

Cultural and Structural Explanations of Fertility

The Spanish Case at the Beginning of the 21st Century

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*Dedicado a mis padres,
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Y a las trabajadoras y los trabajadores
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Abstract

This thesis examines the impact of cultural and structural factors on fertility in Spain during the first years of the 21st Century. It is composed of three empirical chapters. The first examines the impact of cultural factors on fertility outcomes. The second examines the impact of structural and cultural factors on fertility ideals. The third examines the impact of housing conditions and other material aspects on fertility in the wake of the economic crisis. Broadly, our main findings are: (1) whether ideational factors account for differences in the fertility outcomes of native Spanish women and women born abroad depends on the region of birth; (2) the effect on fertility outcomes of ideational factors emphasized in the Second Demographic Transition framework depends on the respondent's birthplace; (3) both cultural and structural factors shape fertility ideals; (4) in addition to other material conditions, housing tenure status, access to mortgages, housing quality, and the type of dwelling have significant effects on fertility.

Resumen

Esta tesis investiga el impacto de los factores culturales y estructurales sobre la natalidad en España durante los primeros años del S.XXI. Está compuesta por tres capítulos empíricos. El primero analiza el impacto de los factores culturales sobre la natalidad. El segundo analiza el impacto de los factores estructurales y culturales sobre el número ideal de hijos. El tercero investiga el impacto de las condiciones de vivienda y otros aspectos materiales sobre la natalidad desde que empezó la crisis económica en España. En términos generales, los principales hallazgos son: (1) el punto hasta el cual las diferencias entre la natalidad de las mujeres nativas españolas y las que nacieron fuera de España se deben a diferencias en las actitudes o valores depende de la región del mundo en la que nació; (2) el efecto de los valores y actitudes típicamente enfatizados en el marco de la Segunda Transición Demográfica depende del lugar de nacimiento de la entrevistada; (3) el número ideal de hijos de la entrevistada está condicionado por factores culturales y estructurales; (4) además de otras condiciones materiales, las condiciones de vivienda que más impacto tienen sobre la natalidad son el régimen de tenencia, el acceso a las hipotecas, la calidad y el tipo de vivienda.

Preface

A glance at Spain's current demographic composition reveals a society that is vastly different than it was at the time of the dictator Francisco Franco's death in 1975. After the transition from despotism to democracy, Spanish society underwent important political, economic, and social changes that were accompanied by major demographic changes including rapid fertility decline, population aging and a strong shift from being a country of emigration to being a major destination country for international migrants (that is, until the economic crisis that began in 2008 reversed the trend). In 1975, Spain's Total Fertility Rate (TFR) was 2.8 children per woman, representing one of Europe's highest at the time. Thereafter, it fell to a low of 1.15 in 1997, with a slow but sustained recovery every year since, once again until the economic crisis began in 2008 (Instituto Nacional de Estadística 2007; 2013).

That modest fertility "recovery" coincided temporally with Spain's transition towards being a major migrant-destination country. While in 1991 foreign nationals made up only 0.91 percent of Spain's total population, this number increased in subsequent years such that by 1 January 2012, a total of about 6.3 million people (13.4% of the total population) living in Spain were born in another country, 2.45 million (5.3% of the total population) of whom were EU citizens (Instituto Nacional de Estadística 2013). Growth in Spain's foreign-national population accounted for 81.25% (701,023 individuals) of the country's total population growth in 2007 (862,744 individuals) (Instituto Nacional de Estadística 2008).

Spain's modest fertility recovery also coincided with a period of economic prosperity resulting from a boom in the country's construction sector, which was strongly tied to changes in the housing market. While it is known today for its high levels of owner-occupation, this was not always the case of the Spanish housing market. Housing policies enacted after the Civil War reduced the percentage of rental housing from over forty percent in 1960 to 14.9% in 1991. Practically all of this was transformed into owner-occupation, which rose from 50.5% to 77.5% during the same period (AlberdÍ and Levenfeld 1996). After 1991, owner-occupation rose to 82.2% in 2001 and dropped slightly to 78.9% by 2011. Yet, despite this decline, the first decade of the 2000s saw a considerable shift in the structure of owner-occupation, as a third of households that had

achieved homeownership did so through mortgages, representing an 83.5% increase (Instituto Nacional de Estadística 2013).

The temporal coincidence between rising immigration and rising fertility has often led to claims of a causal link. As we explain in the next section, research on the fertility of Spain's immigrant population has tended to focus on their contribution to Spain's TFR, and has shown these claims to be exaggerated. The other major change that coincided with Spain's period of fertility recovery, changes in the housing sector, has received far less treatment in the academic literature. This thesis aims to contribute to the existing literature by examining each of these dynamics in more detail. First, taking a step away from the focus on the degree to which Spain's immigrant population contributed to increases in fertility, we examine whether the differences that exist between native and foreign-born women in Spain, in terms of fertility ideals and outcomes, can be attributed to ideational differences. Then, we examine the impact of housing on fertility in the wake of the Spanish housing crash. In this Preface, we briefly introduce the Spanish fertility context by describing previous findings on the structural and cultural factors that have helped shape it. We proceed to outline some of the ideas that have guided our understanding of how culture and structural factors might impact fertility. Finally, we describe how the analyses detailed in the subsequent chapters were carried out.

Previous Research on Fertility in Spain

Explanations of fertility tend to fall into two main categories (Vitali, Billari, Prskawetz and Testa 2009). The first is a structural approach that emphasizes socioeconomic factors, including rising female education and labor market participation, policy changes and responses to actual and expected unemployment, and general economic conditions. The second is a cultural approach, which centers on the idea of a Second Demographic Transition, emphasizing the role of ideational factors such as changing values and attitudes and increased female autonomy and independence as the main drivers of fertility decline (see, e.g. Lesthaeghe 1983; Van de Kaa 1987). Previous individual-level research on fertility in Spain has somewhat favored an analysis of the impact of structural factors. González and Jurado Guerrero (2006) show that couples prefer to fulfill a number of material conditions before entering parenthood, including secure employment, sufficient income, time flexibility, a stable partner, leaving the parental

home, and suitable housing. Scholars have also pointed out that the process of leaving the educational system and entering parenthood suffered from postponement during Spain's fertility decline, and that these processes are strongly connected at the individual level (Castro Martín 1992; Baizán 2001). Martín-García and Baizán (2006) elaborate on this, finding that the type of education a woman chooses is as important in determining fertility patterns as her level of education. Academic careers centering on the care of individuals or those which emphasize interpersonal skills (in contrast to those oriented towards business, professional or technical occupations) have a positive influence on the timing of first births, regardless of the educational level. This finding supports what the authors refer to as the "anticipation of future roles" hypothesis, in contrast to the "human capital hypothesis", which predicts a negative effect of educational attainment on first births. Both Baizán (2006) and De la Rica and Iza (2005) find evidence confirming that employment instability leads to postponement of childbearing and a reduction of fertility rates, with effects being particularly strong among couples in which both members were in a situation of precarious employment.

While much of the research on fertility in Spain has focused on aspects emphasized in so-called "structural" explanations of fertility, this is not to say that there have not been studies emphasizing the role of factors related to the ideational sphere in Spain. At the country level, Arpino and Tavares (2013) find that recent fertility trends in Spain are indeed due to values changes, and that the Total Fertility Rate increased in regions where individualism with respect to relationships and individual autonomy grew and individualism with respect to children diminished. Adserà in particular has examined the effects of religiosity on fertility (2006a), as well as its effects on family size preferences at the country level (Adserà 2006b). The author argues that, as religious institutions have lost a great deal of their influence in society, the degree of church attendance has become a stronger predictor of family size norms and fertility behaviour. While non-practicing Catholics behaved similarly to those with no affiliation, fertility was higher among practicing Catholics, as well as among Protestants and Muslims. Martín-García (2008) points out that fertility choices are an endogenous part of female welfare maximization behaviour: women who do not want (or do not intend) to become mothers early may spend more time in education, and women with stronger fertility intentions might accelerate their educational careers and entry into motherhood. This ideational emphasis is also present in her work with Baizán, described above (Martín

García and Baizán 2006). However, while these studies examine factors that are generally associated with specific value orientations, due to the data they used and the period examined, they do not elaborate on the impacts of specific perspectives on specific norms, nor do they account for possible differences stemming from the respondent's country of birth, which takes on an increased importance starting in the 21st Century.

As mentioned earlier, Spain's fertility recovery coincided with rapid growth in Spain's previously rather small immigrant population. Consequently, much of the research that has been carried out on the fertility of Spain's immigrant population has focused on the number of children born to immigrant women in Spain and whether this accounted for Spain's fertility recovery. Castro Martín and Rosero-Bixby (2011) find that the effect of immigration on Spain's TFR for the period 2004-2006 was, in fact, quite modest (0.08 children). This is due to the relatively small proportion of immigrant women (10.6%) in the total population of women of reproductive age, as well as their slightly sub-replacement fertility level (1.95 children, compared to Spanish women's 1.26). This finding confirms the findings of Goldstein, Sobotka and Jasilioniene (2009), who affirm that the bulk of the increase in Spain's TFR between 1998 and 2006 was due to an increase in fertility among Spanish women, from 1.12 to 1.3 children.

Much less attention has been given to what it is precisely that accounts for the higher fertility of some groups of foreign-born women in Spain relative to native women; difference is often simply understood as a given. One notable exception is the study by Bledsoe, Houle and Sow (2007), which examines "child accumulation" among Gambian immigrants in Catalonia and argues that the high fertility of this group is likely to be the result of the policies of exclusion applied to immigrants by the Spanish government (such as family reunification), which conflict with the norms governing family dynamics in Gambia. What is particularly illuminating about this study, beyond its level of detail and transnational approach, is that it clearly shows how structural elements of a given fertility context (in this case, a country's) are ultimately crystallizations of a specific cultural framework.

Another exception is Bueno García and Vono de Vilhena's (2009) study on Latin American women in Spain and the United States, which finds that, with slight

differences depending on the specific country of birth, Latin American women have earlier fertility calendars and higher total fertility than natives in each of the destination countries examined. Yet both of these studies leave somewhat open the degree to which differences between women born in Spain and those born in other regions of the world are attributable to ideational differences, as well as what specific ideational differences those may be.

Conceptual Framing in Fertility Research

Fertility has long provided people with a lens through which to observe and interpret cultural difference. This is not unexpected, since the number of children a person has had is quantifiable and easily compared. Yet, as Bernardi and Hutter (2007) highlight in a call for an anthropological demography of Europe, defining the concept of culture is difficult and unlikely to yield unanimous consent. This is true even within the discipline of anthropology, where definitions range from the materialist “learnt repertory of thoughts and actions exhibited by members of social groups” (Harris 1979) to the interpretive “historically transmitted pattern of meanings embodied in symbols” (Geertz 1966).

The range of definitions cited above also makes culture a difficult concept to operationalize. However, following Fricke’s (1997) assertion that “culturally sensitive population studies require an assumption that people engage their world in terms of highly various and local systems of meaning, and a willingness to explore existing sources with an eye to relating those meanings to demographic outcomes”, Bernardi and Hutter identify three ways in which anthropological demographers should incorporate culture in demographic studies. These are: to make sure that standard demographic variables such as education or age at marriage are informed by the cultural meaning that these variables assume in a specific context (for example, the relatively higher age at marriage characteristic of Mediterranean states); to be attentive to the symbolic systems of reference present in the study population and thus open to the necessity of modifying standard variables or introducing new contextual variables into behavioral models; and to interpret the complexity of individual motivations that are beyond local patterns of behavior (Bernardi and Hutter 2007). It is with this in mind that the work in this thesis incorporates theoretical frameworks from diverse yet complementary disciplines such as

sociology, demography, social psychology, anthropology and economics. What follows is a brief description of some of the frameworks that are most commonly employed in these disciplines in their analyses of fertility.

A common starting point, especially in micro-level empirical research on fertility behavior, is the New Home Economics approach, as outlined in Gary Becker's *Treatise on the Family* (1981). According to Becker (1981), every family maximizes a utility function of the number of children (n); the amount invested in each child's "quality" (q); and the aggregate quantity of other goods (Z):

$$U = U(n, q, Z)$$

The total cost of having and raising a child differs with respect to the parents' time and the division of work within the household, such that the resulting budget constraint of a family is:

$$p_n n + \pi_z Z = I$$

where I is full income, p_n is the cost of children, and π_z is the cost of Z . Given p_n , π_z , and I , the optimal quantities of n and Z are determined by the budget constraint and the marginal utility condition:

$$\frac{\frac{\partial U}{\partial n}}{\frac{\partial U}{\partial Z}} = \frac{MU_n}{MU_z} = \frac{p_n}{\pi_z}$$

Thus, the demand for children depends on the relative price of children and full income such that increases in the relative price of children (p_n relative to π_z) reduce the demand for children and increase the demand for other commodities (if income is held constant). The price of children here includes the woman's wage or potential wage (often approximated by her human capital), the cost of caring for a child, and the cost of fertility regulation (Becker 1981; Mayer and Riphahn 1999).

Becker's model has accumulated a considerable amount of criticism over the years. In a recent paper highlighting the strengths of the Value-of-Children approach (which will

be described in more detail later in this section), Nauck (2014) identifies several shortcomings that are generally present in the New Home Economics approach. First, while it is effective in explaining declining birth rates, Becker's model does not explain an individual's decision to have children. Second, the model is highly reductive and depends on a number of simplifications. The model is based on the household as an actor, in such a way that it assumes that the action situation and preferences are the same for both potential mothers and potential fathers, who have interchangeable selection strategies that only produce utility and generate no costs for the respective partner. Furthermore, the model understands preferences to be constant, implying that children have the same value for potential mothers and fathers regardless of context. Preferences are, at best, introduced as exogenous factors. Finally, Nauck points out that the model of children as consumer goods implies that children are only consumers (of time, nurturing and material goods) and objects of consumption in the household. Insofar as the New Home Economics approach only works with the immanent value of children, Nauck argues, a theoretical argument is missing as to why reproductive decisions ("generative decisions" in the author's broader terminology) cannot be linked with the instrumental value of children or with a systematic variation of their immanent and instrumental value.

While amending the issues related to Becker's use of the household as a single actor is a rather straightforward methodological concern, the assumption that preferences are constant has been the focus of complementary or alternative approaches to the one employed in New Home Economics. One of the most common frameworks used to interpret fertility decline is that of the Second Demographic Transition, which I have made reference to previously in this Preface. In a broad sense, although this framework recognizes the importance of material conditions, changes in opportunity structures, the role of human capital and cost-benefit calculations that are present in economic explanations of fertility, its proponents contend that "meaning-giving" or "ideational" goals and their transmission contribute to the specification of the content of what is understood, in the economic approach, under the blanket term "utility" (Lesthaeghe and Surkyn 1988). Substantiating his emphasis on the ideational component of fertility, Lesthaeghe (2010) writes that, following a first Transition in which the average age at marriage tended to decline, fertility was generally confined to marriage, contraception was primitive, imperfect and mainly practiced by older couples, and childlessness

among married couples was low, the Second Demographic Transition was characterized by: more effective contraception; a sexual revolution that successfully decoupled sex from reproductive work and oriented it more towards pleasure; a gender revolution in which women began to successfully exercise their autonomy in the labor market, in reproduction and in practically every sphere of life; and an overarching shift towards a rejection of authority and an overhaul of the normative structure that greatly diminished the influence of parents, educators, the army and the entire state apparatus. As a result of these values changes, the main characteristic of fertility in the Second Demographic Transition is postponement and “structural” sub-replacement fertility.

Hakim (2003) also criticizes Becker’s approach and related demographic research on fertility as being too “variable-centered”, with almost no reference to the social processes and the motivations of the women and men behind these statistical measures; treating all variables, including time, as continuous, unmarked by historical time, and equivalent across countries; and generally dedicating too little attention to women’s intentions, values, and motivations, and to how these differ from those of men. Hakim’s approach to fertility, Preference Theory, emphasizes personal values and decision making at the micro-level; specifies particular social, economic, and institutional contexts within which preferences become the primary determinant of women’s choices; and understands women to be heterogeneous in work and lifestyle preferences, broadly classifiable into three groups: *home-centered*, *adaptive*, and *work-centered* (Hakim 2003). The author specifies that these groups mostly apply to rich countries, and that the distribution of women in these groups varies by country.

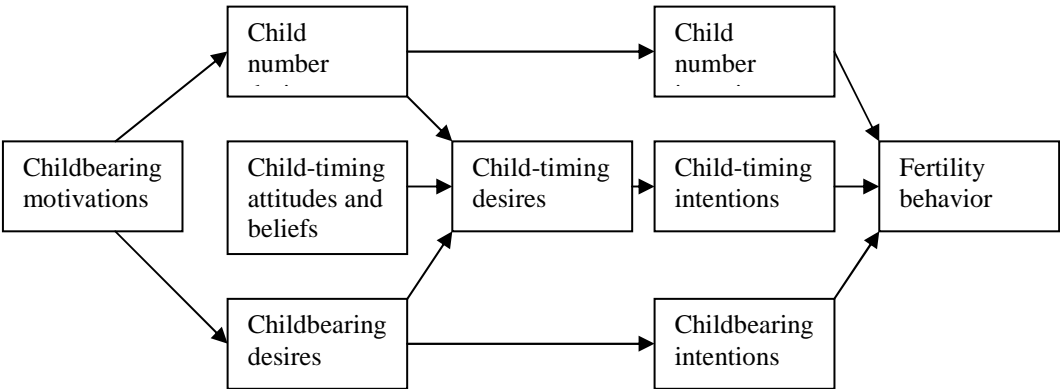
Bongaarts has also examined the role of preferences in determining fertility outcomes, albeit with less emphasis on labor market relationships than Hakim. Instead, the author identifies six factors linking reproductive preferences and total fertility in post-transitional societies: desired family size, unwanted fertility, child mortality, gender preference, rising age at childbearing, and involuntary family limitation and competing preferences (Bongaarts 2001). What’s striking about the factors Bongaarts identifies, and especially pertinent to our consideration of differences in fertility patterns between native and foreign-born women in Spain, is that migration can involve a very drastic change in exposure to each of these preferences. This juxtaposition of contexts may have important implications for establishing links between fertility behavior and

preferences, especially among people who were born in countries that are in different phases of the Second Demographic Transition and more accustomed to different desired family sizes, less protection against unwanted fertility, higher child mortality rates, a lower age at first child birth, or different preferences regarding gender roles than the dominant perspectives in the receiving country.

It is also important to bear in mind that lumping concepts of intentions, ideals, values, attitudes and motivations together under the term “preferences” might blur the distinctions between various internal processes. In this sense, it is worthwhile to consider Ajzen’s theory of planned behavior (2005). This theory is based on the assumption that human beings tend to behave in a sensible manner, taking account of available information and implicitly or explicitly considering the implications of their actions. A person’s intention to perform (or not perform) an action, then, is the most important immediate determinant of that action. According to the theory of planned behavior, intentions are determined by three basic factors, one of a personal nature, another reflecting social influence and a third treating issues of control. The first is the individual’s attitude towards the behavior, which can be a positive or negative evaluation. The second is the subjective norm, that is, the person’s perception of social pressure to perform or not perform the behavior in question. Finally, the third determinant of the individual’s intentions is the sense of self-efficacy or ability to perform the behavior, referred to here as perceived behavioral control. To summarize, what the theory of planned behavior states is that people intend to perform a behavior (having a child, in this case), when they evaluate it positively, when they experience social pressure to perform it, and when they believe that they have the means and opportunities to do so (Ajzen 2005). Yet Miller and Pasta (1993; 1994; 1995) point out the theoretical and conceptual problems inherent in considering having a child to be a behavioral outcome for which fertility intentions are a contiguous antecedent. In contrast to the theory of planned behavior, they propose two sequences: the trait-desires-intentions sequence and the intention-behavior-outcome sequence. The first is characterized by a distinction between desires and intentions, where desires represent what individuals want to do, but do not necessarily lead to action, and intentions are “conscious commitments to act in a certain way or to try to achieve a certain goal at some future time” that also incorporate the perceived desires of significant others as well as situational factors (Miller and Pasta 1995). They identify three types of desire

that are relevant to fertility: (1) the desire for a child or another child if the person already has children; (2) the number of children desired; and (3) the desire for a child at some particular time. These desires are the result of individual motivations, attitudes and beliefs, as shown in Figure 1 below, and they influence expectations, which in turn influence intentions.

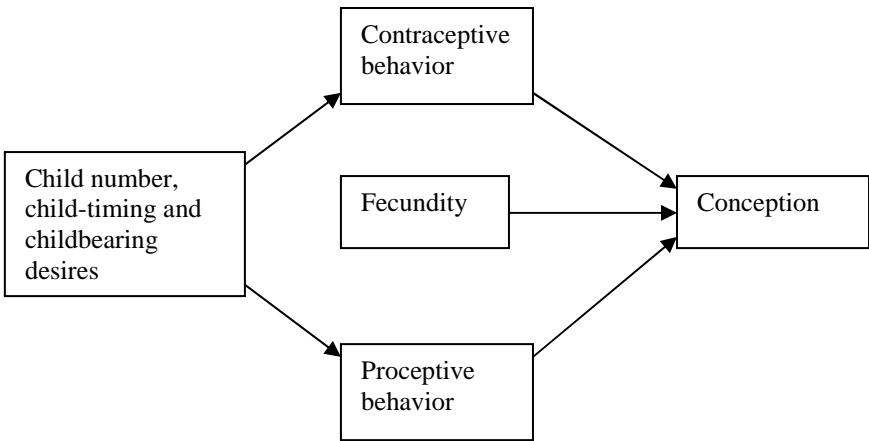
Figure 1. The Traits-Desires-Intentions Sequence.



Source: Miller and Pasta 1995

The intentions-behavior-outcome sequence also involves a key distinction, this time between two types of behavior: contraceptive behavior, where the intent is to prevent conception, and proceptive behavior, where the intent is to achieve conception. Conception thus depends on these types of behavior, on each individual’s fecundity and on each individual’s perception of their own fecundity, in addition to other factors. This relationship is outlined in Figure 2.

Figure 2. The Intentions-Behavior-Outcome Sequence



Source: Miller and Pasta 1995

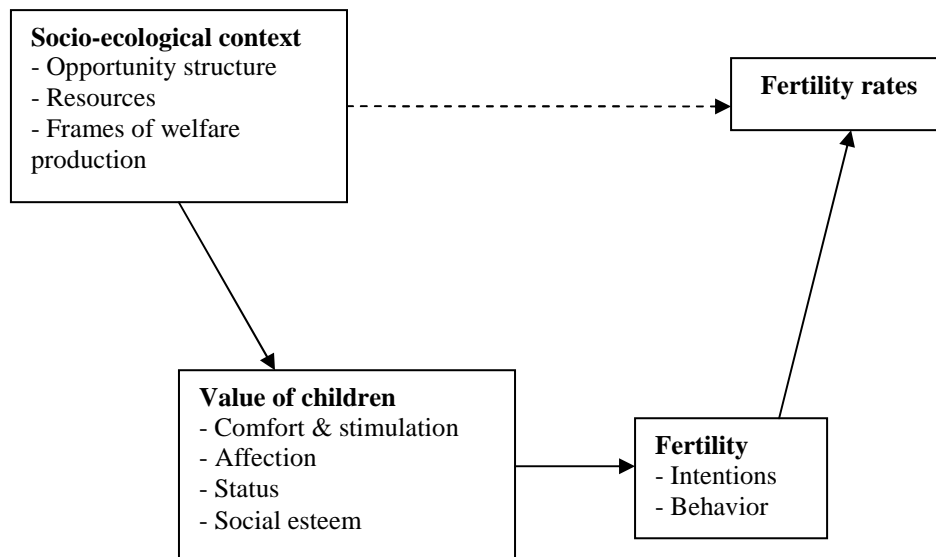
Taken together, the theory of planned behavior and the Miller-Pasta approach to modelling fertility decisions are quite effective in outlining the sociopsychological processes that explain individual-level fertility patterns. Yet, although they also suggest the pathways through which social and cultural norms influence fertility outcomes, more insight into these processes can be obtained through the use of another theoretical framework, namely the Value-of-Children approach. This approach was developed by Hoffman and Hoffman¹ (1973) in response to the shortcomings of the New Home Economics approach, and it provided the first systematic explanation of variations in fertility decisions to incorporate the role of cultural factors. Its goal was to clarify the contextual conditions under which reproductive decisions are related to children's instrumental and immanent value, and to do so within the framework of methodological individualism (Nauck 2014). In this sense, as Nauck points out, it is also intended as a useful instrument for cross-cultural comparisons of the factors influencing fertility decisions, which should be explained in terms of the variations of the same determinants.

In their initial study of the value children have for their parents, Hoffman and Hoffman (1973) categorize their empirical results into nine categories that include: (1) adult status and social identity; (2) expansion of the self, ties to a larger entity, "immortality"; (3) morality: religion, altruism, common good; norms regarding sexuality, acting on impulse, virtue; (4) primary group ties, affection; (5) stimulation, novelty, fun; (6) achievement, competence, creativity; (7) power, influence, ability to have an impact on things; (8) social comparison, competition; (9) economic utility. In his study on sex roles, value of children and fertility in Turkey, Kagitcibasi (1982) demonstrates the validity of these indicators when grouped into two categories: the economic-utilitarian value of children, which refers to their contributions to the family economy through child labor, household help, additional income and insurance against life risks in old age, and the psychological-emotional value of children, which refers to the strengthening of emotional group ties and expressive stimulation through interaction with the children. Yet recent revisions (Nauck 2014) of the value-of-children approach seek to integrate it within a general theory of social production functions, positing children as intermediate goods for their (potential) parents' welfare production via the

¹ "The value of children refers to the functions they serve or the needs they fulfil for parents" (Hoffman and Hoffman 1973:20)

optimization of parental physical wellbeing and social approval. Ultimately, Coleman's general model of social explanation (1990) is transformed into the special case of the explanation of fertility (Suckow 2008), as displayed in Figure 3.

Figure 3. Basic model of the special action theory of fertility



Source: Nauck 2014

Nauck goes on to explain that “‘cultural’ factors enter into this model through the available socially transmitted options (frames), routinized behavior for the optimization of in the social production function (habits), and institutional settings” (2014). What is less clear is how the impact of culture can be operationalized in an empirical study. Many of the frameworks described above seem to argue that the respondent’s views, attitudes, motivations and so on should be incorporated into studies of fertility patterns either individually or categorized as indicators². On the other hand, Fernández and Fogli (2009) suggest that studies use the country of ancestry’s Total Fertility Rate as a proxy for culture, rather than the country or region of ancestry, “since the latter suffers from the disadvantage of not being explicit as to why it may matter to be, for example, of Mexican, as opposed to Swedish, ancestry.” The idea here is that categorizing ancestry

² In fact, for several years, the factors identified in the Second Demographic Transition theory and in Preference theory have been incorporated into the fertility and values surveys that are most commonly used in fertility research. Unfortunately, questions regarding the value of children were not incorporated into these same surveys, which was ostensibly possible.

in terms of TFR rather than physical geography captures the effects of one's country-of-ancestry not only in the dimension of one's exposure to a normative context for fertility outcomes, but also the normative ideational and structural contexts that produce those outcomes.

Outline of the Thesis

The bulk of this thesis consists of three empirical chapters that explore both cultural and structural explanations of fertility in Spain. The goal of this thesis is to respond to three broad research questions: (1) To what extent are differences in the number of children of native and foreign-born women in Spain attributable cultural differences? (2) What ideational and material conditions influence the personal ideal number of children of women in Spain? (3) How have housing conditions and other material factors influenced fertility in Spain during the years since the housing crash? While the first chapter is intended to contribute to the literature on cultural explanations of fertility, as it focuses almost exclusively on the impact of cultural factors on fertility outcomes, the second explores the impact of both ideational and material factors on family size ideals. Finally, the third focuses exclusively on the impact of material factors. In a general sense, the findings presented in this thesis not only fill in a number of "black-boxes" on the Spanish case, but have important methodological and theoretical implications, particularly for future research on the role of cultural factors in shaping fertility outcomes. I describe each of these chapters and their contributions in more detail below.

The first chapter is titled *Cultural Factors and Fertility Outcomes of Native and Foreign-Born Women in Spain*. As the title suggests, it examines the role of cultural factors in explaining fertility outcomes for Spanish and foreign-born women living in Spain through multivariate regression analyses applied to a sample of women drawn from the *2006 Fertility and Values in 21st Century Spain Survey*. Special attention is given to the degree to which the association between the dependent variable (the number of children) and the respondent's place of birth varies as her background and the ideational factors often emphasized in the Second Demographic Transition framework are introduced into analyses. To our knowledge, it is the first study to examine the influence of specific ideational factors on fertility outcomes at the

individual level, while including distinctions for foreign-born women and examining whether those factors interact with the respondent's place of birth. Thus, it is also the first to examine the role of cultural difference with respect to the fertility outcomes of native and foreign-born women in Spain.

The second chapter, *Cultural and Structural Explanations of Family Size Ideals*, aims to shed light on the impact of selected ideational and socioeconomic factors on personal family size ideals. In it, generalized ordered logit/partial proportional odds and logistic regression analyses were applied to a sample of women drawn, once again, from the *2006 Fertility and Values in 21st Century Spain Survey*. The dependent variable was the respondent's personal ideal number of children and explanatory variables included the respondent's age, family of origin, educational level, country of birth, relationship status, labor market relationship, housing situation and her attitudes regarding childrearing and the economic organization of the household. In it, the respondent's birthplace is grouped both in terms of its TFR and in terms of its geographical region, in order to see whether the respondent's country of birth affected her family size ideals due to exposure to a specific fertility context or whether it might be more affected by more geographically specific forms of cultural entrainment. The main contribution of this study is the application of a generalized ordered logit/partial proportional odds model to the study of fertility ideals, as it is able to identify the effects of explanatory variables on specific categories of the dependent variable. Doing so avoids some of the assumptions involved in the models employed in other studies on fertility ideals and, we feel, provides a more realistic interpretation of the effects of those variables. The assumptions avoided include the parallel odds assumption in ordered logistic or ordered probit regression, as well as the theoretical problem with comparing high and low fertility ideals against the single category of the two-child norm, as is done in multinomial logistic regression models. While other studies (Testa 2010; 2012) have examined the determinants of personal family size ideals through multivariate analysis, to our knowledge, this is the first to do so while emphasizing those of immigrants.

The third chapter explores the relationship between structural factors and fertility in Spain, with an emphasis on housing conditions. Titled *Babies and the Bubble: Families and Homes in the Wake of the Spanish Housing Crash*, it is at its heart an updated application of González and Jurado Guerrero's (2006) "minimal set of conditions for

having a baby”. However, it employs more detailed information on housing and is set in the context of the years following the Spanish housing crash. Using data from the 2010 and 2011 waves of the *European Union Statistics on Income and Living Conditions* (EU-SILC), a subsample of cohabiting couples was selected, and multiple probit regression was used to analyze the relationship between first and second or higher-order births and a set of demographic, socioeconomic and specific housing conditions. It is the first study to use detailed information on the respondent’s tenure status, including whether or not owner-occupation was accessed through a mortgage (this information was previously unavailable, at least for Spain). It is also the first study to examine the relationship between housing conditions and fertility in Spain specifically. Finally, it is the first study to explore the impacts of the economic crisis on fertility in Spain at the individual level. Finally, the last chapter of this thesis summarizes the main findings presented in the three empirical chapters, reflects on their broader implications for fertility research and points to the questions our findings open up for future analyses.

References

- Adsera, A. (2006a). Marital Fertility and Religion in Spain. *Population Studies*, 60(2): 205-221.
- Adsera, A. (2006b). Religion and Changes in Family-Size Norms in Developed Countries. *Review of Religious Research*. 47(3):271-286
- Ajzen, I. (2005). *Attitudes, Personality and Behavior*. Berkshire: Open UP.
- AlberdÍ, B. and Levenfeld, G. (1996). “Spain”, in: Balchin, P. (Ed.) *Housing Policy in Europe*. London: Routledge.
- Arpino B. and Tavares L.P. (2013) Fertility and values in Italy and Spain: a look at regional differences within the European context. *Population Review*, 52(1).
- Baizán, P. (2001). Transition to Adulthood in Spain. In: Corijn, M. and Klijzing, E. (Eds), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic Publishers: 297–329.
- Baizán, P. (2006). “El efecto del empleo, el paro y los contratos temporales en la baja fecundidad española de los años 1990.” *Revista Española de Investigaciones Sociológicas*. 115: 223-253
- Becker, G. (1981). *Treatise on the Family*. Cambridge: Harvard UP.

