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Standard Budgets in Spanish Economic History: a User's Guide to Sources and Methods

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Standard Budgets in Spanish Economic History: a User's Guide to Sources and Methods

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Abstract

In this paper I document a near absence of household budget microdata in the sources for nineteenth century Spain, both published and archival. The sources do however contain a rich set of standard budgets, which can contribute to a better understanding of the history of Spanish living standards.

The paper is divided in three parts: first, I describe standard budgets and their usefulness for cliometricians; secondly, I trace their history in the Spanish sources; finally, I sketch a few applications to issues in the period 1850-1905.

The latter analysis suggests: a) a substantial variation in cost of living and expenditure patterns across provinces, sectors, and socioeconomic status; b) a sensible impact of alternative CPI weights on national price indices; c) poverty lines ranging between 1,110 and 1,300 euros per year – in 2016 prices – for the years 1850 and 1856.

Keywords: Spain, standard budgets, living standards, household budgets, poverty, wellbeing, economic history, cost of living, prices.

JEL classification: C10, C61, D12, I31, I32, N01, N30, Z18.

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1 Introduction

“You tell us – they said – how can we live with a budget like the following, designed for a couple with three children (we generally have larger families): Two kilos of bread: 0.80; Half a liter of oil: 0.30; One pound of potatoes: 0.08; Vegetables: 0.05; Codfish: 0.15; House: 0.20; Light: 0.15; Total in pesetas: 1.73” (author’s translation from Buylla y Alegre, 1904, p. 164).

With these words a farmhand from Rioseco (Castile and León, Spain) addressed the functionary and jurist Adolfo Buylla y Alegre (1850–1927), sent by the Spanish Ministry of Agriculture to monitor the two Castiles, shaken by political turmoil. Buylla y Alegre continued: *“Since this budget does not include neither clothing nor linen, nor shoes, nor anything that may seem superfluous or vicious, it is clear that it can not ensure except for a very short time its satisfaction. A worker, therefore, cannot live with seven reales per day”* (author’s translation from Buylla y Alegre, 1904, p. 165).

The one above represents a rudimentary specimen of standard budget, a list of goods and services that a family would need to live at a certain level of wellbeing, coupled with its estimated cost (Orshansky, 1959; Innes, 1990).

As we can see, this type of family budget both provides quantitative data – i.e. information on total and food expenditures, on wages and income, on prices, on dietary habits, on what goods are perceived as essential or dispensable, on family structures – and gives somehow body to the concept of living standard (Sen and Hawthorn, 1988).

Of course, standard (household) budgets are different from household budgets, since they have a normative rather than positive nature. However, they are often very detailed and, as a consequence, very useful. Especially in cases in which, as in Spain, standard budgets are the best we have. So the issue is: how to use them? The literature lacks of an in-depth and methodologically-sound discussion on this instrument. Also, standard budgets have been employed occasionally, but we could do more and do better.

In the last 25 years, for instance, a growing literature has made use of standard budgets in the analysis of wellbeing, but with little attention to their potentialities for economic history. Innes (1990) has thoroughly focused on the success of budget standards in 20th century United States, while Fisher (2007) has provided a historical overview on all Anglophone countries. Wide is also the literature on Australia (see Saunders, Patulny,

and Lee, 2004) and Great Britain, the latter being the leader in methodological research on the topic (see Parker, 2002; Middleton, 2001; Bradshaw et al., 2008). As for contemporary standard budgets, also all EU countries have been active on this subject since 2008 (Storms et al., 2014).

As far as Spain is concerned, instead, while only *five* household budgets are currently available from printed sources for the years 1840–1919, I could trace about 80 examples of historical standard budgets, the majority of which also report the composition of household expenditures.

After being ignored for long, the evolution of wellbeing in Spanish history has received an increasing attention in the last 25 years. In particular, Martínez Carrión (1997; 2002) has focused both on the standards of living in the rural provinces and on the methodological challenges characterizing this stream of literature. Other examples can be found in Doncel (1997) and Reher (1991), focusing on the Spanish family economy. From a historical point of view, we can also find a flourishing literature which provides qualitative descriptions of living standards (see Ojeda, 2006), while an important contribution to quantitative analysis comes from the studies about female and child labor (see Llonch, 2004; Borderías, 2007). Practically none of them, however, makes use of household-level data on incomes and expenditures proceeding from surveyed household budgets, usually preferring data on wages or other variables which can capture only some dimensions of household wellbeing.

This article aims at filling these gaps and is structured as follows. First, in section 2, I put standard budgets into perspective, briefly describing their nature, their history, and trying to provide a framework for making use of standard budgets in economic history. Second, in section 3, I trace the history of household budgets and standard budgets for Spain, a country for which we have very little historical data at the household level. Finally, in section 4, before drawing my conclusions in section 5, I make use of the standard budgets I was able to trace for Spain to portrait the evolution of expenditures, cost of living, prices, and welfare thresholds in Spain for the second half of the 19th century.

2 Defining standard budgets

2.1 On household budgets

Today, household budgets and household budget surveys are the most widely used analytical tools for the study of living conditions (Deaton, 1997; Ravallion, 1994). This is mainly because: a) they focus on expenditures and consumption, the monetary variables that best reflect the state and evolution of living conditions and best approximate utility (Blundell and Preston, 1995; Deaton and Grosh, 1998); b) they enable to analyze the population distribution and, differently from labor market or income data, show how families, not only individuals, cope with the economic environment (Deaton, 1997; Ravallion, 1994); c) through multi-purpose surveys, they enable to capture many of the multiple dimensions of wellbeing (Grosh and Glewwe, 2000).

These advantages underlie the increasing attempts to make use of household budgets also in historical perspective, both at the national and at the international level (see Vecchi, 2017; Gazeley and Newell, 2011; A’Hearn, Amendola, and Vecchi, 2016; Gazeley et al., 2015). These attempts find also further justification in the fact that the alternative sources and methodologies used so far in cliometrics leave room for improvements in terms of population and time coverage, theoretical consistency, heterogeneity, and multidimensionality (see A’Hearn, Amendola, and Vecchi, 2016).

However, household budgets present some limitations, especially in historical perspective. In addition to the ones referred to modern household budget surveys (see Atkinson, 2015; Meyer, Mok, and Sullivan, 2015; Burkhauser et al., 2016), in fact: a) to be representative of the population, post-stratification techniques must be applied; this implies that the budgets must be coupled with census data – which are not always available – and that they must be available in great quantity; b) although recent research is showing that success stories are not isolated cases, this might not hold true for all the variables that we want to observe, for all periods or, as we shall see, for all countries. What can we do when household budgets simply do not exist (at all or in sufficient quantity)? Standard budgets, their closest relatives, might prove as a viable solution to some of these issues.

