Labour Relations in Spain, 1800, 1900 and 2001: A methodological approach.

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Map 1. Metropolitan Spain in 1800
Source: López-Davadillo (1993: 968)

Map 2. Spain in 1900
Source: López-Davadillo (1993: 989)

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This paper aims to present the sources and methodological criteria used for the collection of Spanish labour relations data for the cross-sections 1800, 1900 and 2000. After some general reflections, each of these chronological sections will be presented.

We start with a fact: the historical sources of this study were not designed to answer our questions, but to meet needs of those in charge. It is, therefore, not surprising that we only allow an approximate reconstruction of what we want to explore which, in this case, are the social and economic relationships around work. As a general criterion it has been preferred to respect fully the figures provided by the sources, where we have been correcting inaccuracies in summations.

In the Spanish case we have census sources covering the whole country in the late eighteenth and early twentieth century, each with its own characteristics and limitations. Some features are common, for example, underreporting the work of women, whose participation rate has a strong downward bias. Also, we note the vagueness in the classification of male rural labor, in the large majority at that time, and the inability to detect the extent of sharecropping as a specific formula. Similarly, these sources do not adequately reflect the diversity of occupations, which are many with strong seasonal bias.

The length of mainland Spain has barely changed in recent centuries. In the mid-seventeenth century the border with France was fixed, which was finally marked off between 1856 and 1868. In the case of Portugal, the last amendment of the border came in 1801, after the War of the Oranges, the annexation of the city of Olivenza by Spain. The 1864 Boundary Treaty between the two countries drew the line of separation, this operation being completed in 1926.

The surface area offered by the Statistical Yearbooks is 492,710 km^2 of Peninsular land, to be added to 4,992 km^2 in the Balearic Islands, 7,447 km^2 in the Canary Islands, and 33 km^2 in African cities of Ceuta and Melilla; in total, 505,182 km^2. [2]

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[2] *Anuario Estadístico de España 2005*, INE, Madrid, p.12.

1797

CENSO

DE LA POBLACION

De España

DE EL AÑO DE 1797.

executado

DE ORDEN DEL REY

EN EL DE 1801.

1.1) Estimation of the entire population number

Those who have dealt with the population censuses of 1787 and 1797 have highlighted the credibility of the first and have raised some doubts about the second. 1787 census details are known by the particulars of its process. It also preserved the original manuscripts that were recorded, street by street and house by house for the inhabitants of the country as well as statistical summaries of each locality. On the contrary, for census 1797, we only know the abstract published in 1801. In this publication are the official figures of the whole country, and the results for each of the, then, current administrative divisions. These are in the number of forty-two units, of unequal length. Thus, large territorial units such as Catalonia and Galicia are a block, occupying the same weight as each of the recreation sites of the royal family, such as Aranjuez and San Ildefonso, which have their own sheet.

Some authors have denied any claim to the census of 1797, stating that local authorities are simply copying the previous census figures. Some local studies have refuted this idea, later. Today, while acknowledging some shortcomings, this tends to be granted a non-inferior figure compared to the census of 1787. [3]

There is agreement that the census of 1797 is far greater than in 1787 in terms of economic and professional classification of the Spanish population, particularly the industry, broken down into 54 trades. Historians have also positively judged more detailed record of the age groups above 50 years, encompassed by a single digit in 1787 and broken down into groups of each of the ten years that followed. The fact that the direction and supervision of the census work was carried out by an intellectual of merit, such as Eugenio Larruga, who had already published several volumes of his "*Memoirs on the fruits, arts and manufactures of Spain*", may explain some of the improvements presented in the concept this census compared to the previous. [4]

The main criticisms of this census are suspicions of a sub-evaluation of their figures. The fact that after growth at a rate of 0.59% per annum between 1768 and 1787 had fallen to 0.13% between 1787 and 1797 has been deemed suspicious. It is also true,

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[3] Pan-Montojo (1993: 359). Critical views of the census of 1797, Vilar (1987, 2: 31-42), Fernández de Pinedo (1974: 80-87), Bustelo (1972), Domínguez Ortiz (1976: 384-385), and a claim in terms of this, Pérez-Moreda (1983). See also, Ruiz-Almansa (1947), Marcos-Martín (2000: 557), Coll and Fortea (1995: 34), and Nicolau (2005).
[4] Pérez-Moreda (1983), Ruiz-Almansa (1947), Marcos-Martín (2000: 554).

however, that due to its dates, the census may reflect the disastrous effects of the war against the French Convention, especially in the Pyrenees area, and with the effects of the typhus epidemic of 1794-95.[5]

In an article published in 1947, Ruiz-Almansa estimated a 10% concealment, and twenty-five years later, Bustelo agreed with him, adding a million people to the official figure. In fact, the very preface to the edition of the census in 1801 warned of the difficulties encountered in their development and was particularly suspicious of the data-hiding "because the villages have not given the information with the accuracy desired, by believing them directed to increase their contributions" ("*porque los Pueblos no han dado las razones con la exactitud que se desea, por creerlas dirigidas a aumentar sus contribuciones*"). [6]

The most flagrant case seems to be that of Galicia, which is recorded in 1797 compared to 1787, with a decline of 197,562 inhabitants, unjustified. The author of the preface stated that "more should be attributed to the inaccuracy of the reasons submitted by the Justices that a real decline in people, not to have been no reason to cause it" ("*más se debe atribuir a la poca exactitud de las razones remitidas por las Justicias que a una verdadera disminución de las gentes, por no haber habido motivo para causarla*"). Eiras-Roel attributed this discrepancy to the omission in 1797 from 16 jurisdictions comprising 202 parishes, whose responses were not received or did not arrive in time for inclusion in the published version of the census. For this reason, he proposes to raise the number of inhabitants in Spain in 1797 to 11,006,083 people. [7]

The foreword to the census also refers to the difference between married men and women in some areas and attributed the higher number of females to "emigration", to "married people who are serving in the Army and Navy", and to "way of life and occupation of women". The other side of this coin would be a larger number of men in other districts, so the set would be balanced (in the absence of migrants and soldiers in the colonies and other countries).

It has been discussed, with particular intensity, whether or not the population of institutional households (members of the regular clergy, internal staff and employees in prisons, hospitals, hospices and schools) were included in the total population and in the tables with distinction to age, sex and marital status. The prevailing opinion is that they

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[5] Nadal (1966: 132-135).
[6] Ruiz-Almansa (1947: 235), Nadal (1966: 89), Bustelo (1972).
[7] Eiras-Roel (2004: 52). An overview of the Galician population, in Eiras-Roel (1996). Fernández de Pinedo (1974:86) also suggests the absence of some ten thousand people in Guipúzcoa.

were not in the census of 1787, but we are left wondering what happened in 1797. Pérez-Moreda believes that, unlike 1787, these people were indeed included in the overall population figures. He derives this idea by the way the authors of the publication in 1801 compared the figures for the two censuses.[8] However, there are doubts about whether or not they were military personnel and prison populations. The details shall be described in the following

The largest number of soldiers, relatively speaking, is recorded in Madrid, the Canary Islands and African cities of Ceuta and Melilla. In the latter two cases there is no doubt that the population of the barracks was not included in the totals. The statistical summary of Ceuta provides the sum of 3002 inhabitants of both sexes, but the same sheet enrolls no less than 4368 soldiers. The census of 1787 had registered more than 4074 people in 1797, a figure consistent with that of soldiers, ten years later. In Melilla, Alhucemas and Peñón 2244 people were counted and the census warns that the data "do not include extraordinary Garrison or inmates" ("*no se incluye la Guarnición extraordinaria ni los presidiarios*"), whose numbers were 1174 and 1444 respectively. The case of Madrid is more confusing. In the table of professions of the "secular state" there were recorded 602 soldiers, but in a separate table, with the rest of the institutional population, 10,268 soldiers were added in sixteen quarters (9071 single, 1106 married and 91 widowed). These were not counted in the total military for the entire country, since the difference between our sums and the source's total coincides precisely with the figure of the headquarters in Madrid. However, rates of total male population (1.03) and, in particular, single people between 16 and 25 years (1.12) seem to suggest that these soldiers were indeed included in the overview that distinguishes age, sex and marital status groups. As for the Canaries, scoring 10.999 where the military were emplace, the sex ratio among single people from 16 to 25 years of age is less than 0.97, but keep in mind that the location of the archipelago on the route between Spain and America generated a very strong emigration of young islanders to the West.

Given the above, the database provides three estimates of the total population of Spain in 1797. The first (10,541,221) is offered by the source and in general has been taken as the official figure of the Spanish population at that time.[9] The second (10,548,207) adds to that figure the number of soldiers and convicts in African cities that we know, were

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[8] Pérez-Moreda (1983).
[9] Nadal (1966), Artola (1993: 591), Ruiz Torres (2008: 688). Carreras & Tafunell (2005, I: 124) only recorded 10.535.975, probably because they fail to include African cities.

not included in that sum. The third (11,006,083) is the correction proposed by Antonio Eiras-Roel to compensate for the omission of more than 200 parishes in Galicia. The latter is a more prudent estimate than the 11.5 million suggested by Ruiz-Almansa, Livi-Bacci and Bustelo.[10] The addition of the population of African garrisons and prisons also involves raising the total male population from 5,220,299 to 5,227,291 to the offering of our correction. This figure is kept within reasonable proportions compared to the female population (5,320,916 according to our calculations, six fewer than the figure offered by the source). The resulting sex ratio (0.982) we can consider as acceptable, though perhaps somewhat higher if we consider that the emigration of young men to America was of some importance in several regions.

The 1797 census has problems of some importance in the classification by age, sex and marital status. The reason for this is the way data is presented in Biscay, modeled on the 1787 census, and which does not distinguish the age groups above 50 years. Table 1 presents a contrast between the total amount offered by the source and the amount we have obtained by adding the data from administrative units, except Biscay. This will detect and correct these deficiencies. The remaining difference between the two figures corresponds to the population in Biscay of each age. In fact, the sum total of the rest, in line with the figures of age over 50 years the source attributed to Biscay, with two exceptions: the official number of married men over that age is 6308 and of the married women is 5667 . It is obvious therefore that there has been a shift of six people from one place to another, and it was decided to correct the number of married men and women of age 60 to 70 years, in this regard. The second problem noticed is in respect of unmarried women 50 to 60 years and 90 to 100 years. Clearly, the figure of 1234 women in the latter interval can not be correct. The equivalent figure of 391 men in this age group is too disproportionate, and lastly, if we deduct the 287 women enrolled in other territories in that group, we would have 947 women aged over 90 years only in Biscay. For the age group of 50 to 60 years, the amount of women listed in the various kingdoms and provinces exceeds 273 people the number of single women of that age group who provides the source. It is obvious that those who were responsible for preparing the publication of the data made some mistakes at this point. Given the proportions of other age groups and the number of single women over the age of 50, Biscay overall figures have been rectified, attributing for the group of single women 50

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[10] Ruiz-Almansa (1947), Bustelo (1972).

to 60 years of age the figure of 76,044 people (668 in Biscay) and from 90 to 100 years of age in 293 people (6 in Biscay). [11]

Table 1. The age groups above 50 years in the Spanish census of 1797: the contrast between the official figure provided by the source and the sum of the provinces, excluded Biscay.