- Bernardi, L., Hutter, I. (2007). The Anthropological Demography of Europe. *Demographic Research*; 17: 541-566.
- Bledsoe, C., Houle, R., Sow, P. (2007). High Fertility Gambians in Low Fertility Spain: The Dynamics of Child Accumulation Across Transnational Space. *Demographic Research*; 16: 375-412.
- Bongaarts, J. (2001). Fertility and Reproductive Preferences in Post-Transitional Societies. *Population and Development Review*, 27: 260-281.
- Bueno, X. and Vono de Vilhena, D. (2009), "Pautas reproductivas de las madres latinoamericanas en Estados Unidos y España a inicios del siglo XXI". *Diálogos Latinoamericanos*. 15: 94-113.
- Castro Martin, T. (1992). Delayed childbearing in contemporary Spain: trends and differentials. *European Journal of Population*, 8: 217-246.
- Castro Martin, T., Rosero-Bixby, L. (2011). Maternidades y fronteras. La fecundidad de las mujeres inmigrantes en España. *Revista Internacional de Sociología*, 69: 105-137.
- Coleman, J.S. (1990). *Foundations of Social Theory*. Cambridge: Harvard University Press.
- De la Rica, S., Iza, A. (2005). "Career planning in Spain: Do fixed-term contracts delay marriage and parenthood?" *Review of Economics of the Household*; 3: 49-73. *Educational Attainment and of Educational Choice on First, Second and Third Births*. PhD Thesis, Instituto Juan March de Madrid.
- Fernandez, R. and Fogli, A. (2009). Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics*, 1(1): 146-77.
- Fricke, T. (1997). Culture theory and demographic process: towards a thicker demography. In: Kertzer, D., Fricke, T., editors. *Anthropological Demography: Towards a New Synthesis*. Chicago: University of Chicago Press: 248-227.
- Geertz, C. (1966). Religion as a Cultural System. In: Banton, M., editor. *Anthropological Approaches to the Study of Religion*. London: Tavistock: 1-46.
- Goldstein, J. R., Sobotka, T. and Jasilioniene, A. (2009). "The End of 'Lowest-Low' Fertility?". *Population and Development Review*, 35: 663-699.
- González, M.J. & Jurado, T. (2006) "Is There a Minimal Set of Conditions Before Having a Baby? The Experience of the 1955-1982 Female Cohort in West Germany, France, Italy and Spain" In Esping-Andersen, G. (Ed.) *Family Formation and Family Dilemmas in Contemporary Europe*. Madrid: Fundación BBVA

- Hakim, C. (2003). A new approach to explaining fertility patterns: Preference theory. *Population and Development Review*, 29(3), 349–374.
- Harris, M. (1979). *Cultural Materialism: the Struggle for a Science of Culture*. New York: Random House.
- Hoffman, L.W. and Hoffman, M.L. (1973). The Value of Children to Parents. In: Fawcett, J.T. (ed.). *Psychological perspectives on population*. New York: Basic Books: 19–76.
- Instituto Nacional de Estadística (INE) (2007). *Movimiento Natural de la Población. Datos provisionales 2006*. Nota de prensa 3 junio 2007. <http://www.ine.es/prensa/np460.pdf>
- Instituto Nacional de Estadística (INE) (2008). *Avance del Padrón Municipal a 1 de enero 2008. Datos provisionales.*, Nota de prensa 20 junio 2008. <http://www.ine.es/prensa/np503.pdf>
- Instituto Nacional de Estadística (INE) (2013). *Censos de Población y Viviendas. Datos detallados*. Nota de prensa 12 diciembre 2013. <http://www.ine.es/prensa/np824.pdf>
- Instituto Nacional de Estadística (INE) (2013). *Movimiento Natural de la Población e Indicadores Demográficos Básicos. Datos provisionales, año 2012*. Nota de prensa 18 junio 2013. <http://www.ine.es/prensa/np784.pdf>
- Kagitcibasi, C. (1982). Sex Roles, Values of Children, and Fertility. In: Kagitcibasi, C. (ed.). *Sex roles, family & community in Turkey*. Bloomington: Indiana University Press: 151–180.
- Lesthaeghe, R. (1983). A century of demographic and cultural change in Western Europe: An exploration of underlying dimensions. *Population and Development Review*, 9(3), 411–435.
- Lesthaeghe, R., Surkyn, J. (1988). Cultural Dynamics and Economic Theories of Fertility Change. *Population and Development Review*, 14:1-45.
- Lesthaeghe, R. (2010). The Unfolding Story of the Second Demographic Transition. *Population and Development Review*, 36(2): 211-251.
- Martín García, T. (2008). *Women's Education and Fertility in Spain: The Impact of*
- Martín-García, T. and Baizán, P. (2006). The impact of the type of education and educational enrolment on first births. *European Sociological Review*, 22(3).
- Mayer, J., Riphahn, R.T. (1999). Fertility Assimilation of Immigrants: Evidence from Count Data Models. Discussion Paper no. 52, Bonn: Institute for the Study of Labor (IZA).

- Miller, W., Pasta, D.J. (1993). Motivational and nonmotivational determinants of child-number desires. *Population and Environment*, 15: 113-138.
- Miller, W., Pasta, D.J. (1994). The psychology of child timing: A measurement instrument and a model. *Journal of Applied Social Psychology*, 24: 221-250.
- Miller, W., Pasta, D.J. (1995). Behavioral intentions: Which ones predict fertility behavior in married couples? *Journal of Applied Social Psychology*, 25: 530–555.
- Nauck, B. (2014). The Value of Children and the Social Production of Welfare. *Demographic Research*, 30:1793-1824.
- Suckow, J. (2008). *Fertilität in Israel und Palästina: Ein Erklärungsbeitrag der Value-of-Children-Forschung*. Würzburg: Ergon Verlag.
- Testa, M.R. (2010). Child-number and child-timing intentions in a micro-macro European framework. *European Demographic Research Paper 4*. Vienna Institute of Demography, Austrian Academy of Sciences.
- Testa, M.R. (2012). Family sizes in Europe: evidence from the 2011 Eurobarometer survey. *European Demographic Research Paper 2*. Vienna Institute of Demography, Austrian Academy of Sciences.
- Van de Kaa, D. J. (1987). Europe's second demographic transition. *Population Bulletin*, 42(1), 1–59.
- Vitali, A., Billari, F, Prskawetz, A., & Testa, M.R. (2009) Preference Theory and Low Fertility: A Comparative Perspective. *European Journal of Population*, 25:413-438.

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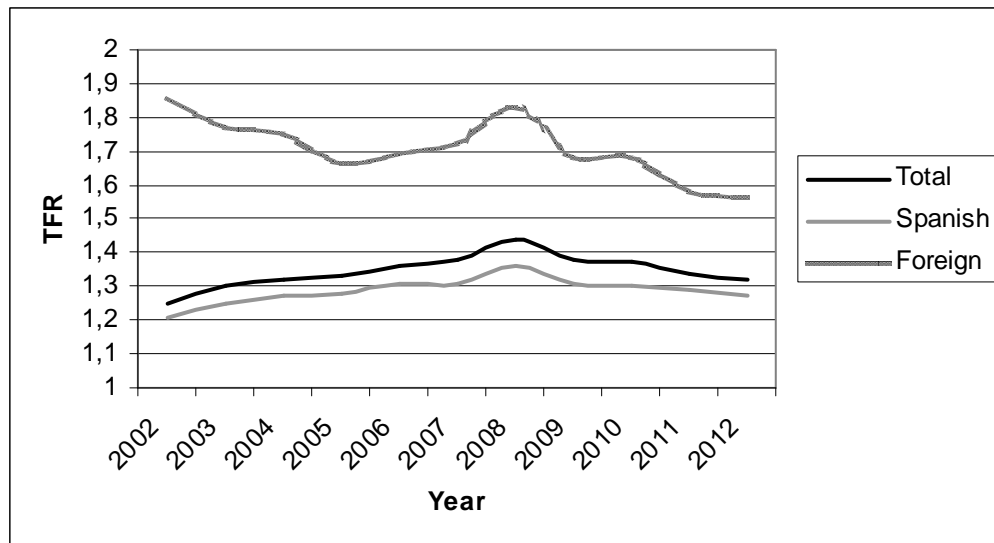
1. Cultural Factors and Fertility Outcomes of Native and Foreign-Born Women in Spain

1.1 Introduction

After two decades of sharp fertility decline, Spain's total fertility rate began a modest but sustained recovery after reaching a "lowest-low" level of 1.15 children per woman in 1998, which was only halted by the onset of the economic crisis that began in 2008 (Kohler, Billari and Ortega 2002; Billari and Kohler 2004; Goldstein, Sobotka and Jasilioniene 2009). During this period of recovery, Spain also underwent an important shift in its population structure, as it became a major destination country for international migrants. While in 1991, only two percent of the Spanish population had been born abroad, it rose to over five million people by 2011, constituting 11.2% of the total population (Instituto Nacional de Estadística 2013).

Immigration has had a rejuvenating effect on Spain's ageing population largely due to the younger age composition of the immigrant population (León Salas 2005). It has also contributed, albeit modestly, to Spain's fertility recovery (Goldstein, Sobotka and Jasilioniene 2009). On the one hand, the "fertility calendar" of many immigrant women is considerably earlier than that of women born in Spain, which is not surprising considering that fertility postponement is especially pronounced there. On the other, the fertility level of Spain's immigrant population is higher, on average, than that of the native-born population (Roig Vila and Castro Martín 2007). Thus, while just over 3% of births in Spain were to mothers with a foreign nationality in 1996, they represented over a fifth of births by 2008. Figure 1 below displays the Total Fertility Rate for women of Spanish and foreign nationality between the years 2002 and 2012.

Figure 1. Total Fertility Rate of women in Spain by nationality.



Source: Basic Demographic Indicators, 2002-2012. Instituto Nacional de Estadística

Because Spain's shift towards becoming a major destination country for international migrants started relatively recently, previous research on the fertility behavior of Spain's immigrant population has often been hindered and conclusions have tended to vary as new data has come out. What has been written until now points to significant differences between Spanish and foreign-born women, depending on the respondent's place of birth. Using a combination of census data and municipal registers, Devolder and Treviño point out that women with a nationality from the African or Asian continents had a notably higher total fertility rate than Spanish women (Devolder and Treviño 2007). Yet, based on data from the 2001 Census, Roig Vila and Castro Martín (2007) find that only North African women had significantly higher odds of experiencing a birth in the year prior to the census than Spanish women, after controlling for age, marital status and number of co-resident children. In contrast, in their work focusing specifically on Latin American women in Spain and the United States, Bueno García and Vono de Vilhena (2009) find that, with slight differences depending on the specific country of birth, Latin American women have earlier fertility calendars and higher total fertility than natives in each of the destination countries examined.

To our knowledge, the most thorough analysis of the fertility of foreign-born women in Spain was that carried out by Castro Martín and Rosero-Bixby (2011) using the Instituto Nacional de Estadística's *National Immigrants' Survey*, in which they are not only able to point to the influence of the respondent's country of birth, but also to educational level, labor market status and several aspects of the migration experience itself. They find that migration has a *stimulating* effect on fertility (that is, it increases the likelihood of experiencing a birth after migration) on women who migrated from Africa as a result of family reunification, while those who migrated for economic reasons had lower fertility during the period before and after migration, supporting the *disruption* hypothesis of migration's effect on fertility. The authors also found evidence of *selection* effects among migrant women, such that those who left their countries of origin tended to have a higher educational level and a lower level of fertility than women in their host country. On the other hand, evidence of downward *adaptation* of fertility behavior to local patterns was found for African women, but not for women from the other regions of birth. For all other groups, convergence with Spanish fertility patterns was the result of either selection effects (as in the case of Latin American women) or an already low level of fertility (as in the case of women from Eastern Europe) (Castro Martín and Rosero-Bixby 2011).

One might be tempted to attribute the higher fertility of some groups of foreign-born women in Spain to cultural differences. In demographic research, cultural approaches to explaining fertility behavior often focus on the idea of a Second Demographic Transition, and emphasize the role of ideational factors such as changing values and attitudes and increased female autonomy and independence as the main drivers of fertility decline (Lesthaeghe 1983; Van de Kaa 1987; Vitali, Billari, Prskawetz & Testa 2009). Much of the existing research on the influence of ideational factors on fertility uses Catherine Hakim's Preference Theory as a starting point, as it emphasizes personal values and decision-making at the micro-level; specifies particular social, economic, and institutional contexts within which preferences become the primary determinant of women's choices; and understands women to be heterogeneous in work and lifestyle preferences, broadly classifiable in three groups: home-centered, adaptive, and work-centered (Hakim 2003). In a recent study, Arpino and Tavares (2013) confirm the

influence of many of the ideational factors identified in Preference Theory and the Second Demographic Transition framework on fertility outcomes. Their study finds that recent fertility trends in the low-fertility countries of Italy and Spain are indeed due to value changes, such that the Total Fertility Rate increased in regions where individual autonomy and individualism with respect to relationships grew and individualism with respect to children diminished. Expanding on these findings, Arpino, Esping-Andersen and Pessin (2013) find evidence supporting the hypothesis of a U-shaped relationship between gender-egalitarian values and fertility. As countries transition away from a male-breadwinner family model, the diffusion of gender-egalitarian values is negatively associated with fertility. However, as the process advances and gender egalitarian values become more dominant in a society, they have a positive impact. The study also suggests that large differentials in gender egalitarian values, by education or gender, have a negative effect on fertility.

Yet none of the above studies have examined the influence of ideational factors on fertility outcomes while accounting for possible differences between local- and foreign-born respondents. In this chapter, we are particularly interested in whether differences exist between Spanish women and women born outside of Spain in terms of these ideational factors. We are also interested in the extent to which differences observed in the fertility outcomes of Spanish and foreign-born women are robust to analyses that include the ideational factors often associated with the cultural explanations of fertility common to the Second Demographic Transition theory (and vice versa).

1.2 Data and Methods

We use data collected by the Instituto Nacional de Estadística's Centro de Investigaciones Sociológicas through the *2006 Fertility and Values in 21st Century Spain Survey* (CIS 2639). It includes a sample of foreign-born women large enough ($n=745$, or 7% of a total sample size of 9,737 women of ages 15 and over) to allow for an analysis of the fertility decisions specific to this group. The survey includes questions covering information on household characteristics and demographics, family of origin, partner histories, children and maternity, other pregnancies, fertility

regulation, attitudes towards children and family, educational and occupational histories, and partner's characteristics. However, in light of the size of Spain's foreign-born population reported in the municipal registers, the sample under-represents women from some regions of origin, most notably the Asian continent.

Specifically, we focus on a sub-sample of women between the ages of 15 and 49 who had left the parental home at the time of the interview. We also limited our analysis to women who had not had children and those who only had biological children. This left us with 3,669 total respondents, 13.4% of whom were born outside of Spain. Descriptive statistics for the final study population are displayed in Table 1. It should be pointed out that, given the late age at which men and women born in Spain tend to leave the parental home, restricting the sample to women who have left the parental home creates a selection bias with respect to the age of the native Spanish women in the sample and, following Martín García (2008), possibly in favor of those who had stronger desires to start a family. However, because our emphasis is on finding evidence of cultural difference in a given fertility context, our intention is to highlight the degree to which ideational factors with respect to fertility can account for differences between native and foreign-born women in terms of fertility outcomes. In order to do so, we control for the influence of the respondent's current situation on her ideational factors by setting the household context in which they take shape as equal as possible with this data, considering that we also know that the meaning of leaving the parental home and its status as a pre-condition for beginning a union or having children is culturally defined. Postponement of forming an independent household is itself a cultural trait that is characteristic of Spain, and we feel that the differences between people born there and those born abroad, in terms of the material and ideational factors influencing this trait and linking it to fertility patterns, constitute a topic that deserves a study of its own.

Table 1. Characteristics of the study sample, means and distribution (n=3669)

Dependent variables	
Number of children ever born	1.43 (± 1.07)
Explanatory variables	
<i>Age group</i>	
<30 yrs	744 (20.28%)
30-34	702 (19.13%)
35-39	746 (20.33%)
40-44	734 (20.01%)
45-49	743 (20.25%)
<i>Place of birth</i>	
Spain	3,165 (86.57%)
Latin America	277 (7.58%)
African continent	53 (1.45%)
Eastern Europe	91 (2.49%)
Western or Northern Europe, North America	68 (1.86%)
Mother's number of children	3.93 (± 2.22)
Single, never cohabited	228 (6.21%)
<i>Educational level</i>	
Secondary	1,983 (54.05%)
Primary or less	433 (11.80%)
Tertiary or more	1,253 (34.15%)
Enrolled in school	69 (1.88%)
<i>Age at first birth</i>	
Under 20	301 (10.70%)
20-24	867 (30.82%)
25-29	896 (31.85%)
30-34	547 (19.45%)
35 and over	138 (4.91%)
Missing	64 (2.28%)
<i>Preferred organization of the household</i>	
Gender egalitarian or woman-led household	2,768 (75.44%)
Adaptive, home-oriented	546 (14.88%)
Exclusively home-oriented	284 (7.74%)
Missing, doesn't know, doesn't respond	71 (1.94%)
<i>Perspective on motherhood/labor market compatibility</i>	
Children are an obstacle to women's professional lives	2,311 (62.99%)
Children are not an obstacle to women's professional lives	1,248 (34.01%)
Missing	110 (3.00%)
<i>Perspective on marriage</i>	
Marriage is not antiquated institution	2,229 (60.75%)
Marriage is an antiquated institution	964 (26.27%)
Neither one nor the other	407 (11.09%)
Missing	69 (1.88%)
<i>Perspective on single motherhood</i>	
Agree	3069 (83.65%)
Disagree	341 (9.29%)
Neither agree nor disagree	206 (5.61%)
Missing	53 (1.44%)
Maximum personal ideal number of children	2.47 ($\pm .93$)

1.2.1 Dependent variable and methods

The dependent variable examined in this chapter is the number of biological children the respondent has ever had, as defined by her numerical response to question 301, “How many total live births have you had?”³. Because the number of biological children is a count variable (i.e., 0, 1, 2,...) with a number of zero-counts greater than expected for the Poisson distribution, and these zero counts frequently have a particular status (as determined by the “inflation” variables described below), this dependent variable was analyzed using a zero-inflated Poisson model. Following Long and Freese (2001), the zero-inflated Poisson model has two parts that are estimated simultaneously. In the first, the log-odds ratio of not having any children for an individual (i.e., A=1) versus having any children (A=0) is modelled using an unconditional logit model:

$$\psi_i = \Pr(A_i = 1 | z_i) = F(z_i \gamma)$$

where ψ_i is the probability of not having any children for individual i . The z -variables are our “inflation” variables, in this case the respondent’s age, whether she was single and had never cohabited with a partner at the time of the survey, and whether she did not want or did not know if she wanted children.

For those who are not in the zero group in the first part of the model, a basic Poisson model is applied in the second. Thus the probability of a number of children y_i , given the vector of covariates x_i (explanatory variables affecting y_i), is given by the Poisson distribution:

$$P(Y_i = y_i | x_i) = \frac{e^{-\mu_i} \mu_i^{y_i}}{y_i!}, y_i = 0, 1, 2, \dots$$

In the above model, μ_i (the conditional mean of the distribution) can be written as the following structural equation:

$$\mu_i = \exp(a + X_{1i}\beta_{1i} + X_{2i}\beta_{2i} + \dots + X_{ki}\beta_{ki})$$

³ All survey material cited in this chapter? is the author’s own English translations of Spanish-language questions.

where a is the constant and β represents the deviation from the reference category of covariates X .

1.2.2 Independent variables

The first independent variable used in this study is the respondent's *age at the time of the interview*, coded categorically as Under 30 (reference category), 30 to 34, 35 to 39, 40 to 44 and 45 to 49. The second is a dichotomous variable indicating whether the respondent is *single and has never cohabited*. We also use a dichotomous variable indicating whether the respondent is *enrolled in school* at the time of the interview. Also included are a numerical variable for the *number of children the respondent's mother had* and the respondent's *age at first birth*, coded categorically as Under 20 years old (reference category), 20 to 24, 25 to 29, 30 to 34 and 35 and over. The latter is only used in analyses that are limited to mothers.

The next explanatory variable is the respondent's *educational level*, coded as Primary or less, Secondary, and Tertiary or above. While in the case of secondary education in Spain, it is common to separate between those who have completed the obligatory secondary education (which tends to finish around age 16) and those who studied beyond that, no substantial differences were found between these categories in their relationship with the total number children, and they were grouped together.

Also included in the set of explanatory variables was the respondent's *place of birth*. This variable has been coded by geographic groups, with Spain as the reference category. The non-Spanish regions of birth include Latin America, the African continent (which is 80% women from Morocco), Eastern Europe (70% women from Romania), and Western Europe, Northern Europe or North America (a rather heterogeneous group in terms of current fertility trends, it is the result of both a limited sample size and their common interpretation as "Western" countries). Unfortunately, the Asian continent was left out of the analysis due to having too few cases (for Bangladesh, $n = 1$; China, $n = 3$; India, $n = 1$). Our expectation is that the effect of this variable will reflect the differences between the average Total Fertility Rate (TFR) in

each geographic region and Spain's, such that having been born in Africa has the strongest positive effect on the number of children relative to Spain's, while the effect is similarly positive but of a lower magnitude for Latin America, weaker still in terms of magnitude but still positive in the case of Northern and Western Europe and North America and negatively correlated in the case of Eastern Europe.

While the first set of explanatory variables refers to the respondent's background characteristics, the next refers to the ideational factors which may affect the number of children the respondent has. The definitions that follow describe the variables as they were employed in multivariate analyses. Descriptive results present them with a slightly higher level of detail, as in Table 2 in that section. The first of these variables is the respondent's *preferred organization of the household*, coded categorically (Gender egalitarian or woman-led model [ref.]; Adaptive, home-centered; Exclusively home-centered). This variable is based on survey item P615, which reads: "There are many ways to distribute family tasks and responsibilities. I am going to give you some examples. If money were not a problem, which of the following options would you choose for yourself?" In addition to "Doesn't know" or "Doesn't answer", the options include:

1. A family in which both couple members have a job requiring a similar amount of dedication and which divide child- and house-care tasks equally"
2. A family in which the woman has a job requiring somewhat less dedication than the man and dedicates somewhat more than him to caring for the house and the children.
3. A family in which the man has a job requiring somewhat less dedication than the woman and dedicates somewhat more than her to caring for the house and the children.
4. A family in which only the man has a job and the woman cares for the house and the children.
5. A family in which only the woman has a job and the man cares for the house and the children.
6. None of these

For the purposes of this chapter, option 2 was categorized as “Adaptive, home-centered” while option 4 was categorized as “Exclusively home-centered”. All other responses, including missing responses, were coded into the reference category for our multivariate analyses. The reason for including all attitudes in favor of non-traditional male roles in one category is that options 3 and 5 together only accounted for about 2% of the sample. Following Hakim (2003), we expect that a home-centered perspective will be positively associated with the number of biological children, with a stronger magnitude in the case of the exclusively home-centered category. The second ideational factor included was the respondent’s *perspective on the compatibility of children with a woman’s professional life*. This variable is based on her response to survey item P614, which asks: “In your opinion, is having a child an obstacle to a woman’s professional life?” The possible answers were, yes, no, doesn’t know or doesn’t answer (we also included the missing values in this final category). In our multivariate analyses, this variable was coded dichotomously, where 1 equals no and all other responses, including missing responses, were coded into the reference category, 0. It is our expectation that the effect of not viewing children as an obstacle to a woman’s professional life will have a significant positive association with the number of biological children. However, it must be pointed out that this phrasing includes two aspects which might make conclusions difficult to draw. On the one hand, it depends on the respondent’s perception of women’s professional possibilities, which are culturally determined and shaped by the conditions of the labour markets she has been exposed to. On the other, it depends heavily on the respondent’s preferences regarding the work-family life balance. We also examine the influence of the respondent’s *perspective on marriage*, based on her agreement on a scale of 1 to 5 with the statement “Marriage is an antiquated institution”, where 1 is Strong Agreement and 5 is Strong Disagreement. This variable was coded dichotomously, with 0 as the reference category and 1 representing the respondent’s disagreement with the statement. We expect that, because it is a perspective that is often associated with the Second Demographic Transition, disagreement with the view that marriage is an antiquated institution will be significantly, positively associated with the number of biological children. From the same battery of questions, we also included the *respondent’s perspective on single motherhood*, coded dichotomously with 0 as the reference category and 1 representing the respondent’s disagreement with the statement,

“If a woman wishes to have a child on her own, and does not wish to have a stable relationship with a man, she should be able to do so.” Insofar as it would reflect a more traditional view, contrary to what becomes normative in the preferences related to the Second Demographic Transition, we expect disagreement with this statement to be positively associated with the number of biological children. The final ideational variable included in this study is the respondent’s *maximum ideal number of children*, defined as her response to item 611, “What is the ideal number of children for you, personally?”⁴ The question was left open to the respondent, and responses were recorded as either whole numbers or a range. Here, this response has been coded numerically, using the maximum number reported by the respondent when her response was a range. Naturally, we expect this variable to be positively associated with the number of biological children.

1.3 Descriptive Results

In this section, we display the results of our descriptive analyses, and reserve interpretation for the Discussion section. Table 2 displays the distribution of selected personal characteristics and ideational factors often associated with the Second Demographic Transition and Preference Theory according to the respondent’s place of birth. Those with the highest average number of siblings in the respondent’s family of origin were the African continent, followed by Latin America and Spain. The same pattern exists with respect to the average maximum personal ideal number of children for each region of birth. It is interesting to note that, for each group, this value is considerably lower than the average mother’s number of children, reflecting a generalized generational change. With respect to the respondent’s perspectives on the economic organization of the household by gender, those born in the African continent stand out quite dramatically from respondents born in the other countries. Less than 3 out of 10 respondents born in this region preferred a gender egalitarian or woman-led household, and nearly 68% preferred a male breadwinner model. This preference was lowest amongst women born in Western or Northern Europe or North America,

⁴ Author’s own translation of Spanish-language questions

followed by those born in Spain. Women born in Latin America and Eastern Europe held roughly similar views in terms of this variable.

A stark division exists with respect to the perspectives regarding the labor market compatibility of motherhood. On the one hand, respondents born in Spain, Western and Northern Europe or North America leaned heavily towards viewing children as an obstacle to women's professional lives. On the other hand, the majority of women born in Eastern Europe expressed the view that they are not an obstacle, while opinions were almost evenly split in the case of respondents born in Latin America. In the case of respondents who were born on the African continent, although a majority viewed children as an obstacle to women's professional lives, this view was considerably less prevalent than in the case of the Western countries. There were also differences between birth regions in terms of the distribution of perspectives towards marriage. The view that marriage is an antiquated institution was highest among Spanish women, followed by Latin American women, women from Western or Northern Europe and North America, and finally Eastern Europe, which has virtually the same proportion of respondents with this view. In contrast, the view that marriage is not an antiquated institution was clearly most prevalent among African women.

Respondents born on the African continent also stand out in terms of their views towards single motherhood. The majority of women in this group (56.60%) expressed disagreement with the idea that women who wanted to have a child on their own, without a stable male partner, should be able to do so. In all other groups, the majority of respondents expressed agreement with the statement. However, while the percentage of women who agreed with the statement was 65.93% in Eastern Europe and 74.01% in Latin America, disagreement with single motherhood was higher in Latin America than in Eastern Europe, where there were a higher percentage of women who felt ambivalent about it (16.48%).

Table 2 also shows that non-married motherhood was much more prevalent among women born in Latin America than in the other groups. The second highest proportion of unmarried mothers was among women born in Eastern Europe. Nearly 85% of

mothers born in Eastern Europe became mothers before age 25, and this was the case for 67.96% of mothers born in Latin America and 57.15% of those born on the African continent. In contrast, just over 38% of mothers born in Spain, Western and Northern Europe or North America had their first child before the age of 25. There was a clear difference between women born in Spain and those born in the other regions in terms of the proportion of respondents who entered motherhood in their thirties. Over a quarter of Spanish women in the sample had their first child at an age of 30 or higher.

Table 2. Distribution of personal characteristics by region of birth. Women in Spain ages 18 to 49 who have left the parental home.

	Spain	Latin America	African continent	Eastern Europe	W. or N. Europe N. America
Full study sample					
<i>Educational level</i>					
Primary or less	350 (11.06%)	44 (15.88%)	24 (45.28%)	10(10.99%)	3 (4.41%)
Secondary	1,697 (53.62%)	165 (59.57%)	24 (45.28%)	51 (56.04%)	36 (52.94%)
Tertiary or higher	1,118 (35.32%)	68 (24.55%)	5 (9.43%)	30 (32.97%)	29 (42.65%)
<i>Preferred organization of the household</i>					
Gender egalitarian or woman-led household	2,385 (75.36%)	191 (68.95%)	15 (28.30%)	60 (65.93%)	54 (79.41%)
Adaptive, home-oriented	450 (14.22%)	53 (19.13%)	18 (33.96%)	18 (19.78%)	6 (8.82%)
Exclusively home-oriented	228 (7.20%)	24 (8.66%)	18 (33.96%)	8 (8.79%)	6 (8.82%)
Missing	102 (3.22%)	9 (3.25%)	2 (3.77%)	5 (5.49%)	2 (2.94%)
<i>Perspective on motherhood/labor market compatibility</i>					
Children are an obstacle to women's professional lives	2,053 (64.87%)	136 (49.10%)	30 (56.60%)	40 (43.96%)	45 (66.18%)
Children are not an obstacle to women's professional lives	1,022 (32.39%)	128 (46.21%)	23 (43.40%)	47 (51.65%)	21 (30.88%)
Missing	90 (2.84%)	13 (4.69%)	0 (0.00%)	4 (4.40%)	2 (2.94%)
<i>Perspective on marriage</i>					
Marriage is not antiquated institution	1,898 (59.97%)	181 (65.34%)	41 (77.36%)	59 (64.84%)	42 (61.76%)
Marriage is an antiquated institution	853 (26.95%)	62 (22.38%)	9 (16.98%)	19 (20.88%)	15 (22.06%)
Neither one nor the other	361 (11.41%)	23 (8.30%)	1 (1.89%)	10 (10.99%)	11 (16.18%)
Missing	53 (1.67%)	11 (3.97%)	2 (3.77%)	3 (3.30%)	0 (0.00%)
<i>Perspective on single motherhood</i>					
Agree	2,717 (85.85%)	205 (74.01%)	19 (35.85%)	60 (65.93%)	60 (88.24%)
Disagree	231 (7.30%)	54 (19.49%)	30 (56.60%)	11 (12.09%)	5 (7.35%)
Neither agree nor disagree	178 (5.62%)	11 (3.97%)	2 (3.77%)	15 (16.48%)	3 (4.41%)
Missing	39 (1.23%)	7 (2.53%)	2 (3.77%)	5 (5.49%)	0 (0.00%)
<i>Mother's number of children</i>	3.82 (± 2.11)	5.13 (± 2.84)	6.60 (± 2.72)	3.24 (± 1.64)	2.85 (± 1.67)
<i>Maximum personal ideal number of children</i>	2.46 (± 0.92)	2.56 (± 0.88)	3.08 (± 1.55)	2.26 (± 0.72)	2.08 (± 0.92)

<i>Current number of children</i>					
0	714 (22.56%)	70 (25.36%)	11 (20.75%)	32 (35.16%)	24 (35.29%)
1	853 (26.95%)	73 (26.45%)	13 (24.53%)	29 (31.87%)	24 (35.29%)
2	1,225 (38.70%)	72 (26.09%)	14 (26.42%)	19 (20.88%)	17 (25.00%)
3	297 (9.38%)	43 (15.58%)	8 (15.09%)	9 (9.89%)	3 (4.41%)
4+	76 (2.40%)	18 (6.52%)	7 (13.21%)	2 (2.20%)	0 (0.00%)
Only mothers	Spain	Latin America	African continent	Eastern Europe	W. or N. Europe N. America
<i>Partner status</i>					
Non-married	178 (7.27%)	55 (26.70%)	3 (7.14%)	9 (15.25%)	5 (11.36%)
Married	2,035 (83.10%)	123 (59.71%)	33 (78.57%)	45 (76.27%)	29 (65.91%)
Widowed	35 (1.43%)	2 (0.97%)	2 (4.76%)	1 (1.69%)	0 (0.00%)
Divorced/Separated	201 (8.21%)	26 (12.62%)	4 (9.52%)	4 (6.78%)	10 (22.73%)
<i>Age at first birth</i>					
Under 20	212 (8.65%)	62 (30.10%)	6 (14.29%)	15 (25.42%)	4 (9.09%)
20-24	720 (29.38%)	78 (37.86%)	18 (42.86%)	35 (59.32%)	13 (29.55%)
25-29	823 (33.58%)	42 (20.39%)	7 (16.67%)	4 (6.78%)	18 (40.91%)
30-34	509 (20.77%)	16 (7.77%)	7 (16.67%)	5 (8.47%)	6 (13.64%)
35 and over	133 (5.43%)	3 (1.46%)	1 (2.38%)	0 (0.00%)	1 (2.27%)
Missing	54 (2.20%)	5 (2.43%)	3 (7.14%)	0 (0.00%)	2 (4.55%)

Figure 2 below shows the mean number of children for each age group, according to the respondent's region of birth. Women from Latin America and Africa consistently maintain a higher average number of children than Spanish women across age groups, while women from Western or Northern Europe and North America most consistently have a lower number of children. Yet, while they maintain a higher level of fertility at each age group, at the general level, the Latin American group has a fertility rate that is quite similar to Spanish women, since roughly 40% of the women in this group were under 30 years of age, and the case is similar in the case of women from the African continent. The differences between regions are most pronounced among women between the ages of 45 and 49, as well as those between the ages of 35 and 39. The Eastern European group appears to have a somewhat earlier fertility history than the rest of the groups, as the average number of children between the ages of 30 and 34 is highest amongst them, yet one of the lower ones between the ages of 35 and 39. However, the relatively small number of women over forty in this group (10 out of 91 cases) might explain why they seem to have the most erratic mean number of children by age. In Figure 3, we see that for women born in Spain and Latin America, the average number of current children decreases as the age at first birth increases. For the rest of the birth regions, results must be interpreted with caution due to the relatively small sample size. A similar descending pattern exists among women born in Eastern Europe, although the average number of children is the same among respondents who entered motherhood under age 20 and those who entered motherhood between ages 20 and 24. Among respondents born on the African continent and those born in Northern or Western Europe and North America, the average number of children among women who entered motherhood between ages 25 and 29 is lower than those who entered motherhood between ages 30 and 34. In the case of respondents born in the African continent, this may be because the age composition of those who entered motherhood between ages 25 and 29 is younger (71.4% are under 35) than that of those who entered motherhood between ages 30 and 34 (42.9% are over 40), and there might be some "catching up" in the case of the former group. In the case of those born in Northern or Western Europe and North America, the fact that those who entered motherhood between ages 30 and 34 had the second highest average number of children might also be due to the small sample size, the considerable heterogeneity of the group in terms of the fertility patterns in the birth countries it encompasses, or "catching up" to desired fertility.

Figure 2. Average number of children by age group and region of birth. Women in Spain, ages 18-49 who have left the parental home.

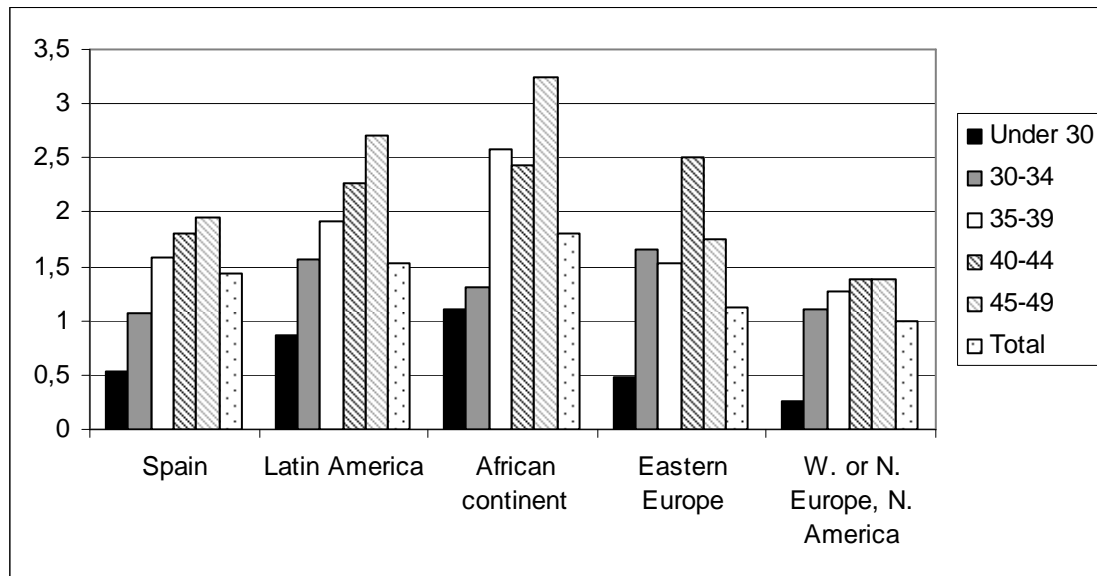


Figure 3. Average number of children by age at first birth and region of birth. Women in Spain, ages 18-49 who have not left the parental home.