Table 1 – Monthly budget of a working class family (Madrid, 1902).

Food (30 × 1.91)	57.30	pesetas
Salt and spices	1.00	«
Wine	8.00	«
Soap	1.25	«
Oil	2.00	«
Charcoal	5.00	«
Housing	15.00	«
<i>Total</i>	<i>89.55</i>	<i>pesetas</i>
Summary		
Income	106.40	pesetas
Total expenditures	89.55	«
<i>Savings</i>	<i>16.85</i>	<i>pesetas</i>

Source: author's translation from Úbeda y Correal (1902, p. 54).

2.2 On standard (household) budgets

Mollie Orshansky (1915-2006), mother of the U.S. poverty threshold, gave in 1959 the definition of standard household budget, since then adopted as reference by the literature. According to this definition, a standard budget is a list of goods and services that a family of a specific size and composition – belonging to a particular social class or occupational group – would need to live at a determined level of wellbeing, together with the estimated monthly or annual cost of this basket (Orshansky, 1959, p. 10; Innes, 1990, p. 138).

The literature, especially in the U.S., has made use of different expressions to address them – to list some: market basket, basic needs budget, expert budget, budget standard – but they all coincide with the definition above (Fisher, 2007). Table 1 provides an example taken from a Spanish source.

As we can see, the structure of a standard budget is identical to that of a household budget. However, there are two relevant differences.

First, while household budgets have a positive nature, standard budgets are a normative instrument: they involve estimates, judgments and assumptions, reporting hypothetical values. They represent an ideal norm or model, a standard, indeed, even with a prescriptive nuance. This does not imply that standard budgets do not have any link

with real data, but still they represent only abstract profiles. As a consequence, the development of budget standards generally does not provide any information on the population distribution.

Secondly, still following from the latter consideration, standard budgets require an additional feature to be identified. Following the working definition provided by Vecchi (2011; 2017), five pieces of information are needed to define and to make an analytical use of a household budget: year, location, household size, household head's occupation, total expenditure or total income (or even only total food expenditure). Given their nature, instead, standard budgets always require a sixth piece of information, an additional element: the norm, the standard of living¹ associated with the profile under construction. In the absence of this information, we are in presence of a different object, which might not be of use in a welfare analysis.

The latter reference to these minimum requirements is important also to underline that I adopt a broad definition of standard budget, including also budgets indicating only total expenditure or income, not only those reporting detailed lists and costs of goods and services.

In the era of probabilistic household budget surveys (HBSs), the strong disadvantage of lacking a distribution, coupled with the normative nature of standard budgets, makes of household budgets a first best, in general. But the more we move back in time, the more their limitations in terms of availability make it hard to establish a solid order of preference. Also the quality of the information provided plays a role. Historical household budgets², in fact, rely on very heterogeneous sources that sometimes can be very far from the optimum represented by modern budgets.

Some technical expedients can overcome these obstacles, and these documents always remain a very valuable historical source, but we can see how, in this context, a rigorously-constructed alternative could prove not only valid, but preferable.

¹ This is why, between all the different alternatives, I have still opted for the traditional denomination of standard budgets.

² This term identifies all the budgets of the pre-statistical era (pre-1950s, in general), not proceeding from modern probabilistic surveys (A'Hearn, Amendola, and Vecchi, 2016).

2.3 A brief history of budget standards

Budget standards have a long and illustrious history. The earliest studies on living standards, in fact, dating back to 17th century Britain, were based on so-called “hypothetical budgets”, statements conjecturing the characteristics of the “typical worker” (Deeming, 2010). By the end of the 18th century, however, researchers started turning to actual family budget data, taking advantage of developments in statistics.

The swan song for this British dominion was represented by Seebohm Rowntree’s work on the town of York (Rowntree, 1901), containing the first examples of standard budgets produced with a fixed step-by-step procedure (Innes, 1990): (i) collection of data on household incomes, composition, and consumption patterns; (ii) determination of minimum food expenses, putting together nutritionists’ recommendations with the diets supplied in the workhouses; (iii) interviews to poor families about their habits and the prices they faced. All the procedures used up to the present day can be seen as variations of this ultra-centenary experiment.

In the 20th century, the U.S. displayed a growing interest for standard budgets (Innes, 1990). Starting from Ryan (1906), Chapin (1909), and Streightoff (1911), in fact, institutions and political actors increasingly resorted to these profiles for measures of income adequacy to be utilized in policy-making and wage bargaining, until the setting of a “national standard” in 1920 (U.S. Department of Labor, 1920).

Straddling before and after WWII, thirteen federal states adopted minimum-wage budgets, and many others had been developed in connection with local public assistance programs and with price and cost of living indices (Lamale, 1959). Then, in 1948, with the City Worker’s Family Budget (CWFB; see Kellogg and Brady, 1948), the procedure was routinized making the CWFB the benchmark for all the years to come, employing experts’ recommendations, making use of interpolations and income elasticities for the items without external standards, and adjusting quantities and prices for the different cities (Brady, 1949).

In the 20th century, also Australia and Canada had imported from Britain the tradition of using standard budgets, mainly for monitoring the evolution in the cost of living (Saunders, 1998; Bartlett, 1981). As for Australia – where the first so-called “Harvester standard” was created in 1907 (Higgins, 1907) –, Bradshaw (1993) highlights that the methodology used there was identical to those used in contemporary budget standards

studies, setting three alternative “reasonable standards of comfort” (Paddington, 1920): (i) a pauper or poverty level, (ii) a minimum of subsistence level, and (iii) a minimum of health and comfort level.

Very little is known, instead, on the history of this approach in Europe. No trace emerged for France and Germany, for example, while this article presents a first review on the subject for Spain. We can find an example in Italy, however, where the Governatorate of Rome, still in connection with the construction of cost of living indices, published in 1934 the “complete budget of a working class family of average type” for the years 1925 to 1927 (Governatorato di Roma, 1934).

The last 40 years have witnessed a revival of budget standards, with Europe as a protagonist. Since Piachaud (1979), standard budgets have started to regain the attention of social researchers, and the budget standard approach has now been in use for over 25 years in continental Europe (VPSJ, 2013). This renaissance is once again led by the UK, where scholars started developing new budgets and methodologies since the beginning of the 1990s (see Deeming, 2010). The frontier has been represented by the development of the *Minimum Income Standard* (Bradshaw et al., 2008), which makes full use of experts recommendations, household surveys, and focus groups, and constitutes also the main basis for the EU project on reference budgets³ (Warnaar, 2009; Vranken, 2010).

As for the U.S., we can not speak of revival, since there never was a decline. Fisher (2012) provides an exhaustive overview of the studies brought out in the last decade. Standard budgets are now available in the U.S. both at the national and at the local level, for a great (and growing) number of localities, household types, social and occupational categories, and levels of living.

