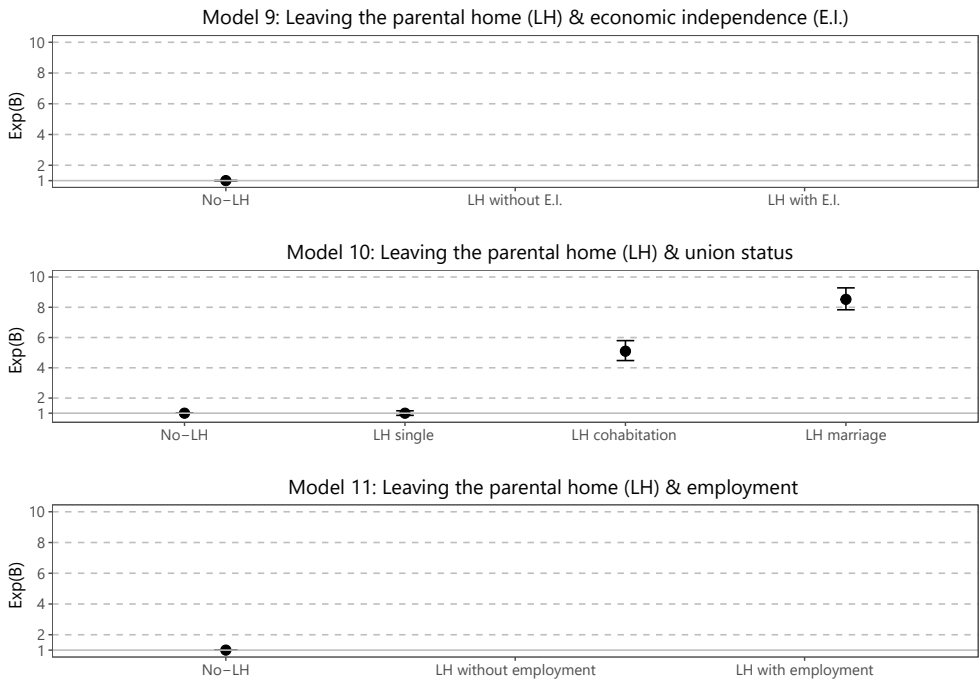

Source: Results from Table A3, Appendix. *INE's FS2018*

parental home while single and those who continue living with their parents (Fig. 4, Model 10); however, when leaving the parental home occurs with a partner, whether in cohabitation or marriage, the probability of motherhood increases by 5.1 and 8.5 times, respectively, compared to those not living with a partner. Finally, leaving the parental home with a job leads to a slightly higher probability of motherhood compared to doing so without a job (5.7 and 4.8, respectively, Fig. 4, Model 11).

4.3   Transition to the labour market and the probability of motherhood

The final transition examines the relationship between the transition to motherhood and entry into the workforce, focusing on the characteristics of the first job and its duration. Accessing a first job shows a significant association with the transition to motherhood, although its influence is considerably weaker compared to earlier transitions (Fig. 5, Model 12). Compared to women who have never worked, entering the workforce through their first job is associated with a 1.15 (or 15 percent) higher probability of becoming a mother. Differentiating between various types of employment reveals significant nuances in this transition (Fig. 5, Model 13): women whose first work experience is as entrepreneurs or self-employed show no significant differences compared to women who have never worked; in other words,

Fig. 4:   Leaving the parental home and the probability of motherhood according to economic independence, partner, and employment status (Exp(B))

Model 9: Leaving the parental home (LH) & economic independence (E.I.)

Model 10: Leaving the parental home (LH) & union status

Model 11: Leaving the parental home (LH) & employment

Source: Results from Table A4, Appendix. *INE's FS2018*

there is no difference in these cases between working and not working as regards motherhood; in contrast, entering paid employment with a permanent contract[8] is associated with a 1.21 (21 percent) higher probability of motherhood, compared to a 1.15 (15 percent) increase for other women in paid employment. This means that better conditions in a first job, i.e., a permanent contract, favour motherhood. Finally, taking into account the duration of the first job (Fig. 5, Model 14), the probability of motherhood is slightly higher for jobs lasting five years or more (1.19) compared to those lasting less than five years (1.15).

In sum, joining the labour market shows a positive, albeit small, association with the probability of motherhood compared to prior transitions. However, depending on the type of employment, some jobs exhibit no significant association with this probability. The direction of this relationship points to the importance of first employment as a factor that provides the necessary resources for coping with motherhood. It is also important to note that this paper includes only the timing

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[8] A large majority of first jobs with permanent contracts take place in the public sector.