		Age groups (years)						
		50-60	60-70	70-80	80-90	90-100	> 100	Total
Spain (i)	Single men	74,124	43,861	15,576	3,344	391	13	137,309
Spain (ii)	Single men	73,612	43,658	15,544	3,324	387	13	136,536
	Rest	512	203	32	20	4	2	773
Spain (i)	Single women	75,103	44,867	15,756	3,074	1,234	17	140,051
Spain (ii)	Single women	75,376	44,445	15,554	3,033	287	14	138,709
	Rest	*-273*	422	202	41	*947*	3	1,342
Spain (i)	Married men	305,125	167,070	42,213	6,407	512	9	521,336
Spain (ii)	Married men	301,023	165,057	42,105	6,355	485	9	515,034
	Rest	4.102	2,013	108	52	27	0	*6,302*
Spain (i)	Married women	268,671	132,277	33,059	5,224	359	6	439,596
Spain (ii)	Married women	265,782	130,739	32,239	4,852	310	1	433,923
	Rest	2,889	1,538	820	372	49	5	*5,673*
Spain (i)	Widowed men	54,983	51,505	26,872	6,959	789	23	141,131
Spain (ii)	Widowed men	53,980	51,003	26,745	6,940	781	22	139,471
	Rest	1,003	502	127	19	8	1	1,660
Spain (i)	Widowed women	105,874	89,624	37,856	10,193	1,150	46	244,743
Spain (ii)	Widowed women	103,703	88,537	37,635	10,082	1,120	42	241,119
	Rest	2,171	1,087	221	111	30	4	3,624

Spain (i)= Source total data; Spain (ii)= Addition of all Spanish provinces except Biscay.
Source: Prepared from *Censo de Godoy 1797*, Madrid, INE, 1992.

Finally, the 1797 census does not show what part of the population lived in cities. Therefore, we have no choice but to resort to census figures of 1787, which provides the detail of each town's population. We have selected populations that exceeded the 4750 inhabitants in 1787, giving a margin of 5% over the threshold figure of 5000. It represents a total of 221 cities with 2,586,534 inhabitants, 24% of the population.[12]

In summary, with regard to the overall numbers of people who have made some decisions that alter the numbers offered by the source:

  a. 6986 people were added to the official population of Spain, so that it amounts to 10,548,207. This figure should be taken as a minimum, according to estimates by experts, between half a million and a million inhabitants should be added.

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[11] Assuming valid differences in other age brackets, it would be beneficial to attribute 674 individuals (947 in the group of 90 to 100 years of age less than 273 of the age group of 50 to 60). The sum of the lengths of 60 to 90 years of age and more than 100 years, assuming proper attribution of the overall difference, gives a figure of 668, six fewer than the rest that we must attribute. Arbitrarily assuming that these 6 are in the age group of 90 to 100 years and attributing the remaining 668 to the age group from 50 to 60 years.

[12] The pursuit of urban centers has been made in the six volumes published by Floridablanca Census (INE, 1986-1991). See also Reher (1994) and Moll (2003).

b. The male population, as amended by the addition and correction of 6 persons on the total number of women amounts to 5,227,291 people, which allows us to deduce a sex ratio of 0.982.

c. The number of married women and men has been rectified by adding 6 people, and happens to be 1,982,889 and 1,986,606, respectively.

d. Some age groups have been rectified from the sums of the different territories. To the group of women from 50 to 60 years of age the figure of 450,589 people is attributed, and to the group of 90 to 100 years, 1802 people. The number of unmarried women in these age ranges has been rectified in the same direction.

e. From the census, an urban population of 2,586,534 inhabitants in 1787 has been estimated.

1.2) Estimation of the economically active population

These data serve as a starting point for a second phase, which is the estimate of the economically active population. The age structure offers some preliminary figures that allow us to calculate the potential workforce. Taking the population between 7 and 70 years, the figures would be 5,213,883 women and 4,119,764 men, that should be added to the 5,542 military and 1,444 prisoners who are not included in the statistics by age, in short, 4,126,750 men (a sex ratio of 0.791, much lower than that of the total population). Of these, 9,340,633 people were not all economically active. We first subtract the school population. The statistics of occupations includes a generic label of "students" consisting of 29,810 people, which is the sum of the figures by region. The people which should have been added are the 28,226 students registered in the establishments of study for arts and sciences, which impart more practical teaching than in the universities. In a most basic level of education were the students of primary schools, colleges and houses of "*doctrinos*" (schools for orphans to nurture and educate them until they are old enough to learn a trade).. Together, it accounts for 309,357 boys and 91,305 girls. Given that "school-age children usually begin at age seven:the age of discretion for good and for evil" ("*la edad escolar del niño comenzaba por lo común a los siete años, pues era la edad de la discreción para el bien y para el mal*"[13]), we should discount these people from the bulk of the potential workforce that we have calculated.

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[13] Bartolomé-Martínez (1993: 188).

More doubtful, is the case of children enrolled in convents and charitable institutions. More than education (though this could be the case for children in convents of the regular clergy), these institutions had a charitable nature. It was to mitigate the problem of abandonment and the high rate of mortality of children and to allow, at the same time, their conversion into useful vassals of the monarchy and to be good Christians. Therefore it is quite possible that these individuals are already registered in the population under the age of seven years. It is probably the case of 7083 children enrolled in the foundling homes. One should hold more doubts about 5326 foundlings reported in hospitals, and 3806 children received in hospices. As noted by Vicente Perez-Moreda, the rule was that abandoned children left the foundling at the age of seven years and spent time in other institutions such as hospitals and hospices, or went directly to the labour market. [14] When in doubt, we have chosen here to add figures to the population that did not work in 1797, aware of the risk of the double counting of some children younger than seven years.

Table 2. Estimation of Not Working people in 1797 Spain (LabRel code 1)

	Men	Women	Total
< 7 years old	997,433	968,265	1,965,698
> 70 years old	103,108	107,033	210,141
Nor working by age	*1,100,541*	*1,075,298*	*2,175,839*
Children in "escuelas de primeras letras"	304,613	88,513	393,126
Children in "colegios"	4,505	2,745	7,250
Children in "casas de doctrinos"	239	47	286
Total children in primary schools	309,357	91,305	400,662
"Estudiantes"	29,810		29,810
Students in Sciences and Arts schools	28,226		28,226
Total students in medium/upper level	58,036		58,036
Not working by education	*367,393*	*91,305*	*458,698*
Sick people in hospitals	9,816	4,038	13,854
Insane in hospitals	485	420	905
People in hospices	3,791	4,305	8,096
Not working by health	*14,092*	*8,763*	*22,855*
Children in convents	1,828	769	2,597
Children in hospices	2,139	1.667	3,806
Orphans in orphanages	429	697	1,126
Foundlings in hospitals	2,723	2,603	5,326
Foundlings in foundling homes	3,732	3,351	7,083
Not working by homelessness	*10,851*	*9,087*	*19,938*
Mendicants (begging monks)	3.467	0	3.467
Not working by will	*3.467*	*0*	*3.467*
Not working by LabRel code 1	**1,496,344**	**1,184,453**	**2,680,797**

Source: Prepared from *Censo de Godoy 1797*, Madrid, INE, 1992.

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[14] Pérez-Moreda (2005: 48), Carreras-Panchón (1977).

It is also necessary to remove the adults who were in charitable institutions, such as hospitals and nursing homes: they were the sick, insane and paupers, whose number is, according to the source, 14,092 men and 8763 women. It is impossible to discount those other people suffering from chronic diseases or deficiencies and not specifically identified in these centers, who lived with their families or who were wandering. Finally, we also consider, in this category to what the source called, *demandantes* ("petitioners"), ie, wandering, begging monks.

Adding all these people (Table 2), we obtain a total of 1,496,344 men and 1,184,453 women who did not work, for lack of ability or willingness, a figure that came to represent a quarter of the total population.

We add the group of those who did not work because there was no need for it (LabRel code 2). The only indication the source offers us to recognize is the label of "noble", which gives a total of 402,059 people, and the "titled" (noble aristocrats), which totals 1323. These figures present several problems. First, we do not know if they refer only to the head of a household or whether they also include his family. We do not know if it includes only adults or even children. What is more, the label 'noble' was not a homogeneous sociological concept. In most of the country the distinction of "*Hidalgo*" was heavily restricted to a few wealthy families, but in parts of northern Spain it was socially widespread and included extensive professional sectors, from farmers to artisans, merchants, sailors, etc. In extreme cases like Guipúzcoa, the noble figure matches the number of people in the province. In Biscay, it amounts to half of the population. In these two cases it is obvious that this is double counting: those who have been registered in other trades are again registered as nobles. It is also obvious that the account includes, not only the heads of families, but male and female adults and children alike.[15] Therefore, we have corrected the number of nobles taking into account the estimated number of households (total number of married and widowed) and deducting, from that figure, that of all professions. Thus, the number of nobles in Spain is at 247,942, which, added to the 1.323 titles of nobility, gives a total of 249,265 people, regardless of age or sex.

In sum, deducting from the total number of people those who were not working due to age, health, education or wealth, we have a number of 7,618,145 people, some of whom

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[15] Domínguez Ortiz (1973: 25-29). In addition to the 104,491 nobles recorded in Guipúzcoa and 54,471 in Biscay, the number of nobles is also disproportionately high in the principality of Asturias (62,239), the kingdom of Navarre (18,753) and the provinces of León (17,077), Burgos (77,531) and Alava (8,445). It is likely that in these cases they included both sexes and all ages.

were active, developing a profession that the sources registered, while others are invisible to the source, either because they remained inactive, or because they performed support tasks in the family business, or because their occupation, even if paid as with many domestic system workers, escaped the view of whoever carried out the census. [16]

For those people the source did record a profession, the classification by occupation is very detailed, unlike the previous census in 1787. Fifty-three occupations are distinguished by craft, each with its division into masters, journeymen and apprentices. In addition, the source adds eight other numbers of workers (masters, journeymen, apprentices and laborers) in indeterminate industrial occupations.[17] In a separate table, another thirty-six different professions, including several relating with agriculture and livestock are listed. The secular and regular clergy are the subject of careful classification, distinguishing the population of the monasteries by sex and category.

The foreword to the census attributes the differences in the numbers of farmers and artisans, between 1787 and 1797, to "people who have been counted in the year 1787 as farmers, individuals who work in the fields for two or three months and the other months as artisans by consideration of which we have now understood to be in this latter class" ("*haberse contado en el año de 1787 como labradores a muchos individuos que se ocupan en las faenas del campo dos o tres meses y los restantes en las artes, por cuya consideración se han comprendido ahora en esta clase*").

The large the number of agricultural workers were listed under five headings: "*Labradores propietarios*" (freeholders), "*arrendatarios*" (tenants), "*jornaleros*" (salaried workers hired by the day), "*ganaderos solos*" (stockbreeders) and "*pastores*" (shepherds). The first were farmers who cultivated the land under ownership, only absent from the province of Biscay (one among several problems with this provincial sheet), the Royal recreation sites near the Court, and the African cities. The remaining do not deserve further comment, as the gap of 50 people in the sums of the tenant farmers and three people among the shepherds. There is no way of knowing whether the figures refer, exclusively, to men or whether they also include widowed women, as heads of households.

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[16] Sarasua (1995) relates the case of the lace workers of Talavera, which contemporary sources underestimated. For the case of Madrid, see Ortega-López (2006).

[17] Dominguez-Ortiz contends that the census placed in the category of master to all individuals who were not part of a guild. Accordingly, the master status would be statistically swollen at the expense of the category of journeymen (Domínguez-Ortiz, 1976: 387, 391). See also, Peiró-Arroyo (2002).

The problem of the source not distinguishing the sex of the employed is even more important in the case of domestic service, where women's paid work was particularly present.[18] There are three categories that the census handles: "*criados de escalera arriba*" (upstairs servants), "*criados de escalera abajo*" (downstairs servants), and "*domésticos*" (servants). The latter should, in fact, be largely understood as permanent workers in agriculture, as they were welcomed into the family home, taking a salary in cash and kind. The so-called "*criados de escalera arriba*" are what most properly belong to domestic service in the homes of middle and upper classes. The downstairs servants range between having the functions of the service sector (transport, communications, porters, cooks) and the primary sector (gardeners, grooms, etc).[19] There is no way of knowing whether the figures refer only to men or, as seems more probable, including men and women.

