A survey of baby booms and busts in 20th century Spain

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Abstract

BACKGROUND
This paper presents a new source of microdata on women’s reproductive life in 20th century Spain, the Baby Boom and Bust Survey (BBBS). While certain countries have other sources of microdata such as censuses or specific fertility surveys that have been useful in shedding light on aspects of reproduction, few provide the longitudinal, integrated, and nuanced perspective afforded by this survey. The Baby Boom and Bust Survey includes women’s reproductive histories for the period prior to the baby boom, the baby boom itself, and the early stages of the baby bust.

OBJECTIVE
The purpose of this paper is to describe this data source, its content, its methodological underpinnings, and the way the fieldwork was carried out.

METHODS
The survey was administered to a total of 1,021 women above 60 years of age residing in Spain in 2012. A random sample was used and access to informants was secured via the Padrón Continuo (the continuously updated local population register of Spain). The distribution by characteristics closely fits the sample frame.

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CONTRIBUTION

The survey microdata are now fully accessible to researchers at the Harvard Dataverse repository. The data gathered by the survey will enable researchers to study the causes and mechanisms of the baby boom and the reproductive histories of several generations of Spanish women in the recent past, including their contraceptive use.

1. Introduction

The global history of fertility during the 20th century is one of booms and busts. The first third of the century was characterized by pronounced declines in fertility, reaching near or below replacement levels during the 1930s (Van Bavel 2010), and led to widespread concern over long-term population stability (Keynes 1937). Unforeseen by all, this fertility bust was followed after World War II by a period of stability and even growth in fertility that lasted until the 1960s and even later in some societies, which has been called the baby boom. It was a period of demographic effervescence that affected the developed nations – and possibly some of the developing ones too – over a span of nearly two decades. During this short period the dynamics of reproduction changed, with marriage rates accelerating, total fertility rising, and the number of births increasing substantially. The baby boom was followed by the advent of widespread and modern methods of birth control, rapidly declining fertility, lower marriage rates, and a profound change in the prevailing attitudes towards the family: a new baby bust had begun (Reher 2015).

As opposed to the relatively limited literature on the baby bust of the 1930s, there is a large literature on the baby boom (Easterlin 1961, 1966; Chesnais 1992; Calot and Sardon 1998; Macunovich 1998; Van Bavel 2010; Van Bavel and Reher 2013; Sánchez-Barricarte 2018), although we continue to lack fully convincing explanations. The existing literature has paid relatively little attention to several potentially important aspects of these trend changes in fertility. These include: (1) the underlying causes of the baby boom, especially those related to the demographic transition and, more specifically, to the low levels of fertility during the 1930s (Dyson 2001; Lee 2003; Reher 2004, 2007, 2011, 2015; Dyson 2010; Van Bavel and Reher 2013; Sánchez-Barricarte 2018); (2) the extent to which increasing fertility during the baby boom was the result of earlier and more widespread marriage rather than increases in large families, as shown in the work of Norman Ryder on the USA (Ryder 1980, 1982); (3) the degree to which the baby boom also affected parts of the developing world (Dyson and Murphy 1985, 1986; Reher 2004; Reher and Requena 2014, 2020); (4) the disparities in reproductive change within different countries (Van Bavel and Reher 2013; Reher and Requena 2015; Sánchez-Domínguez and Lundgren 2015; Reher and Requena 2020; Ryder 1986); (5) the role of
changes in the reproductive health of women and increasing probability of survival among young children over the period (Albanesi and Olivetti 2014; Gauvreau et al. 2018; Reher 2021); and (6) the way the subsequent baby bust in much of the world after the 1960s was linked to the experience of the baby boom and even to the dearth of births during the 1930s (Reher 2015, 2021). All of these issues warrant the attention of researchers, for they are central to explaining both the causes and the basic dynamics of fertility during the 20th century – the baby boom and the baby busts – and also its long-term implications for contemporary societies the world over. Spain is a very clear instance of the smooth rise in fertility during the baby boom period and as such its experience is as interesting as any other. One of the purposes of the survey presented here is to contribute to the knowledge of the individual factors that led to this smooth fertility increase.