2.4 Poverty measurement

Although standard budgets, as we have seen, have a very broad scope of application, their use has mainly focused on the appraisal of the economic conditions of the

³ In 2008, the EU Commission launched a transnational project initially called “Standard Budgets”, aimed at developing a common methodology for developing budget standards. The project produced a Handbook (Warnaar, 2009), in which the authors explain their choice to switch to a different name, basically related to the main purpose of the budgets, that of debt counselling (Warnaar, 2009, p. 5). However, the two coincide, and the definition is still the one provided by Orshansky (1959).

population – determination of welfare thresholds and headcounts, purchasing power and cost of living calculations, comparisons with income distributions, level of living comparisons among different family types, periods and areas –, especially with regard to the definition of poverty lines (see U.S. Department of Labor, 1963).

The standard budget approach, in fact, is specifically meant to challenge the traditional approach to poverty measurement, by broadening the focus from neoclassical utility to a wider range of considerations (Saunders et al., 1998), though still being regarded as a welfarist approach (see Ravallion, 1994).

We should also note that, on one hand, welfare thresholds established through standard budgets are absolute poverty lines, while, on the other hand, all absolute poverty measures imply defining a minimum basket – not only the so-called “Basic Needs Method”⁴ (see Ravallion, 1994), explicitly based on standard budgets.

The strongest link with the literature on poverty measurement, however, is represented by subjective poverty lines – the Subjective Poverty Line (SPL)⁵ and the Leyden Poverty Line (LPL)⁶ (see Goedhart et al., 1977). As a matter of fact, the definition of standard budgets can be broadened to include them as well as other subjective measures of poverty, such as the Center for Social Policy Poverty Line (see Flik and Van Praag, 1991) and those derived using the Gallup polls (see Rainwater, 1974).

On the one hand, then, a standard budget can be considered as a (non-complete) substitute of a poverty line (Bradshaw et al., 2008; Warnaar, 2009; VPSJ, 2013) – the degree of substitution being dependent on the way in which the standard is defined. Very often, in fact, due to their normative nature, the threshold indicated by the budget is not meant to be the border line dividing the poor and the well-off, but is a way to identify levels of living above poverty. On the other hand, budget standards can be

⁴ Note that some “basic needs” approaches take into account also other dimensions of deprivation (e.g. the access to public services, the political environment), not only utility, thus constituting non-welfarist approaches (Ravallion, 1994; Streeten et al., 1981).

⁵ The SPL is calculated by asking a “minimum income question”: “*Which income do you, in your circumstances, consider to be absolutely minimal, in the sense that with less you could not make ends meet?*”. The answers given by the household head enable to derive a functional relationship between the minimum indicated, the real income of the household, and the socio-demographic characteristics of the family.

⁶ The LPL is calculated by asking an “income evaluation question”: “*Which household income would you, in your circumstances, consider to be very bad / bad / insufficient / sufficient / good / very good ?*”. Household heads’ answers are then used to estimate a “welfare function of income” (WFI). Someone is deemed to be poor if his or her utility level is lower than a “welfare level” set arbitrarily (the standard).

useful also for the construction of poverty profiles, since they are very sensitive to changes in the vector of individual characteristics they are built upon.

2.5 Potentialities for economic history

From a historical point of view, standard budgets display several potentialities. First, when other sources enable us to perform a historical analysis of wellbeing – household budgets, for example – standard budgets can prove as a tool for validation. Many authors have underlined the limitations of traditional poverty measures (Fisher, 1995; Seguino, 1995; Gould et al., 2015), but all measures require an assessment of their reliability, especially when the estimates pioneer in new geographical areas, timeframes, social classes, etc.

Furthermore, standard budgets are a source for several types of quantitative data. In addition to the determination of thresholds, in fact, they are a very valuable source for prices and weighting scales, especially in the worst case scenario, the one in which no other source is available. One relevant example can be found in Williamson (1995), who resorted to a budget approach for deriving PPPs for the period 1905-1914, using the data provided by the surveys of the British Board of Trade.

However, the most relevant potentiality lies in the possibility to build profiles retrospectively. In fact, while the opportunity to observe real households is limited to their lifetime, the standard budget approach can be applied also backwards in time, to reconstruct profiles relative to periods, locations, social classes and household types on which we have little information. Today's hypothetical budgets can profit from the research developed in the last decades to put together information coming from a wide range of sources.

Also in this case, economic historians have already experienced costs and benefits of performing such a procedure. Allen and colleagues, in fact, have investigated the prosperity of the Romans (Allen, 2009) and the living standards in China during the 18th century (Allen et al., 2011) by reconstructing *bare bone*, *subsistence* and *respectable* baskets for several settings⁷.

⁷ Another related example is represented by Glassberg (1979), who has constructed a poverty line for Philadelphia in 1880 estimating “*components and costs of supporting a working class family of five at a minimum adequate level of living*”.

The salient features of Allen's methodology are illustrated in Allen (2001), where the author introduced the idea of "welfare ratio" – the ratio between annual earning and the annual cost of a poverty-line consumption bundle. To construct this bundle, Allen (2001) uses the concept of "notional family", making arbitrary assumptions about the household size, minimum allowance for rent, who earned income, and the number of working days per year. Then the author employs a great number of historical sources both to check these assumptions and to obtain additional data on prices, dietary habits, and goods available in specific periods and localities. Allen (2017) – citing "reference budgets" explicitly (p. 3693) – adds a new step to this procedure, constructing a "basic needs poverty line" by using linear programming to set the diet portion of the poverty budget and early 20th century budget studies for different localities to make non-food spending "climate dependent".

In sum: cliometricians have already gone a long way towards integrating a retrospective standard budget approach in the long-run (comparative) study of wellbeing. As Allen (2001; 2017) himself underlines, however, several issues can hinder this use of budget standards in cliometrics.

Lack of representativity is probably the biggest threat. Standard budgets employ very restricted and selected information, and as such they should be handled with much care. Even if sampling techniques can support the construction procedures, the relevant role played by arbitrary judgments – especially in historical sources – implies that the corresponding estimates might mainly reflect preferences and opinions of a narrow group of individuals.

A second relevant issue is: can we use our results for interspatial or intertemporal comparisons? As Ravallion (1994) remarks, this is a major concern for poverty analysis. To make comparisons between different thresholds, the underlying assumptions must be consistent between observations. Poverty measurement deals with these conventions, but the number of assumptions for constructing standard budgets is wider and with a bigger impact. This means, in concrete, that we should compare only budgets using the same approach. As far as poverty lines are concerned, this is probably easier, given that a standard can be defined almost unambiguously. But the peculiarity of standard budgets is the will to describe also levels of living above poverty. In these cases, the (often qualitative) definitions of the standards vary widely across different sources, and

therefore might not be consistent. For these reasons, the methodologies underlying the construction of the budgets assume uttermost importance.