As regards to those employed in the industrial sector, the source has a considerable degree of detail, especially in regard to guild system. The number of master craftsmen, journeymen and apprentices is split up in twenty-nine types of manufacturers and twenty-five types of artisans and craftsmen, plus a line of other crafts in each. There are only two exceptions in the province of Biscay and the Canary Islands, where there are two sets of aggregates in these two broad categories. [20] The source also provides detailed information about employees in ecclesiastical institutions, education, health, welfare and in prisons.

The difference between the official numbers of economically active people the source provides for the whole of Spain and those obtained by adding the pages of each kingdom or province gives rise to a number of corrections. Errors in the source are shown in Table 3. Twenty-nine cases in which partial data is obtained by adding the

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[18] Detailed analysis on specific cities and regions offer different proportions of men and women in domestic work. In 1752 Granada Casey & Vincent (1987: 184) are a Male / Female ratio of 0.80. In 1752 Almagro Sarasua (1995) calculates a ratio of 0.24. In the same year Albacete Gomez-Carrasco (2007) estimated ratio of 0.47. In the case of Cuenca, Reher (1988: 172-176) documents a ratio of 1.62 in farmers households, and a 0.33 in the homes of urban professionals.

[19] The ratios of "*domésticos*" offer high values in the Royal Sites (up to 10% of the total population in San Ildefonso, Balsain-Riofrio), Canary Islands (3.7%), Bizkaia (3.9 %), Navarra (2.5%), Sevilla (2%) and Aragón (1.8%). The ratio of upstairs and downstairs servants is very high in Madrid (5.8%), Zamora (2.1%) and Alava (1.4%). In Menorca and Ibiza, downstairs servants are mixed with domestic servants, downstairs servants in La Mancha, Guipuzcoa and Biscay are not logged (in either of the last two upstairs); in Álava and Zamora, "*domésticos*" are not logged and the number of downstairs servants is very high. I take them as "*domésticos*" and so there is a gap between partial and total sums of the count in the chapters of downstairs servants and domestic servants.

[20] It points in Biscay, twice to the same figures: 220 masters, 2198 journeymen and 250 apprentices. Uncertain if it is a division by half or a drag on the same figure, I am inclined towards the former. In the Canaries, the figures recorded in the two sets of columns are different.

provincial data, the sum exceeds the total sum offered by the source data, while the reverse occurs in another thirty cases. In general, these are minor errors, some numbers dance from one field to another, although, there are some which are particularly severe, so that the overall balance is large: 11,869 more people in our sum compared to the official census figure, and 9747 fewer people, with an overall balance of 2122 which is larger then the source totals.

Table 3. Differences between the total given by the source and the amount obtained by aggregating the districts in some trades (Spain, 1797).

Employment	Translation	Source	Sum	Difference
Estudiantes	Students	29,812	29,810	-2
Arquitectos	Architects	2,739	2,707	-32
Labradores arrendatarios	Tenant farmers	507,423	507,473	+50
Pastores	Shepherds	113,628	113,625	-3
Sirvientes de tribunales	Servants in Courts	4,371	4,398	+27
Plateros: oficiales	Silversmiths: journeymen	1,042	1,047	+5
Afinadores: maestros	Jewellers: masters	22	18	-4
Afinadores: oficiales	Jewellers: journeymen	13	12	-1
Fábricas de cordelería y jarcia: aprendices	Ropemaking: apprentices	1,055	1,065	+10
Fábricas de esparto: maestros	Textile Works: masters	9,153	9,145	-8
Fábricas de esparto: oficiales	Textil Works: journeymen	2,688	2,696	+8
Fábricas de jabón: maestros	Textil Works: apprentices	1,146	1,138	-8
Fábricas de jabón: oficiales	Soap makers: journeymen	96	135	+39
Fábricas de jabón: aprendices	Soap makers: apprentices	82	51	-31
Alfareros: maestros	Potrees: masters	3,643	3,653	+10
Alfareros: aprendices	Potrees: apprentices	388	383	-5
Fábricas de cristales: oficiales	Cristal makers: journeymen	10	200	+190
Fábricas de aguardiente: maestros	Spirits makers: masters	5,084	5,085	+1
Fábricas de aguardiente: oficiales	Spirits makers: journeymen	141	140	-1
Fábricas de pez: maestros	Tar makers: masters	242	250	+8
Fábricas de pez: oficiales	Tar makers: journeymen	0	2	+2
Latoneros: maestros	Brass makers: masters	502	500	-2
Encuadernadores: maestros	Bookbinders: masters	374	366	-8
Caldereros: maestros	Boilermakers: masters	1296	1227	-69
Caldereros: oficiales	Boilermakers: journeymen	543	365	-178
Caldereros: aprendices	Boilermakers: apprentices	241	191	-50
Cerrajeros: maestros	Locksmiths: masters	4,633	4,736	+103
Cerrajeros: oficiales	Locksmiths: journeymen	1,046	1,270	+224
Cerrajeros: aprendices	Locksmiths: apprentices	685	764	+79
Herreros: maestros	Blacksmiths: masters	9,170	9,195	+25
Herreros: oficiales	Blacksmiths: journeymen	2,478	2,472	-6
Molenderos de chocolate: maestros	Chocolate grinders: masters	2,860	2,864	+4
Reposteros: maestros	Confectioners: masters	105	275	+170
Reposteros: oficiales	Confectioners: journeymen	17	139	+122
Reposteros: aprendices	Confectioners: apprentices	9	99	+90
Botilleros: oficiales	Cold-drink traders: journeymen	138	141	+3
Botilleros: aprendices	Cold-drink traders: apprentices	31	28	-3
Mozos de carga: oficiales	Freight handlers: journeymen	102	103	+1
Otros artesanos y menestrales: maestros	Other craftsmen and shopkeepers: masters	60,236	57,717	-2,519
Otros artesanos y menestrales:	Other craftsmen and	13,319	12,782	-537

oficiales	shopkeepers: journeymen			
Otros artesanos y menestrales: aprendices	Other craftsmen and shopkeepers: apprentices	3,080	2,581	-499
Sacristanes y acólitos	Vergers	15,015	14,935	-80
Sirvientes del clero secular	Servants in ecclesiastical institutions	3,987	4,047	+60
Ermitaños	Hermits	1,416	1,436	+20
Capellanes en hospitales	Chaplains in hospitals	688	742	+54
Empleados de hospitales	Employees in hospitals	1,647	1,399	-248
Sirvientes de hospitales	Servants in hospitals	2,903	2,892	-11
Facultativos en hospitales	Doctors in hospitals	1,141	1,408	+267
Capellanes en hospicios	Chaplains in hospices	68	72	+4
Empleados de hospicios	Employees in hospices	367	382	+15
Sirvientes de hospicios	Servants in hospices	358	346	-12
Sirvientes de casas de huérfanos	Servants in houses for orphans	140	120	-20
Maestras en escuelas para niñas	Female teachers in schools	217	193	-24
Sirvientas en colegios para niñas	Female servants in schools	175	117	-58
Sirvientes en colegios para niños	Male servants in schools	177	175	-2
Sirvientes en casas de estudios para ciencias y artes	Male servants in collages	710	720	+10
Expósitos	Male foundlings	6,455	3,732	-2,723
Expósitas	Female foundlings	5,954	3,351	-2,603
Militares	Military	149,340	159,608	10,268

Source: Prepared from *Censo de Godoy 1797*, Madrid, INE, 1992.

In some cases this is clearly a mismatch in the same office (manufacturers of hemp, soap and other spirits, "botilleros") or similar trades (silversmiths and jewellers; vergers, servants and hermits) in the amounts of the different categories of workers. In other cases, the gap corresponds to specific districts that were not included in the total.[21] Other minor errors are of little importance or are easily detectable (which is what happens to children in foundling homes that returned to the hospital). In some cases, however, the gap is very large and there is no apparent reason to justify it. This is what happens with the remaining grouped under the heading "Other craftsmen and artisans". The deviation is 3.555 workers (2519 masters, 537 journeymen and 499 apprentices). In this case, I think it most appropriate to assume that the authors could have added a number of occupations, that were then, for whatever reason, not transferred in detail to the overviews of the different districts.

In summary, the number of people that the source identified as economically active amounts to 3,024,223. This means only 28.7% of the total population, which invites us to think of a very significant undervaluation, as in subsequent censuses this indicator arises to 40%. Presumably in most professions, especially in agriculture, it only scored

[21] The three job categories of bakers in the city of Madrid were not included in the total of Spain. The difference in the number of workers in glass factories is in line with the 190 workers at the *Real Fábrica de Cristales* in San Ildefonso. The military's, up to the 10.268 that were listed in separate table in the capital of the Kingdom.

the profession of heads of households. The exception is the small craft and trades which were ruled by the guild system, for which the details are in the categories of masters, journeymen, apprentices and casual laborers. The template of ecclesiastical institutions, educational and charitable organizations is also described in detail.

The criteria of the census also were not homogeneous, since we find very different proportions in different districts: thus, in Guipúzcoa, persons registered with employment only accounted for 19% of the population and in Asturias and Galicia did not reach the 24 %, while in Murcia, Cordoba, Seville and Palencia, exceeded 34%.

1.3) Estimation of labour relations

The classification of the population according to the Labour Relations Code is not simple and requires arbitrary decisions, in some cases. We have already explained the approach taken when identifying the population that did not work (LabRel codes 1 and 2). One of the most contentious decisions is to estimate those who may be considered as "Kin Producers working for household" (LabRel code 5). The method is, however, simple. To deduce the number of potentially active people we have calculated the people registered with an occupation in the census. So, if we subtract 3,024,223 people (economically active) of the total number of 7,618,145 (potentially active) then we have 4,593,922 people. We can take this figure as that of those who developed an activity of support to the household head. In some cases they are relatives (sons, brothers, nephews) that help in field work or business. In other cases, it would be the wives who were engaged in household chores.

Attributing a number of economically active people to code 4, "Leading Producers working for the household", is conceptually more difficult. It is very likely that many of the farmers who were registered as "freeholders" (*labradores*), "tenants" (*arrendatarios*) and even "nobles" fit into an economic logic of self-subsistence. However, it is also true that many of them maintained an ongoing relationship with the market, either as sellers of a portion of their production, or as suppliers of their workforce or their teams, at certain times of the agricultural year. Determining the proportions of the production for sale and productions for their own consumption is almost an impossible task. So I have chosen to attribute to farmers, tenants, fishermen and hunters, codes 12 and 4, without setting fixed proportions.

In code 6, "Servants working for the household", included all the servants and maids recorded in ecclesiastical institutions and convents ("*donados*", "*legos*", "*criados*", "*señoras con vestido seglar*") and vergers ("*sacristanes*" and "*acolitos*"). The servants in the service of families (called "*domésticos*" by the source) are treated as permanent workers who spent most of his working time to agricultural tasks, in exchange for a pay, partly in kind and partly in money, so they can also be considered as in code 14, "wage earners Market". However, we prefer to keep this group also for code 6, but without setting specific proportions.

Code 7, "Redistribution agents working for the community" has been reserved for most of the regular clergy (monks, nuns) and secular (priests, hermits). Monks and nuns were not salaried people, but they were maintained by the convent community. On the contrary, canons, chaplins, priests and secular clergy in general have been considered as in code 18, "Commodified labour for non-market institutions that may produce for the market".

In code 8, "Forced Labourers", we have included prisoners, assuming they are not limited to being locked-up but were forced to perform hard labour on fortifications and public works.

Code 12, "Selfemployed working for the market", brings together some of the more numerous and important records. These are, as already noted, the farm workers who were carrying out cultivation on land, owned or rented. It was assumed that most of them (and hunters and sailors) produced largely for the market, rather than for personal consumption. All guild masters who owned their shop or were working for themselves also have been recorded in this code. Also included are those that the source called "*conductores*" (drivers) and are similar to the figure of the carrier dedicated to land transport. Finally, also falling into this category are some professions such as architects, painters, sculptors and engravers, doctors and surgeons, veterinarians, pharmacists, lawyers, and notaries.