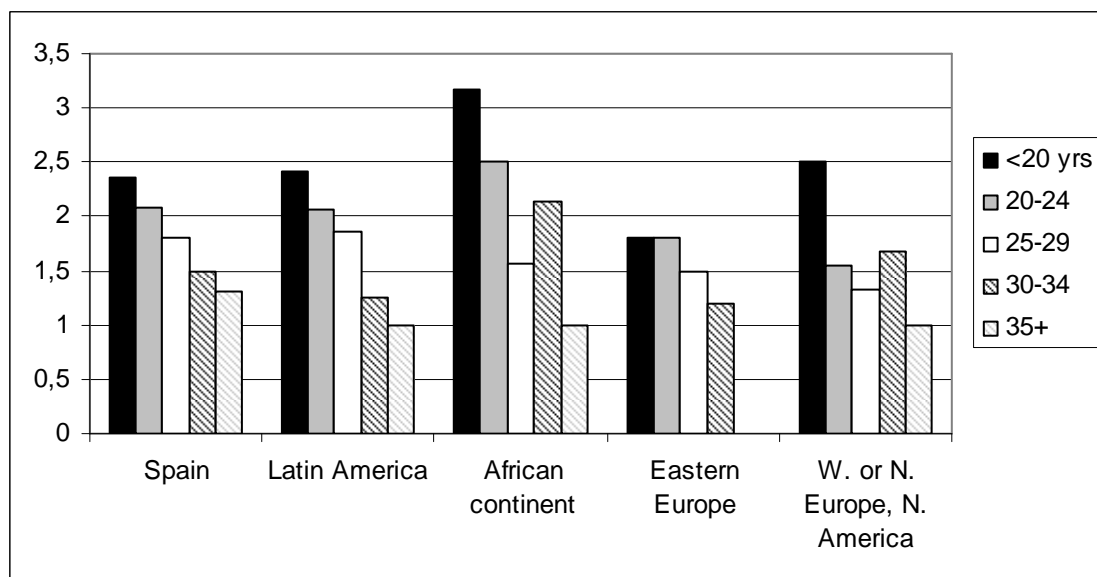


Figure 4 displays respondents' average number of children according to their preferred economic organization of the household (women for whom this information was missing have been excluded from the following figures). While exclusively home-oriented respondents had the highest average number of children among women born in Spain, Latin America and Eastern Europe (very slightly in the case of the latter), this was not the case for those born in Western or Northern Europe and North America, as

well as those born in Africa. In these two groups, it was adaptive, home-centered women who had the highest average number of children. Also, the difference between gender egalitarian and adaptive, home-centered women was quite small among Spanish and Latin American women, and quite pronounced among Eastern European and African women.

Figure 4. Average number of children by preferred economic organization of the household and region of birth. Women in Spain, ages 18-49 who have left the parental home.

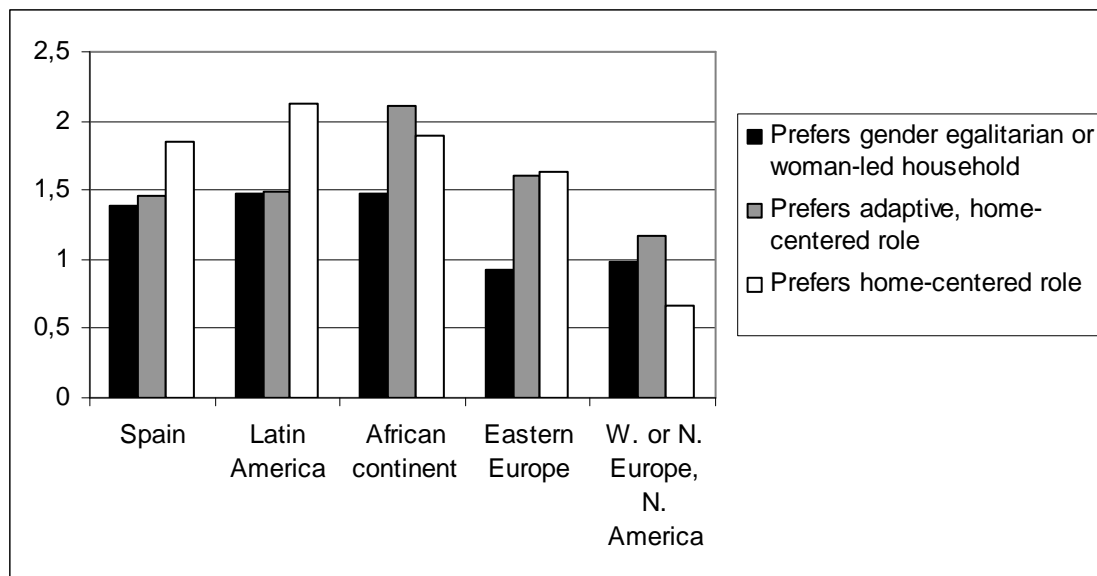


Figure 5 displays the average number of children according to the respondent's answer to the question of whether or not having children was an obstacle to a woman's professional life. The relationship between this response and the number of children seems to vary somewhat depending on the region of birth. For all groups except women born in Latin America, those who said that children were not an obstacle to a woman's professional life had, on average, more children than those who said that they are.

Figure 5. Average number of children by perspective towards labor market compatibility of childrearing and region of birth. Women in Spain, ages 18-49 who have left the parental home⁵.

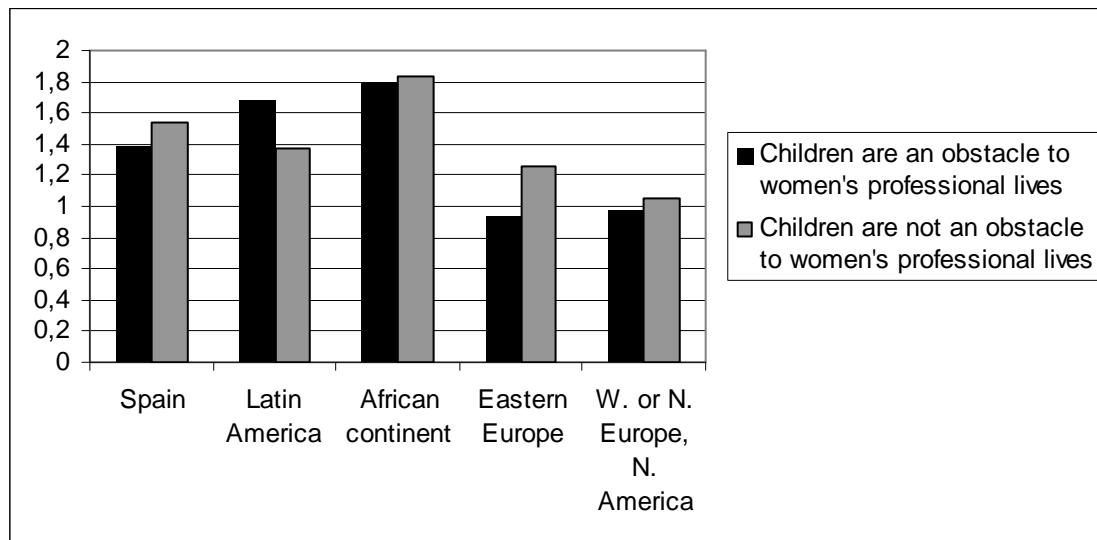
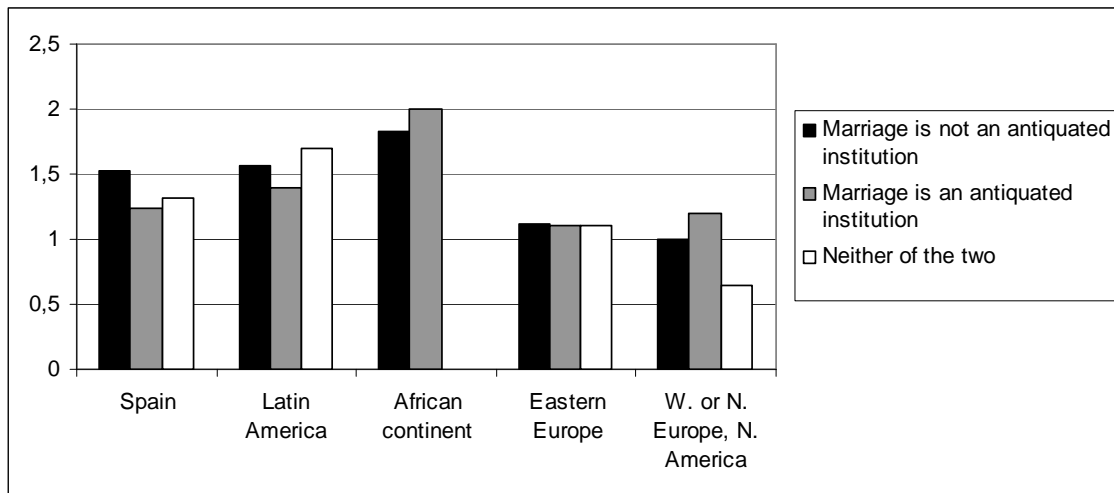


Figure 6 below displays the average number of children by the respondent's country of birth and her perspective regarding marriage as an institution. In the case of women from the African continent, only one woman expressed the view that she neither agreed nor disagreed with the statement that marriage is an antiquated institution. It should also be pointed out that only 9 of the 53 respondents born in that region expressed the view that it is an antiquated institution. Nonetheless, while among Spanish women the average number of children is highest for women who do not view marriage as an antiquated institution, this is not the case in the other countries of birth. Among respondents born on the African continent or in Western or Northern Europe and North America, the average number of children was highest among those who viewed marriage as an antiquated institution, while in Latin America it was highest among those who held neither view. Among Eastern European women, there was almost no difference between categories. Finally, for both Latin American and Spanish women, the number of children was lowest among women who viewed marriage as an antiquated institution.

⁵ Figures 6 and 7 depict response to survey item P614: "In your opinion, is having a child an obstacle to a woman's professional life?" The possible answers were, yes, no, doesn't know or doesn't answer. Only the first two responses are shown in the figures.

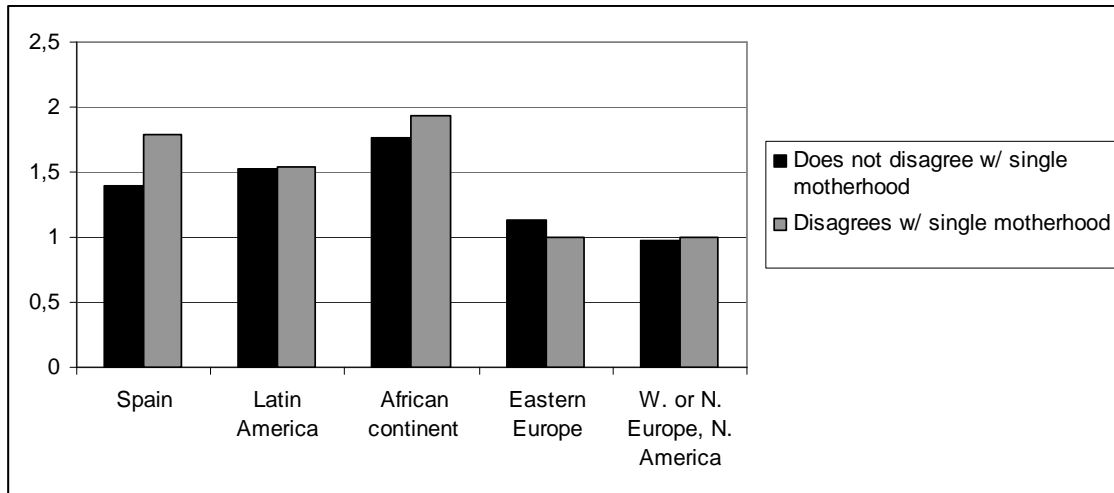
Figure 6. Average number of children by perspective on marriage and region of birth. Women in Spain, ages 18-49 who have left the parental home.



Results displayed in Figure 7 include the response “Neither agrees nor disagrees” in the category “Does not disagree” because of the consistently small number of cases in which the former view was expressed (with the exception of women born in Eastern Europe and Spain)⁶. For women born in Spain and the African continent, fertility was highest among women who expressed disagreement with the statement that a woman should be able to have a child on her own if she had no stable male partner. In contrast, the average number of children was slightly higher for those who did not disagree among Eastern European women, while results are roughly equivalent among women born in Latin America and Western or Northern Europe and North America.

⁶ See Table 2

Figure 7. Average number of children by perspective on single motherhood and region of birth. Women in Spain, ages 18-49 who have left the parental home.



1.4 Results of the multivariate analyses

Results of our multivariate analyses are displayed in Tables 3 and 4. Table 3 displays the results of our zero-inflated Poisson models and includes the full study sample, while Table 4 shows those of our Poisson models, which were limited to the sample of women with children. Each table includes eight models, where the first model only includes the respondent's age and country of birth and the second introduces the respondent's background, which includes her age, educational level, the number of children her mother had, whether she was single and had never cohabited and whether she was studying at the time of the interview. In Table 4, the respondent's background variables also include her age at first birth. In Models 3 through 7, we introduce our ideational variables one at a time, and in Model 8 we include them simultaneously. Each table displays the main effects of the variables we are most interested in for this study, as our control variables and the variables in our inflation model had the expected effects.

Table 3. Estimates of zero-inflated Poisson regression on number of children. Beta coefficients (Robust Standard Error). Women in Spain ages 18 to 49.

Characteristics	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Intercept</i>	***-.490 (.06)	***-.496 (.06)	***-.484 (.06)	***-.498 (.06)	***-.508 (.06)	***-.474 (.06)	***-.785 (.07)	***-.775 (.07)
<i>Region of birth (ref: Spain)</i>								
Latin America	***.245 (.06)	***.186 (.05)	***.176 (.05)	***.185 (.05)	***.173 (.05)	***.183 (.05)	***.189 (.05)	***.176 (.05)
Africa	***.400 (.10)	**-.196 (.10)	.145 (.10)	*.196 (.10)	.139 (.10)	*.192 (.10)	.092 (.11)	.019 (.12)
Eastern Europe	.011 (.10)	.040 (.10)	.029 (.10)	.039 (.10)	.024 (.10)	.037 (.10)	.060 (.09)	.041 (.09)
N., W. Europe, N. America	**-.211 (.09)	-.129 (.08)	-.132 (.08)	-.129 (.08)	*-.131 (.08)	-.130 (.08)	-.090 (.08)	-.095 (.08)
<i>Educational level (ref: Secondary)</i>								
Primary or less		***.190 (.03)	***.184 (.03)	***.190 (.03)	***.191 (.03)	***.186 (.03)	***.163 (.03)	***.157 (.03)
Tertiary		***-.193 (.03)	***-.187 (.03)	***-.192 (.03)	***-.190 (.03)	***-.194 (.03)	***-.210 (.03)	***-.205 (.03)
Adaptive, home-centered			.043 (.03)					.024 (.03)
Home-oriented			***.157 (.04)					***.127 (.04)
Children are not an obstacle to women's professional lives				.004 (.02)				-.005 (.02)
Disagrees with single motherhood					***.152 (.04)			**.078 (.04)
Marriage is an antiquated institution						**-.077 (.03)		**-.053 (.03)
Maximum personal ideal number of children							***.133 (.01)	***.129 (.01)
Observations	3553	3541	3541	3541	3541	3541	3541	3541
Zero observations	817	815	815	815	815	815	815	815

* p<.1 ** p<.05 *** p<.01

Table 4. Estimates of Poisson regression on number of children. Beta coefficients (Robust Standard Error). Mothers in Spain ages 18 to 49.

Characteristics	(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)
<i>Intercept</i>	***.282 (.03)	***.388 (.04)	***.379 (.04)	***.388 (.04)	***.377 (.04)	***.412 (.04)	***.167 (.05)	***.186 (.05)
<i>Region of birth (ref: Spain)</i>								
Latin America	***.202 (.04)	*.075 (.04)	*.072 (.04)	*.075 (.04)	.064 (.04)	*.070 (.04)	** .068 (.03)	*.059 (.03)
Africa	***.305 (.08)	** .190 (.08)	** .167 (.08)	** .190 (.08)	*.147 (.08)	** .188 (.08)	.103 (.08)	.069 (.08)
Eastern Europe	.059 (.06)	-.049 (.05)	-.051 (.05)	-.048 (.05)	-.057 (.05)	-.049 (.05)	-.016 (.05)	-.020 (.05)
N., W. Europe, N. America	** -.162 (.10)	*** -.178 (.06)	*** -.179 (.06)	*** -.177 (.06)	*** -.181 (.06)	*** -.177 (.06)	*** -.170 (.05)	*** -.173 (.06)
<i>Educational level (ref: Secondary)</i>								
Primary or less		***.102 (.03)	***.100 (.02)	***.102 (.03)	***.103 (.02)	***.098 (.03)	***.086 (.02)	***.083 (.02)
Tertiary		***.066 (.02)	***.070 (.027)	***.066 (.02)	***.068 (.02)	***.065 (.02)	*.032 (.02)	** .036 (.02)
Adaptive, home-centered			-.007 (.02)					-.019 (.02)
Home-oriented			***.102 (.03)					***.079 (.03)
Children are not an obstacle to women's professional lives				-.003 (.02)				-.010 (.02)
Disagrees with single motherhood					***.108 (.03)			** .055 (.03)
Marriage is an antiquated institution						*** -.064 (.02)		** -.044 (.02)
Maximum personal ideal number of children							***.098 (.01)	***.095 (.01)
Observations	2802	2792	2792	2792	2792	2792	2726	2726

* p<.1 ** p<.05 *** p<.01

In Table 3, Model 1 displays the association of the dependent variable with the respondent's country of birth when we are only controlling for the respondent's age. There are strong, statistically significant associations between having been born in Latin America, Africa and Northern or Western Europe or North America, relative to having been born in Spain. In the case of Latin American and African women, the association is positive and of a particularly high magnitude for the latter group. In the case of women born in Northern or Western Europe and North America, the association is negative and significant at the 95% level. When we introduce the respondent's background variables in Model 2, we see that the association with having been born in Western or Northern Europe and North America is no longer statistically significant, while the magnitude and statistical significance of having been born in Africa both decrease (in fact, the magnitude of this association decreases by nearly half). In contrast, having been born in Latin America remains statistically significant at the 99% level, and the decrease in the magnitude of the association is less dramatic than in the case of respondents born in the African continent.

With respect to our ideational variables, preference for an exclusively home-centered role for women in the household was found to have a significant, positive association with the respondent's number of children. Introducing this factor into analysis further decreased both the magnitude and statistical significance of the association with having been born in the African continent, rendering it non-significant. Introducing the respondent's preferred organization of the household also decreases the magnitude of the association with having been born in Latin America modestly, but not its statistical significance. On the other hand, as can be seen in Model 4, the respondent's perspective regarding the labor market costs of having children was not significantly associated with the number of children she had, nor did it affect the statistical association between her birth country and the dependent variable in the case of respondents born in Latin America and Africa. On the other hand, the negative association with having been born in Western or Northern Europe and North America does become significant at the 90% level. However, in this case, it should be pointed out that this association borders on statistical significance across all of our models.

Model 5 shows a significant, positive association between the respondent's number of children and her perspective towards single motherhood. The effect of its inclusion on

the association between the dependent variable and the region of birth is similar to that of her preferred economic organization of the household, although it is also somewhat stronger. The magnitude and significance of the association with having been born in Africa both decrease, while the magnitude of that with having been born in Latin America falls moderately and the statistical significance of the relationship is unaffected. However, the negative association with having been born in Western or Northern Europe and North America becomes significant at the 90% level.

In Model 6, we see that there is a significant, negative association with viewing marriage as an antiquated institution, although the magnitude of the association is more modest than in the case of our other ideational factors. We also see that introducing this variable has almost no effect on the magnitude and statistical significance of the association with the respondent's region of birth. Meanwhile, Model 7 shows that the respondent's maximum personal ideal number of children has a strongly significant, positive association with the dependent variable. Including this variable in our analysis also renders the association with the respondent's region of birth non-significant for all regions except Latin America. For this group, the association remains positive and significant at the 99% level, and the magnitude remains the same as in the Model 2, which does not include ideational factors (in fact, the magnitude is slightly higher). It should also be pointed out that including this variable increased the magnitude of significant, negative association with having a tertiary studies or higher.

Finally, in Model 8 we introduce all of our ideational factors. After doing so, we see that the respondent's maximum ideal number of children, preferred organization of the household and perspective towards single motherhood remain significantly and positively associated with the number of children she had at the time of the interview. We also see that the association with having been born in the African continent is no longer statistically significant and its magnitude is very drastically reduced. In contrast, the association with having been born in Latin America remains statistically significant at the 99% level and its magnitude remains quite close to what it was prior to the inclusion of ideational variables in our model.

In Table 4 we restrict our analyses to respondents who had at least one biological child at the time of the interview. Model 1 only examines the association between the respondent's region of birth and the number of children she has controlling only for age. In Model 2, we introduce the same background factors as in Table 3, with the addition of the respondent's age at first birth. In contrast to results in Table 3, Table 4 shows that when we include the respondent's age at first birth, the magnitude of the positive association with having been born in Latin America, as well as its statistical significance, is greatly diminished. The magnitude of the positive association with having been born in Africa also decreases, as does its statistical significance, albeit less drastically than in the case of Latin America. On the other hand, the negative association between the dependent variable and having been born in Western or Northern Europe and North America becomes more significant and its magnitude increases. Furthermore, this association remains more or less constant across models. Also notable in Model 2 is that, when we include the respondent's age at first birth, the relationship between the respondent's educational level and the number of children she has changes direction: while in Table 3, having a tertiary education was significantly and negatively associated with the dependent variable, when we account for the effects of a delayed entry into motherhood, the association becomes positive and strongly significant.

In Models 3 through 7, we see that the associations between the dependent variable and the ideational factors selected are roughly the same as in Table 3. However, the magnitude of the positive associations with an exclusively home-centered preference and expressing disagreement with single motherhood are notably lower than in the previous table. On the other hand, the negative association with viewing marriage as an antiquated institution maintains a similar magnitude, but increases in statistical significance. Furthermore, the association between the respondent's number of children and having been born in Latin America is no longer statistically significant when we include the respondent's view on single motherhood, and the magnitude of the association also falls. When we include the respondent's ideal number of children, the negative association between the dependent variable and having been born in Africa is no longer statistically significant and the magnitude falls noticeably. This is not the case for having been born in Latin America or Western or Northern Europe and North

America, for which the statistical significance of the associations are maintained and the decrease in the magnitude of the associations is modest. Finally, we also notice a decrease in the statistical significance of having a tertiary education, as well as the magnitude of the association when we include the respondent's ideal number of children.

Finally, in Model 8 we see that after including all of our ideational factors, all of these are statistically significant at least at the 95% level, except for the respondent's perspective on whether or not children are an obstacle to women's professional lives, which was not statistically significant. While the association with having been born in Latin America remains statistically significant at the 90% level, the magnitude of the positive association is considerably lower. Meanwhile, both the magnitude and statistical significance of the positive association between the respondent's number of children and having been born in Africa decrease drastically, while the negative association with having been born in Western or Northern Europe and North America is virtually the same as it was prior to introducing ideational factors into our model.

1.5 Discussion

This study finds statistically significant associations between the total number of children respondents had at the time of the interview and many of the ideational factors emphasized in Preference Theory and the Second Demographic Transition. Moreover, our evidence suggests that ideational factors do account for a good deal of the differences between the total fertility of women born in Spain and those born outside of Spain, although this cannot necessarily be extended equally to women from all of the regions of birth examined in this study. The strong, positive association between having been born in Africa and the respondent's number of children was reduced dramatically, in terms of its magnitude, and rendered non-significant when we included ideational factors into our models. On the other hand, the positive association with having been born in Latin America remained highly significant despite the inclusion of ideational factors in our analysis of the full sample. This association diminished in terms of its magnitude and statistical significance once we restricted our analysis to mothers and accounted for the earlier fertility calendar of Latin American mothers relative to Spanish mothers. Nonetheless, the positive association with this region of birth remained

significant at the 90% level once all ideational factors were included. Finally, though in our analysis of the full study sample, the negative association between having been born in Northern or Western Europe and North America oscillated between being modestly or non-significant when controlling for the respondent's background and ideational factors, the negative association was found to be consistently strong and significant once we restricted our analysis to mothers, despite the inclusion of her background and ideational factors.

Our findings complement those of Castro Martín and Rosero-Bixby (2011) in several ways. First, we confirm that the higher fertility of Latin American mothers is largely due to an earlier fertility calendar. Our study confirms their finding that respondents from the African continent tended to have more children than Spanish women, and adds the finding that much of this is attributable to differences in ideational factors. We also find that an earlier fertility calendar does not account for all of the difference between Latin American and Spanish mothers in terms of the number of children, and unobserved characteristics related to that region of birth remain statistically significant at the 90% level upon including ideational and background factors. The ideational factor that most affected the association between this region of birth and fertility was the respondent's perspective towards single motherhood. Finally, we find that the ideational factors examined do not account for the lower number of children of mothers from Western or Northern Europe and North America, relative to Spanish mothers.

As mentioned in the previous section, after limiting our analyses to mothers and including the respondent's age at first birth, we found that the relationship between the respondent's educational level and the number of biological children she has changed direction: when our analyses included women with no children, having a tertiary education was significantly and negatively associated with the dependent variable, yet when we accounted for the effects of a delayed entry into motherhood, the association became positive and strongly significant. This suggests that the lower fertility of highly educated women reflected in the first model is the result of two factors: on the one hand, the possible selection effects of highly educated women into simply not wanting to have children and on the other, the effects of fertility postponement. It seems quite likely to us that, once we control for these effects (by restricting our sample and controlling for age at first birth), what we are seeing is the effect of the higher social class of

respondents with a higher education, who would not only have a higher earnings potential (at both the individual and household level, since marital homogamy would also play a role here), but also the higher control over fertility outcomes that accompanies that status. In any case, interpretation of these results must take into account that these effects are not representative of all highly educated women, but are limited to those highly educated women in our sample who had children, especially given that the data is cross-sectional.

Results of multivariate analyses indicated the likely presence of interactions between the ideational factors examined and the respondent's place of birth. Following Clifford Geertz's definition of culture as "a system of inherited conceptions expressed in symbolic form, by means of which [people] communicate, perpetuate and develop their knowledge about and attitudes towards life" (1973), it is quite possible that the ideational factors examined in Fertility and Values Surveys can carry different meanings within them for people from different geographical, linguistic and, indeed, *cultural* contexts (Geertz 1983). Thus, while our sample of foreign born women was small, we did carry out multivariate analyses in which interactions were tested. Our results, the most interesting of which are displayed in the appendix to this chapter in Table A1, support this claim. When we include an interaction with the respondent's perspective on whether or not children are an obstacle to women's professional lives, we see that the associations between the dependent variable and each of the regions of birth become significant at the 95% level or higher. Yet, while there is no significant association between the respondent's number of children and this ideational factor alone, there is a significant negative association between the view that children are not a professional obstacle for mothers from Latin America and a significant positive association for mothers from Eastern Europe. When we include an interaction between the respondent's birth country and her perspective towards lone motherhood in Model 2, we see that, although disagreement with single motherhood is significantly and positively associated with the respondent's number of children on its own, this view is significantly and negatively associated with the respondent's number of children when the respondent was born in Latin America or Northern or Western Europe or North America⁷.

⁷ In statistical terms, it can be said that, while ideational factors such as the respondent's views regarding the economic organization of the household and marriage as an institution are mediators in the

The different effects these ideational factors have depending on the place of birth may reveal important differences in their meaning and the normative injunctions they carry within them. For instance, in the case of the respondent's perspective towards single motherhood (which, because of the way the question is phrased, can also invoke her perspective towards childbearing in any context that is not heteronormative), the positive association it has at a general level might reflect the higher fertility of traditional couples that appears to be common in Spain or among women from the African continent. Meanwhile, the negative association among women from Latin America could reflect a fertility-depressing normative barrier against single motherhood, which in our sample was more prevalent in this community (16.36% of unmarried mothers born in Latin America had never cohabited with a partner, compared to 6.18% among unmarried mothers born in Spain). A similar explanation of the meaning of this variable might account for the same effect among respondents from Northern or Western Europe and North America, although single motherhood was less prevalent in this group than in the former.

On the other hand, the view that children are not an obstacle to women's professional lives may act on respondent's fertility outcomes in several ways. On the one hand, it may imply that women with this view who work in the labor market are more likely to have more children than those who work in the labor market and do not have this view. On the other, it may imply that women who have this view adjust their ideal fertility downwards as a result of their preferences regarding their professional lives, and do not view their achievement of this ideal number of children as an impediment to their professional lives. Finally, it may also be mediated by the respondent's view of her professional possibilities, which are likely to be conditioned by the level of women's participation in the labor market of her host country or other social contexts she has been in, or by her exposure to social norms regarding women and work in all of those contexts. These considerations are particularly relevant in light of the pattern amongst Latin American women displayed in Figure 4 where, in contrast to women born in other regions, respondents who expressed the view that having children is an obstacle to

relationship between the region of birth and the number of biological children, the region of birth acts as a moderator between the number of children the respondents have and their views towards single motherhood or whether or not children are an obstacle to women's professional lives.

women's labor market participation had more children than those who expressed the opposite view. This result is particularly interesting considering that labour market participation was highest for the Latin American group in the sample (67.97%, while it was 57.73% for women born in Spain; 55.32% for those born in Eastern Europe; 42.86% for those born in Northern and Western Europe or North America; and 39.13% for those born in the African continent). On the one hand, it may simply reflect a high desire for children, despite working conditions that are unfavourable for child rearing. Yet it is also possible that, here, participation in the labour market (and even in the migration process itself) could be the result of having more children to support, even more so when we consider the higher proportion, among women born in Latin America, of single mothers or mothers who were not living with their partners at the time of the survey as a result of migration. In these cases, Latin American mothers might see themselves obligated to take jobs of poor quality relative to their perceived earnings potential, would push them to consider having children an obstacle to their career. Also, low income and poor quality jobs make work and childrearing less compatible, due to longer and more inflexible working hours and higher relative costs of childcare, particularly in the case of lone mothers. Yet, again, the relationship also depends on what the respondent perceives as her possibilities in the professional world, and qualitative research on this issue would be particularly helpful in clarifying some of these issues.

To our knowledge, this is the first study to examine the influence of specific ideational factors on fertility outcomes while including distinctions for foreign-born women. It is also the first to examine the role of cultural difference with respect to the fertility outcomes of native and foreign-born women in Spain. However, the study also has several shortcomings. The first is that it is simply descriptive in nature, insofar as it is cross-sectional and examines the respondent's perspectives at a specific moment in time, at a specific moment in her fertility history. Thus, her perspective can be as much a product of the number of children she has given birth to as it can be a determinant of that outcome. Nor can we test for evidence of ideational change as a result of adaptation, labor market changes, or changes in partnership.

Moreover, the sample of foreign-born women is small and not representative of the full population of foreign-born women in Spain. Furthermore, the regional groups used do

mask potentially important differences. For instance, while it is true that many Latin American countries, such as Bolivia, have high Total Fertility Rates, this is not the case in countries such as Chile or Cuba, which have a sub-replacement TFR (Rosero Bixby, Castro Martín and Martín-García 2009). There are also considerable differences between Northern Africa and Africa south of the Sahara, in terms of TFR. Thus, there is considerable heterogeneity by countries that might be more evident if the sample were better (as in Castro Martín and Rosero-Bixby 2011). Finally, we do not include the partner's characteristics, due to the relatively small amount of information we had on them and, especially, because we could not account for their country of birth, which would be an important dimension to consider in any framework that accounted for the effects of "bargained" fertility on the fertility outcomes of foreign-born women relative to native women (Brodmann, Esping-Andersen and Güell 2007; Martín García 2009).

The abovementioned shortcomings point in interesting directions for further research. On the one hand, it would be quite helpful for studies of a more longitudinal nature to examine respondents' perspectives on childbearing over time since, as mentioned before, we are not certain of the extent to which life events (emancipation from the parental home, labor market changes, changes in relationships) can influence these perspectives. Also, the absence of information on the respondent's perspective towards abortion seems unfortunate in a survey on fertility and values, since this variable may go a long way towards explaining unwanted births or the prevalence of lone motherhood among some groups. Finally, we are particularly interested in the degree to which qualitative research might provide highly valuable insight regarding the minimum set of conditions people perceive as necessary in order to become parents or have another child. The persistence of country differences once the ideational factors examined in this study were introduced into our models suggests to us that these may vary considerably by different regions of birth. In general, qualitative research on the meaning (more than the value) of children or childbearing for mothers might strengthen many of the ideas present in the literature on Preference Theory and theories of the Second Demographic Transition.

1.6 References

- Adsera, A. (2004). Marital Fertility and Religion: Recent Changes in Spain. Discussion Paper no. 1399, Bonn: Institute for the Study of Labor (IZA).
- Ajzen, I. (2012). Values, Attitudes, and Behavior. In: Samuel Salzborn, Eldad Davidov and Jost Reinecke (Eds.), *Methods, Theories, and Empirical Applications in the Social Sciences*, 1: 33-38.
- Arpino B. and Tavares L.P. (2013) Fertility and values in Italy and Spain: a look at regional differences within the European context, *Population Review*, 52(1).
- Arpino B., Esping-Andersen, G. and Pessin, L. (2013) The diffusion of gender egalitarian values and fertility. In: Gøsta Esping-Andersen (Ed.), *The Fertility Gap in Europe: Singularities of the Spanish Case*, "La Caixa" Welfare Projects, Social Studies Collection 36, Barcelona.
- Bernardi, L., Hutter, I. (2007). The Anthropological Demography of Europe. *Demographic Research*; 17: 541-566.
- Billari, F. and Kohler, H.P. (2004). "Patterns of low and lowest-low fertility in Europe". *Population studies* 58(2): 161-176
- Bongaarts, J. (2001). Fertility and Reproductive Preferences in Post-Transitional Societies. *Population and Development Review*, 27: 260-281.
- Brodmann, S., Esping-Andersen, G. And Güell, M. (2007). When Fertility is Bargained: Second Births in Denmark and Spain. *European Sociological Review*, 23(5):599-613.
- Bueno, X. and Vono de Vilhena, D. (2009). "Pautas reproductivas de las madres latinoamericanas en Estados Unidos y España a inicios del siglo XXI". *Diálogos Latinoamericanos*, 15: 94-113.
- Castro Martin, T. (1992). Delayed childbearing in contemporary Spain: trends and differentials. *European Journal of Population*; 8: 217-246.
- Castro Martin, T., Rosero-Bixby, L. (2011). Maternidades y fronteras. La fecundidad de las mujeres inmigrantes en España. *Revista Internacional de Sociología*, 69: 105-137.
- Devolder, D. y Treviño, R. (2007). "Efectos de la inmigración extranjera sobre la evolución de la natalidad y de la fecundidad en España." Barcelona: Centre d'Estudis Demogràfics, Papers de Demografia nº 321.