In this paper we present a new source of microdata on the reproductive life of women in Spain during the 20th century: the Baby Boom and Bust Survey \[2012\] (hereafter BBBS). This survey is based on a representative sample of Spanish women over 60 years of age and was generated by a research group, the Study Group on Population and Society (GEPS, www.geps.es). While some countries have other sources of micro data derived from censuses or specific surveys that can shed light on certain aspects of reproduction, few of them can provide the type of longitudinal, integrated, and nuanced perspective afforded by this survey. BBBS informants were asked a set of questions about their reproductive experience as well as a parallel set about their current health and living conditions.

This survey provides a unique perspective on fertility change at the micro level. It enables researchers to look at the causes and internal dynamics of reproductive change and its long-term implications for the health and well-being of the elderly respondents. It includes a battery of questions about reproductive life and its determinants (social and economic, ideational, familial, health-related, etc.) and about current health, living arrangements, and familial situation and conditions. This means that reproductive life can be linked forwards and backwards – to the explanatory factors in women’s life histories and to the way these histories and reproduction itself have impacted current living conditions.

Due to the age of most of these women, this survey constitutes the last opportunity to access direct information about their reproductive behavior. This information allows generating data about both the causes and mechanisms of the baby boom/baby bust period and how this period conditions several aspects of the experience of aging among women today. This paper summarizes the nature of the survey.

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6 The delay in making the survey public (due mainly to administrative issues) has no impact on the quality of the data.
2. Basic features of the survey

The Spanish BBBS [2012] was designed to gather data on different factors influencing women’s reproductive decisions over the period, together with information about the current status and living conditions of these women. It contains a battery of questions on an array of these different factors. This section presents and discusses the universe and sample frame, the sampling strategy and fieldwork, the data format and availability of the gathered data, and the basic sample characteristics.

2.1 Universe and sample frame

The survey was administered to women above 60 years of age (the oldest informant being 98). Since reliable short- and long-term memory could be a potential problem, whenever perceived as necessary the interviewers asked a series of questions at the outset of each interview to ascertain informants’ ability to respond correctly to the questions. An adaptation of the Pfeiffer Short Portable Mental State Questionnaire (Erkinjuntti et al. 1987) was used, taking into account the responses received when conducting the interviews. The nature of the survey, its voluntary basis, and the confidentiality of the data were explained to the informants at the outset of each interview and informed verbal consent was obtained from all participants. A total of 1,021 interviews was conducted with an average duration of about 55 minutes. The starting source for the sample design was the *Padrón Continuo* (the continuously updated local population register of Spain). Stratified multistage sampling was carried out, with the primary sampling units (municipalities) and secondary units (census tracts) selected in a proportional random way, and the last units (interviewed women) selected by random routes and age quotas. The strata were established according to habitat size and region (Nielsen zone, see below). In a few cases (21 interviews) women were interviewed in day centers and nursing homes. These collective establishments were chosen randomly within the previously selected municipalities, in which home surveys were also conducted. The distribution by characteristics closely fits the sample frame. The final distribution of the sample by the quota criteria used for this survey can be found in Table 1.
### Table 1: Sample distribution