2.6 Producing standard budgets

Producing a standard budget is a complex and time consuming process – “a ghastly chore” (Bradshaw, 1993).

The first decision to be made concerns the level of wellbeing to be described, among the several standards and labels that can be identified (“modest but adequate”, “mandatory expenditure”, “liberal supply”, etc.). Ornati (1966) provided a general classification, dividing about 60 standard budgets for the period 1905 to 1960 in three categories: (i) *minimum subsistence*, (ii) *minimum adequacy*, and (iii) *minimum comfort*. A comparison of Ornati’s figures with contemporary poverty thresholds indicates that the first category corresponds to the conventional definition of poverty (Fisher, 1995).

Different methods and approaches can be used to calculate the budget.

As for the level of detail reported, the budget might follow: (a) a detailed approach, reporting quantities and prices of specific goods and services; (b) a categorical approach, reporting budget values for groups of items; or (c) report just the total amount corresponding to that standard.

Then the budget is constructed following either (i) a prescriptive method – where experts, institutions or other authoritative entities, indicate, usually by category, the corresponding level of expenditure (Johnson, Rogers, and Tan, 2001) –, (ii) a consensual method – involving focus groups constituted by citizens and experts who discuss and define the concept of minimum essential and then compose the baskets (see Mack and Lansley, 1985; Walker, 1987; Bradshaw et al., 2008; Fisher, 2007) –, (iii) a subjective method – analogous to the methodology applied with subjective poverty lines and with the Gallup “get-along” question⁸ (Bosch, 2001) –, or (iv) a descriptive method – usually applied residually, with data drawn from household surveys to fill any gaps in

⁸ Since January 1946, the American Institute of Public Opinion’s Gallup Poll has asked the following question: “*What is the smallest amount of money a family of four (husband, wife, and two children) needs each week to get along in this community?*”.

purchasing habits⁹ (Johnson, Rogers, and Tan, 2001). Usually, however, all these methods are combined together.

Once items and quantities have been determined, the budget is priced – coherently with the social background described and sometimes in more than just one place. The budget can also be then extended over space, over different household types, for other standards, and for other parameters. The adjustment, as with poverty lines, can be performed either by repeating the entire estimation procedure (*rebasings*) or by correcting for the effect of variations in prices/composition/standard (*uprating* or *multiplier approach*) – thus not accounting for changes in tastes and needs (see Allen, 2017).

Lastly, we should also note that some particular types of budgets could be reconduced to the definition of standard budget, although they present several structural and conceptual differences:

- **Average budgets** – in which the budget values either (i) represent the average of observed values or (ii) subjectively approximate what is perceived as an “average” level of wellbeing.

The first case is represented, for instance, by the values obtainable from the aggregate results of a survey, often available in place of the corresponding micro-data. An important example here are the so-called *social tables* available for the pre-industrial era, where average family incomes for different social strata are tabulated alongside the population shares of these groups (see Scheidel and Friesen, 2009; Milanovic, Lindert, and Williamson, 2011; Van Zanden, 1999; Hoffman et al., 2002).

The second case, instead, can be traced in the answers to a question like: “*How is composed, on average, the budget of a family of farmers in this region?*”.

The treatment of the two cases is logically distinct but, as far as we can assume that they define an “average” standard of living, both can serve as an (atypical, although very frequent) example of budget standard;

- **Modal budgets** – budgets in which values can be interpreted as the mode for the reference population. Also in this case we could imagine a distinction between

⁹ See also the so-called “break-even point method” (Chapin, 1909; Johnson, Rogers, and Tan, 2001).

(i) modal values observed through a survey and (ii) values indicated in response to questions like: “*How is generally [i.e. in most cases] composed the budget of a working class family in this region?*”.

The first, however, is a rare (if existent) case. Nevertheless, it is important to note that, while with average budgets the indication of the living standard is implicit, in this case it is necessary to make it explicit in order to fall under the umbrella of standard budget. Thus, while the above-cited general example does not give place to a budget standard, the reformulation of the question as, for instance: “*How is generally composed, in this region, the budget of a working-class family, in order to maintain an acceptable standard of living?*” would produce an example, in this case very frequent, of budget standard;

- **Leplaysian budgets** – the budgets proceeding from the work and the methodology introduced by Frédéric Le Play (1806–1882). As Hacking and Morini (1993) underline, the families selected by Le Play were those that corresponded to the author’s social and political model of reference, those who mirrored his own stereotypes.

In general, then, Leplaysian budgets should not be considered a type of budget standards, both because they were actually surveyed and because of the extremely arbitrary selection they were subject to. This is relevant especially in all those cases in which – as in Spain – very small numbers of Leplaysian budgets, in the absence of alternatives, have been used even for producing inference or calculating price indices.

3 On Spanish historical household budgets

Spain, at least in theory, should not be an exception to the worldwide puzzle accounting for millions of household budgets, having much in common with countries that stand out for the number of historical household budgets available¹⁰. Nonetheless, the country lacks of historical household surveys and of household-level microdata on income and expenditures, making the case of 19th and 20th century Spain both paradoxical and illuminating.

¹⁰ Italy, Germany, and France, for instance (see A’Hearn, Amendola, and Vecchi, 2016, p. 8).

The following paragraphs describe the archival and published source that I was able to track down for the country, constituting the main stages in the history of Spanish household budget surveys and studies. As we will see, however, in most of these cases real household budgets are not available, but the sources themselves provide instead standard budgets, which make up the database for the analysis illustrated in section 4.

Figure 1 – The *Encuesta Agrícola* of 1849-1856.

Provincia de Teruel. Año, 1852.	
Una pareja jornalera se estimaba necesitaba al año, para subvenir a sus necesidades y las de dos hijos, unos 1.400 reales distribuidos de la siguiente forma:	
— alquiler casa	60 rs.
— muebles y utensilios	60 rs.
— 30 fanegas de trigo	540 rs.
— 3 libras diarias de patatas (1,3 kg.)	64 rs.
— 4 onzas diarias de arroz, judías y lentejas ...	85 rs.
— 2 onzas de aceite	128 rs.
— 4 celemines de sal al año	20 rs.
— leña al año	100 rs.
— médico, cirujano, medicinas	50 rs.
— tabaco al año	42 rs.
— vestido y calzado	280 rs.

Source: Moral Ruiz (1979, p. 112).

3.1 The inquiry on rural credit (1849)

In the collection of quantitative data, Spain is one of the first-comers: the oldest dedicated institutions were established in the mid-19th century¹¹, and the first government inquiry investigating the economic conditions of Spanish households dates back to the first half of the 19th century.