Fig. 5:   First employment and the probability of motherhood: age, type, and duration (Exp(B))

Model 12: First employment

Model 13: Type of employment

Model 14: Duration of employment
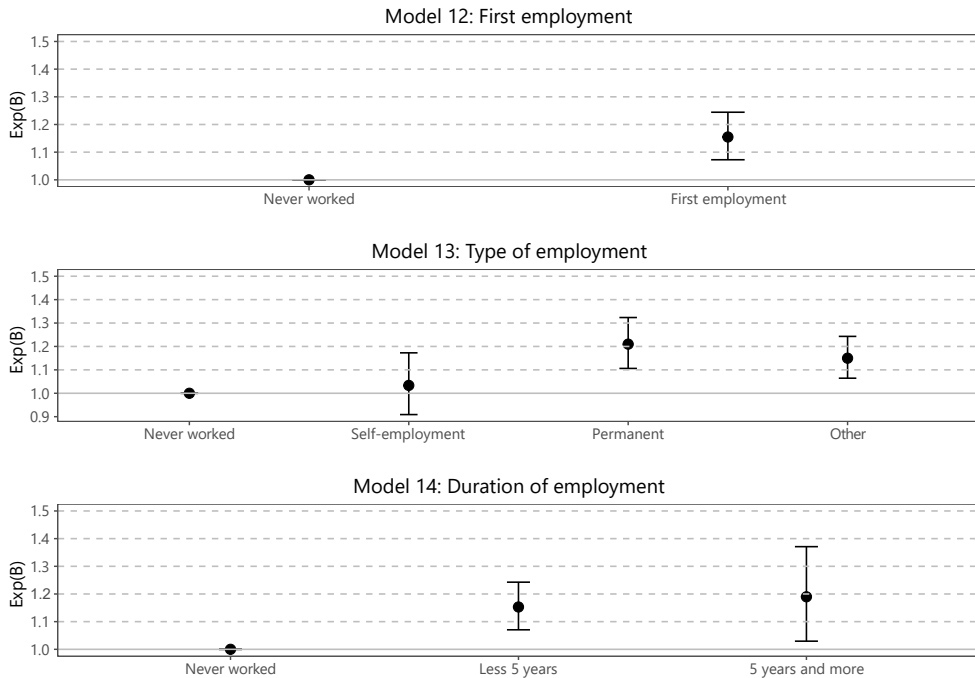
Source: Results from Table A5, Appendix. *INE's FS2018*

and certain characteristics of the first job, so it does not in itself define women's employment trajectories.

5   Discussion and conclusion

The likelihood of Spanish women born in the 1960s and 1970s becoming mothers appears to be strongly influenced by the timing and nature of specific key life transitions: forming a co-residential partnership, leaving the parental home, achieving economic independence, and entering the labour market. Generally speaking, these findings reveal that motherhood is strongly associated with specific conditions throughout women's lives, aligning with the results of previous studies conducted in Spain (*González/Jurado-Guerrero* 2006).

The main findings of this article reveal not only the significance of life transitions for motherhood but also the importance of the conditions informing those transitions and the different relevance they have depending on their order.

The formation of a co-residential union is the life event most strongly associated with the transition to motherhood, which aligns with previous studies (*Baizán et al.* 2003; *Mynarska et al.* 2015) and corroborates our first research hypothesis. There are,

nonetheless, major differences depending on the type of union and duration (*Keizer et al.* 2008; *Hart* 2019). If the first union is short, involving cohabitation rather than marriage, the probability of motherhood is reduced. It should be added, however, that certain cohabitations may be the gateway to marriage. Interacting the moment of the first union with the time of access to employment and economic independence reveals that the probability of motherhood varies depending on the order of these transitions (H4): those women who are already economically independent when they form their first co-residential union or have already accessed the labour market record a greater probability of motherhood, compared not only to those who have not formed a union but also to those who were not economically independent or had not joined the labour market when they formed their first union.

The timing of leaving home is another highly significant predictor of motherhood (*Holdsworth* 2000; *Billari et al.* 2001; *Billari/Liefbroer* 2010), as we proposed in the second hypothesis, and more so when it coincides with economic independence, forming a co-residential union, or employment (H5). In other words, leaving home in combination with the formation of a co-residential union facilitates the transition to motherhood, although significant differences arise depending on whether this transition is supported by adequate economic and employment conditions.