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>%</th>
<th>Size of municipality</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>60–69</td>
<td>407</td>
<td>39.9</td>
<td>&lt;5,000</td>
<td>141</td>
<td>13.8</td>
</tr>
<tr>
<td>70–79</td>
<td>342</td>
<td>33.5</td>
<td>5,000–10,000</td>
<td>81</td>
<td>7.9</td>
</tr>
<tr>
<td>80–89</td>
<td>258</td>
<td>25.3</td>
<td>10,001–30,000</td>
<td>192</td>
<td>18.8</td>
</tr>
<tr>
<td>90+</td>
<td>14</td>
<td>1.4</td>
<td>30,001–100,000</td>
<td>195</td>
<td>19.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>N</th>
<th>%</th>
<th>Type of residence</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast a</td>
<td>124</td>
<td>12.1</td>
<td>Private Household</td>
<td>1,000</td>
<td>97.9</td>
</tr>
<tr>
<td>East b</td>
<td>147</td>
<td>14.4</td>
<td>Residence for the elderly</td>
<td>21</td>
<td>2.1</td>
</tr>
<tr>
<td>South c</td>
<td>186</td>
<td>18.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Center d</td>
<td>97</td>
<td>9.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwest e</td>
<td>101</td>
<td>9.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North f</td>
<td>93</td>
<td>9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canary Islands g</td>
<td>51</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barcelona metropolitan area</td>
<td>97</td>
<td>9.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Madrid metropolitan area</td>
<td>125</td>
<td>12.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total interviews</strong></td>
<td><strong>1,021</strong></td>
<td><strong>100</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- a Gerona, Lleida, Zaragoza, Barcelona, Tarragona, and Baleares;
- b Alicante, Valencia, Castellón, and Murcia;
- c Seville, Huelva, Granada, Cádiz, Málaga, Badajoz, Córdoba, and Jaén;
- d Toledo, Cuenca, Ávila, Madrid, Guadalajara, Segovia, Valladolid, and Ciudad Real;
- e Asturias, Pontevedra, and A Coruña;
- f Vizcaya, Guipúzcoa, Cantabria, Navarra, and Palencia;
- g Santa Cruz de Tenerife and Las Palmas.

**Source:** 2012 Baby Boom and Bust Survey.

### 2.2 Sampling strategies, fieldwork, and perceived data quality

A pilot study was conducted in the fall of 2011 and the fieldwork itself took place between January and April 2012, with 1 March 2012 as the reference date for the survey. The fieldwork for the survey was outsourced to a private firm (Intercampo) specialized in surveys. The information was collected in face-to-face interviews using personal computers (Computer Assisted Personal Interviews, CAPI system). All the interview team were women, which was important to gain the confidence of the interviewees and collect information on sensitive and personal issues.

By and large, the survey fieldwork did not present major problems. The interviewers did not report any significant incidents of refusal to participate. On some occasions the interviewees had to be helped to remember a specific age or date, using prompts that were built into the survey strategy and detailed in the interviewer handbook prepared by the research team. An example of these prompts refers to asking women the names of all of their children and then asking about a given child by name. Since dates were considered to be likely candidates for recall problems, a strategy was worked out to help interviewees pinpoint dates in different ways (by the date, by the informant’s age at a given moment, or by taking as a point of reference her year or age at marriage).
In general, informants did not find the survey instrument to be invasive or excessively difficult to respond to. Interviewers graded the quality of the interviews on a scale of 0–10 (from worst to best). The overall rating was a very healthy 8.5, indicating that most interviews went smoothly and that the interviewers were satisfied.

When compared to data from national sources, the initial results suggest that the fieldwork distribution reflects national patterns closely. 1,021 interviews were carried out with women aged 60–98 years. The sample was distributed throughout Spain according to Nielsen areas in order to capture and represent geographical differences. A.C. Nielsen divided Spain into regions (https://prcomunicacion.com/prnoticias/que-son-las-areas-o-regiones-nielsen/#) that do not strictly coincide with Spanish Comunidades Autónomas, the official regional division. Although this division was originally devised for marketing and consumption research, it is now widely used for general purposes. Map 1 shows the geographical interview zones and includes a table that gives the percentage distribution of women based on the BBBS and the Padrón Continuo when the fieldwork was carried out. The fit between the databases is good: the distributions from both sources are nearly identical, with deviations of no more than 2.5%.

Map 1: Percentage distribution by region of women aged 60–94 years according to BBBS and Padrón Municipal de Habitantes

Source: 2012 Baby Boom and Bust Survey and 2011 Padrón Municipal de Habitantes.
The team undertaking the fieldwork generated an additional variable designed to register the perceived quality of the interview on the part of the interviewer. At the end of the interview the interviewers completed a field with observations on how the interview went and how it was perceived by the interviewee, which will be of considerable use in the future.

The main problem from the interviewer’s point of view was that older women were often mistrustful, particularly in small villages. At times interviewers faced difficulties being allowed into informants’ houses, aggravated by the fact that some women had been victims of theft or scams. Women were also concerned about the confidentiality of the information they provided and about the purpose of the survey, despite the fact that this was explained before beginning the interview.