In 1849, in fact, The Ministry of Commerce, Education and Public Works launched an inquiry on rural credit, a well-known source in Spanish historiography (see Garcia Sanz, 1979; Moral Ruiz, 1979; Domínguez Martín, 2002). The investigation was carried out on a provincial basis, but it did not question individuals directly, choosing instead intermediate bodies. Questions 4 and 5 of the questionnaire, however, focused on the

¹¹ The first documented official body is the Comisión de Estadística del Reino, established in 1856. In the U.S., for example, the Statistics of Income Division was created in 1862, while in Germany the Verein für Socialpolitik (“Association for Social Policy”) was established in 1873.

income and expenditures of the “typical” peasant households, asking to reconstruct their profiles¹². Figure 1 shows an example of the output: a classic example of standard budget.

3.2 The work of Ildefonso Cerdà (1856)

After focusing on the first institutional initiative, we turn now to the remarkable work of an individual scholar, Ildefonso Cerdà (1815-1876), renowned Catalan urbanist and admirer of Frédéric Le Play.

In 1856, Cerdà, with the intent of carrying out a deep interviews-based investigation upon industrial workers in Barcelona, got to build, with the collaboration of the laborers representatives, a rich database with the wages of about 54,000 citizens. Furthermore, and more importantly for our purposes, he constructed two thorough expenditure profiles, one for the typical single worker and one for the typical working class family (see Table A1), also comparing the diet theoretically required to sustenance with the one actually observed among the workers.

I will focus on these data in section 4.4, showing how the standard budget approach can achieve a singular depth.

3.3 The U.S. reports on *Labor in Europe* (1878 and 1884)

In 1878 and 1884, the U.S. Department of State commissioned the American consuls in Europe a series of reports on the economic conditions in the continent, including in several Spanish cities¹³.

In the reports, the consuls describe – in addition to wages, prices and other variables – the living conditions and the cost of living of the typical families in their territorial competence area. While the sections on wages are quite similar, the manner in which expenses are reconstructed varies significantly depending on the report.

¹² Question 4: “*What is the mean value of the daily wage of the agricultural laborer? Is he employed for the whole year? For how many days, on average, is estimated to be unemployed?*” – Question 5: “*Form a prudential estimate of what each agricultural laborer needs to feed himself and his family, including in the calculation: house rental; food supply for him and his family; medicines and tobacco; clothing and footwear; education*” (author’s translation from Moral Ruiz, 1979).

¹³ The 1878 report highlights that the information coming from Spain are fewer than for other countries: “*The reports herewith submitted from Spain are only four in number, viz, from Barcelona, Cadiz, Malaga, and Santander, and, although not as minute or exhaustive as many of the reports from other countries, will be found interesting and instructive*” (US Dept. of State, 1879, p. 28).

Furthermore, in addition to the standard budgets obtainable (see for example Figure A1), these sources also contains two surveyed household budgets for Denia and Malaga in 1884 (see Figure A2 and A3), the only available for the period under exam (together with two Leplaysian budgets; see Table A2).

3.4 The Social Reforms Commission (1883)

More than forty years after the *Encuesta Agrícola*, in 1883, the Government created the *Comisión de Reformas Sociales* (“Social Reforms Commission”, CRS)¹⁴, whose aim was to carry out quantitative and qualitative analysis on the living conditions of Spanish workers (Suárez Cortina, 2006).

The task was immediately fulfilled creating a long questionnaire sent throughout the country, in which, once again, some questions focus on our items of interest: family income and expenditure (see De La Calle, 1989, pp. 335-339). The survey is unprecedented in terms of both geographical and thematic coverage but, also in this case, it collects mainly qualitative data and it is limited to the reconstruction of some “typical” figures, as the very detailed one for Valencia (see Table A3).

3.5 A survey for Andalucía and Extremadura (1902)

In 1903 the Commission was renamed Instituto de Reformas Sociales¹⁵ (“Social Reforms Institute”, IRS), just after the launch of a new large survey on living conditions, starting in 1902, limited to the regions of Andalucía and Extremadura.

This survey is less known than the previous, but potentially even more relevant. It constitutes the first example of a mass application, for Spain, of close-structured questionnaires (De La Calle, 1989, p. 266), requiring strictly quantitative answers and highly similar to a modern HBS (see Figure A4), for the first time directly involving the families. Unfortunately, however, the original microdata have been lost.

The statements available for 1904 still proceed from the IRS – and with similar motivations –, in particular from the work of Buylla y Alegre, who reported on peasant social unrest in the Castilian regions (Buylla y Alegre, 1904). This work describes in

¹⁴ Before other European countries did the same (De La Calle, 1989).

¹⁵ The IRS took over the functions carried out in other countries by the Ministry of Labour, and is the predecessor of the Instituto Nacional de Previsión (Palacio Morena, 1988; Suárez Cortina, 2006).

detail the terms of the conflict between capital and labor: most of the protestors requests focused both on wages and on the food supplied by the owners, and for this reason the author also reported data on typical wages and typical food and total expenses for the towns of Valladolid and Medina de Rioseco (Buylla y Alegre, 1904, pp. 23 and 164).

In 1902, also Dr. Úbeda y Correal from Madrid reconstructed, primarily for medical purposes, the standard budget of a typical working-class household (Úbeda y Correal, 1902). After having dispensed advice on the best conduct in terms of housing, food and clothing, he first built nine different minimal food baskets, then derived total income and total expenditure for a family of four (see Table 1). Once again we can note the similarities with the experiences described in section 2, and we will see in section 4.4 how to employ this source in the analysis of welfare thresholds.

3.6 A breakthrough in the 1930s

Until now, then, we have seen several standard budgets emerging, and only few traces of surveyed household budgets. In the following years also these traces disappear, probably due to the political and economic decline of the country. The 1930s, however, represent a turning point, due to the Civil War and to the need for national and local cost of living indices.

Between 1932 and 1936, the *Institut d'Investigacions Econòmiques* of Barcelona promoted a series of surveys in the Catalan area. Once again the microdata seem lost, while the summaries elaborated by Bosch Aymerich (1955a; 1955b; 1955c; 1955d) are suitable for the reconstruction of standard budgets (see Figure A5).

Then, between 1936 and 1939, the *Instituto Nacional de Estadística* (INE) performed a series of pilot surveys in the city of Burgos (Maluquer de Motes, 2013). Due to the war, the need for data is extreme and the INE works for the jump to national scale. However, no data of this preliminary phase appear to have survived.

Lastly, between 1940 and 1941, in large advance on other western countries, the INE conducted the first national survey. It was a failure: the questionnaires, without any monetary incentive to compile them, never returned to Madrid. However, Rey (2002) claims that it had been possible to make use of some data at the provincial level, and that the national price index relative to 1939 is the result of this debut.