Under the code 13, of the Employers working for the market, several occupations are included. First, those who are dedicated to wholesale trade and finance ("*comerciante*", "trader" by the source, but closer to the entrepreneur) and retail ("*mercader*", "merchant" in the source). It also includes farmers devoted, exclusively, to livestock, which probably had large flocks of sheep or herds of cattle ("*ganaderos solos*"). Similarly, there are included those employed in the industry, in the category of master and those who had more than two workers in their workshop, on average. This is the

case with the manufacturers of paper (and in the printing industry), glass and crystal, and china. [22]

In code 14, "Wage earners working for the market", we have taken in all the workers in the guild system which had the journeymen status. Also included here are all casual workers in agriculture and secondary industry, which the source called "*jornaleros*". Many of these laborers could also have a piece of land, owned or rented, in which they cultivated cereals, vegetables and vine for themselves or the market. So, they were not pure proletarians, but certainly they depended on the sale of their workforce in the market.[23] It also includes permanent employees in agriculture and livestock ("*pastores*", "*domésticos*") and domestic service, as well as sailors. The apprentices within the guild system have also been labeled as LabRel14, although there are some doubts about the nature of their contracts. The fact that the masters of a workshop used to sign a contract of apprenticeship with the apprentice's parents or legal guardians to remain in the workshop during a given time, implies that their mobility was restricted and, therefore, can not be properly speak of freedom of movement of the workforce.[24]

The last code we use is 18, "Wage earners working for non-market institutions". This includes employees in health and charitable institutions (hospitals, hospices, orphanages, homes for foundlings). It also includes teachers and other employees registered in schools as primary schools, colleges, schools of arts and sciences, and universities. Also included are employees of the courts, from judges to janitors and bailiffs. In the same category, we place the employees of prisons and the military, and also those people that the source called "employed by the King", we can take as public officials.[25] A special case are the so-called *Cruzada* and *Inquisición* employees, two categories halfway between the church service, the collection of taxes and the political police.[26] The range of jobs is completed with a number of church employees, from the high dignitaries of "*canónigos*" (canons) and "*racioneros*" (prebendaries) to more modest positions as "*beneficiarios*", chaplains, "*ordenados de mayores*" and "*ordenados de menores*".[27]

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[22] The source records the figure of 2.6 workers for every master in the paper industry, 3.7 in the printing, and 40.2 in the manufacture of glass and crystal.
[23] See López-Estudillo (2006) for the case of agricultural salaried workers in 18th century Andalusia.
[24] García-Fernández (1996).
[25] Andujar-Castillo (1991)
[26] Alcalá (1984: 123-173); Kamen (1992: 182-213); Martínez-Millán (2007: 149-214).
[27] Domínguez-Ortiz (1973: 215-271).

1.4) Hidden information

The source gives not enough information to identify codes 141, 142 and 143, nor can we distinguish the codes 181, 182 and 183, although it is suggested that time-rate wages dominated over other forms of contract (share-cropping, piece rate).

A few codes have been empty, not because there is no person subject to this type of employment relationship, but because their significance was so small and marginal that is invisible to the sources. This is the case of slavery, which had enjoyed a certain prominence in the fifteenth and sixteenth centuries in parts of Spain (Andalusia, Extremadura, Mallorca, Canary Islands) but which, during the seventeenth and eighteenth centuries, saw an irreparable setback. Still in the second half of the eighteenth century, historiography attests to the presence of slaves in cities like Madrid, Cadiz, Malaga and Murcia, but its share is already small. It is likely that some of them will be included in the headings of "upstairs servants" and "downstairs servants" which ran the source. [28]

The same is true of feudal serfdom. The obligation to perform free labor for the Lord remained in some villages under the seigneurial regime, but its quantification is virtually impossible. Its importance, in any case, must be very little and could be considered residual, judging by some studies on the seigneurial regime.[29]

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[28] Aragón-Mateos y Sánchez-Rubio (1986), Bravo-Caro (1997) Morgado-García (2009) Parrilla-Ortiz (2001), Peñafiel-Ramón (1991), Domínguez-Ortiz (1952).
[29] Saavedra and Villares (1991), Sarasa and Serrano (1993), Donézar (1984: 441-442), Aragón-Mateos (2000).

Details of the summary sheet of the Spanish census of 1797

ESTADO SECULAR.

Clases.	Número.	Clases.	Número.	Clases.	Número.	Clases.	Número.
Titulados. .	1.323			Presidarios.	1.444	Cirujanos...	9.272
Nobles.. .	402.059	Marineros..	31.238			Boticarios...	3.878
Empleados.		Pescadores..	16.247	Dependien- tes de Tri- bunales.			
De Inquisi- cion...	3.078	Cazadores..	2.686			Albéytares..	5.706
De Cruzada.	1.660	Comercian- tes...	6.824	Escribanos..	9.633	Criados.	
Por el Rey..	27.242	Mercaderes.	18.861	Abogados. .	5.883		
Síndicos. .	3.536	Labradores propietarios.	364.514	Relatores. .	147	De escalera	
Demandan- tes.. . .	3.467	Arrendata- rios. . . .	507.423	Alguaciles. .	4.642	arriba....	15.571
Militares. .	149.340	Jornaleros..	805.235	Porteros. . .	1.066		
Estudiantes.	29.812	Ganaderos solos. . .	25.530	Procurado- res.	3.043	De escalera	
Pintores.. .	2.023	Pastores.. .	113.618	Sirvientes. .		abaxo....	22.412
Arquitectos.	2.739	Conductores	8.023	Facultati- vos.			
Escultores..	912			Médicos. . .	4.346	Domésticos.	136.112
Grabadores.	223						
Sumas....	627.415		1.900209		34.580		192.951

Total. . . . . 2.755.155. . . . .

FABRICANTES, ARTESANOS Y MENESTRALES.

Fabricantes.	Maes- tros.	Oficia- les.	Apren- dices.	Total.	Artesanos y Menestrales.	Maes- tros.	Oficia- les.	Apren- dices.	Total.
Plateros. . .	2.274	1.042	.704	4.020					
Lapidarios..	120	116	20	256	Hojalateros .	564	164	83	811
Batidores..	65	28	10	103	Latoneros. .	502	166	110	778
Afinadores .	22	13	3	38	Enquaderna- dores. . . .	374	279	133	786
Fabricantes— de seda....	8.809	5.269	1.798	15.876	Impresores..	224	623	204	1.051
De lana....	35.226	21524	4.208	60.958	Broncistas. .	170	79	42	291
De sombreros	1.018	734	253	2.005	Estañeros . .	113	40	24	177
De lienzos. .	28.906	7.298	2.208	38.412	Caldereros. .	1.296	543	241	2.080
De cordelería y xarcia. . .	5.525	2.296	1.055	8.876	Cerrajeros. .	4.633	1.046	.685	6.364
De esparto. .	9.153	2.688	186	12.027	Herreros. . .	9.170	2.478	1.285	12.933
De xabon . .	1.146	96	82	1.324	Carpinteros.	25.432	5.477	2.401	33.310
Curtidores. .	3.682	854	234	4.770	Roperos....	878	147	69	1.094
Zurradores. .	1.398	507	180	2.085	Sastres. . . .	27.378	6.732	4.040	38.150
De pastas. . .	257	79	24	360	Molenderos de chocolate.	2.860	480	130	3.470
De papel y cartones. . .	401	867	184	1.452	Cocineros. .	1.280	356	246	1.882
De estampad.	186	47	21	254	Pastelero:. .	289	81	63	433
Bordadores. .	739	409	174	1.322	Confiteres. .	2.208	432	381	3.021
Tintoreros . .	1.227	465	217	1.909	Reposteros. .	105	17	9	131
Alfareros... .	3.643	1.004	388	5.035	Botilleros. . .	351	138	31	520
De loza.... .	314	408	95	817	Peluqueros. .	1.195	506	134	1.835
Fundidores de letras.	32	32	8	72	Zapateros. . .	29.901	8.398	3.891	42.190
De vidrios.. .	155	193	52	400	Taberneros..	17.927	27	2	17.956
De cristales. .	5	10	1	16	Traperos. . .	387	23	3	413
De hules y encerados. .	20	1	1	22	Aguadores. .	3.708	7	4	3.719
De aguardien- tes..	5.084	141	8	5.233	Mozos de carg	3.180	102		3.282
De velas de sebo.	180	67	28	275	Carniceros. .	3.682	435	74	4.191
De pez.. . . .	242			242	Otros Arte- sanos y Me- nestrales. .	60.236	13319	3.080	76.635
De aceyte de linaza.. . . .	189			189					
De azúcar...	14	2	1	17	Jornaleros de todos. . . .	22.089			22.089
Otros fabri- cantes.	7.730	3.707	632	12.069					
Jornaleros de todos. . . .	29.467			29.467					
Total. . .	147229	49897	12775	209901	Total . .	220132	42095	17365	279592

20

1900

MINISTERIO DE INSTRUCCIÓN PÚBLICA Y BELLAS ARTES

DIRECCIÓN GENERAL DEL INSTITUTO GEOGRÁFICO Y ESTADÍSTICO

CENSO

DE LA

POBLACIÓN DE ESPAÑA

SEGÚN EL EMPADRONAMIENTO HECHO

EN LA PENÍNSULA É ISLAS ADYACENTES

EN 31 DE DICIEMBRE DE 1900.

TOMO IV.

2.1) Estimation of the entire population

The 1900 census was conducted three years after the last census taken in 1897 (of which only the interim results were published in 1897). The Law of April 3, 1900 ordered the decennial census intervals in years ending in zero, a method already tested in 1860. Thus, they conducted a new census on December 31, 1900, whose results were published between 1902 and 1907. The census offers two levels of information. At the first level it meets basic information, including the actual population ("*población de hecho*", residents and foreigners presents in the village when the census was made) and the de jure population ("*población de derecho*", residents present and absent), by sex. The second level is a detailed classification of people according to different criteria: sex, marital status, education, nature, nationality, age, and profession.[30]

For the first time in Spain, the enumerators conducted site inspections to verify the figures provided by local councils, which provides greater assurance of reliability compared to previous censuses. Thus, the first figure from the local responses, 18,401,455 people ("*de hecho*"), could be upwardly revised, offering the official figure of 18,618,086 inhabitants, of fact (and 18,831,574 inhabitants of law). This figure refers to the 49 provinces of the "peninsula and adjacent islands" and an extra constituency consists of the "possessions of the North and West Coast of Africa". Among these were the city of Melilla, Chafarinas islands, the rocks of Alhucemas and Vélez de la Gomera, and the region of the western coast of Africa called Río de Oro (Western Sahara). Except for this last area, sparsely populated, the borders of Spain in 1900 coincide with the current ones.[31]

The 1900 census presents difficulties when estimating the urban population. Disaggregated data correspond to the municipalities, not to each population settlement. It may well be the case of municipalities with more than 5,000 inhabitants but sparsely populated, so they could not be considered urban. Some authors have circumvented this problem by working exclusively with the provincial capitals for which the census also provides abundant information regarding the classification of their inhabitants. This

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[30] Melón (1951: 244-254), Arango (1981), Pan-Montojo (1993: 376-377), Reher and Valero-Lobo (1995), Nicolau (2005: 105), Azagra et al. (2006: 30-32).
[31] The population of the city of Ceuta was included in the province of Cadiz, without distinction. The Río de Oro (Western Sahara) was barely 130 inhabitants. The census also provides an annex the population of the possessions of the Gulf of Guinea (now Equatorial Guinea), that amount in 1900 to 24,011 individuals (523 whites and 23,488 colored).

however, is to set aside a number of cities that were not provincial capitals. Fortunately, we have the calculation performed by David S. Reher from 349 settlements with over 5000 inhabitants in 1900, yielding a figure of 5,324,258 inhabitants.[32]

The age distribution provided by the census has been added to fifteen groups of five years each until the age of 75 years and only one from that age onwards. The source does not provide the ages of 10,807 men and 9891 women. Regarding the classification by marital status, the census ignores the specific situation of 3615 men and 2453 women.