The third transition analysed involves employment. Although it is also a significant event associated with the probability of motherhood, as proposed in the third hypothesis, its relationship is less pronounced compared to the previous transitions. This suggests a more complex relationship between employment and motherhood (*Baizán* 2006; *Keizer et al.* 2008; *Mynarska et al.* 2015). When considering the conditions of the first job, it is observed that women who have never worked do not exhibit a more significant association compared to those who are self-employed or entrepreneurs. A better position in the labour market, such as having a permanent contract, favours motherhood (*Baizán* 2006; *González/Jurado-Guerrero* 2006; *Keizer et al.* 2008). As regards the cohorts of women born in the 1960s and 1970s, we do not find a negative relationship or assumed incompatibility between labour and family trajectories, as noted in the theory section. This means that employment in these cohorts provides the material conditions for coping with motherhood, in line with recent studies (*González/Jurado-Guerrero* 2006; *Adserà* 2011; *del Rey et al.* 2022). These findings highlight the particularity of women who have never been employed and who exhibit a lower probability of having a first child. These are women who combine weaker fertility desires with greater difficulties across most life-course transitions,[9] dimensions which, moreover, are likely to be endogenously related.

This study's main contribution not only concerns the importance of the transitions analysed in motherhood but also the conditions in which they occur. It stands to

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[9] According to data from the 2018 Fertility Survey, among childless women aged 45 who have never been employed, 41 percent would have liked to have children (compared to 51 percent among childless women who have worked). They also show higher percentages of women who have never had a partner (11 percent versus 10 percent), who have never left the parental home (21 percent versus 14 percent), and who have not achieved economic independence (23 percent versus 14 percent).

reason that insofar as these transitions can take place at younger ages, there would be a greater probability of having children and reducing the fertility gap; yet it is also important to consider the conditions under which a union is formed, the parental home is exited, or employment begins. The conditions and the order in which they occur have a major bearing on fertility.

These results shed light on the social and economic context in which the women included in the dataset lived their reproductive lifecycles. It was characterized by profound changes and considerable instability, with major difficulties accessing the labour and housing markets, affecting the conditions in which transitions took place, including delaying or hindering them (*Esping-Andersen* 2013; *González/Jurado-Guerrero* 2006). This situation helps to explain why one out of four women had no children and two out of three of these had wanted children.

Some aspects of the study warrant further consideration. First, the analysis has approached motherhood exclusively from the female perspective, but given that childbearing decisions are typically made within couple relationships (*Corijn et al.* 1996; *Bauer/Kneip* 2013), analysing data on union histories and couples' characteristics would add an additional layer of insight. Second, comprehensive data on complete labour market trajectories could extend our analysis, which focuses only on access to the first job. Finally, it should be noted that many life-course decisions, such as entering employment, forming a union, leaving the parental home, and becoming pregnant, often occur simultaneously, suggesting a degree of endogeneity among the variables considered.

The diversity of situations observed in the transitions allows us to highlight not only the expediency of facilitating them but also the importance of the conditions in which they occur, which need to be considered when public policies introduce measures for countering a low fertility rate. Importantly, union formation is crucial, as it favours leaving the parental home through economic independence and employment and also favours accessing housing (an issue that has not been addressed here), and these in turn additionally enable women to achieve desired motherhood. In contrast, when these transitions – whether related to partnership, employment, or economic conditions – are undertaken under worse conditions and at an older age, this will increase the likelihood of women reaching the end of their reproductive lifecycle childless against their will.

Future research on Spain should seek to incorporate the diversity of local, cultural, and familial contexts, in light of the substantial influence these dimensions exert on the broader process of transition to adulthood (*Sironi et al.* 2015).

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Appendix

Tab. A1: Discrete-time logistic regression models: union transition and the probability of motherhood (models 1-4)