Interviewers also identified three minor problems. First, some women needed help from their relatives (daughters, sons, etc.) in order to provide a correct answer (e.g., their children’s year of birth). Second, a few women refused to give their telephone number to the interviewer or gave their number but insisted on not being contacted. Finally, some women found the questionnaire too long and some questions difficult to answer (e.g., information regarding former in-laws).

2.3 Data format and availability

After protracted financial and logistic problems, and as a result of the GEPS’ efforts to disseminate the survey, in 2021 the data became publicly and freely available to researchers and policymakers at the Harvard Dataverse repository: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/XVEYVG.

The following material is accessible free of charge to interested parties: (1) the survey instrument in both Spanish and English, and the English version of the interviewer’s instruction manual; (2) microdata files available for downloading in a text file format and an Excel file that can be imported directly into a wide variety of statistical programs (SPSS, Stata, R, etc.); (3) a support document (in Excel format) containing variable names, variable labels, questions in the instrument, type of variable, and variable length, position, and values.

2.4 Basic sample characteristics

Table 2 contains a detailed descriptive breakdown of the interviews undertaken in the course of the survey according to marital status, education, and size of municipality. Some results in this table warrant attention. For example, the proportion of single and
divorced/separated women is quite low among those interviewed, a logical outcome of the traditional nature of Spanish society at the time and the overwhelming influence of the Catholic Church. Much the same can be said for the educational status data in the same table, where the levels are much lower than for women in most of the developed world (Sandström 2014, 2017), though probably higher than in much of the developing world at the time. Other studies on the Spanish population have highlighted that women’s educational situation in Spain has improved significantly over time (Requena and Salazar 2006, 2014). These are signs that Spain was a latecomer to the educational transformation that took place in the years subsequent to the baby boom.

Table 2: Sociodemographic characteristics of Spanish women in BBBS

<table>
<thead>
<tr>
<th>Marital status</th>
<th>2011 Census</th>
<th>BBBS</th>
<th>2011 Census</th>
<th>BBBS</th>
<th>BBBS - Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>440,995</td>
<td>67</td>
<td>7.6%</td>
<td>6.6%</td>
<td>–1.1%</td>
</tr>
<tr>
<td>Married</td>
<td>3,045,060</td>
<td>473</td>
<td>52.6%</td>
<td>46.3%</td>
<td>–6.3%</td>
</tr>
<tr>
<td>Sep/Div</td>
<td>230,180</td>
<td>51</td>
<td>4.0%</td>
<td>5.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Widow</td>
<td>2,068,095</td>
<td>430</td>
<td>35.8%</td>
<td>42.1%</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size of municipality</th>
<th>2011 Census</th>
<th>BBBS</th>
<th>2011 Census</th>
<th>BBBS</th>
<th>BBBS - Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5,000</td>
<td>908,895</td>
<td>141</td>
<td>15.7%</td>
<td>13.8%</td>
<td>–1.9%</td>
</tr>
<tr>
<td>5,001–10,000</td>
<td>446,040</td>
<td>81</td>
<td>7.7%</td>
<td>7.9%</td>
<td>0.2%</td>
</tr>
<tr>
<td>10,001–100,000</td>
<td>1,979,765</td>
<td>387</td>
<td>34.2%</td>
<td>37.9%</td>
<td>3.7%</td>
</tr>
<tr>
<td>100,001–500,000</td>
<td>1,370,990</td>
<td>240</td>
<td>23.7%</td>
<td>23.5%</td>
<td>–0.2%</td>
</tr>
<tr>
<td>&gt;500,000</td>
<td>1,078,640</td>
<td>172</td>
<td>18.6%</td>
<td>16.8%</td>
<td>–1.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Educational attainment</th>
<th>2011 Census</th>
<th>BBBS</th>
<th>2011 Census</th>
<th>BBBS</th>
<th>BBBS - Census</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary or less</td>
<td>4,957,805</td>
<td>808</td>
<td>85.7%</td>
<td>79.5%</td>
<td>–6.2%</td>
</tr>
<tr>
<td>Secondary</td>
<td>448,575</td>
<td>147</td>
<td>7.8%</td>
<td>14.5%</td>
<td>6.7%</td>
</tr>
<tr>
<td>University</td>
<td>377,960</td>
<td>61</td>
<td>6.5%</td>
<td>6.0%</td>
<td>–0.5%</td>
</tr>
</tbody>
</table>

Source: 2012 Baby Boom and Bust Survey.