The survey of 1940 puts an end, for now, to the saga of Spanish historical household budgets. In 1958, in fact, the INE successfully carried out the first *Encuesta de Cuentas Familiares* (“Survey of Family Accounts”), repeated at more regular intervals starting from 1963 until today. Amount to about 300,000 the family budgets collected by the Institute since 1958. Our story, instead, tells of much inferior numbers, result of episodic cases or of the activity of independent scholars. In the end, as said, in the face of some tens of standard budgets, only *five* historical household budgets are available (see Table A2). No need to say that such a dataset does not allow any solid quantitative analysis, both for the number and for the typology of the budgets.

3.7 Why so scarce?

Quoting Williams and Zimmerman (1935, p. 33): “*A number of other countries in Europe, such as Portugal, Romania, Greece, Turkey, Spain, Latvia, and Iceland are represented by a few investigations of family living. The type and value of such investigations depends primarily not upon the size of the country but upon the institutions established for research and the capabilities of the scholars interested in the subject*”.

At the central level the choice was to focus mainly on other variables (e.g. wages, production, property distribution) and on qualitative descriptions of living conditions, while the behavior of individual scholars and intellectuals shows greater variability. This can be attributed to many different reasons: an intimately corporatist social structure (Linz, 1988); a widespread lack of confidence in modern statistical methods and in sample surveys (De La Calle, 1989; Rey, 2002); a strong tendency to political and social compromise (Tuñón De Lara, 2000; Suárez Cortina, 2006); the strong desire for privacy expressed by citizens¹⁶, and the strong distrust toward central institutions, perceived as distant intruders¹⁷.

The Spanish case teaches that, when dealing with history, the risk of running into “statistical tragedies” (Devarajan, 2013) is high even for countries which had the

¹⁶ Cerdà (1867): “in Spain, the different social classes are extremely closed and carefully hide both their wealth and their poverty: nobody is willing to answer the questions of who makes an investigation” (author’s translation).

¹⁷ Buylla y Alegre (1904, p. 61): «Much could help [...] the Local Commissions; but we must confess that in most of the visited towns they don’t exist, in others their presidents don’t convoke them, and in many neither employers nor workers attend the assemblies when they are cited» (author’s translation).

institutional prerequisites for a success story and have had the will to investigate the economic conditions of the population with a quantitative approach. These countries may not meet our need for data, either unavailable or available in quantity and quality that impede any effective analysis. But the Spanish case, while disappointing our hopes, also shows that standard budgets can represent a good candidate for being at least a second best, in lack of household budgets.

4 The standard budget approach in action

Several examples of standard budgets can be extracted from the above-illustrated sources, and a few more are available from different sources (see Table A4 and Figure A6). As Table A4 shows, the majority of the 80 standard budgets traced follow a categorical approach, have been constructed using a combination of prescriptive, consensual, subjective, and descriptive methods, and describe an average level of wellbeing.

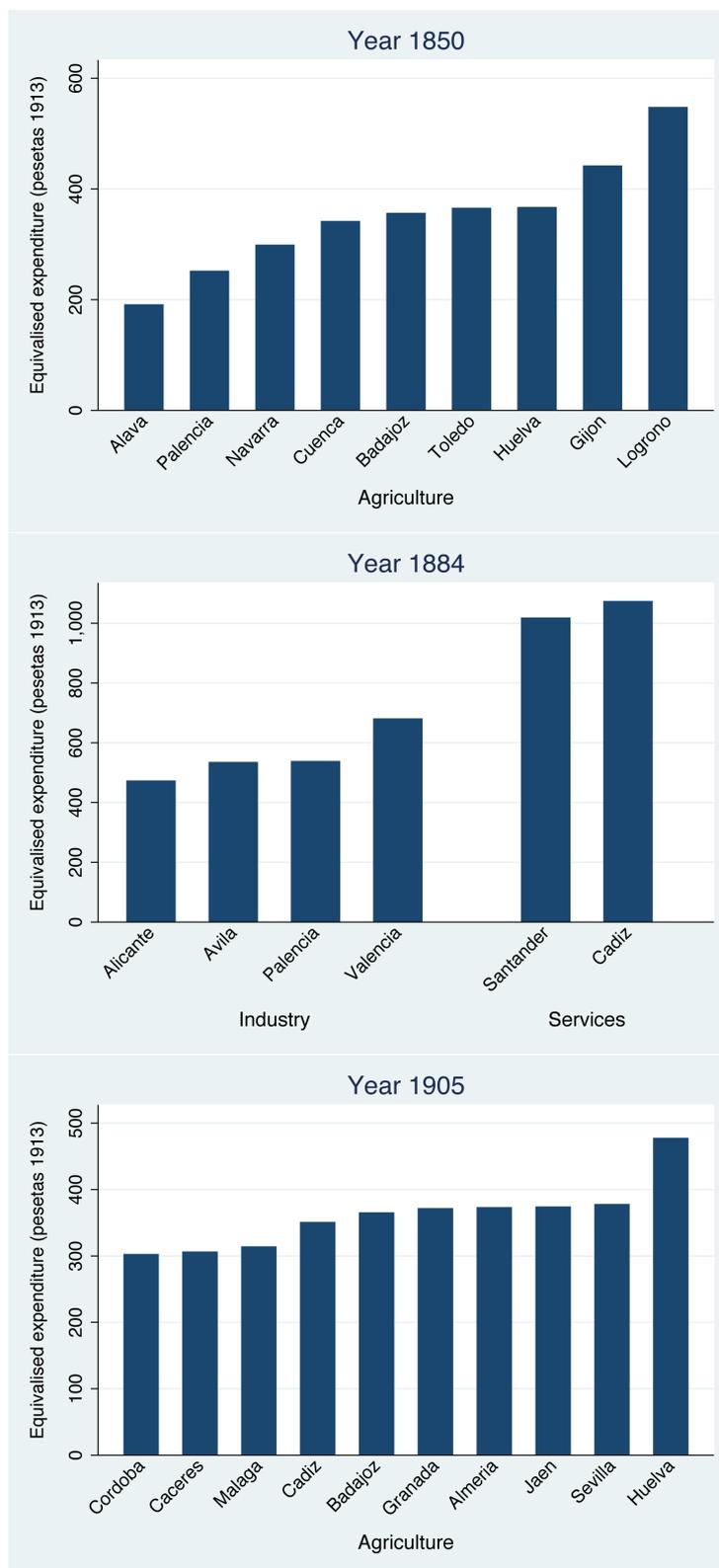
In the following paragraphs, I will make use of these data to draw some tentative conclusions on the variation and evolution in the cost of living, on the expenditure patterns traceable, on the price indices for the period under exam, and on the definition of poverty lines and other welfare thresholds for Spain between 1850 and 1905. In each section, I will describe how comparable budgets are selected to analyze these issues.