2.2) Estimation of the economically active population

The main novelty of the 1900 census, compared to previous surveys, is in providing professional classification according to an international standard model. The chosen model was introduced in 1893 by Jacques Bertillon at the Chicago Conference and approved by the International Statistical Institute. It includes ninety-one categories, grouped into four main sections and twelve chapters. The four main sections corresponde to: i) production of raw materials; ii) transformation and use of raw materials; iii) public administration and liberal professions; and iv) a residue of "diversity." The twelve chapters are: (i) agriculture, mining, (ii) industry, transport, trade, (iii) enforcement, government, professions, people living on their income, (iv) domestic work, non-generic designations to materialize the profession, and unproductive.

Each of the occupational categories is classified by sex, marital status and age. The age classification is, in this case, a grouping criterion, different from the primary survey. The age groups considered in the profession are five in number: children under 12 years of age, 12 to 19 years, 20 to 39 years, 40 to 59 years, and 59 years and older. A box is also reserved for those who do not declare their age, so that every professional has six age-data for men and six for women. The existence of men and women who combine different occupations leads to the double counting of assets, which amounted to 121,852 men and 13,268 women, a total of 135,120 people. [33] We opted to include in the database, those figures reflecting "double counting" as a number with a negative sign.

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[32] Reher (1994: 1-29).
[33] Some of these repeated individuals are identified by the source, when in the section IXa those "owners who live on the location of its properties and mainly other profession or way of life" are noted. There are 16,250 men and 1505 women.

When estimating the economically active population we have preferred to keep strictly to the census data. This presents a double peculiarity in regard to the age structure. With reference to children, the source registers as employees, a number of children under 12. But certainly, child labor is very underrated by the source. The 98.5% of boys and 99.7% of girls under 12 years are registered as "unproductive" ("children without a profession because of his age" and "students of schools and colleges 1 st teaching").[34]

On the opposite side, a large number of people above 70 years of age are recorded as economically active. 60% of men over 60 years of age included in the census as agricultural workers and only 6.5% are registered as "unproductive" and another 9.2% as owners who live mainly on their income. For women over 60 years of age, 72.3% is listed as members of the family in domestic work and another 14% devoted to agriculture. Instead of rectifying the figures to derive the estimated population above 70 years of age, I have preferred to respect the criteria of the census, even if it means possibly overestimating the number of economically active men.[35]

Table 4. The economically active population in the 1900 Spanish census.

	Total	Men	Women
Age: Less than 6 years	3,028,155	1,527,815	1,500,340
Age: More than 70 years	571,273	268,473	302,800
Age: Between 7 and 69 years	14,997,960	7,280,726	7,717,234
Actives registered by the Source	12,945,767	6,147,904	6,797,863
Double counting	- 135,120	- 121,852	- 13,268
Economically Actives in the Source	*12,810,647*	*6,026,052*	*6,784,595*
Family work	5,405,709	0	5,405,709
Gainful workers	*7,404,938*	*6,026,052*	*1,378,886*

Source: *Censo de población de 1900*

Of the 91 socio-professional categories that are distinguished in the census, we considered as economically active all of the first paragraph (agriculture, hunting and fishing, mining, quarries and salt) and the second paragraph (industry, transport and trade) and as three of the four parts of section three (army and police, government employees, and professions, including among the latter the clergy), and two part of the fourth paragraph (domestic work and "general designations no indication of a particular

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[34] Child labor in Spain has been studied by Borrás-Llop (1999) (2002) and Camps-Cura (2002). See also, Rodríguez-Labandeira (1991) and Soto-Carmona (1989).
[35] An alternative would have been to deduce the number of farmers over 60 years the figure of 165,431 for rural people, regarding them as age-old retirees. In the case of women, could be deduced from those over 60 years engaged in agriculture as a figure of 41,991 over 70 years. Among women over 60 years dedicated to family work 214,990 may be deducted for exceeding 70. These figures have been estimated as the share of people over 70 years in the group with more than 60 years (34%).

profession"). In this fourth section, we also considered economically active (as prostitutes for example) 10 975 women aged under 60 years who were registered in the category of "beggars, vagrants and prostitutes". The chapter on "unproductive" of the census distinguished "individuals momentarily without occupation", "individuals with no profession" and "profession unknown". We understand the latter as active and the other two categories as unemployed. This leaves out, as inactive, an entire chapter of the third paragraph ("owners who live mainly on their income") and eight of the ten categories in the chapter on "unproductive" in the fourth section.

Table 4 allows a comparison of the number of economically active people who are registered in the source with the age structure that is also provided. Of all economically active persons in the census, one must deduct the numbers of double counts of people with multiple jobs. The result is 12,810,647 economically active persons (6,026,052 men and 6,784,595 women), a figure that represents 85% of people between 7 and 70 years of age. Of these, 5,405,709 women are registered in the census as "work performed by family members", which lets us put the number of "gainful workers" to 7,404,938 people (the aforementioned number of men and only 1,378,886 women).

Table 5. The registration of female occupations in the Spanish census of 1900. Total number and proportion of employed women per 100 men

	Total women		By marital status			By age				
	Number	ratio	S	M	W	< 12	12-19	20-39	40-59	> 60
Agriculture	771,686	21	24	15	58	11	19	20	22	25
Textil Industry	51,519	75	118	43	128	83	139	80	48	33
Chemical Industry	2,502	33	73	7	72	278	96	25	13	12
Food Industry	20,240	23	20	16	123	17	13	22	26	32
Garment Industry	92,974	57	85	19	229	61	79	54	46	55
Cloth Trade	1,169	10	6	7	76	0	3	7	14	29
Inns, hotels & bars	4,827	18	15	8	138	0	9	13	19	35
Food Trade	9,646	33	32	18	218	25	28	27	36	52
Dress Trade	1,080	21	19	11	135	29	16	17	26	33
Regular Clergy	42,596	351	351	-	535	-	76	323	546	748
Teaching	15,716	69	143	36	110	-	199	87	49	45
Theater	503	58	65	47	94	50	71	67	37	35
Domestic	264,021	744	950	129	1808	438	909	765	566	593
Maids & Waitresses	5,220	52	79	6	86	64	59	50	46	55
Beggars & Prostitutes	24,738	168	254	51	252	-	194	234	165	154
Rentier Owners	61,967	35	64	5	161	29	73	20	31	49
(…)										
Gainful workers	1,378,886	23	31	12	71	17	25	22	21	26

Source: *Censo de población de 1900*

The concealment of female labour statistics in the censuses of the nineteenth Century and the first part of the twentieth Century is widely accepted in Spanish

historiography.[36] As can be seen in Table 5, only 23 women per 100 men were registered in 1900 as gainful workers. Nevertheless, the census identifies some characteristics of female participation in labor markets at that time. In Table 5, we have selected those categories in which women's work had more presence and calculated a simple indicator to measure this presence. The number of women to men has been divided into groups with respect to age and marital status. This allows detection of certain trends in different sectors. For example, the fact that female participation in the textile and chemical industries -but also in education- is a clear life cycle, with more women at younger ages and a phased withdrawal with advancing age. The opposite occurs in agriculture and to a lesser extent in the food industry, hotels and various commercial activities, where the female presence is recorded at a higher rate with advancing age. The increased participation of widows in different sectors of activity is something you would expect, either by the need to seek revenues from a single woman or because her husband's death leaves the ownership of the business (in the certain case of business or rental property) in the hands of his widow.

2.3) Estimation of labor relations

LabRel code assignments to the figures provided by the 1900 census has been conducted in many cases directly, but in others we have been forced to find ways that allow discrimination between employers and workers.

The group LabRel 1 includes five categories of the segment of "unproductive" (section iv). These are the "children without a profession because of their age", "students from schools and colleges of first education", "students", those who "received hospice care and the sick" and "the crazy and insane". Also included is a part of a sixth group of "unproductive", the "beggars, vagrants and prostitutes", but limited to women over 60 years of age, and men. The group is completed by a category listed in the chapter "owners who live mainly on their income" (section iii), the "*retirados, pensionistas del Estado y de otras administraciones públicas y privadas*" (retired pensioners). This is a strange category, judging by the age distribution. Only 55% of men and 33% of women were over 60 years of age, and there were included 15 boys and 12 girls under 12 years

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[36] Arbaiza-Vilallonga (2000) (2002), Borderías (1996) (2002) (2003), Borderías and Carrasco (1994), Borderías and Pérez-Fuentes (2009), Camps-Cura (1995) (1997), Pérez-Fuentes (1995) (2004), Sarasúa (1994). For the institutional factors of the process of gender separation in contemporary gender markets, see Sarasua (1997)

of age. Obviusly this category no only refers to elderly, but also includes retired officers ("*cesantes*"), secularised friars, widows and orphans, enjoying a state pension. I prefer to respect the criteria of the source, noting in a note this feature.

The group LabRel 2 (Affluent) meets four categories of the last part of Section iii. These are the "owners who live on the rental of their property" ("*propietarios que viven del producto de la locación de sus inmuebles*"), the "rentiers", the "*individuos de situación mal determinada que citan como profesión una distinción honorífica (o que dice 'particular' o se refieren a una profesión antiguamente ejercida)*" ("individuals who cite an honorary function") and "owners who live on the rental of their property and mainly other profession" ("*propietarios que viven de la locación de sus inmuebles y principalmente de otra profesión*"). The latter are a clear example of double counting that would be easy to remove. But I preferred to keep them, as their removal does not solve the problem of double counting.

The group LabRel 3 (Unemployed) has important shortcomings. The registration of permanent and seasonal unemployment is not performed reliably until the last third of the twentieth century, so that the figures given by the source can not be taken seriously. We have included here two categories of the group of "unproductive", namely "Individuals momentarily without occupation" and "individuals with no profession".

The figures for these three categories of individuals who did not work can be seen in Table 6.

Table 6. Individuals who did not work according to the 1900 census

	Total	Men	Women	LabRel
Children without a profession because of their age	3,337,206	1,625,838	1,711,368	1
Students in schools and colleges of first education	1,876,616	998,799	877,817	1
Students	99,988	94,980	5,008	1
Persons who received hospice care and sick	69,663	37,100	32,563	1
Insane	10,092	5,858	4,234	1
Beggars and vagrants	28,498	14,735	13,763	1
Retired pensioners of the State (> 20 years of age)	27,439	15,246	12,193	1
Pensioners of the State of 20 years of age and less	289	91	198	1
LabRel 1	*5,449,791*	*2,792,647*	*2,657,144*	
Owners who lived on the rental of their property &	247,920	183,748	64,172	2
Owners who lived on the rental of their property and other profession mainly	17,755	16,250	1,505	2
LabRel 2	*265,675*	*199,998*	*65,677*	
Individuals temporarily unoccupied	11,971	11,953	18	3
Individuals with no profession	55,312	34,066	21,246	3
LabRel 3	*67,283*	*46,019*	*21,264*	

Source: Database

A second block of code refers to reciprocal labor. We have assumed that by 1900 pure subsistence economy had been marginalized and market relations were imposed on virtually the entire country. Accordingly, code 4 (leading Producers) and 6 (servants) are left empty. This does not go for codes 5 (kin Producers) and 7 (redistribution agents). The code LabRel 5 included women who developed domestic work for their families. Also included are those workers in agriculture, hunting and fishing. Because of their age (under 12 years and more than 60 years of age) one can assume that they did not have a farm. Similarly, under 12 years included in the chapter "jugglers, acrobats, and exhibitors of curiosities" have been understood as kin producers. As LabrRel 7 we have classified the regular Catholic clergy, monks and nuns.