- Fernandez, R, and Fogli, A. (2009). Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics*, 1(1): 146–77.
- Geertz, C. (1973). *The interpretation of cultures*. New York: Basic Books.
- Geertz, C. (1983). *Local knowledge*. New York: Basic Books.
- Goldstein, J. R., Sobotka, T. and Jasilioniene, A. (2009). “The End of ‘Lowest-Low’ Fertility?”. *Population and Development Review*, 35: 663–699.
- Hakim, C. (2003). A new approach to explaining fertility patterns: Preference theory. *Population and Development Review*, 29(3), 349–374.
- Instituto Nacional de Estadística (INE) (2013). *Movimiento Natural de la Población e Indicadores Demográficos Básicos. Datos provisionales, año 2012*. Nota de prensa 18 junio 2013. <http://www.ine.es/prensa/np784.pdf>
- Kohler, H.-P., Billari, F. C., & Ortega, J. A. (2002). “The emergence of lowest-low fertility in Europe during the 1990s.” *Population and Development Review*, 28(4), 641–680.
- Leon Salas, Beatriz. (2005). “La contribución demográfica de la inmigración: el caso de España.” *Polít. Cult*, 23: 121-143.
- Lesthaeghe, R. (1983). A century of demographic and cultural change in Western Europe: An exploration of underlying dimensions. *Population and Development Review*, 9(3): 411–435.
- Lesthaeghe, R., Wilson, C. (1986). Modes of Production, Secularization, and the Pace of Fertility Decline in Western Europe, 1870-1930. In: Coale, A.J., Cotts Watkins, S., editors. *The Decline of Fertility in Europe*. Princeton: Princeton UP: 261-292.
- Lesthaeghe, R., Surkyn, J. (1988). Cultural Dynamics and Economic Theories of Fertility Change. *Population and Development Review*, 14(1):1-45.
- Long, J.S. and Freese, J. (2001). *Regression Models for Categorical Dependent Variables using Stata*. College Station, TX: Stata Press.
- Martín García, T. (2008). *Women’s Education and Fertility in Spain: The Impact of Educational Attainment and of Educational Choice on First, Second and Third Births*. PhD Thesis, Instituto Juan March de Madrid.
- Martín-García, T. (2009). Bring Men Back In: A Re-examination of the Impact of Type of Education and Educational Enrolment on First Births in Spain. *European Sociological Review*, 25(2):199-213.

- Mayer, J., Riphahn, R.T. (1999). Fertility Assimilation of Immigrants: Evidence from Count Data Models. Discussion Paper no. 52, Bonn: Institute for the Study of Labor (IZA).
- Marta Roig and Teresa Castro Martín (2007). Childbearing Patterns of Foreign Women in a New Immigration Country: The Case of Spain. *Population*, 62 (3): 351-380
- Rosero-Bixby, L., Castro-Martín, T., and Martín-García, T (2009). Is Latin America Starting to Retreat from Early and Universal Childbearing? *Demographic Research*, 20(9):169-194.
- Van de Kaa, D. J. (1987). Europe's Second Demographic Transition. *Population Bulletin*, 42(1), 1-59.
- Vitali, A., Billari, F, Prskawetz, A., & Testa, M.R. (2009). Preference Theory and Low Fertility: A Comparative Perspective. *European Journal of Population*, 25:413-438.

1.7 Appendix

Table A1. Estimates of Poisson regression on number of children. Beta coefficients. Mothers in Spain ages 18 to 49.

Characteristics	(1)	(2)
<i>Intercept</i>	***.382 (.04)	***.379 (.04)
<i>Region of birth (ref: Spain)</i>		
Latin America	***.134 (.05)	**.092 (.04)
Africa	**.194 (.09)	.126 (.11)
Eastern Europe	**-.140 (.06)	-.042 (.06)
N., W. Europe, N. America	**-.181 (.08)	**-.150 (.06)
Children are not an obstacle to women's professional lives	.006 (.02)	
Disagrees with single motherhood		***.133 (.03)
Latin America x Children are not an obstacle to women's professional lives	*-.140 (.07)	
Africa x Children are not an obstacle to women's professional lives	-.011 (.15)	
E. Europe x Children are not an obstacle to women's professional lives	*.176 (.10)	
N., W. Europe, N. America x Children are not an obstacle to women's professional lives	.008 (.11)	
Latin America x Disagrees with single motherhood		*-.157 (.09)
Africa x Disagrees with single motherhood		.020 (.15)
E. Europe x Disagrees with single motherhood		-.106 (.14)
N., W. Europe, N. America x Disagrees with single motherhood		***-.288 (.08)
Observations	2792	2792

* p<.1 ** p<.05 *** p<.01

2. Cultural and structural explanations of family size ideals: Evidence from the Spanish case

2.1 Introduction

Low fertility is a Europe-wide phenomenon with important policy implications (Demeny 2003; Castles 2003; Commission of the European Communities 2005; McDonald 2002; Stark and Kohler 2002). As a result, research into the root causes of fertility decline has grown in importance, spawning a wide-ranging body of literature. Explanations generally fall into two main categories. The first of these, described by Vitali et al (2009) as the *structural* approach, provides explanations based on economic factors such as rising female education and labor market participation, policy changes and responses to actual and expected unemployment, and to general economic conditions. The *cultural* approach, on the other hand, centers on the idea of a Second Demographic Transition, emphasizing the role of ideational factors such as changing values and attitudes and increased female autonomy and independence as the main drivers of fertility decline (see, e.g. Lesthaeghe 1983; Van de Kaa 1987).

Although a number of studies aiming to incorporate both approaches have been carried out, these often do not account for the role of foreign-born people residing in European states (Lesthaeghe and Surkyn 1988; Stark and Kohler 2002). Yet an analysis of family size ideals that includes the experiences of first-generation immigrants may help make the impact of cultural factors more visible where they exist, with the ultimate goal of improving existing knowledge on fertility behavior.

In this sense, Spain is an interesting case study in demographic change, as its experience of fertility decline and its transition towards being a migration destination country has been particularly dramatic. In 1975, Spain's total fertility rate (TFR) was 2.8 children per woman, representing one of the highest fertility rates in Europe at the time. Since then, this rate has fallen to a level of 1.39 children per woman in 2006, hitting a low of 1.15 in 1997, with a slow recovery in the following years (Instituto Nacional de Estadística 2007). With respect to migration, while in 1991 immigrants made up only 0.91 percent of Spain's total population, this number increased in subsequent years such that, according to the INE's data from the 1 January 2008 municipal registers, nearly 6 million people (13.0% of the total population) living in Spain were born in another

country, 2.45 million (5.3% of the total population) of whom were EU citizens. There is a remarkable degree of diversity in terms of country of birth (20 countries with strongly varying degrees of first-linguistic affinity with Spanish have populations of over 57,000), and growth in Spain's foreign-national population accounted for 81.25% (701,023 individuals) of the country's total population growth in 2007 (862,744 individuals) (Instituto Nacional de Estadística 2008).

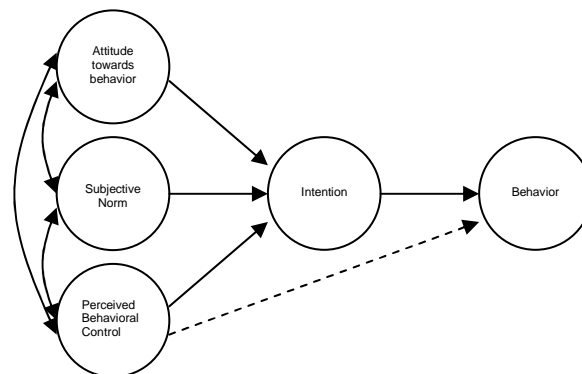
Much of the research on the Spanish case of low fertility has tended to focus on the effects of religiosity, women's education, delayed childbearing, labor market precariousness, and employment status on the total number of children a woman has had (Adserá 2004; Gonzalez and Jurado Guerrero 2006; De la Rica and Iza 2005; Castro Martin 1992; Baizán 2006). This focus makes sense; while declining fertility has coincided with decreases in the number of children desired throughout Europe, this decline has not been as rapid as the decline in fertility rates, indicating the likely existence of factors external to an individual woman influencing the number of children she actually has (Bongaarts 2001; Goldstein, Lutz and Testa 2003).

Yet the question of what influences one's personal perspective on fertility remains, and the relevance of culture to fertility behavior becomes especially meaningful in the murky waters of the discussions of cultural difference that accompanied Spain's transition to being a major migration destination country. That these discussions exist is not surprising, since increases in Spain's TFR coincided temporally with the transition towards being a major destination country for international migrants. But analyzing the role of cultural difference through the lens of behavioral outcomes is a tricky proposition, given that it involves making inferences about internal processes such as personal desire and ideal formation. For this reason, this paper takes a step back from focusing explicitly on fertility behavior to examine the role of various demographic and cultural factors in shaping individual family size ideals. In so doing, this chapter is intended to make its contribution in light of Bernardi and Hutter's call for an anthropological demography of Europe (Bernardi and Hutter 2007).

2.2 Theoretical Framework

Fertility intentions and fertility preferences are different yet inter-related concepts. While fertility preferences refer to the desired number of children over the life course, fertility intentions are expectations statements regarding an individual plan to have children (Engelhardt 2004). The relationship between preferences and intentions and their effect on behavior is explained in Ajzen's theory of planned behavior (TPB), which assumes that human beings tend to behave in a sensible manner, taking account of available information and implicitly or explicitly considering the implications of their actions. A person's intention to perform (or not perform) an action, then, is the most important immediate determinant of that action (Ajzen 2005). According to the TPB, intentions are determined by three basic factors: one of a personal nature, another reflecting social influence and a third treating issues of control. The first is the individual's attitude toward the behavior, which can be a positive or negative evaluation. The second is the subjective norm, that is, the person's perception of social pressure to perform or not perform the behavior in question. Finally, the third determinant of the individual's intentions is the sense of self-efficacy or ability to perform the behavior, termed perceived behavioral control. To summarize, what the theory of planned behavior states is that, in a general sense, people intend to perform a behavior (having one or more children, in the present study), when they evaluate it positively, when they experience social pressure to perform it, and when they believe that they have the means and opportunities to do so (Ajzen 2005).

Figure 1. Ajzen's theory of planned behavior.



Source: Ajzen, 2005.

As Testa (2012) explains, “personal ideal family size reflects childbearing preferences at the individual level but in absence of any possible obstacle, that is, under ideal conditions”. A person’s ideal number of children, then, is a reflection of the respondent’s personal attitudes towards childbearing, and it is a space in which the influence of culture on the individual can be particularly visible (we will elaborate on this below)⁸. This is consistent with the idea that “what people hope for—and even how they hope—is a consequence of cultural entrainment (see Miyazaki 2004)”, and that “there is no use in thinking about intentions, goals or choices without considering the social processes through which the categories of intention and choice are formed” (Johnson-Hanks 2007). But how can a demographic study, which generally relies on quantitative, variable-centered analysis, incorporate the consequences of cultural entrainment in a meaningful way?

Fertility studies have an advantage in this regard, insofar as ideals that are expressed in quantitative terms are formed within a behavioral context that is also quantifiable to some extent. All countries have a TFR, a value that approximates majority behavior and a context within which ideals are formed in a country. Using this value in fertility studies that aim to incorporate an analysis of foreign-born populations and the dynamics within them could shed much-needed light on the role of cultural factors. In their study of the work and fertility behavior of second-generation U.S. women, Fernández and Fogli conclude that (2009), “the use of a quantitative variable as a proxy for culture is superior to using the woman’s country of ancestry as a proxy variable, since the latter suffers from the disadvantage of not being explicit as to why it may matter to be, for example, of Mexican, as opposed to Swedish, ancestry.” One of the aims of this chapter is to compare whether grouping foreign-born mothers according to the TFR of their countries of origin is more useful in explaining differences between native Spanish and foreign-born mothers than grouping according to the more traditional geopolitical categories commonly used in studies on migration.

Much of the existing research on ideational factors falls under the category of Preference Theory, an approach to examining fertility behavior first proposed by Hakim

⁸ It should be pointed out, however, that the personal ideal number of children may still involve, albeit unconsciously, individual constraints and achieved fertility. Thus it may not be as perfectly “ideal” or normative as it may seem.

as an alternative to Becker's New Home Economics approach (Hakim 2003; Becker 1981). In Hakim's view, the NHE approach was too "variable-centered", with little reference to the social processes and the motivations of the women and men behind these statistical measures. She also criticizes the approach for treating all variables, including time, as continuous, unmarked by historical time, equivalent across countries and generally dedicating too little attention to women's intentions, values, and motivations, and to how these differ from those of men. In contrast, Preference Theory emphasizes personal values and decision-making at the micro-level; specifies particular social, economic, and institutional contexts within which preferences become the primary determinant of women's choices; and understands women to be heterogeneous in work and lifestyle preferences, broadly classifiable into three groups: home-centered, adaptive, and work-centered (Hakim 2003). The author specifies that these groups mostly apply to rich countries, and that the distribution of women in these groups varies by country.

As mentioned earlier, while research on ideal family size and fertility preferences has tended to focus on their relationship with fertility behavior (Chesnais 2000; Bongaarts 2001; Quesnel-Vallée and Morgan 2003; Hagewen and Morgan 2005), a number of relationships have been found between demographic and cultural factors and ideal family sizes that are relevant to discussions of personal ideal formation. In a cross-national study, Goldstein, Lutz and Testa (2003) find evidence of a generational lag in ideal formation. As TFRs decrease, the average ideal family size of younger generations (ages 20-34) begins to fall, even below replacement levels, as in the cases of Austria, East Germany and West Germany (1.7, 1.6 and 1.7, respectively). However, in a study on the stability of family size intentions among young adults, Liefbroer (2009) finds that these are not stable over time but are generally adjusted downward, while some do not change or are even adjusted upwards. Liefbroer argues that these age patterns tend to result from changes in the partner, educational and occupational careers of young adults, as well as the timing of the fertility career itself.

Yet, although Germany and Austria are both characterized by large educational differences in realized fertility and childlessness among university-educated women, Heiland et al. (2005) detected no negative association between education and family size preferences in Germany, with highly educated women generally desiring two or

more children. On the other hand, Fahey's (2007) analysis of 2001 Eurobarometer data suggests that education has a weak effect on ideal family size in Europe: in countries where education is negatively associated with completed fertility, highly educated women are simply less able to achieve their intended family size, in part due to delayed childbearing. Finally, Spéder and Kapitány (2009) report that educational differences in the mean family size intentions of Austrian women aged 26 to 30 practically disappeared in 2001.

Fewer are the studies which have attempted to ascertain the determinants of family size ideals including foreign-born populations residing in European states. One notable exception is a study by Penn and Lambert on populations in Britain, France and Germany (2002). Through multiple regression models, the authors found large differences between ethnic groups in Britain, with Indian and Pakistani respondents expressing preferences for larger families than British respondents, and smaller differences in France and Germany, where the children of foreign-born people expressed desires for smaller families (especially Portuguese respondents in France and Turkish respondents in Germany). This study also found religion to have a significant effect on family size ideals, as both Christian and Muslim respondents preferred larger families than those expressing no religious affiliation (Penn and Lambert 2002). However, the study groups first- and second-generation immigrants together as "ethnic groups" by country-of-origin and arguably suffers from the deficiencies of using the birth country of the first-generation and the parents' birth country for the second, making it easy to conflate the effects of the migration experience itself with those of being a native with migrant parents and the relationship between that and individuals' attitudes and values.

In a thoughtful paper on the construction and use of concepts guiding research on reproductive decisions, Philipov and Bernardi (2011) discuss many of the problems in the development of a useful concept of an ideal number of children or ideal family size. Based on a review of the literature, they describe how early formulations tended to reflect subjective interpretations of societal norms and social desirability, as well as to assume a very specific family structure. We think these problems can be sidestepped to a certain extent by centering the questionnaire item's wording explicitly on the respondent's personal ideal number of children, thus making it a self-referential

measure, but problems of interpretation remain. Perhaps most importantly, citing Judith Blake (1966), Philipov and Bernardi highlight conflicting interpretations of what “ideal” means. Depending on whether the respondent’s ideal number of children reflects the number of children they would like to have under ideal living conditions, or whether it reflects the number of children the respondent views as most appropriate under current living conditions, the measure could be telling you very different things. Nonetheless, in both scenarios it is living conditions that are assumed to shape the response, whether these are present ones, hypothetical ones or hypothetical ones based to some extent on present ones. Bernardi and Hutter finally argue that the concept should not be abandoned but refined, and it is in light of this that one of the main goals of this paper is to describe the impact of the conditions under which the respondent’s personal ideal number of children is expressed. In this way, we hope to contribute to this refinement to the extent possible.

The main question this chapter examines is whether the respondent’s birth country influences her personal family size ideals and, to the extent that they can be measured through a questionnaire, what additional factors account for those differences, if they exist. If it is true that cultural differences account for the differences between women born in Spain and women born outside of Spain, and we understand culture to manifest itself in the realm of attitudes, conceptions, norms and values, the significance of the respondent’s birthplace should decrease as ideational variables are introduced. On the other hand, if it is true that structural factors account for the differences between women born in Spain and women born outside of Spain, then the influence of the respondent’s place of birth should decrease as structural variables (that is, those which reflect material and labor market conditions) are introduced. As mentioned earlier, cultural and structural explanations are not mutually exclusive explanations; they can be complimentary. Nor are all of the variables used in this chapter “purely” structural or “purely” cultural (as will be elaborated in the discussion).

2.3 Data and Methods

This paper uses a subsample from the data collected by the Instituto Nacional de Estadística’s Centro de Investigaciones Sociológicas in its *2006 Fertility and Values in 21st Century Spain Survey* (CIS 2639), which includes a sample of foreign-born women large enough (n=745, or 7% of a total sample size of 9,737 women) to allow for an

analysis of their fertility decisions. The questionnaire includes questions covering information on household characteristics and demographics, family of origin, partner relationship histories, children and maternity, other pregnancies, fertility regulation, attitudes towards children and the family, educational and occupational histories, and partner characteristics. It must be pointed out, however, that in light of the size of Spain's foreign-born population reported in the aforementioned municipal registers, it is unlikely that the sample represents the entirety of foreign-born women in Spain (for example, there are almost no women from the Asian continent in the sample). The sample population used in this chapter includes women between the ages of 18 and 49 who have left the parental home. Descriptive statistics for the final study population are displayed in Table 1.

Table 1. Characteristics of the study sample, means and distribution (n=3829)

Dependent variables	
Personal Ideal Number of Children	
1	222 (5.8%)
2	1,801 (47.0%)
3	1,328 (34.7%)
4+	304 (7.9%)
Does not want children or does not know	183 (4.9%)
Range response	587 (15.3%)
Explanatory variables	
<i>Background</i>	
Age	
18-24	267 (7.2%)
25-29	359 (9.7%)
30-34	702 (19.0%)
35-39	746 (20.2%)
40-44	734 (19.8%)
45-49	893 (24.1%)
Region of birth	
Spain	3,314 (86.9%)
Latin America	284 (7.5%)
Africa	54 (1.4%)
Eastern Europe	92 (2.4%)
Northern or Western Europe, North America	68 (1.8%)
Region of birth (by TFR)	
Spain	3,314 (86.9%)
Low (<1.8)	144 (3.8%)
Near replacement (1.8-2.4)	80 (2.1%)
Above replacement (2.5-2.79)	131 (3.4%)
High (>=2.8)	145 (3.8%)

Highest educational level completed	
Primary or less	473 (12.5%)
Secondary	2,026 (53.6%)
Tertiary or above	1,280 (33.9%)
Number of siblings	2.95 (\pm 2.2)
<i>Current situation</i>	
Has had a child	
Yes	2,966 (77.5%)
No	830 (22.5%)
Relationship status	
Non-married	1,138 (29.8)
Married	2,687 (70.3)
Age when she leaves parental home	22.1 (\pm 4.9)
Labor market relationship	
Not in the labor market	1,202 (31.4%)
Stable job	1,504 (39.3)
Temporary job	561 (14.7%)
Self-employed	172 (4.5%)
Unemployed	388 (10.1%)
Housing situation	
Non-owner	1,033 (27.2%)
Owner	2,767 (72.8%)
<i>Ideational factors</i>	
Preferred organization of household	
Gender egalitarian or woman-led model	2,959 (77.3%)
Male breadwinner model	865 (22.6%)
Perspectives on parental responsibilities	
It is the parents' duty to do everything they can for their children	3,150 (84.6%)
Parents have their own lives and they should not be asked to sacrifice their wellbeing for their children	266 (7.1%)
Neither the first nor the second	309 (8.3%)
Perspective on professional compatibility with children	
Having children is an obstacle to a woman's professional life	
Yes	2,491 (65.5%)
No	1,315 (34.6%)

2.3.1 Dependent variables

The main dependent variable analyzed in this chapter is the personal ideal number of children defined as the woman's response to question 611, "What is the ideal number of children for you, personally?"⁹ The question was left open to the respondent, and responses were recorded as either whole numbers or a range. In this chapter, this response has been coded as a categorical variable (1 = one child, 2 = two children, 3 = three children and 4 = four or more children), using the maximum number reported by the respondent when her response was a range. To examine the differences between

⁹ Author's own translation of Spanish-language questions

respondents who gave a whole number response and those who offered a range, a second, binary dependent variable was created (0 = whole number [reference]; 1 = range or uncertain whether they want to have a child). Finally, this chapter also examines the differences between those respondents who wanted to have children and those who did not or were uncertain as to whether they did at the time of the survey (0 = Personal ideal number of children greater than zero [ref.]; 1 = Ideal of no children or does not know whether she wants children).

2.3.2 Methods and independent variables

The maximum personal ideal number of children of those respondents who wanted children was analyzed through a generalized ordered logit/partial proportional odds model using the `gologit2`¹⁰ command in Stata, which treats our main dependent variable as ordinal (Williams 2006). This particular type of model was chosen over a multinomial logit model because the multinomial logit treats dependent variables as nominal. Thus, the odds of expressing a personal ideal number of children of 4 would be compared against the two-child norm, rather than the odds of wanting three children or less. Similarly, having a personal ideal number of children of one would only be compared against the two-child norm alone, rather than having a personal ideal number of children of two or more. On the other hand, treatment of the dependent variable through an ordered logit model would not adequately reflect the nature of the formation of a personal ideal family size because of the proportional odds assumption, which assumes that the coefficients that describe the relationship between the lowest versus all higher categories of the response variable are the same as those that describe the relationship between the next lowest category and all higher categories, and so on (R Data Analysis Examples 2014). In a generalized ordered logit/partial proportional odds model, this assumption is relaxed for some variables after testing for the parallel lines assumption, allowing the effects of explanatory variables to vary with the point at which the categories of the dependent variable are dichotomized (Williams 2006). Though the default setting of `gologit`'s `autofit` command sets the alpha for Wald tests of the parallel lines assumption at .05, after comparing constrained and unconstrained models for each of the explanatory variables used, the alpha was set at the .2 level, in order not to lose relevant information from key variables whose effects were observed to vary

¹⁰ Available at <http://www3.nd.edu/~rwilliam/gologit2>

importantly between cut-off points. While this leads to a less parsimonious model, it allows us to analyze certain variables more closely. Following Williams (2006), ultimately, the model takes the form:

$$P(Y_i > j) = \frac{\exp(\alpha_j + X1_i\beta1 + X2_i\beta2_j)}{1 + \exp(\alpha_j + X1_i\beta1 + X2_i\beta2_j)}, j=1, 2, 3 \text{ (or } M-1)$$

where M is the number of categories of the ordinal dependent variable. In the case of our study, M=4 such that our generalized ordered logit model becomes equivalent to a series of three binary logistic regressions where categories of the dependent variable are combined, e.g. for j=1 a maximum personal ideal number of children of one is contrasted with categories 2, 3 and 4 (i.e. a personal ideal number of children of two or more), for j=2 a maximum personal ideal number of children of two or one is contrasted with a maximum personal ideal number of children of three or more, and for j=3 a maximum personal ideal number of children of three, two or one is contrasted with a maximum personal ideal number of children of four or more. In the above model, X1 represents a vector of covariates for which β is constrained (due to a non-significant Wald test indicating conformity with the parallel odds assumption) while X2 represents those covariates for which β is not constrained (due to Wald test results indicating a violation of the parallel odds assumption). The remaining dependent variables used in this chapter, such as not wanting children (or not knowing whether she wants children) and range responses, were examined using stepwise unconditional logistic regression.

The first set of explanatory variables used in this chapter reflects the respondent's background characteristics, and the first of these is the respondent's *age*, coded categorically. The second is a binary categorical variable for *motherhood* (Has never had a child [ref.]; Has had at least one live birth). The third independent variable used in this chapter is the respondent's *place of birth*.¹¹ This variable has been coded in two different ways: geographically and according to the fertility context in the country of birth. In both cases, Spain is the reference category. Geographically, the non-Spanish regions of birth include Latin America, the African continent (which is 80% women

¹¹ Multivariate analyses including the influence of a dummy variable indicating the respondent had a Spanish nationality were also carried out and results did not vary substantially from those displayed in the next sections.

from Morocco), Eastern Europe (70% women from Romania), and Western Europe, Northern Europe or North America (a somewhat heterogeneous group in terms of fertility patterns, it is largely the result of a limited sample size, but also to their common interpretation as “Western” cultures). In terms of fertility context, the non-Spanish categories include Low Fertility (where the country TFR is below 1.80), Near-Replacement Fertility (where the country TFR is greater than 1.79 and less than 2.40), Above Replacement Fertility (where the country TFR is greater than 2.50 and less than 2.81) and High Fertility (where the country TFR is greater than or equal to 2.81). The country TFRs used for this variable come from United Nations estimates for 2005. This year was chosen because at the time of the interview the women in the sample were within the age-range used to calculate that TFR and it coincided with the year of the interview. The fourth explanatory variable is the respondent’s *highest educational level completed*, distinguishing between Primary or less, Secondary, and Tertiary or above. While in the case of secondary education in Spain, it is common to separate between those who have completed the obligatory secondary education (which tends to finish around age 16) and those who studied beyond that, no substantial differences were found between these categories in their relationship with the personal ideal number children, and they were thus grouped together. The fifth independent variable is the *number of siblings* the respondent had in her family of origin, coded numerically.

The next set of explanatory variables reflects the respondent’s current situation, which includes whether the respondent is *married* (Non-married [ref.], married). Another independent variable used in this group is the respondent’s *age when she left the parental home*, coded numerically. The next independent variable is the respondent’s *current relationship with the labor market* (Not in the labor market [ref.]; Stable job, Temporary job, Self-employed, Unemployed). The respondent’s *housing situation* is coded dichotomously, separating between non-owners (a reference category which includes women who are renting and those who are in “other” arrangements) and owners (which includes partially paid and fully paid ownership). We examine this relationship especially in light of the delayed household emancipation and the propensity to favor homeownership over renting that characterizes “familistic” European countries such as Spain and Italy, as well as the important role of access to housing in the transition to adulthood or economic autonomy and its relationship with delayed childbearing (Dalla Zuanna 2001).

The final set of explanatory variables includes ideational factors which may affect the respondent's personal ideal number of children. The first of these is the respondent's *preferred organization of the household*, coded dichotomously (Gender egalitarian or woman-led model [ref.]; Male breadwinner model). This variable is based on survey item P615, which reads: "There are many ways to distribute family tasks and responsibilities. I am going to give you some examples. If money were not a problem, which of the following options would you choose for yourself?" In addition to "Doesn't know" or "Doesn't answer", the options include:

1. A family in which both couple members have a job requiring a similar amount of dedication and which divide child- and house-care tasks equally"
2. A family in which the woman has a job requiring somewhat less dedication than the man and dedicates somewhat more than him to caring for the house and the children.
3. A family in which the man has a job requiring somewhat less dedication than the woman and dedicates somewhat more than her to caring for the house and the children.
4. A family in which only the man has a job and the woman cares for the house and the children.
5. A family in which only the woman has a job and the man cares for the house and the children.
6. None of these

For the purposes of this chapter, options 2 and 4 were grouped together in the dichotomous variable described above. While it can certainly be argued that these two options are not the same (since option two involves the woman's participation in the labor market), differences in the distribution of the study's dependent variables according to those options were negligible (although slightly fewer women who responded with option 4 gave a range response to the survey item on personal ideal number of children).

The set of ideational variables also includes the respondent's perspective on parental responsibilities. This variable is based on her answer to survey item P613, which reads:

“Which of the following phrases best describes your point of view regarding the responsibilities of mothers and fathers towards children?” In addition to “Doesn’t know” and “Doesn’t answer”, the options include:

1. It is the parents’ duty to do everything they can for their children
2. Parents have their own lives and they should not be asked to sacrifice their wellbeing for their children
3. Neither the first nor the second

Finally, this set of variables also includes the respondent’s opinion regarding the compatibility of children with a woman’s professional life. This variable is based on her response to survey item P614, which asks: “In your opinion, is having a child an obstacle to a woman’s professional life?” The possible answers were, Yes, No, Doesn’t know and Doesn’t answer.

2.4 Descriptive Results

Before examining the results of multivariate analysis, it is useful to orient ourselves with the characteristics of the study sample by considering our descriptive results. In all cases where reference is made to the respondent’s personal ideal number of children, it should be remembered that we are referring to either the respondent’s whole number response to the question of how many children she found ideal for her, personally, or the maximum value of her range if she in fact reported this number as such.

The figures below display the distribution of the respondent’s maximum personal ideal number of children according to their place of birth. While Figure 2 groups the countries of birth of the foreign-born women in our sample according to the country TFR, Figure 3 groups them geographically. In Figure 2, we can see that just over half of the women born in the High Fertility group of countries have a personal ideal number of children that is greater than the two-child norm, and that nearly half of those born in the Above replacement and Near replacement groups do as well. On the other hand, 70% of the women born in the Low fertility countries want two or fewer children, as it is the group for whom the two-child norm is strongest and in which the one-child ideal is also strong (60.5% and 9.3% respectively). This is a considerably different scenario than in Spain, where just over 45% of the sample expressed personal ideals of three or

more children, yet fewer than 6% expressed one-child ideals. Meanwhile, both the Near- and Above replacement fertility groups have a higher proportion of respondents who expressed one-child ideals than Spain (9.9% and 8.6% respectively).

Figure 2. Personal ideal number of children by birth-country TFR. Women ages 18 to 49, who want children and are not in the parental home.

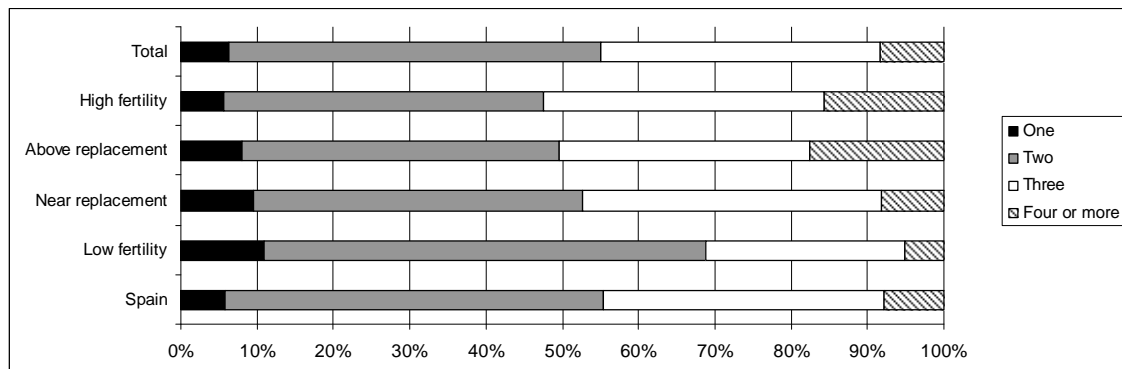
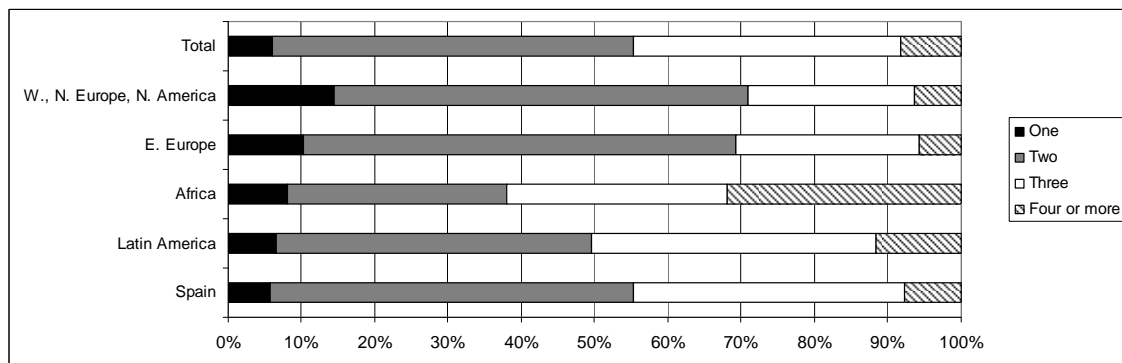


Figure 3. Personal ideal number of children by region of birth. Women ages 18 to 49, who want children and are not in the parental home.