	Transition to first union			Type of first union			Duration of first union			Type of union & duration		
	B	SE	Sig	B	SE	Sig	B	SE	Sig	B	SE	Sig
s(Time)	5.41	6.52***		5.42	6.53***		5.43	6.55***		5.47	6.58***	
Country of birth (r.c. Spain)												
Other	0.15	0.05**		0.19	0.05***		0.17	0.05**		0.20	0.05***	
Education (r.c. primary or below)												
Lower secondary	0.00	0.04		0.01	0.04		0.01	0.04		0.02	0.04	
Upper secondary	-0.11	0.05*		-0.09	0.05.		-0.08	0.05.		-0.08	0.05.	
Tertiary	-0.12	0.04**		-0.09	0.05*		-0.10	0.04*		-0.09	0.05*	
Religion (r.c. catholic)												
Other	-0.06	0.08		-0.07	0.08		-0.06	0.08		-0.06	0.08	
None (non-believer)	-0.26	0.04***		-0.20	0.04***		-0.24	0.04***		-0.19	0.04***	
N.A. (no answer)	-0.25	0.05***		-0.21	0.05***		-0.23	0.05***		-0.20	0.05***	
Cohort (r.c.: 1962-69)												
1970-79	0.07	0.03*		0.12	0.03***		0.09	0.03**		0.12	0.03***	
Number of siblings (r.c.: 0)												
1-2	0.11	0.07		0.09	0.07		0.10	0.07		0.09	0.07	
3 or more	0.19	0.07**		0.19	0.07**		0.19	0.07**		0.18	0.07**	
First union transition (r.c. no)												
Yes	3.05	0.06***										
Type of first union (r.c. no partner)												
Cohabitation				2.55	0.07***							
Marriage				3.12	0.06***							
Duration of first union (r.c. no partner)												
< 5 years							2.52	0.08***				
>= 5 years							3.08	0.06***				
Type of union & duration (r.c. no partner)												
Cohabitation & < less 5 years										2.34	0.11***	
Cohabitation & >= 5 years										2.64	0.08***	
Marriage & < less 5 years										2.73	0.11***	
Marriage & >= 5 years										3.14	0.06***	
Constant	-5.23	0.09***		-5.29	0.09***		-5.25	0.09***		-5.29	0.09***	

Signif. codes: '.' p < .10. *p < .05. **p < .01. ***p < .001. r.c. = reference category.

Source: *INE's FS2018*

Tab. A2: Discrete-time logistic regression models: union transition and the probability of motherhood according to economic independence and employment status (models 5-6)

	Type of first union & economic independence			Type of first union & employment		
	B	SE	Sig	B	SE	Sig
s(Time)	5.43	6.54***		5.43	6.54***	
Country of birth (r.c. Spain)						
Other	0.19	0.05***		0.19	0.05***	
Education (r.c. primary or below)						
Lower secondary	0.01	0.04		0.01	0.04	
Upper secondary	-0.09	0.05*		-0.09	0.05.	
Tertiary	-0.09	0.05*		-0.09	0.05*	
Religion (r.c. catholic)						
Other	-0.07	0.08		-0.07	0.08	
None (non-believer)	-0.20	0.04***		-0.20	0.04***	
N.A. (no answer)	-0.21	0.05***		-0.21	0.05***	
Cohort (r.c.: 1962-69)						
1970-79	0.12	0.03***		0.12	0.03***	
Number of siblings (r.c.: 0)						
1-2	0.09	0.07		0.09	0.07	
3 or more	0.18	0.07*		0.18	0.07**	
Type of first union & economic independence (r.c. no partner)						
Cohabitation & without economic independence	2.29	0.17***				
Cohabitation & with economic independence	2.58	0.07***				
Marriage & without economic independence	3.12	0.07***				
Marriage & with economic independence	3.13	0.06***				
Type of first union & first employment (r.c. no partner)						
Cohabitation & without employment				2.68	0.16***	
Cohabitation & with employment				2.54	0.07***	
Marriage & without employment				3.12	0.06***	
Marriage & with employment				3.13	0.06***	
Constant	-5.28	0.09***		-5.28	0.09***	

Signif. codes: '.' p < .10. *p < .05. **p < .01. ***p < .001. r.c. = reference category.
Source: *INE's FS2018*

Tab. A3:   Discrete-time logistic regression models: leaving home, economic independence, and the probability of motherhood (models 7-8)

	Leaving the parental home			Economic independence		
	B	SE	Sig	B	SE	Sig
s(Time)	5.26	6.37***		5.48	6.59***	
Country of birth (r.c. Spain)						
Other	-0.001	0.05		0.06	0.05	
Education (r.c. primary or below)						
Lower secondary	-0.12	0.04**		-0.13	0.04**	
Upper secondary	-0.29	0.04***		-0.34	0.04***	
Tertiary	-0.49	0.04***		-0.53	0.04***	
Religion (r.c. catholic)						
Other	-0.07	0.08		-0.06	0.07	
None (non-believer)	-0.31	0.04***		-0.28	0.04***	
N.A. (no answer)	-0.36	0.05***		-0.34	0.05***	
Cohort (r.c.: 1962-69)						
1970-79	0.00	0.03		-0.02	0.03	
Number of siblings (r.c.: 0)						
1-2	0.11	0.07		0.10	0.07	
3 or more	0.16	0.07*		0.17	0.07*	
Leaving the parental home (r.c. non)						
Leaving the parental home	1.68	0.04***				
Economic independence (r.c. non)						
Yes				1.24	0.04***	
Constant	-3.966	0.08***		-3.71	0.08***	