The third section, devoted to tributary labor, just meets some individuals in the code LabRel 8. I understood them to be forced laborers part of the group of "prisoners and convicts".[37]

Table 7. Individuals who did reciprocal work and tributary labour according to the 1900 census

	Total	Men	Women	LabRel
Housework by family members	5,405,709	0	5,405,709	5
Under 12 years of age working in agriculture	33,982	30,763	3,219	5
Over 60 years of age working in agriculture	624,167	500,438	123,729	5
Under 12 years of age working in the circus	14	14	0	5
LabRel 5	*6,063,872*	*531,215*	*5,532,657*	
Regular clergy (monks and nuns)	54,738	12,142	42,596	7
LabRel 7	*54,738*	*12,142*	*42,596*	
Prisoners and convicts	24,690	23,105	1,585	8
LabRel 8	*24,690*	*23,105*	*1,585*	

Source: Database

The estimate of the fourth block, referred to as "Commodified labour working for the market" required a series of decisions that I will make explicit. In general, I relied on the numbers and proportions provided by the census of 1920, that for the first time marked the number of employers and employees in each of the branches of agriculture, industry and commerce.[38] The ratios applied to men and women in each occupational category that is distinguished in the census can be seen in Table 8. Presumably, some of these employers were artisans and shopkeepers actually owning their own business that might fit better into the group LabRel 12, but in the absence of better information I

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[37] Martínez-Gallego (1996).
[38] Melón (1951:260-261), Ibáñez (1978), Soto-Carmona (1989)

have chosen to follow the census. In this way, I have considered them as employers (LabRel 13).

Table 8. Ratios between employers and employees in each of the categories of work that distinguishes the census of 1920 (data in %).

	Men		Women	
	Employers LabRel 13	Workers LabRel 14	Employers LabRel 13	Workers LabRel 14
Livestock workers	26	74	30	70
Fishermen and hunters	6	94	12	88
Miners and quarrymen	1	99	0	100
Textile workers	6	94	0	100
Leather and hide workers	22	78	12	88
Wood treaters	17	83	26	74
Metal workers	4	96	18	82
Pottery workers	14	86	8	92
Chemical processors	13	87	3	97
Food and beverages processors	28	72	19	81
Clothing industry	22	78	6	94
Cabinetmakers and woodworkers	13	87	6	94
Construction workers	5	95	26	74
Transport machine makers	7	93	11	89
Energy workers	6	94	9	91
Printers and related workers	8	92	8	92
Waste materials processors and other industries	13	87	14	86
Textile sales workers	31	69	11	89
Leather sales workers	40	60	14	86
Wood sales workers	34	66	29	71
Metals sales workers	37	63	22	78
Pottery sales workers	34	66	39	61
Chemical product sales workers	51	49	50	50
Hotels, coffe bars, guest houses and bars	59	41	49	51
Food and beverages sales workers	59	41	49	51
Dress and hat sales workers	44	56	31	69
Furniture sales workers	28	72	9	91
Building sales workers	39	61	41	59
Transport sales workers	29	71	44	56
Combustible sales workers	34	66	48	52
Luxury products, Sciences and Arts products sales	25	75	7	93
Waste materials sales workers	25	75	14	86
Sales workers not classified	32	68	26	74
Circus performers	7	93	0	100

Source: Compiled from 1920 Population Census

In the case of agricultural workers, however, another criterion has been followed. A close examination in the proportions of employers and workers by provinces, provided by the census of 1920, reveals some problems that cast doubt on its credibility. In many Northern provinces, where small peasant ownership was widespread, the census provides very high proportions of "non-employers", even exceeding those offered by the landowners in the southern provinces of Spain. For example, the proportion of employees in the province of Alava is, according to this census, 98%, while in the

province of Badajoz it would stand at 85%. Because of the peculiar characteristics of agriculture that are not found in other sectors, and because of the lack of uniformity in the classification criteria applied in each province the enumerators worked with a wide a margin of discretion These peculiarities are related to the structure of land ownership and the combination of wage labor and the cultivation his own plot in the case of smallholders. Given the obligation to identify these farmers as employers or workers, some enumerators would opt for the first while others were opting the other way.

We have followed a different way to estimate the number of independent agricultural producers (LabRel 12) and agricultural wage workers (LabRel 14). The 1860 census distinguished (in agriculture), the number of "laborers", "tenants" and "owners" and have taken these last two categories as employers. Similarly, a statistical report prepared in 1955 by the Research Department of Banco de Bilbao also distinguishes between employed and agricultural entrepreneurs.[39] I averaged the proportion of agricultural workers in 1860 and 1955 by province and have taken the resulting figures as ratios applicable to the 1900 census. The proportions for the whole of Spain would be 56% of employers (understood as self-employed) and 44% of salaried workers. These proportions are applied to data from the census category of agricultural workers in the age group between 12 and 60, the group below and above these ages have been considered as family support (LabRel 5). The result shows the self-employed in agriculture with 2,110,115 workers and 1,657,948 employees. The group LabRel 12 was completed by architects and engineers, jurists ("*profesiones jurídicas*"), performers and artists (see Table 9).

Table 9. Self-employed working for the market (LabRel 12)

	Total	Men	Women	LabRel
Agricultural workers 12-59 years of age	2,110,115	1,748,746	361,369	12
Architects and engineers	5,414	5,414	0	12
Jurists ('*profesiones judiciales*')	25,183	25,181	2	12
Authors, journalists and related writers ("literatos")	1,501	1,478	23	12
Sculptors, painters, photographers,etc ("artes plásticas')	5,287	5,223	64	12
Composers, musicians and singers ("artistas músicos")	9,721	9,049	672	12
Actors and performing artists ("arte dramático")	1,365	862	503	12
LabRel 12	*2,158,586*	*1,795,953*	*362,633*	

Source: Database

The group LabRel 13 (Employers) has been deducted from some indeterminate census categories ("industrial fabricators and manufacturers", "traders", "dealers and

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[39] Gallego (2007), Rodríguez-Labandeira (1991).

traffickers", and "brokerage, commission and export") and the estimate of the numbers of thirty-four other categories from the number of employers as given in the 1920 census. The result is shown in Table 10.

Table 10. Employers working for the market (LabRel 13)

	Total	Men	Women	LabRel
Managers ('*industriales, fabricantes y manufactureros*')	25,224	23,104	2,120	13
Traders ('*negociantes*')	1,803	1,766	37	13
Dealers and traffickers ('*comerciantes y tratantes*')	44,501	41,286	3,215	13
Brokerage, Export ('*corretaje, comisión, exportación*')	7,945	7,875	70	13
Livestock workers (12-59 years of age)	24,915	23,990	925	13
Fishermen and hunters (12-59 years of age)	2,220	2,182	38	13
Miners and quarrymen	756	756	0	13
Textile workers	4,147	4,147	0	13
Leather and hide workers	3,011	2,976	35	13
Wood treaters	6,829	6,523	306	13
Metal workers	2,226	2,121	105	13
Pottery workers	2,320	2,260	60	13
Chemical processors	1,052	977	75	13
Food and beverages processors	28,863	25,017	3,846	13
Clothing industry	41,772	36,194	5,578	13
Cabinetmakers and woodworkers	1,818	1,774	44	13
Construction workers	11,848	11,786	62	13
Transport machine makers	1,249	1,213	36	13
Energy workers	450	441	9	13
Printers and related workers	1,720	1,673	47	13
Waste materials processors and other industries	460	405	55	13
Textile sales workers	3,715	3,586	129	13
Leather sales workers	399	392	7	13
Wood sales workers	232	228	4	13
Metals sales workers	351	340	11	13
Pottery sales workers	464	404	60	13
Chemical product sales workers	689	650	39	13
Hotels, coffe bars, guest houses and bars	18,567	16,202	2,365	13
Food and beverages sales workers	22,050	17,323	4,727	13
Dress and hat sales workers	2,567	2,232	335	13
Furniture sales workers	533	505	28	13
Building sales workers	290	281	9	13
Transport sales workers	130	126	4	13
Combustible sales workers	1,435	1,249	186	13
Luxury products, Sciences and Arts products sales	604	588	16	13
Waste materials sales workers	180	145	35	13
Sales workers not classified	6,022	4,994	1,029	13
Circus performers	21	21	0	13
LabRel 13	*273,379*	*247,732*	*25,647*	

Source: Database

With the same criteria as explained above, the figures for the group LabRel 14 are as shown in Table 11. In agriculture, hunting and fishing the calculation is performed on people between 12 and 59. The prostitutes have been considered here as wage earners, although it could be defended that it is not freely chosen and frequently involves a submission of forced labor.

Table 11. Wage earners working for the market (LabRel 14)

	Total	Men	Women	LabRel
Agricultural workers (12-59 years of age)	1,657,948	1,374,015	283,933	14
Livestock workers (12-59 years of age)	70,437	68,279	2,158	14
Fishermen and hunters (12-59 years of age)	34,467	34,191	276	14
Miners and quarrymen	75,424	74,843	581	14
Textile workers	116,492	64,973	51,519	14
Leather and hide workers	10,806	10,550	256	14
Wood treaters	32,719	31,847	872	14
Metal workers	51,392	50,911	481	14
Pottery workers	14,571	13,880	691	14
Chemical processors	8,963	6,536	2,427	14
Food and beverages processors	80,723	64,329	16,394	14
Clothing industry	215,720	128,324	87,396	14
Cabinetmakers and woodworkers	12,570	11,875	695	14
Construction workers	224,102	223,927	175	14
Transport machine makers	16,413	16,120	293	14
Energy workers	7,000	6,908	92	14
Printers and related workers	19,779	19,234	545	14
Waste materials processors and other industries	3,053	2,712	341	14
Textile sales workers	9,021	7,981	1,040	14
Leather sales workers	633	588	45	14
Wood sales workers	454	443	11	14
Metals sales workers	620	579	41	14
Pottery sales workers	878	784	94	14
Chemical product sales workers	663	624	39	14
Hotels, coffe bars, guest houses and bars	13,721	11,259	2,462	14
Food and beverages sales workers	16,957	12,038	4,919	14
Dress and hat sales workers	3,586	2,841	745	14
Furniture sales workers	1,578	1,300	278	14
Building sales workers	453	440	13	14
Transport sales workers	316	310	6	14
Combustible sales workers	2,625	2,424	201	14
Luxury products, Sciences and Arts products sales	1,977	1,765	212	14
Waste materials sales workers	648	433	215	14
Sales workers not classified	13,536	10,612	2,923	14
Circus performers	372	280	92	14
Transport by sea	42,274	42,269	5	14
Transport by rivers and canals	3,762	3,728	34	14
Transport by railway	18,290	17,841	449	14
Transport by streets, roads and bridges	62,219	60,702	1,517	14
Machinery mechanic ('*mecánicos*')	2,469	2,466	3	14
Stenographers, typists, translators	13,597	13,570	27	14
Bookkeepers & cashiers ('*cajeros y tenedores de libros*')	1,240	1,217	23	14
Finance clerk and Insurance	2,133	2,088	45	14
Clerical and related workers ('*empleados*')	38,981	38,851	130	14
Salesmen, shop assistants and demonstrators	44,356	43,448	908	14
Waiters ('*mozo de almacén y de comedor, camarero*')	15,334	10,114	5,220	14
Undertakers and embalmers	500	473	27	14
Warehouse porters	2,439	2,410	29	14
Workers (jornaleros,braceros,peones,destajistas)	580,743	541,395	39,348	14
Domestic servant	299,516	35,495	264,021	14
Prostitutes	10,975	0	10,975	14
LabRel 14	*3,859,444*	*3,074,222*	*785,222*	