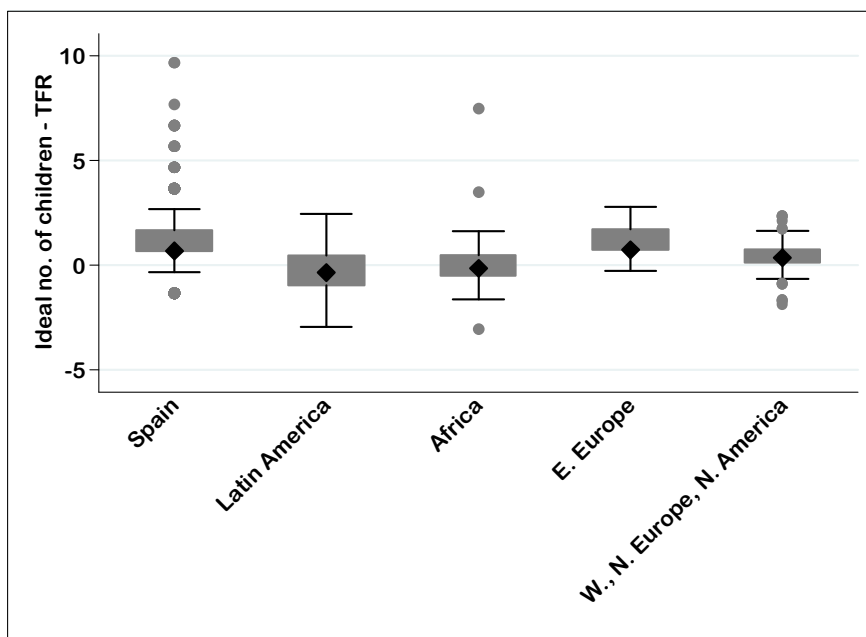


In Figure 3 we see that over 60% of the respondents born in the African continent expressed a personal ideal number of children of three or more, while 28.6% did in the Western or Northern European and North American group and just over 30% did in the Eastern European group. Also striking is that 14.3% of respondents in the Western or Northern European and North American group expressed a one-child personal ideal (although the differences between regions of birth may be exaggerated by relatively small sample sizes).

Taken together, Figures 2 and 3 beg the question of what the relationship is between the respondent's geographical region of birth and the country's TFR. Beyond that, they

also beg the question of to what extent the respondent's personal ideal number of children is reflective of the TFR in her birth country. Figure 4 details the distribution of the distance between the respondent's personal ideal number of children and the TFR in her country of birth. For the latter, a value of 0 represents no difference between the respondent's ideal number of children and her birth country's TFR, while a positive value reflects a higher personal ideal number of children than the country's TFR and a negative value reflects a lower personal ideal number of children than the country's TFR. We can see that while respondents born in Europe or North America tended to express a personal ideal number of children that was higher than the country TFR, those born in Latin America or Africa had distributions that encircled 0, that is, that on average there was relatively less difference between the respondent's personal ideal number of children and her birth country's TFR. However, it must be pointed out that for Latin America, the median was negative, reflecting that over half of the population expressed a personal ideal number of children below her birth country's TFR. This is important to bear in mind because this difference can be the result of two specific phenomena: the direction of fertility rates in the geographic regions displayed and the possible selection effects of migration in terms of fertility (in other words, the degree to which individuals in our sample tend to be more or less representative of the TFR in their geographic region of birth, based on this classification).

Figure 4. Distribution of personal ideal number of children-TFR in country of birth, by region of birth, women ages 18 to 49 who have left parental home.



Variation with respect to the personal ideal number also existed within the regions of birth, depending on the respondent's background characteristics. Figures 5 and 6 display the average personal ideal number of children for the different country of birth groups, by age cohort and highest educational level completed. The relationship between the respondent's age cohort and personal ideal number of children varies considerably depending on her region of birth. We also see that among the women in the sample who were born in Spain, Latin America and Africa, those with a primary education have the highest averages of any educational level. In contrast, these are highest among women with tertiary studies or higher among those born in the other European countries. For these groups, however, the results for women with only a primary education should be regarded very skeptically, since the number of cases is extremely low (2 cases, or 3.2% of the sample). Latin America is the only region of birth which shows a negative educational gradient in the personal ideal number of children. Finally, while the ideal number of children among Spanish women with a primary education is the highest of any educational group born in that region, it is striking how little variation there is across educational categories.

Figure 5. Average personal ideal number of children by region of birth and age cohort. Women ages 18 to 49, not in parental home.

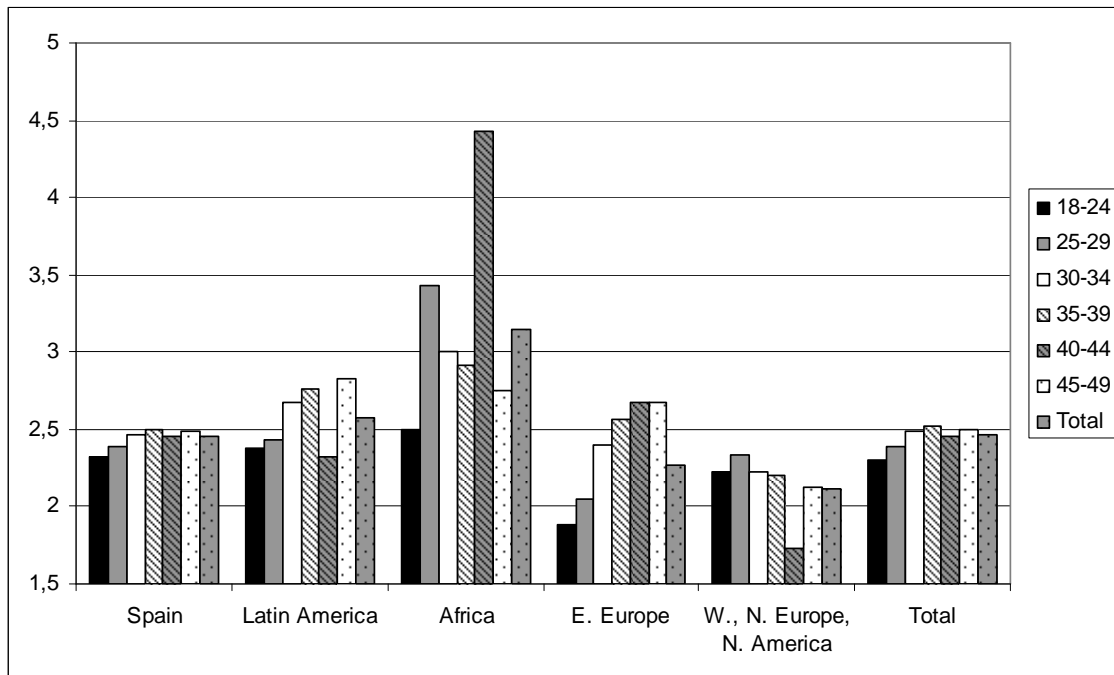
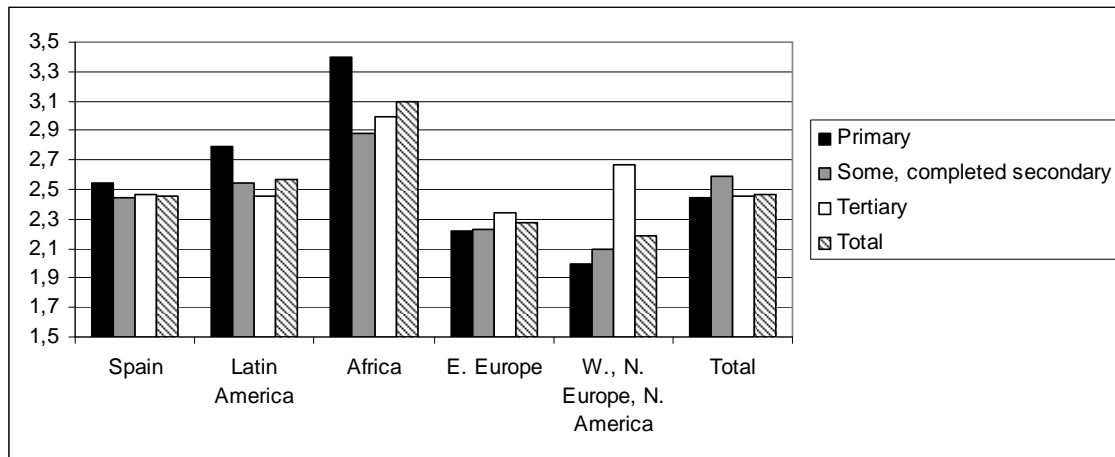


Figure 6. Average personal ideal number of children by region of birth and educational level. Women ages 18 to 49, not in parental home.



Figures 7 and 8 reflect the relationship between aspects of the respondent's current situation and personal ideal number of children, according to her region of birth. While Figure 7 shows the respondent's personal ideal number of children by labor market relationship and region of birth, Figure 8 displays it in terms of the respondent's housing situation. We can see that, while among women born in Spain the average personal ideal number of children is lowest among women who were involved in paid work at the time of the survey and highest among self-employed women, followed by unemployed women and women who were not in the labor market, the relationship is different for all groups of immigrant women. Among women from Eastern Europe and Latin America, the personal ideal number of children is lowest among unemployed women (dramatically in the case of unemployed Eastern European women). For African women, it was lowest among those who had temporary jobs. In contrast, the respondent's personal ideal number of children was highest among stably employed and unemployed women for the group of Western and Northern European or North American women. Also, while among women born in Latin America the personal ideal number of children was highest for self-employed women, among women from Eastern Europe, it was highest for those who had stable employment. In the case of women born in Africa, it was highest for those who were not in the labor market at the time of the survey. Figure 8 reflects the respondent's housing situation at the time of the survey, according to her region of birth. Here, we see that for all groups except for women born in the Western and Northern European or North American countries,

homeowners had a lower average ideal number of children than people who did not own their home at the time of the survey.

Figure 7. Average personal ideal number of children by region of birth and current activity. Women ages 18 to 49, not in parental home.

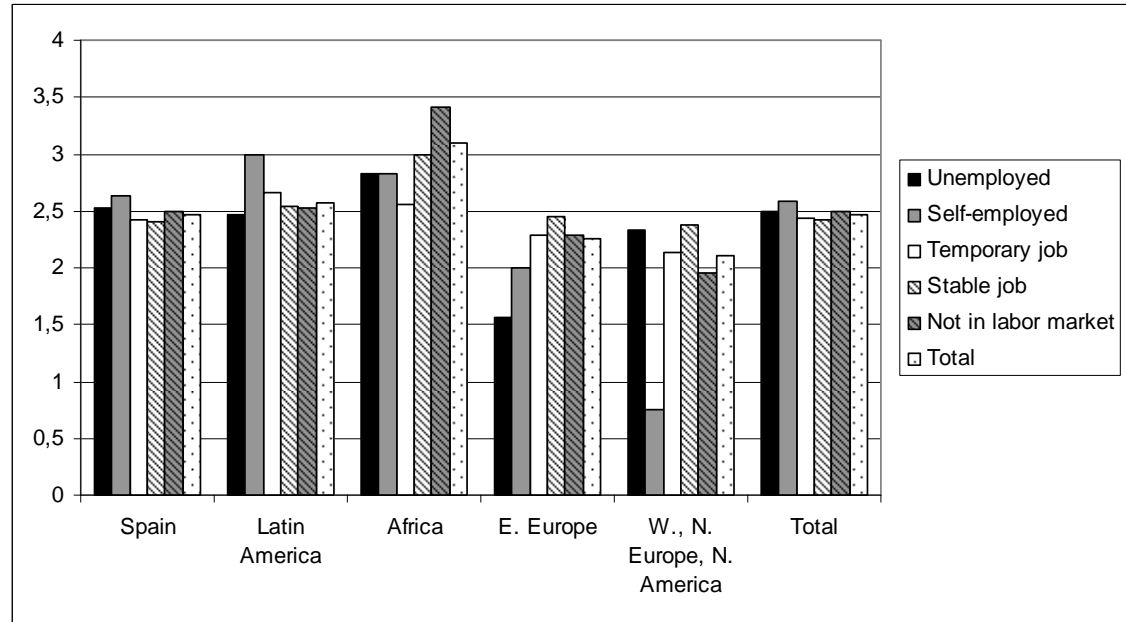
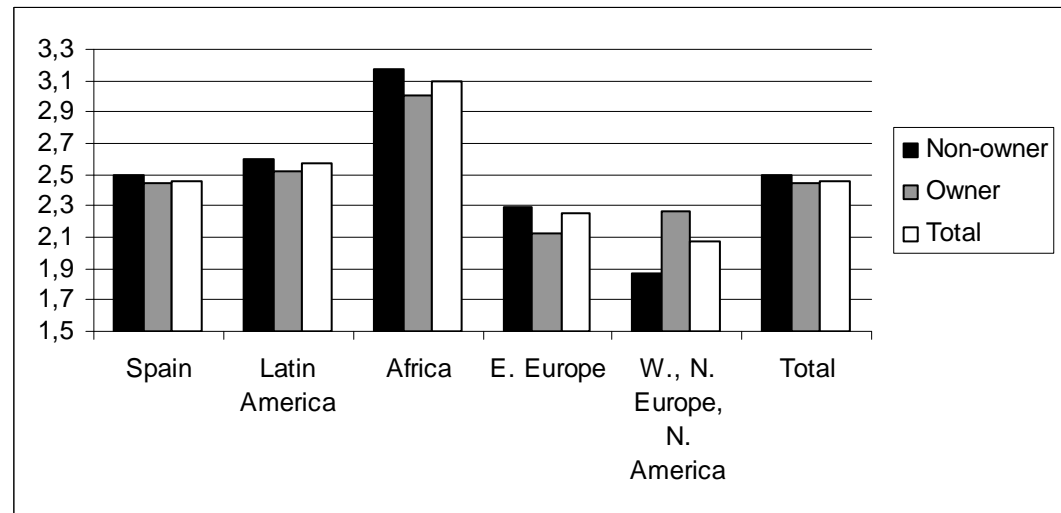


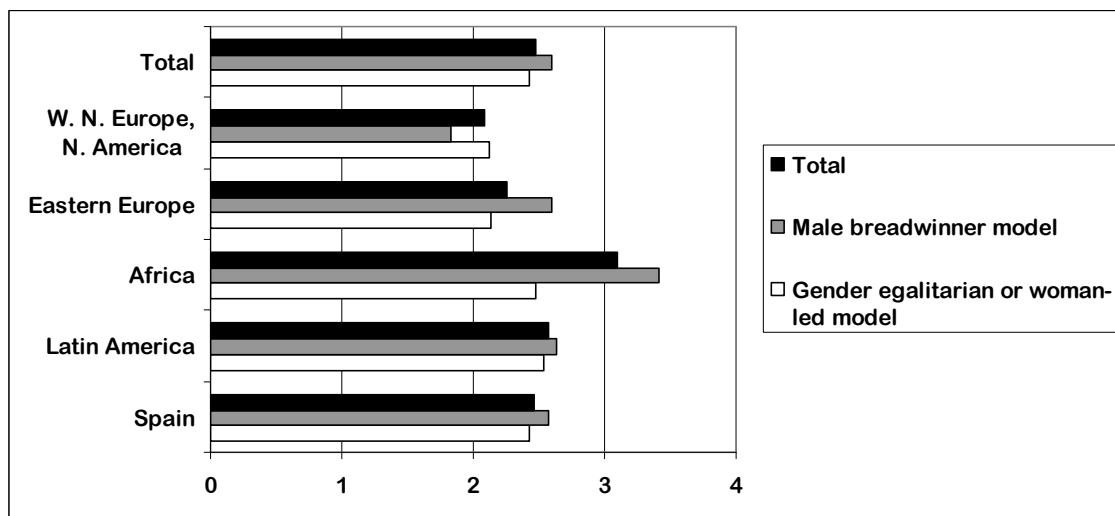
Figure 8. Average personal ideal number of children by region of birth and housing situation. Women ages 18 to 49, not in parental home.



Finally, with respect to the relationship between the respondent's preferred distribution of work in the household by gender, Figure 9 presents the average personal ideal number of children for each region of birth. For all groups except those born in

Western or Northern Europe or North America, women who preferred a household where the woman centered more of her activity on caring for the home and the children than the man had a higher average personal ideal number of children than those who preferred a more gender egalitarian or woman-led model.

Figure 9. Average personal ideal number of children by region of birth and preferred distribution of household tasks. Women ages 18 to 49, not in parental home.



2.5 Results of the multivariate analyses

Before delving into the results of our generalized ordered logit models, let us first examine the types of answers given in response to the questionnaire item on personal family size ideals. As mentioned earlier, roughly 17% of respondents answered the survey item on the ideal number of children by providing a range. In his analysis of the Austrian *Microcensus*, Sobotka (2009) frames the dichotomy between specific and range responses in terms of certainty and uncertainty. We adopt this distinction and analyze this type of response through a stepwise logistic regression, with the cut-off point for inclusion in the model set at the .2 level and controlling for age, educational level, country of birth, current situation and ideational factors. Each of the models uses the same explanatory variables, except that the respondent's place of birth, which was coded as Spain/outside of Spain in Model 1, as the geographical region of birth in Model 2, and according to the country's TFR in 2005 in Model 3. Results are shown in Table 2.

Table 2. Estimates of stepwise logistic regression on range response to survey item on personal ideal number of children. Women in Spain, ages 18 to 49.

Characteristics	Model 1		Model 2		Model 3	
	Odds Ratio	Robust SE	Odds Ratio	Robust SE	Odds Ratio	Robust SE
Personal ideal number of children	2.07***	.19	2.07***	.19	2.05***	.19
Number of siblings in family of origin	0.93**	.03	0.93**	.03	0.93**	.03
Born outside of Spain	0.63**	.13				
Born in Latin America					0.66*	.16
Primary education	0.70	.15	0.70	.16	0.70	.16
Age 18-24	1.34		1.33	0.28		
Homeowner			1.28*	.18		
N	3366		3368		3366	
Pseudo R ²	.0779		.0765		.0759	
* p<.1 ** p<.05 *** p<.01						

Based on the results in the table above, we can see that in all models, range responses become considerably more likely as the respondent's personal ideal number of children increases. We also see that having had siblings reduces the likelihood of the respondent giving a range response to the survey item on the personal ideal number of children. The relationship between having been born outside of Spain depended on how the country of birth was coded. According to Model 1, range responses were less likely among women born outside of Spain, and Model 3 shows that having been born in Latin America was also negatively related with range responses and statistically significant. Finally, Model 2 shows that homeownership was significant at the .1 level, suggesting that uncertainty regarding the ideal number of children increases with homeownership. This can be interpreted as either positive or negative for child-birth, since a range response could mean that respondents do not know whether they want a(nother) child that they had wanted to have before the time of the interview, whether they are more open to the idea of having one or another child after having become an owner, whether they are simply not sure how many they want or whether they just have a flexible range.

We now move on to our first analyses of the actual number expressed by the respondent, specifically the number zero. While there were very few cases of women between the ages of 18 and 49 who reported that they did not want children or had a

personal ideal number of children of zero (4.0% of the study sample), there were even fewer who were uncertain whether they wanted children or not (1.1%). Thus, to analyze these decisions, we grouped these two together to get the dependent variable displayed in Table 1. This response was also examined through stepwise logistic regression with a cutoff point at the .2 level, and results are displayed in the table below.

Table 3. Estimates of stepwise logistic regression on personal ideal of no children or not knowing if she wants children. Women in Spain ages 18 to 49, not in parental home.

Characteristics	Model 1		Model 2		Model 3	
	Odds Ratio	Robust SE	Odds Ratio	Robust SE	Odds Ratio	Robust SE
Has had a child	0.01***	<.01	0.01***	<.01	0.01***	<.01
Age 18-24	0.03***	.01	0.04***	.01	0.04***	.01
Age 25-29	0.02***	.01	0.02***	.01	0.02***	.01
Age 30-34	0.08***	.03	0.09***	.03	0.09***	.03
Age 35-39	0.26***	.09	0.25***	.09	0.25***	.09
Age 40-44	0.85	.35	0.86	.32	0.87	.32
Age 45-49	1		1		1	
Married	0.59**	.13	0.61**	.14	0.62**	.15
Number of siblings	0.92	.06				
Born in country with low fertility			1.89	.55		
Born in W., N. Europe or N. America					4.69**	2.9
Born in Africa					0.12	.16
N	3386		3388		3386	
Pseudo R ²	.3970		.3968		.4041	
# See possible responses in Table 1						
* p<.1 ** p<.05 *** p<.01						

According to the results in Table 3, among women in Spain who have left the parental home, all age groups are less likely to express a zero child ideal than women ages 45 to 49. This suggests the possibility that the zero-child ideal is largely the result of downward adjustment over time. With respect to the country of birth, while women from Africa were 88% less likely than Spanish women to report a zero child ideal, the relationship was very slightly not statistically significant at the 90% level ($p=.108$). On the other hand, women from Western or Northern Europe and North America were 4.69 times more likely than Spanish women to do so once the respondent's age, background, current situation and ideational factors were controlled for. Table 4 below displays the

reasons selected by respondents who did not want children. The most cited single reason is age, thus supporting the idea that the zero-child ideal is a result of downward adjustment. However many of the categories reflecting the difficulties associated with childrearing are also highly represented.

Table 4. Reasons for not wanting children. Women in Spain, ages 18 to 49, not in parental home, who did not want/did not know if they wanted children.¹²

Reason for not wanting children	1 st choice	2 nd choice	Total
Children are expensive, especially when they grow up	16 (9.0%)	12 (6.7%)	28 (15.7%)
Children make it more difficult for a woman to work	12 (6.7%)	16 (9.0%)	28 (15.7%)
It takes time away from other things that are important in life	4 (2.3%)	11 (6.2%)	15 (8.4%)
Pregnancy, childbirth and caring for children are all hard on women	15 (8.4%)	11 (6.2%)	26 (14.6%)
Raising a child involves a lot of problems and worries	20 (11.2%)	25 (14.0%)	45 (25.2%)
My house is not adequate for a larger family	1 (0.6%)	3 (1.7%)	4 (2.2%)
Personal uncertainty	14 (7.9%)	14 (7.9%)	28 (15.7%)
I am not confident about the future	16 (9.0%)	10 (5.6%)	26 (14.6%)
I have the children I want	4 (2.3%)	1 (0.6%)	5 (2.8%)
Age	38 (21.4%)	17 (9.6%)	55 (30.9%)
Health reasons	13 (7.3%)	15 (8.4%)	28 (15.7%)
Does not know	10 (5.6%)	22 (12.4%)	32 (18.0%)
Does not respond	15 (8.4%)	21 (11.8%)	36 (20.2%)
N (%)	178 (100%)	178 (100%)	--

Table 5 and Table 6 display the results of our generalized ordered logit/partial proportional odds models. In each case, women who reported zero child ideals and were certain that they wanted no children were excluded from the analysis. While the first groups women born outside of Spain according to the TFR in their country of birth, the second groups them along the more commonly used geographical groups. Each table displays the results of four models. Model 1 reflects the general relationship between having been born outside of Spain once age and whether or not the respondent has already had a child have been controlled for. Model 2 applies the background variables listed in Table 1, which include the respondent's educational level and the number of siblings in the family of origin. Model 3 adds the respondent's current situation and Model 4 adds ideational factors.

¹² Absolute values and percentages. Final column (Total) does not add up to 100%.

The rationale behind grouping foreign-born women in Spain according to both the TFR in their country of birth and by that country's geographical location follows Fernandez and Fogli's claim that using a quantitative variable as a proxy for culture is superior to using country of ancestry because it reflects a relevant property of that country (2009). However, the number of children people tend to have in a country at a given moment is not the only aspect of that country that is relevant to our consideration of why a woman's non-Spanish country of birth may or may not affect her fertility ideals in Spain. A geographical categorization of country-of-birth can often tell us considerably more about the relationship between Spain and that region, such as the physical distance traveled by migrants to Spain, the economic situation, linguistic affinity, the ease with which people from each region can establish a life in Spain without being discriminated against, the variety of cultural norms and practices present in those regions that are seemingly not related to fertility, how any combination of these factors or others contributes to the selection of people from those countries who move to Spain and so on. In short, while grouping according to country TFR may let us know more specifically how the fertility context in the country of origin affects the personal ideal number of children of women from those countries in Spain, regional categories allow us to account for other aspects of cultural entrainment beyond the normative fertility context, as well as economic or geopolitical characteristics.

**Table 5. Estimates of ordered logistic regression on ideal number of children.
Women in Spain, ages 18 to 49.**

Characteristic	Model 1		Model 2		Model 3		Model 4	
	Odds Ratio	Robust SE	Odds Ratio	Robust SE	Odds Ratio	Robust SE	Odds Ratio	Robust SE
18-24 yrs old	1.27 ^a 0.85 ^b 0.33*** ^c	.40 .15 .13	1.23 ^a 0.95 ^b 0.40*** ^c	.40 .17 .15	1.56 ^a 0.85 ^b 0.30*** ^c	.54 .17 .13	1.47 ^a 0.85 ^b 0.32*** ^c	.51 .17 .14
25-29	0.98 ^a 1.07 ^b 0.26*** ^c	.28 .17 .09	0.93 ^a 1.15 ^b 0.30*** ^c	.26 .19 .10	0.99 ^a 1.10 ^b 0.26*** ^c	.30 .19 .09	0.95 ^a 1.09 ^b 0.25*** ^c	.29 .18 .09
30-34	1.06	.12	1.09	.13	1.11	.13	1.08	.13
35-39	1.00	.11	0.99	.11	1.02	.12	0.99	.12
40-44	0.83	.09	0.83	.10	0.82*	.10	0.80*	.09
45-49	1		1		1			
Has had a child	1.57***	.17	1.68***	.18	1.59***	.19	1.59**	.19
Country of birth								
Spain	1		1		1		1	
TFR<1.8	0.58***	.12	0.61**	.12	0.54***	.11	0.55***	.11
1.8-2.4	0.45* ^a 1.09 ^b 1.34 ^c	.20 .30 .66	0.43* ^a 1.06 ^b 1.39 ^c	.19 .29 .71	0.42* ^a 1.00 ^b 1.16 ^c	.19 .28 .56	0.38* ^a 1.05 ^b 1.26 ^c	.17 .30 .61
2.5-2.8	0.64 ^a 1.13 ^b 2.18*** ^c	.26 .24 .63	0.67 ^a 0.98 ^b 1.70** ^c	.28 .21 .52	1.05	.26	1.04	.25
TFR>2.8	0.96 ^a 1.44* ^b 3.01*** ^c	.44 .30 .87	1.00 ^a 1.25 ^b 2.33*** ^c	.43 .27 .24	1.30	.28	1.28	.28
Number of siblings			0.98 ^a 1.07*** ^b 1.13*** ^c	.04 .02 .03	0.98 ^a 1.06*** ^b 1.12*** ^c	.04 .02 .03	0.98 ^a 1.06*** ^b 1.13*** ^c	.04 .02 .03
Secondary Education			1		1		1	
Primary or lower			0.68 ^a 1.18 ^b 1.56** ^c	.17 .14 .29	0.70 ^a 1.10 ^b 1.44* ^c	.18 .14 .27	0.75 ^a 1.11 ^b 1.44* ^c	.33 .14 .28
Tertiary or above			1.01 ^a 1.46*** ^b 1.47** ^c	.18 .13 .24	1.48***	.13	1.47***	.13
Age when she leaves parental home					0.98***	.01	0.98**	.01
Married					1.47* ^a 1.14 ^b 0.86 ^c	.30 .12 .16	1.40 ^a 1.17 ^b 0.83 ^c	.30 .13 .16
Not in labor market					1		1	
Working					0.96	.09	0.99	.09
Temporary contract					0.59*** ^a 0.94 ^b 1.10 ^c	.14 .12 .24	0.61*** ^a 0.96 ^b 1.10 ^c	.14 .13 .24
Self employed					0.72 ^a 1.59 ^b 2.17*** ^c	.31 .33 .64	0.74 ^a 1.63** ^b 2.33*** ^c	.33 .35 .70
Unemployed					0.93 ^a 1.24 ^b 0.78 ^c	.26 .17 .20	0.97 ^a 1.23 ^b 0.77 ^c	.27 .17 .20

Homeowner			1.17 ^a .23 0.88 ^b .09 0.54*** ^c .10	1.17 ^a .24 0.87 ^b .09 0.54*** ^c .10
Male breadwinner preference				1.00 ^a .22 1.10 ^b .11 1.72*** ^c .27
It is the parents' duty to do everything they can for their children				1
Parents have their own lives and they should not be asked to sacrifice their wellbeing for their children				0.59* ^a .16 1.30 ^b .22 1.32 ^c .38
Neither the first nor the second Having children is an obstacle to a woman's professional life				0.97 .13 1
Having children is not an obstacle to a woman's professional life				1.22 ^a .23 0.85* ^b .07 0.74* ^c .12
N	3516	3456	3308	3308
Pseudo R ²	.0150	.0238	.0319	.0366

* p<.1 ** p<.05 *** p<.01

Dependent variable: (1) ideal number of children is 1; (2) ideal number of children is a maximum of 2; (3) ideal number of children is a maximum of 3; (4) ideal number of children of more than three. For variables that violate the proportional odds assumption coefficient is : (a) For ideal number of children of more than 1; (b) For ideal number of children of 3 or more compared to less than 3; (c) For ideal number of children of more than 3 compared to any less than three

Table 6. Estimates of general ordered logistic regression on ideal number of children. Women in Spain, ages 18 to 49.

Characteristic	Model 1		Model 2		Model 3		Model 4	
	Odds Ratio	Robust SE	Odds Ratio	Robust SE	Odds Ratio	Robust SE	Odds Ratio	Robust SE
18-24 yrs old	1.21 ^a 0.85 ^b 0.37*** ^c	.39 .15 .14	1.18 ^a 0.94 ^b 0.43*** ^c	.38 .17 .17	1.64 ^a 0.84 ^b 0.30*** ^c	.58 .17 .13	1.54 ^a 0.83 ^b 0.32*** ^c	.55 .17 .14
25-29	0.95 ^a 1.07 ^b 0.27*** ^c	.26 .17 .09	0.91 ^a 1.15 ^b 0.31*** ^c	.26 .19 .11	1.02 ^a 1.09 ^b 0.25*** ^c	.31 .18 .09	0.98 ^a 1.08 ^b 0.25*** ^c	.30 .18 .10
30-34	1.06	.12	1.08	.13	1.11	.13	1.08	.13
35-39	1.00	.11	0.98	.11	1.01	.12	0.99	.12
40-44	0.83*	.10	0.82**	.10	0.81*	.10	0.79*	.10
45-49	1		1		1		1	
Has had a child	1.57***	.17	1.68***	.19	1.60***	.19	1.60***	.19
Region of birth								
Spain	1		1		1		1	
Latin America	1.22	.19	1.10	.17	1.02	.16	1.04	.17
Africa	0.50 ^a 1.89* ^b 6.31*** ^c	.29 .65 2.2	0.58 ^a 1.56 ^b 4.94*** ^c	.35 .55 1.84	0.52 ^a 1.92* ^b 5.36*** ^c	.33 .72 2.18	0.53 ^a 1.91* ^b 4.17*** ^c	.32 .74 1.73
Eastern Europe	0.62**	.15	0.64*	.16	0.55***	.13	0.56**	.13
W., N. Europe, N. America	0.43*** ^a 0.48*** ^b 1.33 ^c	.18 .15 .73	0.43*** ^a 0.49*** ^b 1.54 ^c	.18 .15 .86	0.41*** ^a 0.47*** ^b 1.43 ^c	.17 .16 .80	0.40*** ^a 0.49*** ^b 1.66 ^c	.17 .16 .94
Number of siblings			0.98 ^a 1.07*** ^b 1.14*** ^c	.04 .02 .03	1.00 ^a 1.05*** ^b 1.12*** ^c	.05 .02 .03	0.99 ^a 1.06*** ^b 1.12*** ^c	.05 .02 .03
Secondary Education			1		1		1	
Primary or lower			0.69 ^a 1.16 ^b 1.56*** ^c	.17 .14 .29	0.80 ^a 1.08 ^b 1.38* ^c	.20 .14 .26	0.78 ^a 1.10 ^b 1.37* ^c	.19 .14 .26
Tertiary or above			1.00 ^a 1.47*** ^b 1.48*** ^c	.18 .13 .24	1.49***	.13	1.48***	.13
Age when she leaves parental home					0.98***	.01	0.98***	.01
Married					1.48*	.31	1.41 ^a 1.15 ^b 0.88 ^c	.30 .13 .17
Not in labor market					1		1	
Stable job					0.99	.09	1.01	.10
Temporary work					0.61*** ^a 0.96 ^b 1.19 ^c	.14 .13 .26	0.62*** ^a 0.97 ^b 1.18 ^c	.14 .13 .25
Self-employed					0.74 ^a 1.61 ^b 2.32*** ^c	.32 .34 .69	0.76 ^a 1.65*** ^b 2.45*** ^c	.33 .35 .73
Unemployed					0.93 ^a 1.25 ^b 0.83 ^c	.26 .18 .21	0.97 ^a 1.24 ^b 0.81 ^c	.28 .18 .21

Homeowner			1.16 ^a .23 0.86 ^b .09 0.57*** ^c .10	1.16 ^a .24 0.86 ^b .09 0.56*** ^c .11
Male breadwinner preference				1.03 ^a .23 1.09 ^b .11 1.55*** ^c .25
It is the parents' duty to do everything they can for their children				1
Parents have their own lives and they should not be asked to sacrifice their wellbeing for their children				0.59* ^a .17 1.29 ^b .21 1.35 ^c .38
Neither the first nor the second				0.96 .13
Having children is an obstacle to a woman's professional life				1
Having children is not an obstacle to a woman's professional life				1.18 ^a .22 0.86* ^b .07 0.76* ^c .12
N	3514	3454	3306	3306
Pseudo R ²	.0172	.0262	.0362	.0399
<p>* p<.1 ** p<.05 *** p<.01</p> <p>Dependent variable: (1) ideal number of children is 1; (2) ideal number of children is a maximum of 2; (3) ideal number of children is a maximum of 3; (4) ideal number of children of more than three. For variables that violate the proportional odds assumption coefficient is : (a) For ideal number of children of more than 1; (b) For ideal number of children of 3 or more compared to less than 3; (c) For ideal number of children of more than 3 compared to any less than three</p>				

With respect to age, in both Table 5 and Table 6 respondents between the ages of 18 and 29 were less likely to report a personal ideal number of children of four or more than women between the ages of 45 and 49. However, there were no significant differences between these groups with respect to the other categories of the dependent variable. On the other hand, there was a significant difference between the reference group and women ages 40 to 44 in terms of the likelihood of having a personal ideal number of children of four or more in Models 3 and 4 (the magnitude, that is, that they were 17-20% less likely than women between the ages of 45 and 49 to have a high ideal number of children, is more or less constant across models).