Signif. codes: '.' p < .10. *p < .05. **p < .01. ***p < .001. r.c. = reference category.
Source: *INE's FS2018*

Tab. A4: Discrete-time logistic regression models: leaving home, economic independence, and the probability of motherhood according to economic independence, partner, and employment status (models 9-11)

	Leaving the parental home &								
	economic independence			union			employment		
	B	SE	Sig	B	SE	Sig	B	SE	Sig
s(Time)	5.26	6.36***		5.30	6.41***		5.26	6.36***	
Country of birth (r.c. Spain)									
Other	0.01	0.05		0.19	0.05***		0.03	0.05	
Education (r.c. primary or below)									
Lower secondary	-0.12	0.04**		-0.05	0.04		-0.13	0.04**	
Upper secondary	-0.29	0.04***		-0.19	0.05***		-0.31	0.04***	
Tertiary	-0.46	0.04***		-0.28	0.04***		-0.51	0.04***	
Religion (r.c. catholic)									
Other	-0.07	0.08		-0.04	0.08		-0.06	0.08	
None (non-believer)	-0.31	0.04***		-0.23	0.04***		-0.31	0.04***	
N.A. (no answer)	-0.35	0.05***		-0.25	0.05***		-0.35	0.05***	
Cohort (r.c.: 1962-69)									
1970-79	0.00	0.03		0.06	0.03.		-0.02	0.03	
Number of siblings (r.c.: 0)									
1-2	0.09	0.07		0.04	0.07		0.10	0.07	
3 or more	0.14	0.07*		0.11	0.07		0.15	0.07*	
Leaving the parental home & economic independence (r.c. no leaving home)									
Without economic independence	1.34	0.07***							
With economic independence	1.72	0.04***							
Leaving the parental home & union status (r.c. no leaving home)									
Single				0.00	0.08				
Cohabitation				1.63	0.07***				
Marriage				2.14	0.04***				
Leaving the parental home & employment (r.c. no leaving home)									
Without employment							1.57	0.05***	
With employment							1.74	0.04***	
Constant	-3.97	0.08***		-4.16	0.08***		-3.95	0.08***	

Signif. codes: '.' p < .10. *p < .05. **p < .01. ***p < .001. r.c. = reference category.

Source: *INE's FS2018*

Tab. A5: Discrete-time logistic regression models: first employment and the probability of motherhood (models 12-14)

	First employment			Type of first employment			First employment & duration		
	B	SE	Sig	B	SE	Sig	B	SE	Sig
s(Time)	5.35	6.455***		5.35	6.45***		5.35	6.45***	
Country of birth (r.c. Spain)									
Other	0.14	0.05**		0.13	0.05**		0.14	0.05**	
Education (r.c. primary or below)									
Lower secondary	-0.11	0.04*		-0.11	0.04**		-0.11	0.04*	
Upper secondary	-0.31	0.04***		-0.32	0.04***		-0.31	0.04***	
Tertiary	-0.52	0.04***		-0.53	0.04***		-0.52	0.04***	
Religion (r.c. catholic)									
Other	-0.04	0.07		-0.04	0.07		-0.04	0.07	
None (non-believer)	-0.20	0.04***		-0.20	0.04***		-0.20	0.04***	
N.A. (no answer)	-0.32	0.05***		-0.32	0.05***		-0.32	0.05***	
Cohort (r.c.: 1962-69)									
1970-79	-0.03	0.03		-0.02	0.03		-0.03	0.03	
Number of siblings (r.c.: 0)									
1-2	0.19	0.07**		0.19	0.07**		0.19	0.07**	
3 or more	0.28	0.07***		0.28	0.07***		0.28	0.07***	
First employment (r.c. no)									
Yes	0.14	0.04***							
First employment (r.c. never worked)									
Entrepreneur / self-employed				0.03	0.06				
Employed (permanent)				0.19	0.05***				
Employee (other)				0.14	0.04***				
First employment & duration (r.c. without stability)									
Less 5 years							0.14	0.04***	
5 years and more							0.17	0.07*	
Constant	-3.07	0.08***		-3.07	0.08***		-3.07	0.08***	

Signif. codes: '.' p < .10. *p < .05. **p < .01. ***p < .001. r.c. = reference category.
Source: *INE's FS2018*