Source: Database

In the LabRel 18 code, commodified working for non Labour market Institutions, we have included here, what the source called, "health professions" ("*profesiones médicas*"). It is very likely that a large proportion of these individuals exercise their profession freely, and therefore, fit into the group of Labrel12. But others took their salary from hospitals. Without further details I decided to include them in this group. In this section are also included those directly related to religious worship, which were individually paid. Teaching professionals have been defined as 18.2 (piece-rate wage-earners) because most of the teachers engaged in primary education, received their salaries from municipalities, this salary often depending on the number of students attending school. Officials of the civil service, postal and telegraph employees, police, "*Carabineros*" and "*Guardia Civil*", and members of the army and navy complete this list, having been established as 18.3 (remuneration depends upon the duration of their journey, which is fixed).
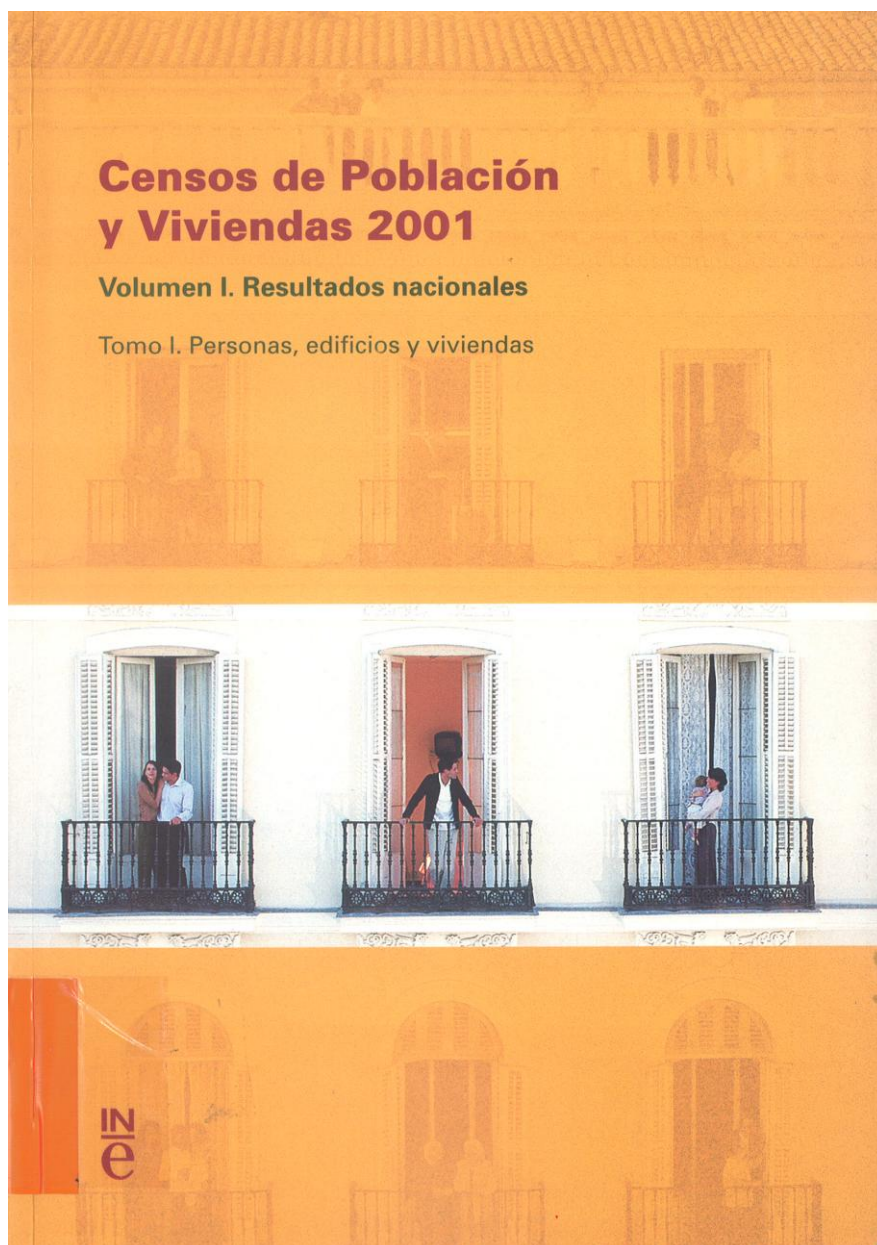
Table 12. Commodified labour working for non-market institutions (LabRel 18)

	Total	Men	Women	LabRel
Medical workers ('*profesiones médicas*')	33,883	32,297	1,586	18
Ministers of religion ('clero católico secular')	33,403	33,403	0	18
Ministers of non catholic cults	106	101	5	18
Assistants to the cult	8,182	7,566	616	18
Teachers	38,447	22,731	15,716	18.2
Civil Service workers ('*administración pública*')	50,832	50,718	114	18.3
Mail, telephone and telegraph	8,079	7,918	161	18.3
Policemen ('*guardia civil, carabineros y policía*')	33,639	33,639	0	18.3
Military	98,906	98,906	0	18.3
Navy	9,462	9,462	0	18.3
LabRel 18	*314,939*	*296,739*	*18,198*	

Source: Database

Finally there are 189,899 women and 30,910 men listed in the census as "unknown profession", to which I can not attribute any particular code.

2001

Censos de Población
y Viviendas 2001

Volumen I. Resultados nacionales

Tomo I. Personas, edificios y viviendas

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3.1) Estimation of the entire population

The 2001 population census (based on 1 November of that year) introduced important changes compared to previous censuses, of both concepts and procedures. The most important is the disappearance, after more than one hundred years of history of the census, of the concepts of "*población de hecho*" ('de facto population') and "*población de derecho*" ('registered population'). Instead, it handles the concept of "*población vinculada*" (linked population), which includes residents, present and absent, so is equivalent to the notion of "*población de derecho*" in previous censuses. It also abandons the concept of "*habitante*" (which in previous censuses included residents and passers-present) and referred to "*residente*", understood as "*persona física que en el momento censal tiene su residencia habitual en España*" ("individual who at the time of the census has his habitual residence in Spain"). Moreover, the 2001 census was conducted taking advantage of prior administrative records, such as the "*Padrón*" (municipal register) and urban cadastre, allowing faster work and, above all, economic cost savings. This last point is not trivial if we take into account the context of restrictions tied to compliance with the Maastricht criteria and access to Economic and Monetary Union. As for the publication of the results, what is new is the widespread use of Internet for dissemination of these, including the ability to build tables for the user.

The census has, however, some problems. Chief among them is the disparity of results it offers compared to other contemporary statistics. So the municipal census of January 1, 2002 (whose figures were also declared official) gives a figure of 41,837,894 residents, an incredible increase of 990,523 people in just two months for the 40,847,371 people who were in the census of 1 November 2001. This difference must be attributed to the different characteristics and production methods from both sources. Experts blame the municipal register for a tendency to overestimate because people who move are registered, with some delay, to be written off. [40]

Table 13. The Spanish population in 2001 according to the type of housing.

	Total	Men	Women
Family households	40.595.861	19.918.896	20.676.965
Colective households	251.510	93.986	157.524
Total Population	40.847.371	20.012.882	20.834.489

Source: *Censo de Población y Viviendas 2001*, vol.1 (I), p.31.

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[40] Azagra et al. (2006: 50-53), Goerlich (2007); Alberich (2006); Gozálvez-Pérez (2005); Roquer and Blay (2002); Ibáñez-Pascual (2010).

Another problem concerns the way in which the results of the population census are presented, which is at the same time (to save costs) a census of housing. The publication, and also the implementation of the web of the Instituto Nacional de Estadística (INE), that made a difference between the population living in family homes and others who were in collective accommodation types (hotels, hospitals, schools, barracks, convents, prisons, etc.). For the population living in family homes it offers a very complete and varied information in great detail on economic activity, employment status and professions. It does not, however, in the case of the population in collective dwellings, of which only details on age, sex and type of establishment (fifteen categories) is registered. Of the population in collective dwellings, therefore, do not know the marital status, activity and professional status. Fortunately, this is a relatively smaller proportion of the population (only 0.6%, up 0.75% in the case of the female population).

A third problem, which affects only some of the overviews that we used, is the double counting of some individuals who could be developing more than one activity simultaneously. This complicates the estimation of the economically active population. Conversely, this also makes it difficult to quantify that part of the population that did not work, for whatever reason, the first three LabRel codes.

3.2) Estimation of the economically active population

Table 30 of the printed version of the Census reports on population in family households over 16 relating to activity. Distinguished are: students, employed, unemployed seeking a first job, the unemployed who have worked before, three categories of pensioners (disabled, widows and orphans, and retired people), people making or sharing household chores, and a residue identified as "unaccompanied minors school, rentiers, etc" ("*menores sin escolarizar, rentistas, etc*"). Analysing these numbers is very problematic because double counting is widespread. The very source notes that "as each person could be found in the reference week in more than one situation at a time (for example, in an occupation and studying) the sum of all columns exceeds the total population".[41] ("*como cada persona podía encontrarse en la semana de referencia en más de una situación a la vez (por ejemplo, ocupado y estudiando) la suma de todas las columnas es superior al total poblacional*") Thus, the sum of the nine

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[41] INE (2005: 93).

columns yields a figure of 38,438,568 people when the number of people over 16 years in family households was 34,223,905.

Table 14: Spain, 2001: Estimation of total not working population.

	Total	Men	Women	LabRel
Total Population	40,847,371	20,012,882	20,834,489	
15 years of age and less	6,379,748	3,275,785	3,103,963	
65 years of age and more	6,958,516	2,930,563	4,027,953	
65 years of age and more (Occupied)	- 190,648	- 104,245	- 86,403	
65 years oof age and more (Not occupied)	6,767,868	2,826,318	3,941,550	
Not working by Age	13,147,616	6,102,103	7,045,513	1
Students NW 16-64 years of age (family households)	2,993,640	1,347,048	1,646,592	1
Students 16-64 years of age (collective households)	7,327	3,841	3,486	1
Disability pensioners	639,325	416,841	222,484	1
Hospitals (16-64 years of age)	7,027	4,013	3,014	1
Asylum centers (16-64 years of age)	26,810	13,087	13,723	1
Jails and reformatories (16-64 years of age)	2,045	1,785	260	1
LabRel 1	*16,823,790*	*7,908,914*	*8,914,849*	
Rentists (16-64 years of age)	719,574	371,477	348,097	2
LabRel 2	*719,574*	*371,477*	*348,097*	
Unemployed looking for their first job (16-64 years)	543,244	236,189	307,055	3
Unemployed who have worked before (16-64 years)	2,136,555	1,016,305	1,120,250	3
LabRel 3	*2,679,799*	*1,252,494*	*1,427,305*	
Total Not working	*20,223,163*	*9,532,885*	*10,690,251*	

Source: Database

Fortunately, the electronic version of the census retrieves the number of students who were not working. There were 2,993,640 people aged 16 to 64 years, not included in the 4,329,473 which made up table 30 of the census box. We have here, therefore, 1,335,833 of the 4,214,663 who were counted twice, which is to assume something less than a third of that figure.

After correction of the number of students, we have accepted some figures in Table 30 of the source. These are the numbers of unemployed (both those who sought their first job as those who had worked before), the numbers of disabled pensioners, and the residue identified as rentiers by the source. Deducting all of these figures (and, of course, the employed) from the total leaves us with a the rest which I have taken to mean "people performing or sharing household tasks", assuming that some of them could collect a retirement, widow's or orphan's pension.