3. A reliability check

An initial issue that must be addressed concerns the reliability of the survey results. Differential mortality and migration ensure that this sample is not isomorphic to the population of women who were alive in the historical periods under study using its data. This problem in retrospective biographical surveys is well known and the only practical solution is comparing the data collected with other sources. Can this survey be used to generate basic estimates of reproductive outcomes? If so, then there is reason to be
confident in the other types of data provided by the survey. The most straightforward way to check this is to make use of a basic fertility measure (CEB or children ever born, for example) and compare the results derived from different sources with the ones produced by our BBBS.

**Figure 1: Estimating CEB by birth cohort according to three different data sets**

![Bar chart showing estimates of children ever born by birth cohort](image)


In the case of Spain (Requena 1997) these estimates can be derived from micro census data (the 1991 census is a possibility) and also from a major survey conducted in Spain at the same time: the 1991 *Encuesta Sociodemográfica* (Sociodemographic Survey). Both of these contain CEB data by age of informant and thus the results can be matched to those taken from the BBBS some 30 years later. This can only be done with elderly informants, say above 42 years of age (e.g., born before 1949), who had also completed their reproductive life when the 1991 Census and Sociodemographic Survey were conducted. There is no need for the results to be exactly the same because of the vastly larger sample used in 1991, but they should be similar. Figure 1 shows three parallel estimates of children ever born by five-year birth cohort. The first two bars correspond to the 1991 Census and Sociodemographic Survey and are based on extremely large samples (a 5% fraction sample of full count of census records and about 160,000
interviews, respectively), while the last bar comes from the BBBS. The results in this figure show fairly clearly the bust-to-boom-to-bust fertility cycle in Spain, as well as the relatively modest increase in fertility during the boom period (Van Bavel and Reher 2013). More important at this stage is that the results of the three sources regarding these reproductive patterns largely coincide. In brief, these data strongly support the reliability and representativeness of the data gathered in the BBBS.

4. Value and limitations

4.1 Usefulness

Past fluctuations in reproduction have a bearing on the number of children in society, and eventually on the society’s age. These data also enable us to evaluate both the context of reproductive behavior in the past and the way this is related to the well-being of the elderly today. Neither of these issues can be tackled adequately using only survey data, but these data provide a nuanced perspective.

The richness and variety of the information contained in the survey data preclude the presentation of an exhaustive inventory of the possible studies that could be addressed with this database. Of particular interest is our ability to identify key issues characterizing the reproductive histories of these women, including: (a) relatively high fertility and low-fertility women in each sub-period together with their socioeconomic and health characteristics; (b) the role of improving health for reproductive outcomes; (c) contraceptive use; and (d) the educational and long-term health implications of reproductive life. We, and others, will be in a position to address these and other issues in future papers emerging from this research initiative.

Reproductive outcomes decades earlier also have implications for current health and well-being. A preliminary analysis with these survey data shows that women with more children tend to consider themselves better off and better cared for by their families than women with few or no children. This result is unsurprising because women with more children are more likely to have children close by to provide necessary assistance. It is important to remember that in a few short years, many women reaching retirement and elderly ages will have few or no children (Reher and Requena 2019) and may face more problematic situations than women with large families (Reher and Requena 2017).
4.2 Limitations

There are limitations affecting the survey data that warrant mention here. First, the relatively small survey of about 1,000 informants will pose important problems for detailed analysis. Second, the information on current health and well-being is limited and does not fully assess these issues. Third, although estimates of past fertility are consistent, when considering the current health of these women, differential mortality provides a built-in bias in the expected direction due to less healthy women of older cohorts having died by the time of the survey. Fourth, the very conservative values of Spanish society and the extremely low levels of female education and labor force participation over much of the period will tend to limit the usefulness of the variables.

5. Acknowledgements

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