4.1 Variation in the cost of living

To focus on cost of living differences between different provinces, household type, and sector in which the household head is employed, in this paragraph I focus only on a subset of standard budgets which refer to the same standard of living – those that I have previously labeled as “average budgets”.

Figure 2 illustrates how the cost of living varied across provinces and sectors. Here we compare average budgets for the three years with the highest numbers of observations, considering only those which report the full composition of expenditures. Budget values are averaged when the same province has multiple observations, and then expenditures are equalised using the square-root scale.

Figure 2 – Geographical and sectoral variation in the cost of living: 1850, 1884, and 1905.



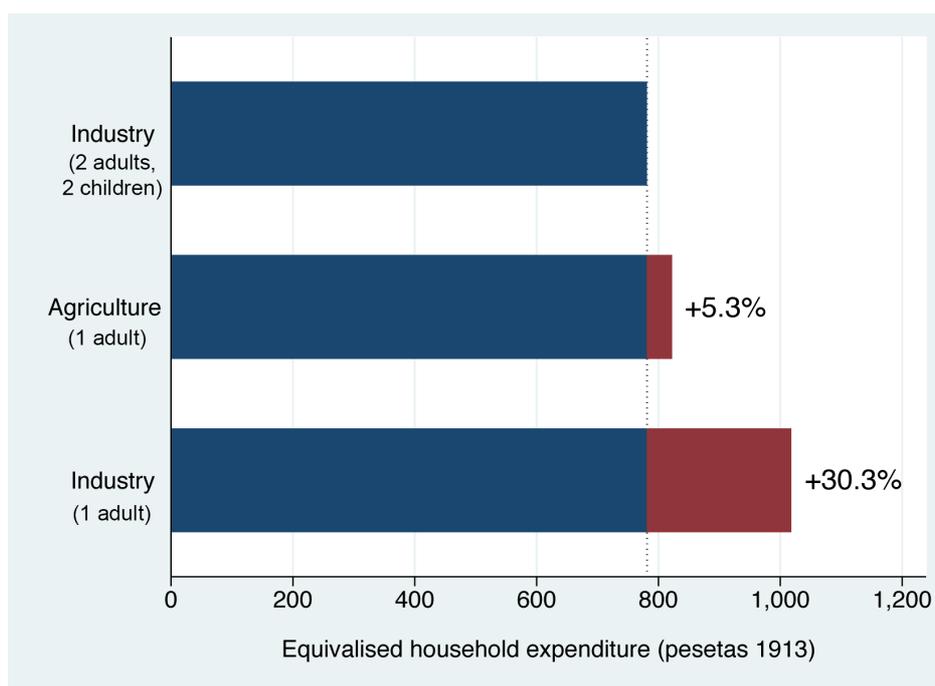
Source: author's elaboration

Note: expenditures equivalised using the square-root equivalence scale.

Both geographical and sectoral variations are quite substantial. In all the three years considered, the range for average expenditures across provinces amounts to about 200 pesetas, both for industry and for agriculture, signaling a quite relevant dispersion. However, it seems that the sectoral variation is even greater: household expenditures in agriculture are quite stable over time, averaging to 350 pesetas in 1850 and to 360 pesetas in 1905, about 200 pesetas less than the expenses of industrial workers, averaging to 550 pesetas in 1884, and much lower than the average expenditures observed for the service sector in Santander and Cádiz, higher than 1,000 pesetas in 1884.

More interestingly, Figure 3 compares the cost of living for three different types of household in the same town and year¹⁸.

**Figure 3 – Cost of living comparison across sectors and household types:
Avila, 1884.**



Source: author's elaboration from Comisión de Reformas Sociales (1891).

¹⁸ These profiles proceed from the same source (Comisión de Reformas Sociales, 1891) but they are independent, they are not just mutually computed.

On the one hand, we see also in this case a substantial difference in the cost of living between workers in different sectors. According to the source, in fact, farm laborer and industrial laborers not only have slightly different consumption habits, but mainly face different prices, due to the differences between rural and small urban settings. On the other hand, then, we can also see how the pooling of resources within the household (in the industry sector) was deemed to push the cost of living even below the average expenditures of a farm laborer.

4.2 Expenditure patterns

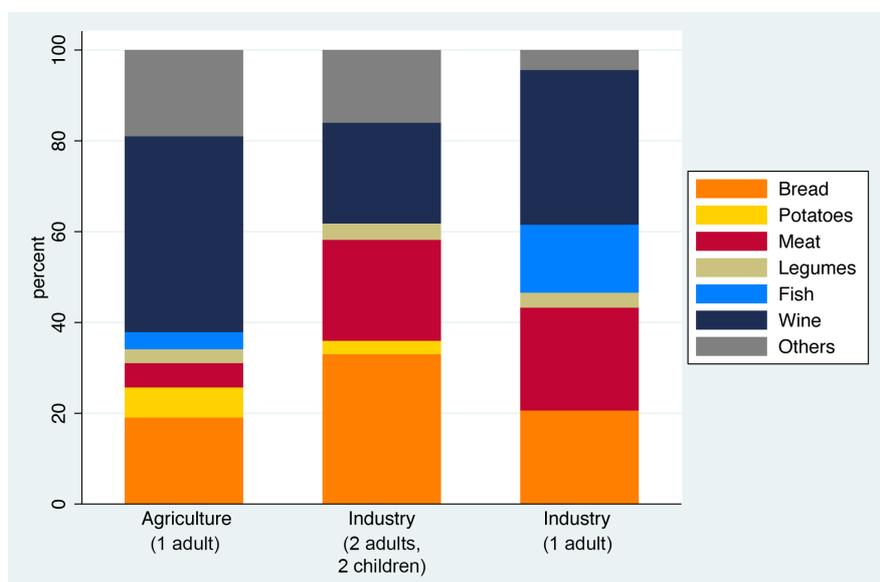
Figure A7 illustrates how the patterns of expenditures varied across sectors and standard (average vs subsistence).

In both cases I employ budgets for all years available, considering only those which report the composition of expenditures. Budget values are equivalised using the square-root equivalence scale, and then expenditures are averaged over sector or socioeconomic status.

As we can see from Figure A7, there are slight differences between farm laborers and industrial and service workers in how expenditures are allocated between expenditure categories, mainly driven by differences in prices and housing arrangements. Interestingly, the difference in the allocation of expenditures between minimum-for-subsistence budgets and average budgets is quite little, even if expenditures are on average 160 pesetas higher for average than for subsistence budgets.