Table 14 summarizes the estimation of the population that did not work. First, included are all those below 16 years of age. We also include over 65 years of age, but deduct those listed as employed in the census (190,648 people). Also we take into account students living in family households who were between 16 and 64 years of age and did not work at the same time. Also included are invalidity pensioners between 16 and 64

years of age, listed in Table 30 of the Census. Moreover, I add the population between 16 and 64 years of age who resided in collective households and who I interpret as non-workers. Those residing in "*colegios mayores, residencias de estudiantes, internados y academias militares, seminarios…*" ("dorms, dormitories, boarding schools and military academies, seminars ....") are also included. Even those who were in "*Hospitales generales y especiales de corta estancia, Hospitales psiquiátricos, Hospitales de larga estancia, Asilos o residencias de ancianos, Instituciones para personas con discapacidades, Albergues para marginados sociales, Otras instituciones de asistencia social a la infancia, juventud...*" ("general and special short-stay hospitals, psychiatric hospitals, long-stay hospitals, nursing homes, institutions for people with disabilities, hostels for social outcasts, other social care institutions for children, youth .."). Finally, those held in "correctional institutions (prisons, reformatories ...)". Together they make up the group LabRel 1.

Those people (between 16 and 64 years of age) in Table 30 of the printed census listed as "*menores sin escolarizar, rentistas, etc*" we have taken as rentiers and joined the group LabRel 2. Finally, the unemployed between 16 and 64 years of age recorded in the same table 30 we have taken as LabRel 3.

Table 15: Spain, 2001: Estimation of total economically active population.

	Total	Men	Women
Population 16-64 years of age	27,509,107	13,806,534	13,702,573
Occupied (> 65) living in family households	190,648	104,245	86,403
Occupied (16-64) living in family households	16,139,065	9,985,150	6,153,915
Total occupied (> 16) living in family households	16,329,713	10,089,395	6,240,318
Occupied (16-64) living in collective households	38,929	21,105	17,824
Total occupied population	16,368,642	10,110,500	6,258,142
People performing or sharing household chores (16-64)	4,255,566	389,693	3,865,873
Total economically active population	20,624,208	10,500,193	10,124,015

Source: Database

Identified are those not working, for it is then easier to estimate the economically active population (Table 15). First we include those that the Census identified as engaged in various activities and professions, some of them over 65 years. These are the classifications relating to family dwellings. But, we must also add the residents in collective dwellings. We have considered to be economically active, those aged 16 and under 65 years who lived in "Religious institutions (monasteries, abbeys ...)", in "military establishments (headquarters ...)", in "*residencias de trabajadores*" ("Homes of workers"), in "Hotels, pensions, lodging ..." and "Another type of collective". The

table is completed with the estimate of the "people performing or sharing household chores" in family dwellings.

3.3) Estimation of labour relations

The electronic version of Population and Housing Census of 2001 (http://www.ine.es/censo_accesible/es/inicio.jsp) allows the user to build some tables that do not appear in the printed census. Here, we have used this possibility to calculate more groups adjusted for LabRel codes. The query we have performed was on national data in the final version of July 2007 and referred to the population aged 16 years or older living in family dwellings.

The first table I built takes as its main variable "*ocupación profesional a 3 dígitos de la CNO94*" ("occupation professional 3-digit CNO94"), combined with sex and "*situación profesional*" ("professional status"). The CNO94 (National Occupational Classification 1994) distinguishes a single digit, ten major groups: military (0); management of companies and public administrations (1); technical and professionals (2); technical and support professionals (3); administrative employees (4); workers catering services, personal protection, and sellers of businesses (5); skilled workers in agriculture and fishing (6), artisans and skilled workers in manufacturing, construction, and mining, except for plant and machinery operators (7), plant and machinery operators and assemblers (8), and unskilled workers (9). Whitin three digits, the ten groups are broken down into 207 categories. These categories have been adjusted to the classification HISCO in the manner shown in Table 16.

The classification of "professional status", which we have used to assign LabRel codes, distinguishes six categories: businessman or professional employing staff (LabRel 13); entrepreneur or professional who does not employ staff (LabRel 12); employed person with a fixed or indefinite contract (LabRel 14); employed person as a, temporary worker. (LabRel 14); other (family support) (LabRel 5); other (member of cooperatives) (LabRel 18.1).

Table 16: Correspondence between the classifications HISCO and CNO94

HISCO	CNO94
01	201; 261
02	203; 204; 205
03	263; 264; 265; 301; 302; 303; 307
04	305; 306; 322
05	211; 271

06	212; 213; 214; 219
07	272; 304; 311; 312; 313; 511
08	202; 262
09	242
11	331
12	231; 232; 239
13	221; 222; 223; 281; 282; 283; 321
14	294; 355
15	251
19	243; 252; 291; 292; 293; 351; 353; 354
20	101; 102; 103; 104; 253
21	111; 112; 113; 121; 122; 131; 132; 140; 241
22	503; 532; 701; 702; 703; 731; 732; 733; 734; 741; 801; 802; 803; 804; 805; 806; 807; 821; 822; 823; 824; 825; 826; 827; 828
30	341
31	295; 342
32	421; 422
33	401; 460
37	410
39	402; 430; 440; 451; 452; 934
41	151; 152; 170
43	332
45	533; 900
49	531; 931; 935
51	161; 162
53	501; 502
54	512; 514; 515; 519; 911; 933
55	725; 912; 921; 932
57	513
58	001; 002; 003; 352; 521; 522; 523; 524; 525; 529; 922;
61	601; 611; 621
62	602; 612; 623; 941; 942; 943
63	622; 624; 944
64	631; 632; 945
71	742; 950
72	751
73	791
77	780
79	793
80	794
81	792
83	752
84	761; 841; 849
85	762
87	722
88	771
89	773
92	772
93	724
94	774; 970
95	711; 712; 713; 714; 721; 723; 729; 960
96	811; 812, 813; 814; 815; 816, 817; 831; 832; 833; 834; 835; 836; 837; 852
97	980
98	851, 853; 854; 855; 861; 862; 863; 864

The second table I have built is also based on the "professional occupation to 3 digits CNO94" and related to "*actividad del establecimiento (a 1 letra de la CNAE93)*"

("activity of the establishment, 1 CNAE93 letter"). The CNAE93 (National Classification of Economic Activities 1993) distinguishes, in a letter, seventeen categories: (A) Agriculture, hunting and forestry; (B) Fishing; (C) Mining and quarrying; (D) Manufacturing; (E) Production and distribution of electricity, gas and water; (F) Construction; (G) Trade, repair of motor vehicles, motorcycles and personal and household; (H) Hotel; (I) Transport, storage and communications; (J) Financial intermediation; (K) Real estate, renting and business services; (L) Public administration, defense and compulsory social security; (M) Education; (N) Health and social work, social welfare; (O) Other social and community services, personal services; (P) Activities of households; and (Q) Extra-territorial organizations.

From these two questions, the electronic version of the Census estimated the population for each of the Labour Relations Code (LabRel). As a basic rule the identification has been followed by categories of "professional status" of the census (employers, self-employed, employed with permanent or indefinite contract, contract worker on a temporary, family support, member of a cooperative). The result of this classification has been corrected in the case of "Employed persons with a fixed or indefinite contract", using the categories L ("Public administration, defense and compulsory social security") and Q ("Extra-territorial organizations") of CNAE93 to identify the "Employed in public administration" (LabRel 18.3). Also consigned to the LabRel group 18.3 are those employees included in several categories of CNO94 related government (001, 002, 003, 101, 102, 103, 104, 252, 253, 292, 295, 342, 410 , 521, 522, 524), education (221, 222, 223, 281, 282, 283, 321), health (212, 213, 214, 219, 272, 304, 311, 312, 313, 511) and religion (294, 355).

All this is true for the population living in family dwellings, for those in collective households, the census does not provide more detail either in print or in online editions. So we simply attributed to the resident population in religious centers between 16 and 64 years LabRel code 18.1 (cooperatives as forms of relationship). Moreover, regarding the population living in barracks, I have considered the group as LabRel 18.3. Those who were registered in "homes for workers" I have considered employees (LabRel 14). Finally, the remaining two categories, referring to residents in hotels and other groups are to remain as unknown relationship.

Table 17 is used to gauge the reliability of our classification. It summarizes the employed population data offered by the *Encuesta de Población Activa* (EPA, i.e. Labour Force Survey) and those estimated by us from the Census of Population and

Housing. The first thing to say is that the figures do not agree, either in whole or in detail. The census collects a greater volume of employed population, fewer self-employed workers, cooperatives and family support, a larger number of entrepreneurs with employees, and a greater number of employees. However, the proportions are not very far apart, so that broadly could give good figures.

Table 17. Comparison between labour relations in two different statistical surveys: EPA and Census (Spain, 2001)

		EPA 2001		Census 2001	
	LR_Code	No.	%	No.	%
Occupied		*15,945.6*	*100*	*16,368.6*	*100*
Non salaried		*3,158.8*	*19.8*	*2,915.4*	*17.9*
Employers	13	842.8	5.3	1,055.2	6.5
Self-employed	12	1,905.3	11.9	1,699.7	10.4
Members of cooperatives	18.1	93.7	0.6	90.3	0.6
Family workers	5	299.0	1.9	70.2	0.4
Salaried		*12,786.7*	*80.1*	*13,439.2*	*82.1*
Public sector	18.3	2,517.9	15.8	2,719.3	16.6
Private sector	14	10,268.8	64.4	10,719.8	65.5

Sources: The data from the E.P.A. (Encuesta de Población Activa: Active Population Inquiry) has been taken from *Indicadores sociales de España 2003: Mujeres y hombres en España* (Instituto Nacional de Estadística). The census results have been estimated from the database.

1797, 1900 and 2001

Here, are the results of all these operations. Table 18 summarizes the overall figures for each of the LabRel . Estimated figures for the year 1797 are a bit vague, since we can not realize how many peasants and rural workers (farmers, laborers, servants) worked in a context of pure subsistence (LabRel 4 and 6) and how many worked for the market (LabRel 12 and 14).

Table 18. Labour Relations in Spain, 1797-1900-2001.

	1797		1900		2001	
LabRel	Number	%	Number	%	Number	%
1	2.680.797	25.4	5.449.791	29.3	16.823.790	41.2
2	249.265	2.4	265.675	1.4	719.574	1.8
3	-	-	67.283	0.4	2.679.799	6.6
4 and 12	890.920	8.4	-	-	-	-
4 and 14	805.235	7.6	-	-	-	-
5	4.593.922	43.6	6.063.872	32.6	4.325.798	10.6
6	44.241	0.4	-	-	-	-
6 and 14	138.276	1.3	-	-	-	-
7	91.370	0.9	54.738	0.3	-	-
8	2.923	0.0	24.690	0.1	-	-
12	370.550	3.5	2.158.586	11.6	1.699.740	4.2
13	52.346	0.5	273.379	1.5	1.055.196	2.6
14	354.868	3.4	3.859.444	20.7	10.719.849	26.2
18	273.494	2.6	314.939	1.7	2.809.625	6.9
U	-	-	220.809	1.2	14.000	0.0
Double-c.	-	-	- 135.120	-0.7	-	-
Total	10.548.207	100	18.618.086	100	40.847.371	100

Source: Database

The trends are, nevertheless, clear:

- Increased non-working population, particularly in the group LabRel 1 (25% in 1797, 29% in 1900, 41% in 2001).

- Decreased proportion of people working for the household, especially the group LabRel 5 (44% in 1797, 33% in 1900, 11% in 2001).

- Decreased proportion of self-employed in the group LabRel 12 (12% in 1797, 11% in 1900 and 4% in 2001).

- Increased number and proportion of employers in the group LabRel 13 (0.5% in 1797, 1.4% in 1900 and 2.6% in 2001).

- Increased number and proportion of salaried workers producing for the market in the LabRel 14 (12% in 1797, 21% in 1900, 26% in 2001).

- Increased number and proportion of employees working for non-market institutions in the LabRel 18 (2.6% in 1797, 1.8% in 1900, 6.9% in 2001).

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