In Table 5, we see that Model 1 shows significant effects for the respondent's region of birth according to the number of children per woman in that country. Country TFR affects the respondent's personal ideal number of children in the expected direction, though not necessarily according to the logic proposed by Fernandez and Fogli. Women born in the two higher fertility countries are more likely than Spanish women to express a higher personal ideal number of children, while women from the lower fertility countries are less likely to have a personal ideal number of children of two children or more than Spanish women. The reason I say that this does not necessarily agree with Fernandez and Fogli's logic is that the countries in the near-replacement fertility group have a higher country TFR than Spain and, while the statistical significance of having been born in these groups is lower than the lowest fertility group, the magnitude of the effect is considerably greater across all models. This could very well be the result of selective migration from those countries. Yet when we introduce the respondent's background characteristics, we see that the TFR in the country of birth maintains its effects, but loses statistical significance and magnitude. The negative effect of the TFR in the respondent's country of birth was maintained across models for the lower fertility countries, but the positive effect of the high fertility countries was no longer statistically significant once we controlled for the respondent's situation at the time of the interview.

The number of siblings was positively related with the likelihood of wanting more than two children and increased in magnitude with the ideal number of children, an effect that is maintained in the subsequent models. Also maintained across models is the effect of the respondent's educational level. Women with a primary education or lower

were 1.56 times more likely than women with a secondary education to have a personal ideal number of children of four or more, while women with a university education were 1.46 times more likely to want three and 1.47 times more likely to want four or more. Once the respondent's current activity was controlled for, in both Models 3 and 4 this effect did not violate the proportional odds assumption, such that its effect and magnitude were maintained across categories of the independent variable.

The age at which the respondent left the parental home was also found to be significant, and was negatively associated with the dependent variable such that the later she left her parents' home, the less likely she was to have a higher personal ideal number of children. Also, married women were more likely than non-married women to want two or more children, but not three or more. With respect to the labor market, both Model 3 and Model 4 show that, compared to women who were not in the labor market at the time of the interview, having a temporary contract lowered the chances of the respondent expressing a personal ideal number of children of two or more by 41% in the former and 39% in the case of the latter. Meanwhile, self-employed women were 2.17 times more likely than women who were not in the labor market to express a personal ideal number of children of four or more, and once ideational factors were controlled for as shown in Model 4, they were also 1.63 times more likely than women who were not in the labor market to have a personal ideal number of children of 3 or more. Finally, we also see that homeowners were 46% less likely than non-home owners to have an ideal of four or more children.

With respect to ideational factors, the statistically strongest effect was that of respondents' preferred organization of household tasks. Those who expressed a preference for a gendered division of tasks more in line with the male breadwinner model (where the man focuses more on work in the labor market while the woman focuses more on childrearing and domestic work) were 1.72 times more likely to want four or more children than women who preferred a more gender-egalitarian or woman-led organization of tasks. Meanwhile, women who when asked about parental responsibilities responded that "parents have their own lives and they should not be asked to sacrifice their wellbeing for their children" were 41% less likely to express a personal ideal number of children of two or more than women who responded that it was the parents' duty to sacrifice for their children. Finally, those who responded that

having children is not an obstacle to a woman's professional life were less likely to have a personal ideal number of children that was above the two-child norm.

The results displayed in Table 6 are largely identical to those displayed in Table 5, with one key difference: the effect of the respondent's region of birth is maintained across all of our models. While there were no significant differences between women born in Spain and Latin America with respect to the personal ideal number of children, there were significant differences between Spanish women and those from the other regions. Across models, respondents born in Eastern Europe were 38% less likely to report a higher personal ideal number of children than Spanish women across all categories of the dependent variable. Meanwhile, women born in the Western and Northern Europe or North America were consistently between 50% and 60% less likely than Spanish women to report a personal ideal number of children higher than one or higher than the two child norm. However, they were not significantly less likely to express a personal ideal number of children of four or more and it is important to point out that the direction of the effect of having been born in that region changes, and that this is maintained across models.

Something similar happens in the case of women born in Africa: while the effect is not statistically significant, African women were between 50% and 42% less likely than Spanish women to report a personal ideal family size that was higher than one (this is also the case for women with a primary education or lower, and it is consistent in both Tables 5 and 6 and across models). However, once the cutoff point for our generalized ordered logit/partial proportional odds model included the two-child norm in the reference category, African women were significantly more likely than Spanish women to select a higher personal ideal number of children. It should be pointed out, however, that although the effects of having been born in Africa are consistently significant for higher categories of the dependent variable, the robust standard error is rather high and the magnitude varies as different variables are introduced. So while in the more basic Model 1, respondents born in the African continent are 6.31 times more likely than Spanish women to report a high personal family size ideal than Spanish women, this falls to 4.94 times more likely when background characteristics are factored in, increases once again to 5.36 when the respondent's current activity is included, and finally drops to 4.17 once ideational factors are controlled for.

2.6 Discussion

This study finds that, for women in Spain who had left the parental home and were between the ages of 18 and 49 during the period of study and wanted children, there are significant differences between women born in Spain and women born abroad in terms of their maximum personal ideal number of children, even after controlling for differences in their backgrounds and ideational factors. These differences were found to depend on the region of birth and the fertility context in the country of birth. Women born in countries with near-replacement or low fertility were less likely than Spanish women to have a personal ideal number of children greater than one child or the two-child norm. Women born in higher fertility countries were found to express a higher personal ideal number of children, but these differences were no longer significant once the respondent's background, current situation and ideational factors were controlled for. Differences between the fertility ideals of native and foreign-born women were more significant by geographical region. Women in the Eastern European group and the Western and Northern European or North American group were nearly half as likely as Spanish women to have a personal ideal number of children below the two-child norm. On the other hand, women born in the African continent were nearly twice as likely as Spanish women to have an ideal number of children of three or more and over four times as likely to have one of four or more. These differences remained statistically significant after controlling for the respondent's background characteristics, current situation and ideational factors. However, it should be taken into account that we did not account for the respondent's age at migration, which would allow us to account for the effects of socialization or adaptation processes among women who migrated at earlier ages. The absence of this variable is also relevant because we use the TFR in the country of birth around the year 2005, and this may mean very little to women whose fertility preferences were socialized in her birth country's fertility context decades ago.

With respect to the respondent's situation at the time of the survey, relevant findings include the negative effect of homeownership on fertility ideals of four or more and the negative effect of temporary contracts on those of two or more. Homeownership reduced the likelihood of high fertility ideals by 43% relative to non-owners. It is important to note here that home-ownership is generally related with a higher social

class or income level, hence this might be capturing some of these effects. Meanwhile temporary contracts reduced the likelihood of having a personal ideal number of children of two or more by 39% compared to women who were not in the labor market at the time of the survey. Self-employed women were 1.6 times as likely as women who were not in the labor market to have a maximum personal ideal number of children of 3 or more, and over twice as likely to have one of four or more. Finally, the age at which the respondent left the parental home was also found to significantly reduce the respondent's personal ideal number of children as it increased.

In terms of the ideational factors analyzed in this study, preference for a "male breadwinner" division of household work was significantly and positively related to the likelihood of having a personal ideal number of children of four or more. On the other hand, respondents who expressed that parents should not be expected to sacrifice their wellbeing for their children were 41% less likely to have a personal ideal family size of two or more. Finally, respondents who expressed that having children is not an obstacle for women's professional lives were 14% less likely to report an ideal number of children over two than women who said that they are, and 24% less likely to report one of four or more.

With respect to a personal ideal of no children or not knowing whether she wants to have a child, this study finds evidence supporting the interpretation that the zero-child ideal is the result of downward adjustment over time. Also, married women were between 38% and 41% less likely to report a zero child ideal than single women. In terms of the respondent's place of birth, respondents born in Western or Northern Europe and North America were 4.69 times as likely as those born in Spain to report either a personal ideal number of children of zero or that they did not know whether or not they wanted to have a child, after controlling for the respondent's background, current situation and ideational factors.

The main strength of this study is that, through the application of a generalized ordered logit/partial proportional odds model, I was able to identify the effects of explanatory variables on specific categories of the dependent variable, thus avoiding some of the assumptions involved in the models employed in other studies and perhaps providing a more realistic interpretation of the effects of those explanatory variables. It is also the

first study to examine the influence of both material and ideational factors on the personal ideal number of children in Spain, as well as being the first to account for the differences between native and foreign-born women in terms of the dependent variable. Yet the study also has many weaknesses. The first is that it is a cross-sectional study, examining a specific moment in time. Aside from the methodological problems of causality and identification associated with this (for instance, whether being a mother causes the respondent to have higher fertility ideals or whether women with higher fertility ideals more likely to be mothers, and so on), the period under examination is at the peak of the housing bubble in Spain and before the economic crisis not only shattered household economies, the housing and labor markets, and quite likely peoples' attitudes, but provoked another migration transition in Spain, pushing it back to being a net-emigration country. The nostalgia at seeing a sample where only 10% of the women are unemployed is a strange sensation indeed.

Perhaps one of the most important limitations to this study is that variables representing the respondent's attitudes are included at the same time as the respondent's socioeconomic background, current fertility and other material factors such as housing, when in reality these are not fully independent of one another or attitudes. Current attitudes often serve to justify behavior "after-the-fact", and are thus consequently affected by these processes. While Pearson's correlation tests did not show high levels of correlation between our covariates, it remains important to bear this limitation in mind when interpreting results; it is not our intention to make causal arguments based on the analyses presented, but to point to the associations revealed by our analyses.

Another weakness of the study is that, while the effects of the region of birth variable are statistically significant, coding along those lines obscures important details. As mentioned earlier, the vast majority of the African group was born in Morocco and a similar majority of the Eastern European group was Romanian. Several groups of women were under-sampled, including women from anywhere on the Asian continent and Africa south of the Sahara. And in Latin America there are a variety of fertility contexts, with country TFRs ranging from 1.63 to 4.6. Thus, these findings should be interpreted with considerable caution. It is largely incorrect to interpret the relationships in the study's models as "the effects of being born in Africa", or worse, "the effects of African culture". They should be interpreted as what they are: the largely

unobserved relationship between having been born in one of the countries in that group and being a woman between the ages of 18 and 49 living in Spain in 2005, and not in her parents' home. This unobserved relationship could be mitigated by a number of factors including aspects of the migration experience itself, her economic situation in the country of birth, the quality of her social and cultural entrainment there, aspects of her reception in Spain not included in the explanatory variables examined, ideational factors that were not observed in this study or in the questionnaire, linguistic abilities, the historical and geopolitical relationship between her birth country and Spain, being part of a trans-national family or a host of other factors. Factors that could have been examined, such as the time since foreign-born respondents came to Spain, were not included in this study because the high number of missing values (13.49%) would have resulted in a considerably smaller and more unwieldy sample.

Other weaknesses of the study include a lack of information about the respondent's wages or expenses, particularly housing expenses, given the effect of housing revealed by our model. It also takes the higher number of children when respondents answered with a range, such that the actual ideal family size may be over-estimated to a certain degree. However, the difference between people who say that the ideal number of children for them personally is two or three children and not two children is the desire, however weak it is, for a third child. Thus, it is an important desire to consider when examining the conditions under which people shape their ideals towards reproduction. Also, sensitivity analyses were carried out in which alternate codings of range responses took either the mean or the lower value of the response provided. Results of these analyses were not substantially different than those presented in this paper, with the exception that the association with the respondent's country of birth was slightly stronger in the results presented here. Finally, this study examines respondents without taking the partner's characteristics into account, so it assumes that the respondent's personal ideal number of children is truly personal and independent of her partner's ideal number of children.

While studies have examined the determinants of respondents' personal ideal number of children through multivariate analysis, most notably in the work of Maria Rita Testa (2010; 2012), to our knowledge, ours is the first to do so focusing on differences between native and foreign-born women, and the first to do so through the application

of a generalized ordered logit/partial proportional odds model. In both of the cited studies, while a `gologit2` model was employed, the proportional odds assumption was ultimately maintained. Yet many of our study's findings regarding the effects of age, ideational factors and country of birth show evidence of their effects on specific categories of the dependent variable. If the proportional odds assumption were to have been maintained for these variables, these significant associations would not have been visible.

In broad terms, this study supports the view that cultural and structural explanations of fertility need not compete, but can be combined in a complementary fashion. We have shown that both ideational factors and material conditions such as the respondent's relationship to the labor and housing markets influence her personal ideals regarding reproduction. Yet neither the material conditions nor the ideational factors studied accounted for all of the differences between women born in Spain and those born outside of Spain, and much remains to be determined. Further research is needed to investigate the role of the migration experience itself to ascertain what factors shape fertility ideals in the country of birth, which ones shape them in the destination country, and whether anything happens "along the way", that is, between departure and stabilized settlement. This study's findings (and its shortcomings) suggest that examining the specifics of the respondent's partnership history, labor market history, economic conditions, social networks and housing conditions could shed considerable light on the formation of fertility ideals.

2.7 References

- Adsera, A. (2004). Marital Fertility and Religion: Recent Changes in Spain. Discussion Paper no. 1399, Bonn: Institute for the Study of Labor (IZA).
- Ajzen, I. (2005). Attitudes, Personality and Behavior. Berkshire: Open UP.
- Baizán, P. (2006). El efecto del empleo, el paro y los contratos temporales en la baja fecundidad española de los años 1990, *Revista Española de Investigaciones Sociológicas*; 115: 223-253.
- Becker, G. (1981). Treatise on the Family. Cambridge: Harvard UP.

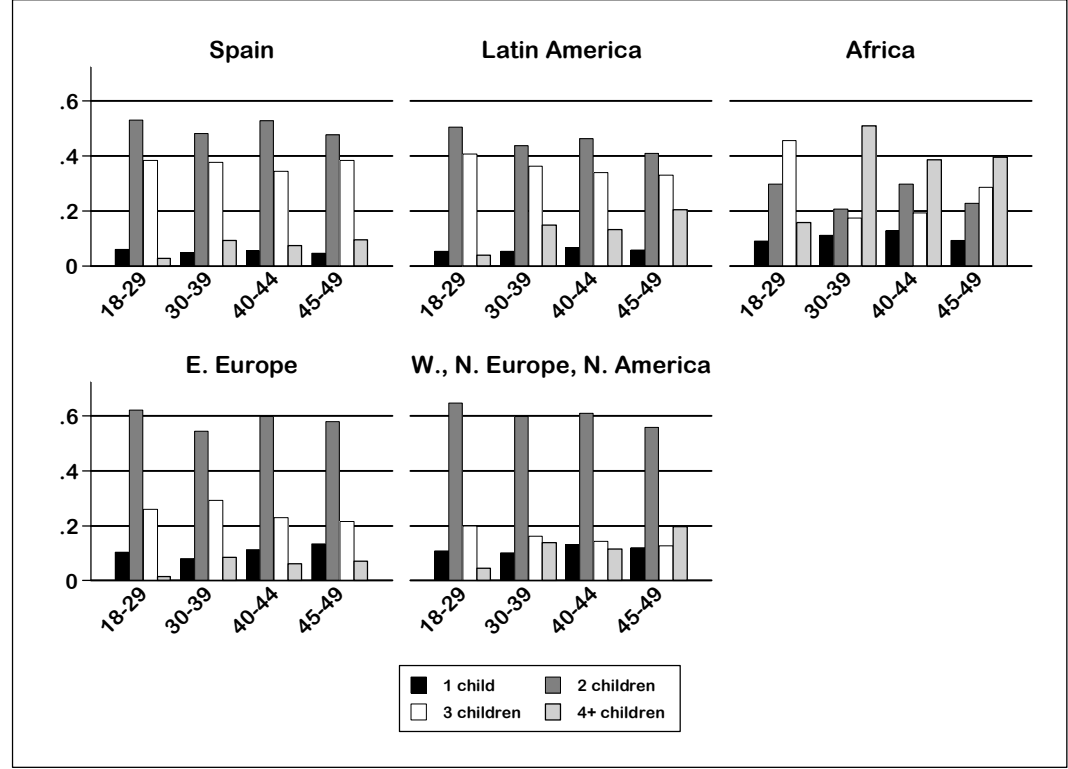
- Bernardi, L., Hutter, I. (2007). The Anthropological Demography of Europe. *Demographic Research*; 17: 541-566.
- Bongaarts, J. (2001). Fertility and Reproductive Preferences in Post-Transitional Societies. *Population and Development Review* 27: 260-281.
- Blake, Judith (1966). Ideal Family Size Among White Americans: A Quarter of A Century's Evidence. *Demography* 3(1): 154-173.
- Castles, F. G. (2003). The world turned upside down: Below replacement fertility, changing preferences and family-friendly public policy in 21 OECD countries. *Journal of European Social Policy*, 13(3), 209–227.
- Castro Martin, T. (1992). Delayed childbearing in contemporary Spain: trends and differentials. *European Journal of Population*; 8: 217-246.
- Chesnais, J.-C. (2000). Determinants of below replacement fertility. *Population Bulletin of the United Nations*, 1999(40/41), 126–136.
- Commission of the European Communities. (2005). Green Paper “Confronting demographic change: A new solidarity between the generations”. Brussels: Commission of the European Communities.
- Dalla Zuanna, G. (2001). The banquet of Aeolus: A familistic interpretation of Italy's lowest low fertility. *Demographic Research*, 4(5), 133–162.
- De la Rica, S., Iza, A. (2005). Career planning in Spain: Do fixed-term contracts delay marriage and parenthood? *Review of Economics of the Household*; 3: 49-73.
- Demeny, P. (2003). Population policy dilemmas in Europe at the dawn of the twenty-first century. *Population and Development Review*, 29(1), 1–28.
- Engelhardt, H. (2004). Fertility intentions and preferences: Effects of structural and financial incentives and constraints in Austria. VID Working Papers 02/2004.
- Fahey, T. (2007). Fertility patterns and aspirations among women in Europe. In J. Alber, T. Fahey, & C. Saraceno (Eds.), *Handbook of quality of life in the enlarged European Union* (pp. 27–46). London: Routledge.
- Fernandez, Raquel, and Alessandra Fogli (2009). Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics*, 1(1): 146–77.
- Goldstein, J.R., Lutz, W., Testa, M.R. (2003). The Emergence of Sub-Replacement Family Size Ideals in Europe.” *Population Research and Policy Review*; 22: 479-496.

- Gonzalez, M., Jurado Guerrero, T. (2006). Remaining Childless in Affluent Economies. *European Journal of Population*; 23: 1-36.
- Hagewen, K. J., & Morgan, S. P. (2005). Intended and ideal family size in the United States, 1970–1998. *Population and Development Review*, 31(3), 507–527.
- Hakim, C. (2003). A new approach to explaining fertility patterns: Preference theory. *Population and Development Review*, 29(3), 349–374.
- Heiland, F., Prskawetz, A., & Sanderson, W. C. (2005). Do the more-educated prefer smaller families? Paper presented at the 2005 Annual Meeting of the Population Association of America, Philadelphia, Pennsylvania, March 31–April 2, 2005.
- Instituto Nacional de Estadística (INE) (2007). *Movimiento Natural de la Población. Datos provisionales 2006*. Nota de prensa 3 junio 2007.
<http://www.ine.es/prensa/np460.pdf>
- Instituto Nacional de Estadística (INE) (2008). *Avance del Padrón Municipal a 1 de enero 2008. Datos provisionales.*, Nota de prensa 20 junio 2008.
<http://www.ine.es/prensa/np503.pdf>
- Johnson-Hanks, J (2007). What Kind of Theory for Anthropological Demography? *Demographic Research*, 16(1):1-26.
- Kohler, H.-P., Billari, F. C., & Ortega, J. A. (2002). The emergence of lowest-low fertility in Europe during the 1990s. *Population and Development Review*, 28(4), 641–680.
- Lesthaeghe, R. (1983). A century of demographic and cultural change in Western Europe: An exploration of underlying dimensions. *Population and Development Review*, 9(3), 411–435.
- Lesthaeghe, R., Surkyn, J. (1988). Cultural Dynamics and Economic Theories of Fertility Change. *Population and Development Review*; 14:1-45.
- Liefbroer, A. (2009). Changes in Family Size Intentions Across Young Adulthood: A Life-Course Perspective. *European Journal of Population*, 25:363-386.
- McDonald, P. (2002). Sustaining fertility through public policy: The range of options. *Population*, 57(3), 417–446.
- Miyazaki, H. (2004). *The method of hope: Anthropology, philosophy and Fijian knowledge*. Stanford: Stanford University Press.
- Penn RD, Lambert PS (2002). Attitudes towards ideal family size of different ethnic/nationality groups in Great Britain, France and Germany. *Population Trends* 108: 49-58

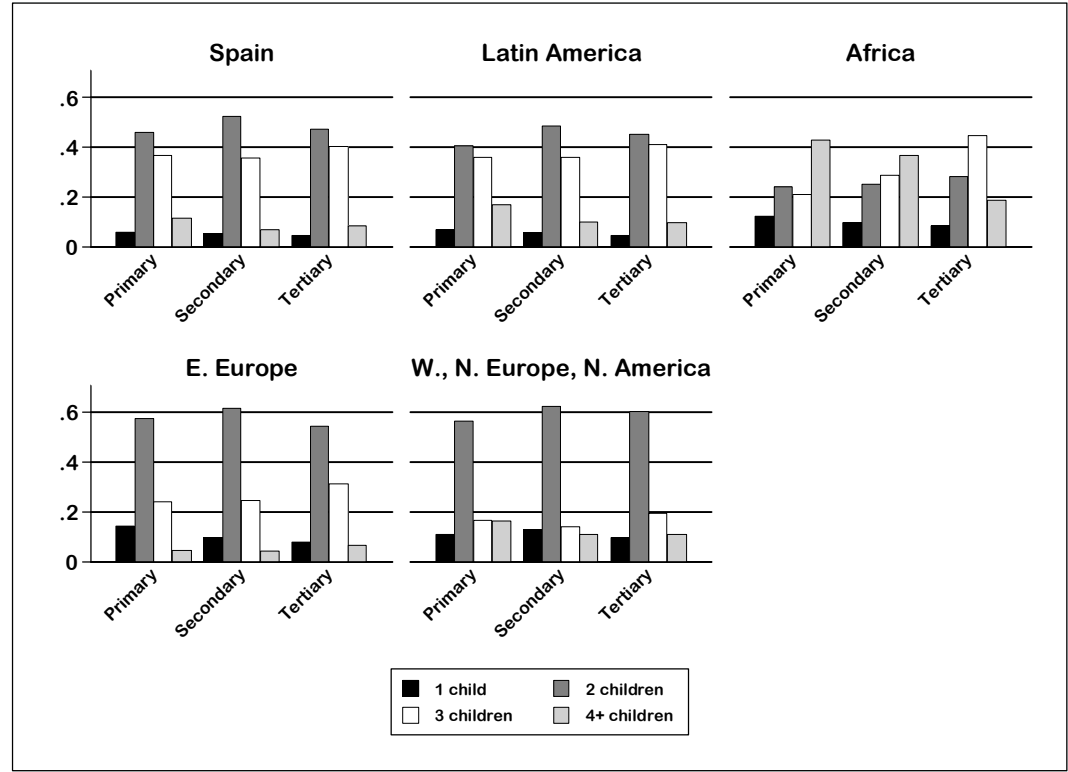
- Philipov, D, Bernardi, L. (2011). Concepts and Operationalisation of Reproductive Decisions: Implementation in Austria, Germany and Switzerland. *Comparative Population Studies*. Vol. 36(2-3), 495:530.
- Quesnel-Vallée, A., & Morgan, S. P. (2003). Missing the target? Correspondence of fertility intentions and behavior in the U.S. *Population Research and Policy Review*, 22, 497–525.
- R Data Analysis Examples: Ordinal Logistic Regression. (2014). UCLA: Statistical Consulting Group. from <http://www.ats.ucla.edu/stat/r/dae/ologit.htm>.
- Sobotka, T. (2009). Sub-Replacement Fertility Intentions in Austria. *European Journal of Population*, 25: 387-412.
- Spéder, Z. & Kapitány, B. (2009). How are Time-Dependent Childbearing Intentions Realized? Realization, Postponement, Abandonment, Bringing Forward. *European Journal of Population*, 25:503-523.
- Stark, L., & Kohler, H. P. (2002). The debate over low fertility in the popular press: A cross-national comparison, 1998–1999. *Population and Policy Review*, 21(6), 535–574.
- Testa, M.R. (2010). Child-number and child-timing intentions in a micro-macro European framework. *European Demographic Research Paper 4*. Vienna Institute of Demography, Austrian Academy of Sciences.
- Testa, M.R. (2012). Family sizes in Europe: evidence from the 2011 Eurobarometer survey. *European Demographic Research Paper 2*. Vienna Institute of Demography, Austrian Academy of Sciences.
- Van de Kaa, D. J. (1987). Europe's second demographic transition. *Population Bulletin*, 42(1), 1–59.
- Vitali, A., Billari, F, Prskawetz, A., & Testa, M.R. (2009) Preferente Theory and Low Fertility: A Comparative Perspective. *European Journal of Population*, 25:413-438.
- Williams, Richard. 2006. "Generalized Ordered Logit/ Partial Proportional Odds Models for Ordinal Dependent Variables." *The Stata Journal*, 6(1):58-82.

2.8 Appendix

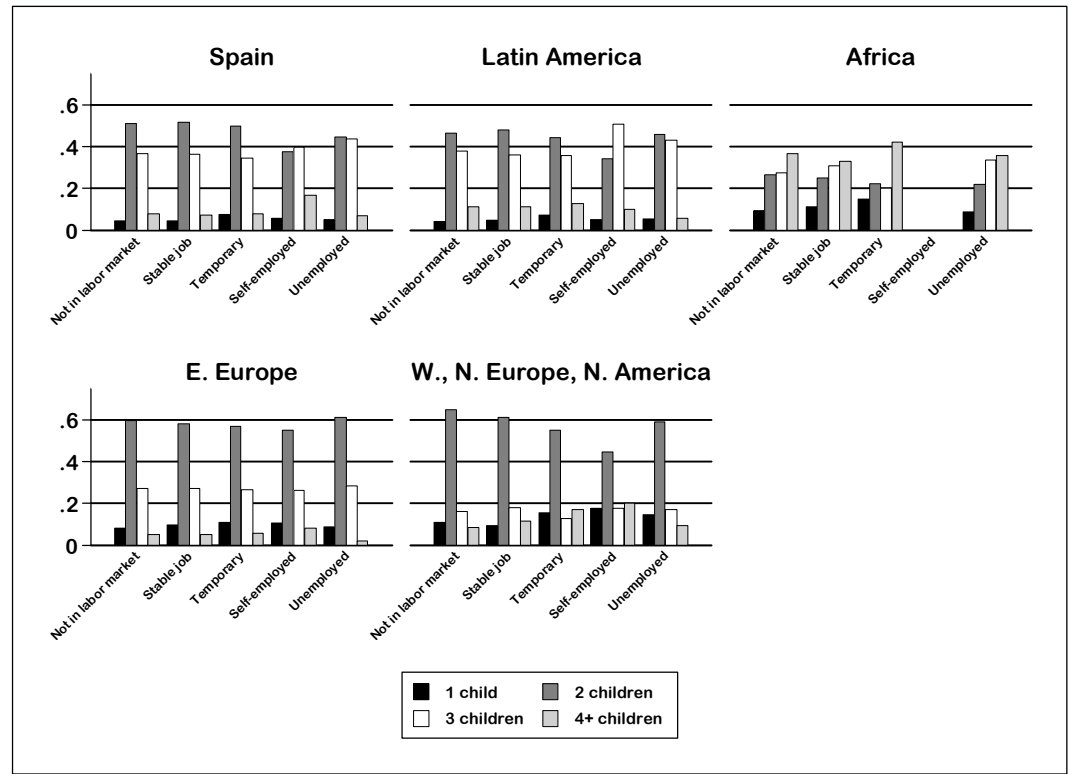
A1. Predicted probabilities of personal ideal number of children, by region of birth and age cohort.



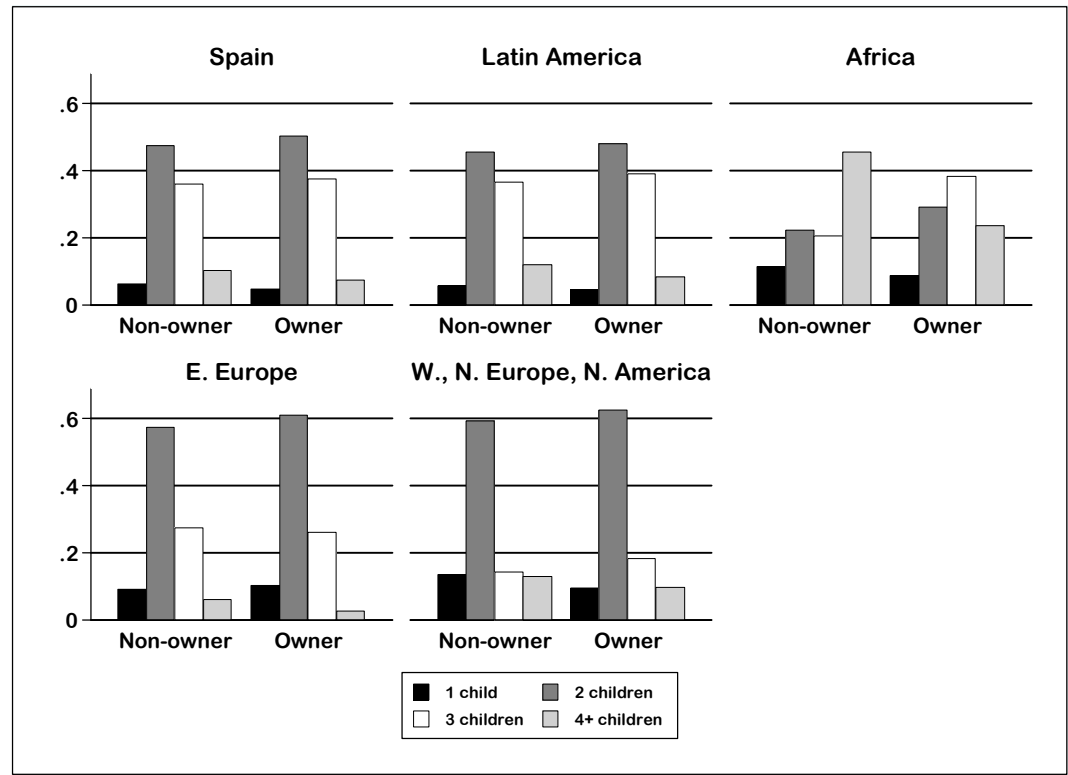
A2. Predicted probabilities of personal ideal number of children, by region of birth and educational level.



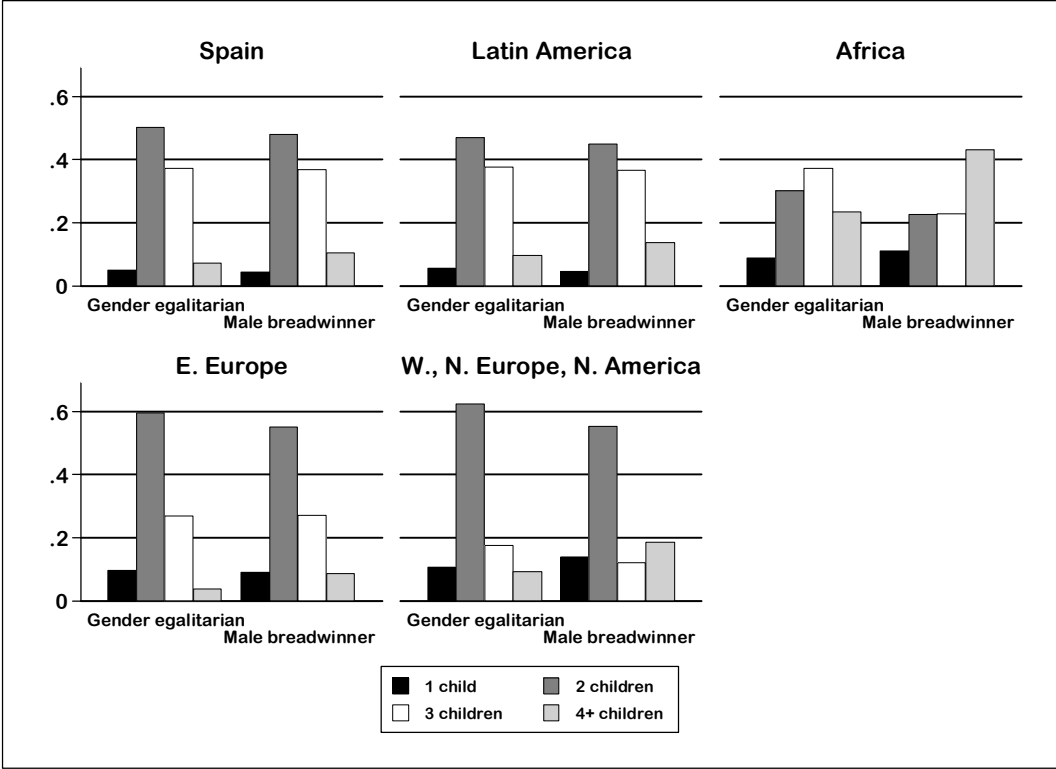
A3. Predicted probabilities of personal ideal number of children, by region of birth and labor market relationship.



A4. Predicted probabilities of personal ideal number of children, by region of birth and housing situation.



A5. Predicted probabilities of personal ideal number of children, by region of birth and preferred economic organization of the household.



3. Babies and the Bubble: Families and Homes in the Wake of the Spanish Housing Crash

3.1 Introduction

After reaching its nadir in 1997, Spain's lowest-low fertility (Kohler, Billari and Ortega 2002; Billari and Kohler 2004; Goldstein, Sobotka and Jasilioniene 2009) began to recover. That same year, Spain began a major shift towards becoming one of the main destination countries for international migrants over the course of the following decade (Coleman 2006). The roles of educational, partnership and labor market histories in the Spanish case of low fertility have been well-documented (Adserá 2004; Gonzalez and Jurado Guerrero 2006; De la Rica and Iza 2005; Castro Martin 1992; Baizán 2006; Martín-García and Baizán 2006; Baizán, Aasve and Billari 2003), and the interrelationship between Spain's fertility recovery and migration has been studied in some depth as well (Castro Martin and Rosero-Bixby 2009). Yet another fundamentally important dynamic that has shaped Spain over the last two decades is often overlooked in analyses of Spanish fertility, and in particular of the fertility recovery experienced after 1997.

While the early nineties were characterized by recession, around the mid-nineties the Spanish economy began to take off, propelled by the strength of its housing market and the construction sector around it. From that point until 2007, housing prices increased by a factor of three with annual increases reaching up to 15% (García Herrero and Fernández de Lis 2008). Spain's fertility recovery grew and peaked with the housing market, reaching a TFR of 1.44 children per women. Yet this trend ended abruptly with the housing crash, and has fallen since then to a level of 1.32 in 2012 (Instituto Nacional de Estadística 2013). Considering the central role played by housing in family formation and family dynamics, an examination of its relationship with fertility at the micro-level may provide significant insights into the structural determinants of fertility behavior, particularly in the context of an "external shock" such as the housing crisis that currently affects Spain.

Although the Spanish housing market is characterized today by high levels of owner-occupation, this was not always the case. The housing policies enacted after the Civil War reduced the percentage of rental housing from over forty percent in 1960 to 14.9%

in 1991. Practically all of this was transformed into owner-occupation, which rose from 50.5% to 77.5% during the same period (AlberdÍ and Levenfeld 1996). After 1991, owner-occupation rose to 82.2% in 2001 but fell during the next decade to 78.9% in 2011. Despite this decline, the first decade of the 2000s saw a considerable shift in the structure of owner-occupation, with a third of households that had achieved homeownership through access to mortgages, representing an 83.5% increase (Instituto Nacional de Estadística 2013).

The high share of owner-occupation is not the only particularity of the Spanish housing market. Hoekstra and Vakili-Zad (2011) describe a “Spanish Paradox”, wherein the traditional logic of supply and demand failed, and housing prices rose strongly despite a very high proportion of vacant dwellings (generally between 13% and 17%, largely independent of the size of the municipality). The authors argue that this elevated share of vacant dwellings is the result of four major factors: (1) investment in property in a homeownership culture; (2) strong rural to urban migration; (3) an important role for the family in supporting access to housing, a result of the country’s welfare regime and reflected in the importance of intergenerational transfers and the low share of publicly subsidized housing; and (4) a history of strict rent regulation and tenant protection. However, the authors themselves admit that, though based on the available data, their argument is exploratory and even speculative. Indeed, they concede that in the years since the housing bubble burst in 2008, housing prices have fallen at a steady rate, and the oversupply of dwellings is contributing to that.

Considerable changes have also occurred with respect to the structure of households in Spain as a result of major demographic changes. Colom and Cruz Molés (2008) find that, while in 1990 increased age and education increased the likelihood of homeownership, by 2000 they were also associated with larger dwellings. They also found that both in 1990 and in 2000, higher income was associated with a preference for owning larger dwellings. Yet the impact of housing prices differed during that period such that, while in 1990 a rise in housing prices led households to reduce their dwelling size, the lower interest rates that characterized 2000 led to a situation where higher prices increased the tendency to purchase more expensive dwellings, treating them as an investment that would prove profitable during the housing bubble.

Most of the demographic trends present in 2001 persist today, although the scale has changed in some cases. According to the most recent census data, single-person households now constitute 23.2% of households, of which 40.8% are occupied by people over the age of 65. Meanwhile, the percentage of households composed of couples with no children increased from 17.3% in 2001 to 21% in 2011. While the percentage of one-child couples increased from 15.4% in 2001 to 16.3%, that of two-child couples fell from 17.7% to 15.5% and three-child couples fell from 12.4% in 1991 to 6% in 2001 and 3.2% in 2011. The total population of single mothers rose by 44.8% over the last decade, such that they constitute 7.5% of total households, while that of single fathers rose 59.7%, representing 1.8% of all Spanish households. Another important demographic change that has taken place during recent decades which is relevant to Spain's housing market and its fertility rate is the rapid growth in the country's immigrant population. While in 1991, only two percent of the Spanish population had been born abroad, this proportion rose to over five million people by 2011, representing 11.2% of the total population, roughly half of whom are renting (Instituto Nacional de Estadística 2013). On the other hand, while immigration contributed modestly to the fertility recovery Spain experienced between 1998 and 2006, Goldstein, Sobotka and Jasilioniene (2009) have shown that the bulk (84%) of that recovery was the result of a rise in the fertility rates of Spanish women and a slow-down in fertility postponement. Considering that this coincides temporally with the housing bubble and an increase in access to owner-occupation via mortgages, it is possible that this increase may be attributable to changes in the housing market and lending practices. To our knowledge (and largely due to the type of data that was previously available), this is the first study to examine whether a relationship exists between the way respondents accessed owner-occupation in Spain and fertility outcomes.

3.2 Fertility and Housing

The link between housing and fertility in European countries may seem intuitively clear but it is often difficult to demonstrate empirically. As a result, housing conditions are often omitted from analyses in favor of aspects such as the labor market, partnership histories, educational attainment or ideational factors (Lesthaeghe 1983; Van de Kaa 1987; Vitali et al 2009; Bongaarts 2001; Dorbritz 2008; Mulder and Billari 2010). Yet housing remains a key structural factor involved in fertility behavior, and unanswered

questions regarding its impact constitute a major component that is often relegated to the background in the dialogue between cultural and structural explanations of fertility. This is usually due to the cross-sectional nature of the survey data often used to analyze fertility, to the short periods of observation in many of the available panel studies, or to a lack of retrospective data on housing in either of these. Also, because changes in housing and fertility are often simultaneous and interrelated (Enström Öst 2012; Baizán 2006), it is difficult to disentangle a causal relationship between events in either of these trajectories.

Yet in recent years, researchers are finding ways to incorporate a greater level of detail regarding housing into their analyses. In particular, Mulder has examined the links between homes and family dynamics, revealing three key relationships at the micro level. These are the connection between leaving the parental home and housing, the connection between first parenthood and housing, and the connection between separation (including divorce) and housing. Specifically in regards to parenthood, Mulder describes an increasing tendency to secure high-quality housing before forming a family (Mulder 2013). In West Germany, Mulder and Wagner (1998) describe an elevated likelihood of moving into homeownership around the birth of the second child. Yet in Sweden, among people born between 1920 and 1960, the timing of homeownership shifted from coming after the first birth to coming before it (Mulder and Feijten 2002). Clark (2012) finds that in twenty-five randomly sampled metropolitan areas in the United States, age at first birth tends to be higher in expensive housing markets, but also points out that these tend to contain a higher proportion of women with advanced degrees, suggesting that this can be seen as a selection effect of this concentration. In this way, Clark suggests that high-cost housing markets may create a threshold for fertility behavior, but the author could not find evidence of lower completed fertility in these areas. In contrast, Simon and Tamura (2009) find evidence of a negative association between completed fertility and higher housing costs that does not seem to be the result of selective mobility. Taken together, the conclusion seems to be that access to housing plays a key role in both the postponement of parenthood and in completed fertility.

The relationship between the type of housing inhabited by couples and their fertility has also been examined. Using highly detailed longitudinal register data from Finland,

Kulu and Vikat (2007) find that fertility is highest among couples in single-family houses and lowest in apartments, that there is elevated fertility after couples have changed dwellings and that the risk of third birth increases several years after moving into a house. Through joint modeling and multi-level event history analysis, Kulu and Steele (2013) find that the birth of a child significantly raised the likelihood of moving to a new house, that the likelihood of moving to a single-family house increased with the number of children in the family, and that first and third birth rates increased after a couple moved to a new house. More specifically, they identify three patterns of timing: (1) a couple moves to a new house, and conception occurs after moving to the new house; (2) the woman became pregnant and the couple moved to a new house where the child was born; and (3) a child was born and then the couple moved to a new house. They also find that the likelihood of each pattern varies somewhat depending on whether they occur in urban or rural settings.

In a more general sense, Mulder identifies four interconnected concepts for understanding the connections between family formation and housing, and a fifth that is common to all, which would be the social norms that structure them. The first is space, insofar as larger households need more and the amount regarded as meeting this need is highly shaped by social norms. The second is quality, which explains the preference described in the literature for single-family houses and, to a certain degree, for homeownership. The third is safety and security, since protection against eviction is perceived to be associated with homeownership (although the housing crisis has dismantled this idea to some extent). Recent research on Italy has revealed security with housing to have a positive effect on fertility intentions (Vignoli et al 2013). Finally, flexibility plays a role, particularly in the role of young couples. Because they are in the process of building their housing, labor market and partnership careers, young people require a certain reduction in the costs associated with moving (Mulder 2013).

At the macro level, Mulder and Billari (2010) identify four home-ownership regimes based on levels of home-ownership and access to mortgages. These four regimes coincide somewhat with Esping-Andersen's welfare regime typology (1999). The first is the Career Homeownership Regime, which is characterized by a relatively low level of homeownership and easy access to mortgages. Renting is considered an acceptable alternative to owning and homeownership is not the first housing tenure after leaving

the parental home. Countries with this type of regime include Denmark, Germany, Sweden, the UK and the United States, and range from low to relatively high fertility. The second is the Elite Homeownership Regime, which has similarly low levels of homeownership as the Career Homeownership Regime, but less access to mortgages. Renting is also normatively acceptable and homeownership is largely restricted to the more prosperous. Countries in this regime include Austria, Belgium, France and Portugal, most of which are low fertility countries but do not fall to “lowest-low” levels. The third group of countries constitutes the Easy Homeownership Regime, which combines a high level of homeownership, which is likely to be normative, and a wide availability of mortgages. Countries in this group include Norway, Iceland and Ireland, which also have Europe’s highest Total Fertility Rates. Finally, the Difficult Homeownership regime is characterized by low access to mortgages and high levels of homeownership, which in turn is strongly normative. Access to homeownership depends on personal savings, intergenerational transfers or inheritance, and the rental sector is not a suitable alternative to prospective families. Countries in this regime are particularly unfriendly to leaving the parental home and family formation, and include the “lowest-low” fertility countries Italy, Spain and Greece (Aasve et al 2002).

Using Italy as an example, and in harmony with Esping-Andersen’s characterization of these countries as “familistic”, Dalla Zuana explains that this organization of couples and society encourages late departure from the parental home directly because: (1) economic conditions are more favorable there than when living alone, with friends or with a partner; (2) the affective bonds between parents and children and children and their siblings are very strong; and indirectly because (3) familism contributes to the shortage of housing for rent that is accessible to young people and (4) it is an important component of the welfare system, which is based on private transfers to and from older people rather than the availability of unemployment benefits for all (Dalla Zuanna 2001).

This chapter examines the relationship between housing and fertility at the micro level in one of the countries in this group, namely Spain, in order to ascertain whether and how factors related to the housing situation itself influence fertility outcomes when considered alongside socioeconomic factors. By doing this, we hope to outline the structural factors at work after the Spanish housing crash, so that these may be

considered more thoroughly in the dialogue between cultural and structural explanations of fertility. The approach taken in this chapter is similar to that employed by González and Jurado-Guerrero (2006) when they define a “minimal set of conditions for having a baby”. Using data from the European Community Household Panel for France, West Germany, Italy and Spain, they show that a number of socioeconomic conditions must be fulfilled in order to have a first child, which include secure employment, sufficient income, time flexibility, a stable partner, leaving the parental home and suitable housing, all of which are affected by national institutional contexts. In addition to examining whether the impact of these factors differs today than when that study was conducted (it made reference to the years 1994-2001), we also exploit the more detailed data offered by the European Union Statistics on Income and Living Conditions, which includes information on mortgages, housing conditions and social exclusion, in order to expand on this model.

3.3 Data and Methods

This chapter uses a subsample of the longitudinal data for Spain from the European Union Statistics on Income and Living Conditions (EU-SILC), an annual survey providing micro data on social indicators such as income, poverty, social exclusion, labor market relationships, household structure, housing and living conditions. However, although the dataset is rich in details regarding these aspects of the respondent, there is one crucial variable missing from the longitudinal data: the respondent’s nationality or country of birth. In light of the weight of Spain’s immigrant population, and considering that this data is intended for use in analyses of poverty and social exclusion, this lack of information hinders analysis to a considerable degree. Nevertheless, broad trends can be identified using this dataset. Because each of the dependent variables analyzed was dichotomous (as described below), and given the censoring inherent in the limited period of observation, we examined the association of these with respondent characteristics through probit regression, clustering observations around the individual respondents in order to account for multiple years of observation. Following González and Jurado-Guerrero (2006), the probit model takes the form:

$$\Pr(y = 1 | X) = \Phi(X' \beta)$$

where P is the probability, y is a conception leading to first birth or one leading to a second or higher order birth, Φ is the cumulative distribution function of the standard normal distribution, X is a vector of explanatory variables affecting women's propensity to experience y , and β is a vector of parameter estimates. This same formula applies for models with clustered standard errors, as this formula only represents the relationship between the probability and the explanatory variables.

Observations were drawn from the datasets for 2010 and 2011 which, due to the EU-SILC's rotational panel design, include information going back to 2007 for some cases. These sets were chosen because they included a distinction between respondents who accessed owner-occupation through mortgages and those who accessed homeownership without them. The study sample is limited to women between ages 18 and 44 who have left the parental home and were either married or cohabiting with a stable partner at the time of the interview. This restriction was done in order to control for both the partnership and housing context in which fertility ideals were formed, assuming that the ideals one has when they are part of a stable relationship and have to assume the costs of an independent household are likely to be more realistic than the ones formed as a dependent member of the parents' household and when they are single. The final sample consists of 3,775 women and 8,989 person-years from 2007 to 2011. Descriptive statistics for the study sample are displayed in Table 1.

Table 1. Characteristics of the study sample, means and distribution. Women ages 18 to 44. (n=3,775; Person-years=8,989)

Dependent variables	
<i>Fertility</i>	
First birth during period of observation	185 (14.8%)
Second or higher order birth during period of observation	260 (5.7%)
Explanatory variables	
<i>Age group</i>	
<30 years	955 (10.6%)
30-34	2,007 (22.3%)
35-39	2,842 (31.6%)
40-44	3,185 (35.4%)
<i>Educational level</i>	
Low	3,354 (37.4%)
Medium	2,178 (24.3%)
High	3,432 (38.3%)
<i>ln(Disposable household income)</i>	10.13(±.70)
<i>Relationship status</i>	
Consensual union on a legal basis	7,868 (87.5%)
Consensual union without a legal basis	1,121 (12.5%)
<i>Labor market status</i>	
Not in labor market	1,982 (22.1%)
Stable employment	4,211 (46.9%)
Temporary employment	1,160 (12.9%)
Self-employed	485 (5.4%)
Unemployed	1,151 (12.8%)
<i>Partner's labor market status</i>	
Stable employment	5,722 (63.7%)
Temporary employment	1,046 (11.6%)
Self-employed	940 (10.5%)
Unemployed	1,027 (11.4%)
Not in labor market	251 (2.8%)
<i>Number of children living in the household</i>	
No children	1,822 (20.3%)
1 child	2,754 (30.6%)
2 children	3,602 (40.1%)
3 or more children	811 (9.0%)
<i>Tenure status</i>	
Owner, no mortgage	2,077 (22.4%)
Owner, with mortgage	5,692 (63.3%)
Renting at market rate	1,076 (12.0%)
Renting at reduced rate	210 (2.3%)
<i>Degree of urbanization</i>	
Densely populated	4,301 (47.9%)
Intermediate	2,066 (23.0%)
Thinly populated	2,622 (29.2%)

<i>Type of dwelling</i>	
Apartment in a building with 10 or more dwellings	4,332 (48.2%)
Detached house	1,038 (11.6%)
Semi-detached or terraced house	1,766 (19.7%)
Apartment in a building with less than 10 dwellings	1,851 (20.6%)
<i>Housing quality</i>	
Presence of leaks, humidity or other structural decay	1,653 (18.4%)
<i>Time since signing housing contract</i>	
<3 years	1,101 (12.3%)
3-5 years	2,040 (22.8%)
6-9 years	2,489 (27.8%)
10+ years	3,328 (37.2%)
<i>Year</i>	
2007	794 (8.8%)
2008	1,477 (16.4%)
2009	2,143 (23.8%)
2010	2,725 (30.3%)
2011	1,850 (20.6%)

3.3.1 Dependent variable

The dependent variables examined in this chapter are *first* and *second or higher order births* that occurred during the period of observation. Each of these is coded dichotomously such that 0 represents women with no children in the case of the first and women with children in the case of the second. In the case of the first, 1 represents a first birth and, in the case of the second, a birth of any order higher than one (models that used the second also controlled for the number of previous children).

3.3.2 Methods and independent variables

The first explanatory variable used in this study was the respondent's *age cohort* or the *age cohort at the time of first birth* in the case of second and third or higher order births. Both were coded into four categories: under 30, 30 to 34 (reference category), 35 to 39 and 40 to 44. The fact that we restricted the sample to women who had left the parental home and were cohabiting with their partners accounts for the relatively low proportion of women in their twenties when we consider the late age at leaving home that characterizes Spain and other Southern European countries. The second explanatory variable examined is the respondent's *highest educational level completed*, coded into three categories, Low, Medium and High, where Low is composed of women with some secondary education or less (reference category), Medium includes respondents who have completed secondary studies and/or post-secondary studies, and High includes women with university degrees or higher. Another characteristic examined was whether

the respondent's *relationship with her partner* had a legal basis, that is, whether it was their legal spouse or registered partner (reference category), or not.

We also examine the natural log of the *disposable household income* available during the year prior to the interview (such that in 2011, the income reference period is 2010, and so on), as well as the respondent's *activity status during the year prior to the interview*, differentiating between women who were not in the labor market (reference category), women who had stable employment (that is, a permanent or indefinite contract), women who had temporary employment, self-employed women and unemployed women. Despite the considerably higher number of women in stable employment at the time of the interview, we have chosen not being in the labor market as the reference category because doing so captured the effects of different types of employment relationships with more robust results. The *partner's activity during the year prior to the interview* was also incorporated into our model, and uses the same categories as the respondent's activity status, however in this case, given the small percentage of cases where the partner was not in the labor market, stable employment was used as the reference category. When examining second or higher order births, the *number of children living in the respondent's household during the previous year* was included. This was coded categorically as no children (reference category), one child, two children or three or more children. In each of these cases, the logic behind using the situation from the previous year is to account for their impact around the time of conception.

With respect to the respondent's housing situation, the explanatory variables included the *tenure status during the previous year*. This variable was coded as owner without a mortgage (reference category), owner with a mortgage, tenant renting at market price, and tenant renting at a reduced rate (respondents who were living in free accommodation were not included in our sample). The next explanatory variable related to the respondent's housing situation is the *degree of urbanization*, which maintains the EU-SILC categorization of densely populated (reference category), intermediate and thinly populated. A densely populated area is defined as a contiguous set of local areas, each of which has a density over 500 inhabitants per square kilometer, and the population is over 50,000 inhabitants. An intermediate area is defined as a contiguous area having a population over 50,000 inhabitants and a density over 100

inhabitants per square kilometer, while a thinly populated area is defined as pertaining to neither of the previous two.

The next explanatory variable referring to the respondent's housing situation is the *type of dwelling* she lived in the previous year. Here the EU-SILC categorization is also maintained, and it distinguishes between an apartment in a building with 10 or more dwellings (reference category), a detached house, a semi-detached or terraced house and an apartment in a building with less than 10 dwellings. As displayed in Table 1, nearly half of all respondents lived in apartments in buildings with 10 or more dwellings. We also included the *time since signing the housing contract* to account for the amount of time the respondent had been in the home. This was coded into four groups that included less than three years, three to five years, six to nine years and ten or more years (reference category). To represent the quality of the respondent's housing, a dichotomous variable capturing the *presence of leaks, humidity and other structural decay* was included. Finally, to capture any of the possible contextual effects of the economic crisis, we included an explanatory variable for the *year of the interview*, which goes from 2008 to 2011, with 2008 as the reference category. Although the dataset included observations from 2007, these were ultimately omitted due to the use of lagged explanatory variables to account for their effects around the time of conception.

3.4 Descriptive Results

Before examining the results of multivariate analysis, let us first examine the study sample in terms of their completed fertility and housing by considering our descriptive results. In contrast to the multivariate analyses, the descriptive analyses present the “current” situation of respondents at the time of the interview and not their conditions around the time of conception. Figure 1 displays the distribution of the respondent's tenure status according to her age group. We can see that while tenure status varies considerably with age, owner-occupation is the dominant situation for women between the ages of 18 and 44 who were living with their partners at the time of the interview. One of the key differences between age groups exists between the 35 to 39 and the 40 to 44 groups: while the percentage of women who were renting at market or reduced rates is roughly similar, a considerably larger proportion of women between the ages of 35 and 39 at the time of study accessed owner-occupation through mortgages. This makes

sense when we consider that this group was around Spain's average age at leaving the parental home when mortgages began to proliferate in the country. Meanwhile, the propensity to rent at market rate varies considerably with age, while renting at a reduced rate is quite rare amongst all age groups.

Figure 1. Current tenure status of the respondent by age group. Women ages 18 to 44 who are living with their partners in Spain and paying for housing.

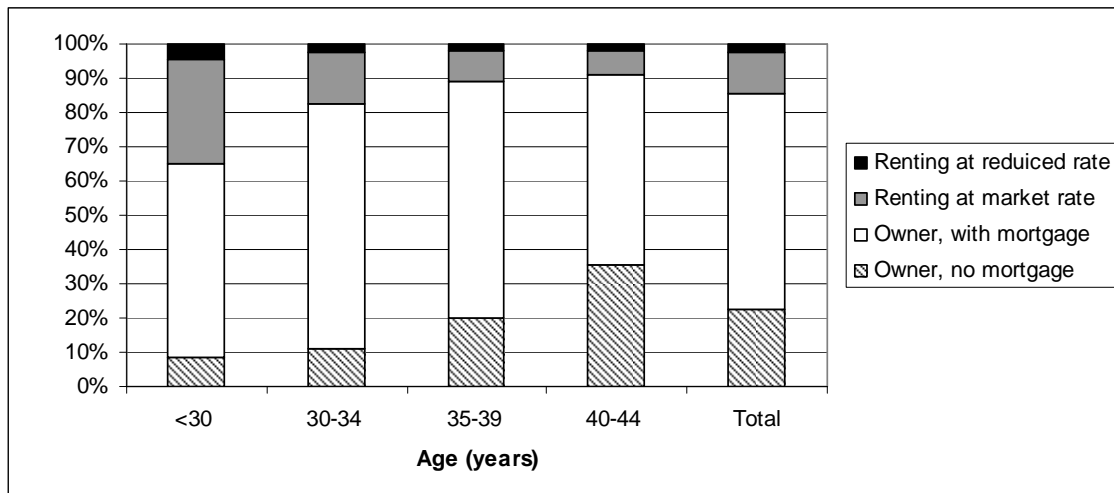


Figure 2 displays the number of children living in the respondent's household by her current tenure status. Childlessness and one child families are most common in homes that are rented at the market rate, followed by those that were accessed via mortgages. On the other hand, childlessness and one-child families are least common among owner-occupied homes without a mortgage. In part this could be due to the more elevated age composition of this category, but the differences between this group and the others are considerable nonetheless. Three-child families are most common among homes that are rented at a reduced rate (a tenure status that shows remarkable balance between categories of completed fertility), followed by homes that are rented at the market rate and owner-occupied homes with no mortgage, which have virtually equal proportions of higher fertility households.

Figure 2. Number of children living in the respondent's household by tenure status. Women ages 18 to 44 who are living with their partners in Spain and paying for housing.

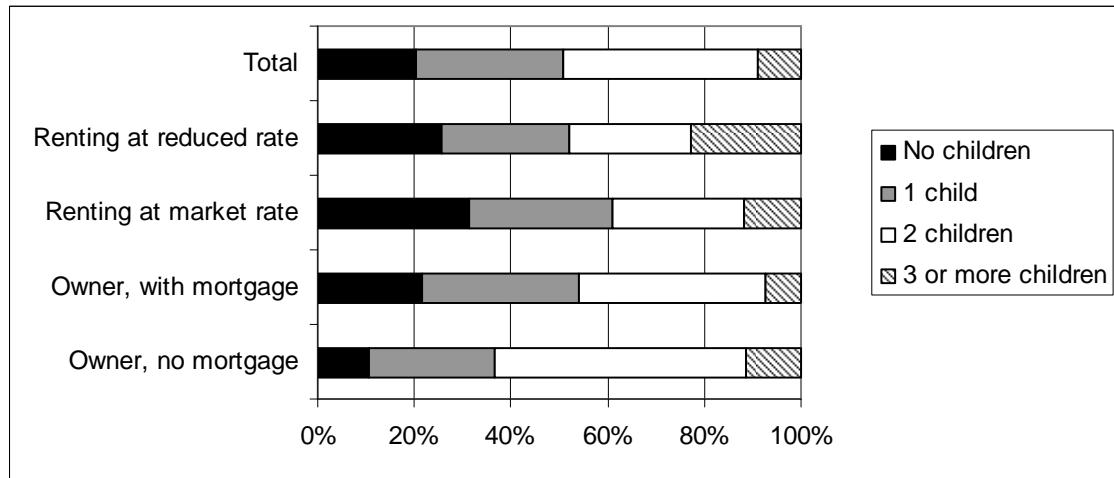


Figure 3 shows the number of children in the respondent's household in terms of the type of housing she inhabits. Two main groups exist in these terms: while households with two or more children are most common among semi-detached or terraced housing and apartments in buildings with less than ten dwellings, childless and one-child families are most common among detached houses and apartments with ten or more dwellings. Among this second group, however, families with three or more children in the household are slightly more common in detached houses than in apartments.

Figure 3. Number of children living in the respondent's household by type of housing. Women ages 18 to 44 who are living with their partners in Spain and paying for housing.

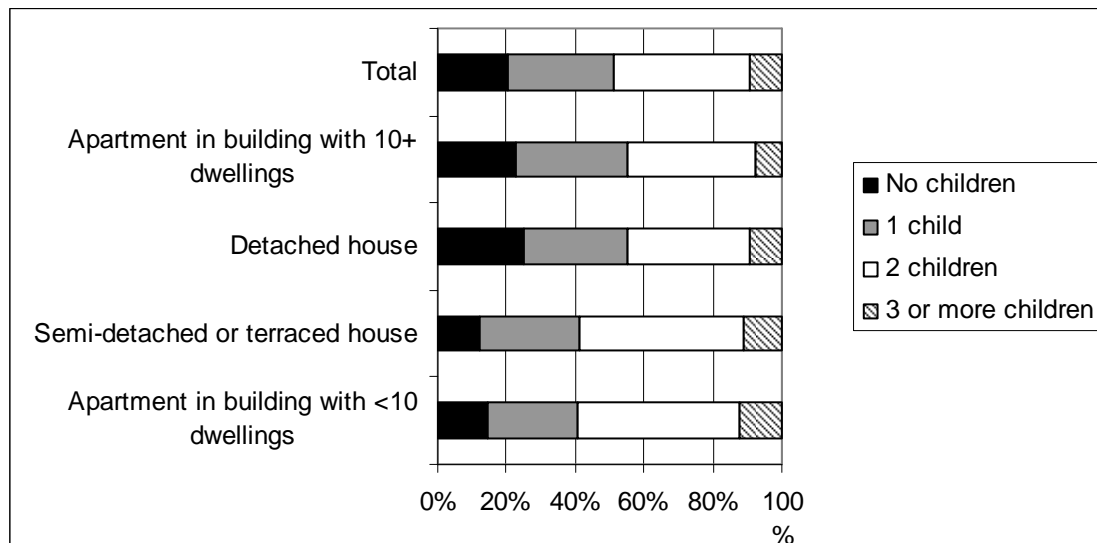


Figure 4 displays the number of children in the respondent's household by the degree of urbanization in which it is situated. While childless and one-child families constitute the majority in densely populated areas, two-child and three-or-more-child households are the majority in thinly populated areas and these groups are split in areas with an intermediate population density. However, while two-child families are more common in intermediate areas than in densely populated areas, three-child families are more common in densely populated areas and thinly populated areas. Finally, in terms of fertility, Figure 5 indicates a clear association between the time spent in the home and the number of children in the household, as one would expect. What stands out, however, is the relatively constant proportion of families with three or more children across categories. One might suspect that this is due to the age composition and, more importantly, the relatively short duration of stay (generally less than a decade during the period of observation) and higher fertility of Spain's immigrant population. However, the data does not allow for us to examine this in more detail, unfortunately.

Figure 4. Number of children living in the respondent’s household by degree of urbanization. Women ages 18 to 44 who are living with their partners in Spain and paying for housing.

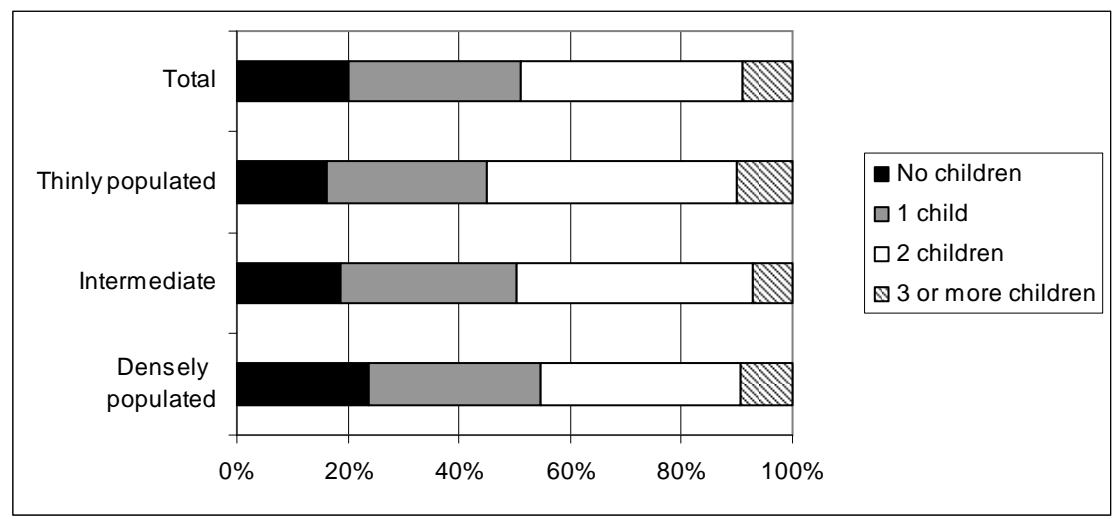
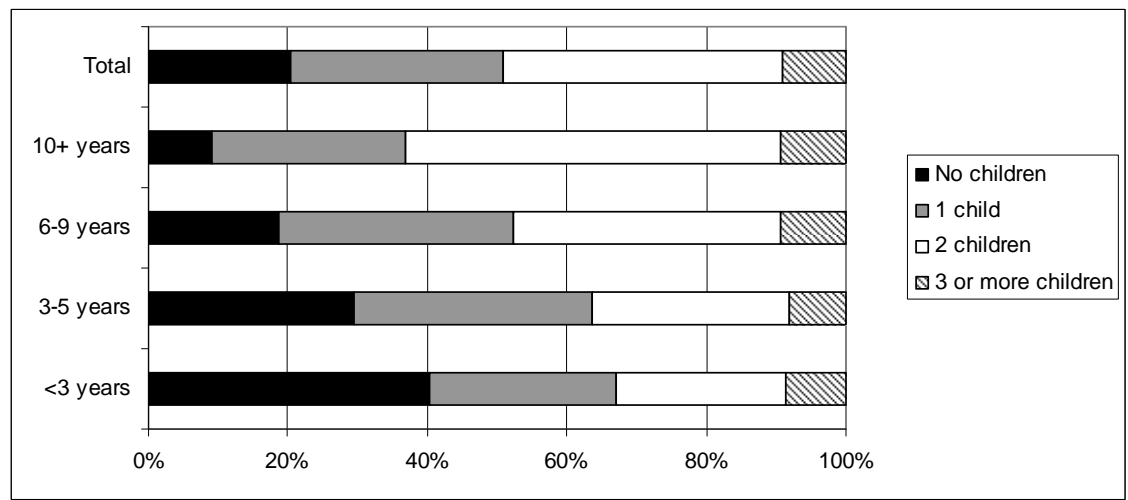


Figure 5. Number of children living in the respondent’s household by time since signing lease or mortgage. Women ages 18 to 44 who are living with their partners in Spain and paying for housing.



3.5 Results of Multivariate Analyses

The first dependent variable examined through multivariate analyses was whether the respondent entered motherhood during the period of observation. The second dependent variable examined in this chapter was whether the respondent experienced a second or higher order birth during the period of observation. In this case, the set of explanatory variables also included controls for the respondent’s age at first birth and

the number of children she had during the previous year of observation. All of the independent variables employed refer to the year prior to that of the interview with the respondent, in order to account for their influence on the time of conception (which is why the year 2007 is not included in the set of explanatory variables displayed, as the use of lagged variables implies that there were no observations from that year).

Results in Table 2 show that respondents who had completed secondary or post-secondary, non-university studies were most likely to enter motherhood during the period of observation and a significant, positive association was found between the respondent's disposable income and entering motherhood. In both models, self-employed women were less likely to become mothers during the period of observation than women who were not in the labor market at the time of interview. Surprisingly, with respect to the respondent's activity status, it was found that respondents whose partners were unemployed or not in the labor market around the time of conception were more likely to enter motherhood than those who were employed with an indefinite or fixed-term contract.

Table 2. Estimates of probit regression on conception leading to first birth between 2008 and 2011. Beta coefficients. Women ages 18 to 44, living with partner.

Characteristics	B	Robust SE
<i>Age group</i>		
<30 years	-.131	.18
30-34	[ref.]	
35-39	-.193	.14
40-44	-.816 ***	.23
Log disposable household income	.366 **	.15
<i>Educational level</i>		
Low	[ref.]	
Medium	.413 **	.20
High	.224	.19
<i>Relationship status</i>		
Married	[ref.]	
Cohabiting	-.707 ***	.30
<i>Labor market status</i>		
Not in labor market	[ref.]	
Stable employment	-.096	.30
Temporary employment	.046	.34
Self-employed	-.831 *	.43
Unemployed	.122	.32
<i>Partner's labor market status</i>		
Stable employment	[ref.]	
Temporary employment	.061	.17
Self-employed	.016	.28
Unemployed or not in labor market	.374 *	.22
<i>Tenure status</i>		
Owner, no mortgage	[ref.]	
Owner, mortgage	-.529 **	.23
Renting at market rate	-1.035 **	.31
Renting at reduced rate	-.579	.47
<i>Degree of urbanization</i>		
Densely populated	[ref.]	
Intermediate	.148	.15
Thinly populated	.181	.17
<i>Type of dwelling</i>		
Apartment in building with 10 or more dwellings	1	
Detached house	.005	.23
Semi-detached or terraced house	.304 *	.17
Apartment in building with less than 10 dwellings	-.024	.17
Humidity, leaks, etc.	-.399 **	.16
<i>Time since signing housing contract</i>		
<3 years	.784 ***	.24
3-5 years	.257	.21
6-9 years	.549 ***	.21
10+ years	[ref.]	

<i>Year</i>		
2008	[ref.]	
2009	-.149	.22
2010	.133	.21
2011	.110	.21
Constant	-4.703 ***	1.57
Observations	982	
Groups	597	
* p<.1 ** p<.05 *** p<.01		

Table 3. Estimates of probit regression on conception leading to second or higher order birth. Beta coefficients. Women ages 18 to 44, living with partner.

Characteristic	B	Robust SE
<i>Age at first birth</i>		
<25 years	-.152	.12
25-29	.146	.10
30-34	[ref.]	
35-39	-.262	.16
40-44	-.443	.45
Number of (previous) children	-.702 ***	.09
Log disposable household income	.070	.07
<i>Educational level</i>		
Low	[ref.]	
Medium	.203 *	.11
High	.317 ***	.10
<i>Relationship status</i>		
Married	[ref.]	
Cohabiting	-.005	.147
<i>Labor market status</i>		
Not in labor market	[ref.]	
Stable employment	-.130	.11
Temporary employment	-.348 **	.15
Self-employed	.135	.17
Unemployed	.089	.14
<i>Partner's labor market status</i>		
Stable employment	[ref.]	
Temporary employment	.084	.13
Self-employed	-.080	.14
Unemployed or not in labor market	-.053	.14
<i>Tenure status</i>		
Owner, no mortgage	[ref.]	
Owner, mortgage	.205 *	.12
Renting at market rate	.247	.18
Renting at reduced rate	.972 ***	.28
<i>Degree of urbanization</i>		
Densely populated	[ref.]	
Intermediate	.044	.10
Thinly populated	.033	.10
<i>Type of dwelling</i>		
Apartment in building with 10 or more dwellings	[ref.]	
Detached house	.028	.13
Semi-detached or terraced house	-.040	.11
Apartment in building with less than 10 dwellings	.150	.11
Humidity, leaks, etc.	.041	.103
<i>Time since signing housing contract</i>		
<3 years	.200	.16
3-5 years	.219 **	.11
6-9 years	.208	.10
10+ years	[ref.]	

<i>Year</i>		
2008	[ref.]	
2009	.032	.15
2010	.157	.14
2011	-.078	.14
Constant	-1.876 **	.75
Observations	3983	
Groups	2168	
* p<.1 ** p<.05 *** p<.01		

In terms of the respondent's housing situation, respondents who had accessed owner-occupation through mortgages were significantly less likely to enter motherhood than those who had accessed owner-occupation and did not have mortgages at the time of the interview, even after controlling for selection effects, age and the amount of time since signing the housing contract. However, the negative relationship between renting at a market rate and entering motherhood was stronger in magnitude than that of accessing owner-occupation through a mortgage.

With respect to the type of housing inhabited by the respondent, a significant positive association was found between respondents who were living in semi-detached or terraced houses around the time of conception, compared to respondents who were living in apartments in buildings with ten or more dwellings. A significant negative association was found between entering motherhood and living in low-quality housing, as defined in terms of the structural decay affecting the property. Finally, respondents were more likely to enter motherhood during the first two years after entering a new home as well as during the period between six and nine years after entering a new home. No significant association was found between the year of the interview and entering motherhood during the period of observation.

The results displayed in Table 3 show a significant positive association between the respondent's highest educational level completed and experiencing a second or higher order birth during the period of observation. While the correlation was positive and significant at the 10% level for the medium educational level, an even stronger positive association in terms of both magnitude and statistical significance was found for a higher educational level, relative to having a low level of education.

With respect to the respondent's labor market status, temporary employment was found to significantly decrease the likelihood of conception leading to a second or higher order birth during the period of observation, while no significant association was found for the partner's activity status. On the other hand, results show that both renting at a reduced rate and accessing owner-occupation through a mortgage increased the probability of experiencing a second or higher order birth during the period of observation, with the relationship being especially strong in the case of the former. Finally, second or higher order births were more likely during the period between three and five years after moving into a new home in Model 1, and between three and nine years after controlling for selection effects in Model 2.

3.6 Discussion

In a broad sense, in this chapter we have analyzed the relationship between structural factors and fertility outcomes in the context of the Spanish economic crisis, with an emphasis on the housing conditions of women between the ages of 18 and 44 who were cohabiting with their partners and paying for their housing. Results show that housing conditions are especially relevant in the transition to motherhood, thus supporting part of González and Jurado-Guerrero's proposed *minimal set of conditions for having a baby* (2006). Because the data available to them at the time of their study only distinguished between owners and renters, and since our focus was centered on housing, we were able to expand on their findings to some extent. We found that respondents who had accessed owner-occupation through mortgages were less likely to enter motherhood during the period of study than those who had entered owner-occupation without them. We also found that renting at the market rate had a strong negative association with entering motherhood.

With respect to the type of dwelling, we found a modestly significant, positive association between entering motherhood and living in a semi-detached or terraced house at the time of conception, somewhat in line with Kulu and Vikat's findings regarding single-family houses (2007). Mulder's (2013) assertion that couples tend to enter parenthood when they have found housing of suitable quality was also supported by our findings, which showed that respondents who were living in housing with humidity, leaks or other forms of structural decay were less likely to experience a

conception leading to a first birth. Surprisingly, however, the degree of urbanization was not found to significantly influence the likelihood of a birth during the period of observation. Although simple probit regression revealed a significant, positive correlation between first births and intermediately populated cities and no correlation between the degree of urbanization and second or higher-order births, this effect became less so as our other covariates were incorporated into the model. This suggests that, for our sample, any effect of urbanization may simply be attributable to the characteristics of the housing in less densely populated areas and not other properties of the area itself, in addition to a compositional effect of other individual characteristics. Finally, the interrelationship of entering a household and entering parenthood (Baizán 2006; Enström Öst 2012) was also supported by our findings, as couples were most likely to experience a conception leading to first birth during the first two years after signing their housing contract. Interestingly, they were also likely to experience a first birth between six and nine years after the move.

On the other hand, somewhat in contrast (though not contrary) to González and Jurado-Guerrero's *minimal set of conditions for having a baby*, once we controlled for income (which was strongly and positively related with experiencing a conception leading to first birth), with respect to entering motherhood, the respondent's activity status at the time of conception was only statistically significant for self-employed women, who were less likely to do so during the period of observation, relative to those who were not in the labor market. Also, the partner's activity status was only statistically significant (and, surprisingly, positive) in the case of those who were unemployed or not in the labor market, a counterintuitive result that we will address below.

Our results also showed a positive association between the respondent's educational level and the likelihood of a second or higher order birth, even after controlling for selection effects. The respondent's labor market status was also significant, insofar as women who were in temporary employment were significantly less likely to experience a conception leading to a second or higher order birth. No significant correlation was found, however, with the partner's activity status.

In terms of the respondent's tenure status, respondents who had accessed owner occupation through mortgages were significantly more likely than those who had

accessed owner occupation with no mortgage to experience a second or higher-order birth during the period of observation, although the statistical significance of this effect was somewhat modest. On the other hand, a strong positive correlation was found for respondents who were renting at a reduced rate. Finally, a significant positive relationship was found for respondents who had been living in their home for three to five and six to nine years, possibly supporting Kulu and Vikat's (2007) and Kulu and Steele's (2013) findings that the likelihood of a third birth increases several years after moving into a new home.

Both the strengths and the weaknesses of the analyses carried out in this chapter are related to the level of detail in the EU-SILC data and to its timeliness. To our knowledge, this is the first empirical analysis to examine the association between mortgages and fertility outcomes at the micro-level in Spain. Moreover, few datasets include the amount of information on housing characteristics that the EU-SILC data does, and we were thus able to highlight the importance of factors such as housing quality in the decision to have a child in Spain.

Unfortunately, the weaknesses of the study are many. The first is the relatively small number of cases of first and second or higher order births observed during the also relatively short (in terms of panel studies) period of observation. In fact, it can certainly be argued that grouping higher order births with second births results in a combination of two qualitatively different categories, and we recognize that treating them separately is desirable. We could have increased the number of observations by including more waves in the analysis; however we were especially interested in examining owner-occupation via mortgages, for which there was only information in the more recent waves. This small number of observations could imply that some of the more modest statistical associations revealed through multivariate analyses may be spurious, since the number of explanatory variables employed in our models was considerable. Thus, we ask that our results be treated more as pointing in directions for further investigation than as affirmations of causal relationships.

Another weakness of the analyses carried out in this chapter is the absence of information on the respondent's country of birth or nationality, or any information which would allow us to identify subjects who arrived to Spain via an international

migration. Considering the higher fertility of some residents from other regions of the world and their higher likelihood of renting, this would have been an especially interesting dimension to include in our analyses. Also absent from our analysis is the influence of ideational factors, since information regarding the respondent's perspectives towards fertility behavior is not included in the EU-SILC survey. The relatively modest influence of the explanatory variables used in our models for second or higher order births, taken with the fact that they were selected with the intention of reflecting structural factors, suggest that ideational factors may play a key role in the transition to second or higher-order births.

Many of our results confirm and compliment the arguments and findings of previous studies, some of which we have already mentioned. Beyond those, with respect to the influence of the labor market, our results appear to confirm the negative influence of temporary employment on the likelihood of a second or higher-order birth demonstrated by Baizán (2006). On the other hand, the positive relationship between having an unemployed partner and entering first birth is more perplexing and counter to any of the literature examining the relationship between the labor market and fertility. We examined this relationship in other ways, for example by pairing partners' labor market relationships or examining the respondent and her partner's labor market status two years before birth, to account for their influence on the decision to have a conception leading to first birth. In the case of the former, the association with unemployment was still positive and significant at the 10% level when the woman was working, and in the latter, a positive relationship was found for respondents whose partners had temporary contracts and a negative relationship was found for those in self-employment (results available upon request). We also examined the association with and without including our variable for disposable household income, and while income did appear to account for a large portion of the statistical significance of the association, it did not change the direction of the association (as it did when using simple, and not multiple, regression). This leads us to consider two possible explanations of the results presented above. The first is that the relationship is simply spurious due to a small number of cases and a large number of explanatory variables. The second is that, considering that the economic crisis has mostly destroyed temporary work, in which people in their twenties and thirties (that is, people around the age at which parenthood is generally entered) are

over-represented, it may be that unemployment affected men who had just entered fatherhood somewhat disproportionately.

Both Mulder's (2013) argument regarding the need for adequate space and quality housing prior entering parenthood and Kulu and Vikat's findings (2007) regarding the type of housing were modestly supported by our results showing that conception leading to first birth is less likely when the respondent lives in housing with structural decay and those showing that living in semi-detached or terraced houses was positively associated with entering parenthood, respectively. In the case of Kulu and Vikat's findings, we should point out that the very rich dataset they use allowed them to examine this relationship with a degree of specificity that ours could not guarantee. Also, their findings were with respect to houses, not semi-detached or terraced houses, but it is possible that these are roughly similar in terms of their symbolic and spatial meaning in Spain, as relates to family formation and family dynamics. In this sense, it is especially important to consider that housing impacts fertility on both the material (or economic) level and the cultural level since, as can be derived from the theoretical exposition in Section 3.2, notions of space (such as what is sufficient for a family) and whether or not it is normatively appropriate for an independent household to be established before having a child, are culturally determined. Finally, both the negative effect of renting at the market rate on first births and the positive effect of accessing owner-occupation via mortgages for second or higher-order births provide micro-level support for Mulder and Billari's arguments regarding their typology of housing regimes and, in particular, their arguments regarding the Difficult Homeownership regime (2010).

The main objective of this chapter was to explore several of the possible ways housing may have affected or may presently affect fertility in the fall out from the Spanish housing crisis. We have found that during the period of study, housing affected fertility in Spain through tenure status, housing quality and modestly through the type of housing. Yet further research is needed to confirm or elaborate on the relationships suggested by our results, especially the influence of mortgages on second or higher order births, the relationship between couples' labor market status and entering parenthood in the years since the housing crash, or the relationship between the type of dwelling inhabited by the respondent and family formation. Research into the influence

of housing costs at the micro level and housing prices as the macro level might also shed light on the dynamics present during the fertility recovery that coincided with Spain's housing bubble. Finally, it would also be interesting to examine the effects of ideational factors on all of these processes, as well as the degree to which these vary depending on migrant status and factors related to the migration experience, particularly when we consider the impact of social norms (which are culturally and geographically specific) on what housing conditions are ideal for childbearing and childrearing.

3.7 References

- Aassve, A., Billari, F.C., Mazzuco, S., and Ongaro, F. (2002). "Leaving home: A comparative analysis of ECHP data." *Journal of European Social Policy* 12(4): 259-276.
- Adsera, A. (2004). "Marital Fertility and Religion: Recent Changes in Spain". Discussion Paper no. 1399, Bonn: Institute for the Study of Labor (IZA).
- AlberdÍ, B. and Levenfeld, G. (1996). "Spain", in: Balchin, P. (Ed.) *Housing Policy in Europe*. London: Routledge.
- Baizán, P. (2006). "El efecto del empleo, el paro y los contratos temporales en la baja fecundidad española de los años 1990." *Revista Española de Investigaciones Sociológicas*. 115: 223-253
- Baizán, P., Aassve, A. and Billari, F.C. (2003). "Cohabitation, marriage, and first birth: The interrelationship of family formation events in Spain." *European Journal of Population*. 19:147-169
- Billari, F. and Kohler, H.P. (2004). "Patterns of low and lowest-low fertility in Europe". *Population studies* 58(2): 161-176
- Bongaarts, J. (2001). "Fertility and Reproductive Preferences in Post-Transitional Societies." *Population and Development Review* 27: 260-281.
- Castro Martin, T. (1992). "Delayed childbearing in contemporary Spain: trends and differentials." *European Journal of Population*; 8: 217-246.
- Castro Martin, T., Rosero-Bixby, L. (2009). "Maternidades y fronteras. La fecundidad de las mujeres inmigrantes en España." *Revista Internacional de Sociología*, 69: 105-137.

- Clark, W.A.V. (2012). "Do women delay family formation in expensive housing markets?" *Demographic Research* 27(1): 1-24.
- Coleman, D. (2006). "Immigration and Ethnic Change in Low-Fertility Countries: A Third Demographic Transition." *Population and Development Review*, 32: 401–446.
- Colom, MC and Cruz-Molés, M. (2008). "Comparative Analysis of the Social, Demographic and Economic Factors that Influenced Housing Choices in Spain in 1990 and 2000." *Urban Studies*, 45(4): 917-941.
- Dalla Zuanna, G. (2001). "The banquet of Aeolus: A familistic interpretation of Italy's lowest low fertility." *Demographic Research*, 4(5), 133–162.
- De la Rica, S., Iza, A. (2005). "Career planning in Spain: Do fixed-term contracts delay marriage and parenthood?" *Review of Economics of the Household*, 3: 49-73.
- Dorbritz, J. (2008). "Germany: Family diversity with low actual and desired fertility." *Demographic Research* 19(17): 557-598.
- Enström Öst, C. (2012). "Housing and children: simultaneous decisions? - a cohort study of young adults' housing and family formation decisions." *Journal of Population Economics* 25(1): 349-366.
- Esping-Andersen, G. (1999) *Social Foundations of Postindustrial Economies*. Oxford: Oxford UP.
- Feijten, P., & Mulder, C. H. (2002). „The timing of household events and housing events in the Netherlands: A longitudinal perspective." *Housing Studies*, 17 (5), 773-792.
- García-Herrero, A. and Fernandez de Lis, S. (2008). "The Housing Boom and Bust in Spain: Impact of the Securitisation Model and Dynamic Provisioning" *Housing Finance International*, Sep. Available at SSRN: <http://ssrn.com/abstract=1440478>
- Goldstein, J. R., Sobotka, T. and Jasilioniene, A. (2009). "The End of 'Lowest-Low' Fertility?". *Population and Development Review*, 35: 663–699.
- González, M.J. & Jurado, T. (2006) "Is There a Minimal Set of Conditions Before Having a Baby? The Experience of the 1955-1982 Female Cohort in West Germany, France, Italy and Spain" In Esping-Andersen, G. (Ed.) *Family Formation and Family Dilemmas in Contemporary Europe*. Madrid: Fundación BBVA

- Hoekstra, K. and Vakili-Zad, C. (2011). "High Vacancy Rates and Rising House Prices: The Spanish Paradox." *Tijdschrift voor economische en sociale geografie*, 102: 55–71.
- Instituto Nacional de Estadística (INE) (2012). *Encuesta a las personas sin hogar. Avance de resultados*. Nota de prensa 21 diciembre 2012.
<http://www.ine.es/prensa/np761.pdf>
- Instituto Nacional de Estadística (INE) (2013). *Censos de Población y Viviendas. Datos detallados*. Nota de prensa 12 diciembre 2013. <http://www.ine.es/prensa/np824.pdf>
- Instituto Nacional de Estadística (INE) (2013). *Movimiento Natural de la Población e Indicadores Demográficos Básicos. Datos provisionales, año 2012*. Nota de prensa 18 junio 2013. <http://www.ine.es/prensa/np784.pdf>
- Kohler, H.-P., Billari, F. C., & Ortega, J. A. (2002). "The emergence of lowest-low fertility in Europe during the 1990s." *Population and Development Review*, 28(4), 641–680.
- Kulu, H. and Steele, F. (2013) "Interrelationships between childbearing and housing transitions in the family life course". *Demography* 50(5): 1687-1714
- Kulu, H. and Vikat, A. (2007). "Fertility differences by housing type: The effect of housing conditions or of selective moves?" *Demographic Research* 17(26): 775-802.
- Lesthaeghe, R. (1983). "A century of demographic and cultural change in Western Europe: An exploration of underlying dimensions." *Population and Development Review*, 9(3), 411–435.
- Martín-García, T. and Baizán, P. (2006). "The impact of the type of education and educational enrolment on first births". *European Sociological Review*. 22(3).
- Mulder, C. H. (2013). "Family dynamics and housing: Conceptual issues and empirical findings." *Demographic Research*, 29(14): 355-378.
- Mulder, C. H., & Billari, F. C. (2010). "Home-ownership regimes and low fertility." *Housing Studies*, 25(4), 527-541.
- Mulder, C. H., & Wagner, M. (1998). "First-time home-ownership in the family life course: A West German-Dutch comparison." *Urban Studies*, 35 (4), 687-713.
- Simon, C.J. and Tamura, R. (2009). "Do higher rents discourage fertility? Evidence from U.S cities, 1940-2000." *Regional Science and Urban Economics* 39(1): 33-42.
- Van de Kaa, D. J. (1987). "Europe's second demographic transition." *Population Bulletin*, 42(1), 1–59.

- Vignoli, D., Rinesi, F. and Mussino, E. (2013). "A Home to Plan the First Child? Fertility Intentions and Housing Conditions in Italy". *Population, Space and Place*. 19: 60-71.
- Vitali, A., Billari, F, Prskawetz, A., & Testa, M.R. (2009) "Preference Theory and Low Fertility: A Comparative Perspective." *European Journal of Population*, 25:413-438.

4. Concluding remarks

This thesis has focused on fertility dynamics in Spain during the first years of this new century. Our specific aim has been to give special attention to two of the features distinguishing 21st Century Spain from the country it was during the previous century, namely the country's substantial immigrant population and its housing market in the wake of the housing crash. In so doing, we have sought to provide insights that go beyond the Spanish case by contributing to our knowledge of the way in which cultural dynamics can affect individual fertility, proposing new additions to the researcher's toolkit for empirically investigating cultural and ideational phenomena, and suggesting interesting questions for future research not only on the links between cultural phenomena and fertility dynamics, but also on the very links between what tend to be considered cultural and structural factors.

The empirical chapters of this thesis contribute to existing knowledge by highlighting different aspects of the interplay between cultural and structural factors affecting fertility. To summarize, while the first detailed the way in which specific ideational factors were related to fertility outcomes, it also highlighted the importance of cultural entrainment by demonstrating that the influence of ideational factors varied significantly depending on the respondent's country of birth. The second empirical chapter focused on the way both ideational (cultural) and material (structural) factors shaped the respondent's ideal number of children. Finally, the third chapter outlines the way in which Spain's current structural conditions affect fertility by focusing exclusively on the way in which material factors influenced the likelihood of births in the period since the housing crash. We describe our findings in more detail in the following section, and conclude by pointing to some of the questions begged by our findings, and their implications for future research.

4.1 Summary of main findings

In Chapter 1, we find that the impact of the respondent's place of birth varies depending on the region and whether the respondent's background and ideational factors are included in the analysis. While the higher number of children among mothers from the African continent seems to be attributable to ideational differences between them and Spanish women, this was less the case for the higher number of children among Latin

American mothers, for whom an earlier fertility calendar was especially relevant. The lower number of children among mothers from Northern or Western Europe and North America could not be attributed to ideational factors, and instead seem to be due to unobserved factors related to the region of birth. Finally, the association of ideational factors such as the respondent's view on the professional compatibility of motherhood and her perspective on single motherhood were found to be negative or positive, depending on the respondent's place of birth. Among Latin American women, the view that children are not an obstacle to a woman's professional life was negatively associated with the number of children. In contrast, this association was positive among women from Eastern Europe. Meanwhile, while disagreement with single motherhood was positively associated with the number of children she had at the general level, the association between this view and fertility was negative in the case of women born in Latin America and Northern or Western Europe and North America.

In Chapter 2, we find that the significance of the respondent's birthplace in shaping her personal ideal number of children depended on whether it was grouped in terms of its TFR or in terms of its geographical region. Women from low-fertility countries were less likely to have a higher personal ideal number of children than Spanish women, but the relationship between that and having been born in higher fertility countries became insignificant as the respondent's background, current situation and ideational factors were added. When we grouped the respondent's place of birth according to geographical regions, we found that women in the group from Northern or Western Europe and North America and the group from Eastern Europe were less likely than Spanish women to have a personal ideal number of children above the two-child norm, while women born on the African continent were more likely to have higher fertility ideals. Women from Northern or Western Europe and North America were also nearly five times as likely as Spanish women to express an ideal of no children. Structural aspects including the respondent's labor market situation and housing situation also influenced her ideal number of children. Compared to women who were not in the labor market at the time of the survey, having a temporary contract at the time of the interview reduced the likelihood of expressing a personal ideal number of children of two or more by 39%. Self-employed women were 1.6 times as likely as women who were not in the labor market to have a maximum personal ideal number of children of 3 or more, and over twice as likely to have one of four or more. Homeownership reduced

the likelihood of high fertility ideals by 43% relative to non-owners. Also, the age at which the respondent left the parental home was found to significantly reduce the respondent's personal ideal number of children as it increased.

Cultural aspects, such as the respondent's views on the gendered division of household work, were also found to have an important impact. Preference for a "male breadwinner" division of household work was significantly and positively related to the likelihood of having a personal ideal number of children of four or more. On the other hand, a preference for individual autonomy with respect to children reduced the likelihood of having a personal ideal family size of two or more by 41%. Finally, respondents who did not view children as an obstacle to women's professional lives were 14% less likely to report an ideal number of children over two than women who said that they are, and 24% less likely to report one of four or more.

In Chapter 3, our results show that during the period of study, in addition to the socioeconomic and demographic characteristics of the couples, housing affected fertility in Spain through tenure status, housing quality and modestly through the type of housing. Housing conditions are especially relevant in the transition to motherhood, thus supporting part of González and Jurado-Guerrero's proposed *minimal set of conditions for having a baby* (2006). Because the data available to them at the time of their study only distinguished between owners and renters, and since our focus was centered more on housing, we were able to expand on their findings to some extent. Respondents who had accessed owner-occupation through mortgages were less likely to enter motherhood during the period of study than those who had entered owner-occupation without them. We also found that renting at the market rate had a strong negative association with entering motherhood. Respondents who had accessed owner-occupation through mortgages were significantly more likely than those who had accessed owner-occupation with no mortgage to experience a second or higher-order birth during the period of observation, and a strong positive correlation was found for respondents who were renting at a reduced rate. Finally, a significant positive relationship was found for respondents who had been living in their home for three to five and six to nine years, possibly supporting Kulu and Vikat's (2007) and Kulu and Steele's (2013) findings that the likelihood of a third birth increases several years after moving into a new home.

Results also show a modestly significant, positive association between entering motherhood and living in a semi-detached or terraced house at the time of conception, somewhat in line with Kulu and Vikat's findings regarding single-family houses (2007). Our findings also showed that respondents who were living in housing with humidity, leaks or other forms of structural decay were less likely to experience a conception leading to a first birth, supporting Mulder's (2013) assertion that couples tend to enter parenthood when they have found housing of suitable quality. Finally, the interrelationship of entering a household and entering parenthood (Baizán, Aasve and Billari 2003; Enström Öst 2012) was also supported by our findings, as couples were most likely to experience a conception leading to first birth during the first two years after signing their housing contract. Interestingly, they were also likely to experience a first birth between six and nine years after the move.

With respect to labor market factors, the respondent's activity status at the time of conception was only statistically significant for self-employed women, who were less likely to enter motherhood during the period of observation, relative to those who were not in the labor market. The respondent's labor market status also influenced the likelihood of a second or higher order birth, as women who were in temporary employment were significantly less likely to experience one during the observed period than women who were not in the labor market. Our results also showed a positive association between the respondent's educational level and the likelihood of a second or higher order birth.

4.2 Weaknesses of the Study and Future Research

As in most empirical studies, the analyses carried out in this thesis have their limitations. These are more specifically laid out in the individual empirical chapters, but we will repeat some of the more common ones here. The main limitation is the cross-sectional nature of the analyses. In the case of the first two chapters, we examine both ideational and material variables at a specific moment in time, when in reality these are dynamic and likely to interact in compelling ways. Fertility and Values Surveys often incorporate a retrospective element, but do not include ideational variables at different points in time (which would be extremely difficult to do reliably),

and longitudinal surveys do not often incorporate ideational variables regarding fertility or family dynamics into questionnaires. Also, while it is true that Chapter 3 does use longitudinal data from the *European Union Statistics on Income and Living Conditions*, the period examined is actually quite short, with a maximum of three years of observation per case.

Another weakness is that, when we examine differences between native and immigrant respondents, we do not include the age at which migration occurred or the time since migration, largely as a result of the high incidence (13.49% of foreign-born respondents) of missing information and non-response for the date of migration in the data used. The non-inclusion of this information in our analyses prevents us from controlling for the degree to which socialization and adaptation influence the preferences of women who were born outside of Spain. Nor do we include, in our first two empirical chapters, the partner's characteristics, due to the relatively small amount of information we had on them and, especially, because we could not account for their country of birth, which would be an important dimension to consider in any framework that accounted for the effects of "bargained" fertility (Brodmann, Esping-Andersen and Güell 2007). Also, in Chapter 3, the longitudinal data from the EU-SILC did not allow us to distinguish between immigrant and Spanish, neither in terms of their place of birth nor of their citizenship.

Finally, most of the research presented in this study finds compelling associations between the explanatory variables and the dependent variables, but is unable to establish causality. In the case of ideational factors, this is practically impossible to establish with a cross-sectional and quantitative approach. Even when we use longitudinal data, considering the important role of intentions and ideational factors in fertility behavior, as well as the degree of simultaneity between household transitions and family formation (and, again, the degree to which these are mitigated by ideational factors), this is extremely difficult to establish.

Nonetheless, we believe the research presented here to be compelling for several reasons. First, by addressing the degree to which differences in the fertility of native and foreign-born women in Spain are attributable to cultural differences, examining impacts of cultural and structural factors on fertility ideals and the role of housing

conditions in determining fertility in Spain, we have filled in a number of gaps in the literature on the Spanish case of fertility. Second, the application of a generalized ordered logit/partial proportional odds model to the study of fertility ideals constitutes a valuable addition to the demographer's toolkit in fertility research, as it allows us to examine the impact of explanatory variables on ordinal transitions which have qualitative implications. As fertility researchers know, a person who wants one child only wants one more child than a person who wants no children, but that one child carries with it the difference between parenthood and non-parenthood. The difference between having an ideal of two children and preferring one is also one child, but that carries with it adherence or not to a very resilient social norm. Thus, the proportional odds assumption is likely to be inappropriate for studies of fertility ideals and, as we have shown, models that avoid or relax this assumption allow us to examine how these are shaped more precisely.

Finally, the research presented in this thesis has theoretical implications that can be tested in future research and suggests ways to improve empirical analyses of fertility, especially through the use of surveys. In our view, the overarching theoretical question begged by our findings is the extent to which there actually is a line between what we call structural and cultural explanations of fertility. The Second Demographic Transition framework itself proposes that ideational change, which is itself linked to material change (for instance, in the quality of contraception), eventually leads to structural change (Lesthaeghe 2010). Sub-replacement fertility is an excellent example of this, as Lesthaeghe points out, and in some cases it has even led to the development of sub-replacement family size ideals after becoming a "structural" component of the fertility context (Sobotka 2009). Yet what we usually understand as structural explanations of fertility is deeply related to culture. Ultimately, many of the frameworks researchers use for grouping structural contexts, such as Esping-Andersen's (1999) typology of welfare regimes or Mulder and Billari's (2010) typology of housing regimes, are based on the cultural practices common to those regions. Dalla Zuanna pointed this out years ago in his "familistic" interpretation of Italy's lowest-low fertility (2001). It is our view that an analysis of the way these structures impact the behavior of foreign-born populations can often bring out their cultural dimension, and that our findings point in this direction. For instance, González and Jurado Guerrero's (2006) model of a "minimum set of conditions for having a child" is tremendously useful in explaining

fertility behavior in Spain. But the fact that the direction of the associations between fertility and the ideational factors often emphasized in fertility studies depends on the respondent's country of birth suggests that what one considers a minimal (or an ideal) set of conditions for childbearing is very likely to be culturally determined. As a result, one might expect the impact of material conditions to vary considerably depending on the country of birth one is referring to and, as our findings suggest, these impacts probably become more different the further away from Europe that country is.

The studies presented in this thesis suggest this possibility, but it is our view that further research is needed in a variety of areas in order to draw the more precise conclusions about the interplay between cultural and structural factors necessary to articulate an adequate, integrated theoretical framework. Qualitative research in particular could prove especially fruitful in establishing more robust links between ideational factors and fertility ideals or behavior, and in accounting for the variation in those links between women from different regions of birth. Simply asking an appropriate sample of respondents from a variety of places of birth what they feel are the minimum conditions that they would need to fulfill, in a variety of domains (housing, income, labor market, partnership, educational attainment, etc.), in order to have a first child and/or an additional child would not only generate useful knowledge on the specific topic of cultural difference, but also allow the questionnaires used in fertility research to improve the precision with which dimensions of fertility- and family-related preferences are examined. Another possibility, given its important theoretical contributions and its applicability in cross-cultural studies, would be to incorporate the Value-of-Children approach into questionnaires, instead of simply relying on those preferences emphasized in the Second Demographic Transition or Preference Theory. An optimal research approach would be a mixed-methods design in which qualitative methods allow us to go beyond the application of a short list of beliefs and indicators and examine the meaning of fertility patterns and that which underlies them.

Beyond the qualitative research suggested above, research is also needed to investigate the role of the migration experience itself in shaping fertility ideals, i.e. to ascertain what factors shape fertility ideals in the country of birth, which ones shape them in the destination country, and whether anything happens “along the way”, that is, between departure and stabilized settlement. Further, examining the specifics of the

respondent's partnership history (particularly if they include various types of mixed immigrant-native or immigrant-immigrant couples), labor market history, economic conditions, social networks and housing conditions could shed considerable light on the formation of fertility ideals as well as on fertility patterns. Integrating a life-course perspective into fertility studies with representative samples of foreign-born residents, such that they include rich contextual information on their life conditions (including partnership, employment, migration, housing and fertility histories) at different stages (prior to and after arrival) greatly improves our knowledge regarding the possible differences between the fertility patterns observed for native and foreign-born groups. If these studies were to adopt a panel form and include information on views regarding fertility, not only using the attitudes associated with the Second Demographic Transition but also the views associated with the Value of Children approach, researchers could examine the role of cultural factors, how they shape fertility patterns and how they are shaped by material conditions, in considerably more detail. They would also be able to examine whether there is evidence of integration or assimilation to prevailing cultural practices in the destination country. There are also aspects of the migration experience that suggest very interesting questions regarding the influence of cultural and structural factors on fertility and were not mentioned in this thesis. These include the role of remittances, documentation status or reasons for migrating.

Finally, with respect to housing, considering that only the two most recent waves of the EU-SILC data contained appropriately detailed information, we feel that further research is needed to confirm or elaborate on the relationships suggested by our results, especially the influence of mortgages on second or higher order births, the relationship between couples' labor market status and entering parenthood in the years since the housing crash, or the relationship between the type of dwelling inhabited by the respondent and family formation. Research into the influence of housing costs at the individual level and housing prices at the neighborhood, regional and country levels might also shed light on the degree to which changes in the housing market account for some of the fertility recovery that coincided with Spain's housing bubble. It would also be interesting to examine the effects of ideational factors on household transitions, as well as the degree to which the relationship between housing and fertility changes depending on respondents' migrant status, region of birth and factors related to the migration experience itself.

4.3 References

- Baizán, P., Aassve, A. and Billari, F.C. (2003). "Cohabitation, marriage, and first birth: The interrelationship of family formation events in Spain." *European Journal of Population*. 19:147-169
- Brodmann, S., Esping-Andersen, G. And Güell, M. (2007). When Fertility is Bargained: Second Births in Denmark and Spain. *European Sociological Review*, 23(5):599-613.
- Dalla Zuanna, G. (2001). "The banquet of Aeolus: A familistic interpretation of Italy's lowest low fertility." *Demographic Research*, 4(5), 133–162.
- Enström Öst, C. (2012). "Housing and children: simultaneous decisions? - a cohort study of young adults' housing and family formation decisions." *Journal of Population Economics* 25(1): 349-366.
- Esping-Andersen, G. (1999) *Social Foundations of Postindustrial Economies*. Oxford: Oxford UP.
- González, M.J. & Jurado, T. (2006) "Is There a Minimal Set of Conditions Before Having a Baby? The Experience of the 1955-1982 Female Cohort in West Germany, France, Italy and Spain" In Esping-Andersen, G. (Ed.) *Family Formation and Family Dilemmas in Contemporary Europe*. Madrid: Fundación BBVA
- Kulu, H. and Steele, F. (2013) "Interrelationships between childbearing and housing transitions in the family life course". *Demography* 50(5): 1687-1714
- Kulu, H. and Vikat, A. (2007). "Fertility differences by housing type: The effect of housing conditions or of selective moves?" *Demographic Research* 17(26): 775-802.
- Lesthaeghe, R. (2010). The Unfolding Story of the Second Demographic Transition. *Population and Development Review*, 36(2): 211-251.
- Mulder, C. H. (2013). "Family dynamics and housing: Conceptual issues and empirical findings." *Demographic Research*, 29(14):, 355-378.
- Mulder, C. H., & Billari, F. C. (2010). "Home-ownership regimes and low fertility." *Housing Studies*, 25(4), 527-541.
- Sobotka, T. (2009). Sub-Replacement Fertility Intentions in Austria. *European Journal of Population*, 25: 387-412.