Once again, we can deepen this analysis by looking at the three budgets available for Avila, focusing on the allocation of food expenditures (see Figure 4). As we can see, the 4-member household allocates the highest share to bread, consumes a relevant amount of meat, but is not used to eating any fish, although the diet seems reasonably varied. As for the two single-person households, instead, we should note, on the one hand, the great share of expenditures devoted to wine, for the farm laborer, and, on the other hand, the great amount of proteins consumed by the industrial workers, ensured by both meat and fish. As for the other expenditures on food, they are usually devoted to rice (mainly), cheese, and vegetables.

Figure 4 – Comparison of expenditure patterns across sectors and household types: Avila, 1884.



Source: author's elaboration from Comisión de Reformas Sociales (1891).

4.3 Consumer Price Indices

The expenditure patterns described above enable us also to reexamine the historical price indices currently available for Spain. The main reference here is the work by Maluquer de Motes (2013), which presents two main issues.

First, if we look at the weights employed for the construction of the index (see Table A5), we see that the expenditure shares are assumed to be remarkably stable over time – especially for food and housing –, quite differently from what we can observe in other sources.

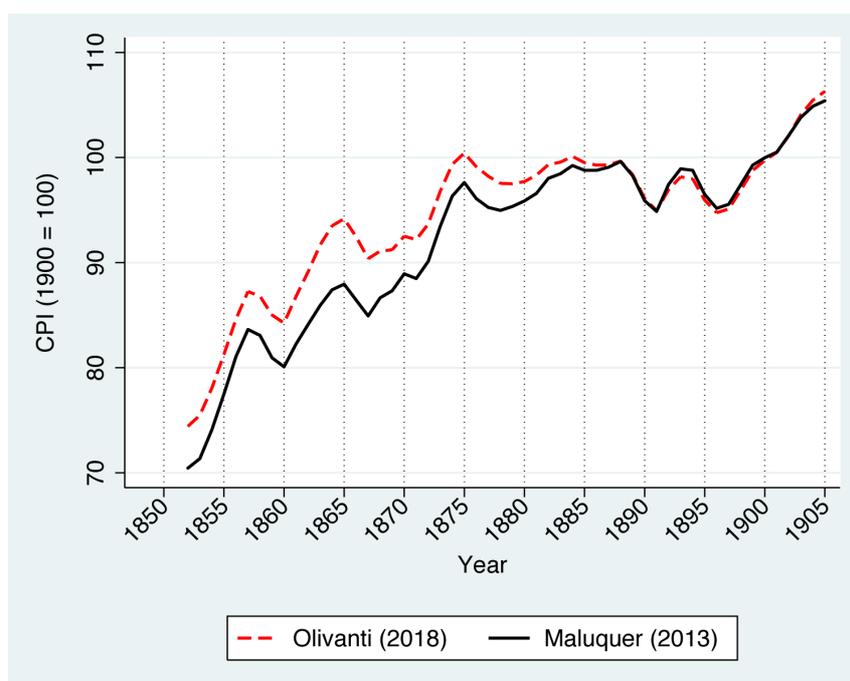
Second, we know that very few household budgets – including Cerda's and Leplaysian budgets – have been used to construct these weights, since most of the sources are represented by aggregate consumption data and trade data extracted from the statistical yearbooks of Barcelona. Interestingly, however, the CPI weights in Maluquer de Motes (2013) are again derived from a standard budget, constructed in 1914 for a family of four living in Barcelona (Maluquer de Motes, 2013, p. 40) and then projected backwards.

To improve under these respects, I make use of the standard budgets available to construct new CPI weights for the period 1850-1905. To do so, I use the expenditure shares proceeding from the average budgets available for the years 1850, 1884, and 1905, which I then interpolate for the years 1850 to 1884 and 1884 to 1905. The resulting weights not only vary over time but proceed from more complete and appropriate sources, better representing the average Spanish household.

Looking at the detailed expenditure shares for food items and for the residual category including miscellaneous goods and services in Table A6, for example, we could doubt of the choice of attributing zero weight to items such as fish, personal hygiene, out-of-pocket health expenditures, and even mutual aid, which were deemed to be quite substantial items in several standard budgets here analysed.

Figure 5 illustrates the impact of the new weights on the price index calculated by Maluquer de Motes (2013), still using Maluquer's prices. We can see that the general trend is still delineated by the evolution of prices, but the index is revised upwards before 1900, with a correction amounting up to 7% of the original index.

Figure 5 – Comparison of CPIs using different weights, 1850-1905.



Source: author's elaboration from Maluquer de Motes (2013).

Note: CPIs smoothed using 3-year moving averages.

4.4 Construting welfare thresholds

I turn now to what we have defined as the primary purpose of constructing budget standards: the study of poverty, through the definition of poverty lines and higher welfare thresholds.

Starting from the data provided by Cerdà (1867), we can in fact draw a poverty line using the so-called food energy intake method (Ravallion, 1994).

The first step consists in identifying food requirements, linked to the level of physical activity sustained by the individuals under exam. Thus, following FAO (2004), I have used the moderate level of physical activity (1.75–1.90 BMR¹⁹) as a reference for a minimum for adequacy standard, and the light level of activity (1.45–1.60 BMR) as a reference both for a minimum for subsistence standard (the conventional absolute poverty line) and for a lower standard – the *ultra-poverty line* –, defined such that persons below that level are unable to meet even the minimal needs in terms of food requirements.

The amount of calories set by Cerdà is equal to the minimum for adequacy (see Table A7), so I have used the values proceeding from Cerdà's budget also for non-food consumption. As for the other standards, the cost of the energy intakes has been determined through the cost of the diet proposed by Cerdà, calculating the cost of one calorie and then multiplying it for the total requirement. In the minimum for subsistence case, instead, non-food consumption has been calculated by Cerdà either by eliminating some items (charity, stationery etc.) or by decreasing the quantities assigned to some categories (i.e. clothing).

The results are shown in Table 2.

Just as modern welfare economists have been used to taking as reference a daily expenditure of 1 dollar, 1 real per day would have been enough to meet just the basic food needs in 1856. The individual poverty line can be set at 645 reales – about 161 pesetas –, while a household of four would need 1,201 reales – 300 pesetas, less than 1 pesetas per day – to live above poverty in Barcelona.

¹⁹ Basal Metabolic Rate.

Table 2 – Welfare thresholds for Barcelona, 1856.

	<i>Individual</i>			<i>Household (4)</i>		
	<i>MfA</i>	<i>MfS-PL</i>	<i>UP</i>	<i>MfA</i>	<i>MfS-PL</i>	<i>UP</i>
<i>Food consumption</i>						
Annual cost (reales)	416	365	365	1661	1283	1283
(Daily intake, kcal)	(2386)	(2100)	(2100)	(9543)	(7375)	(7375)
<i>Non-food consumption</i>						
Annual cost (reales)	357	280	–	1427	1119	–
<i>Total expenditure (reales)</i>	773	645	365	3088	2402	1283
<i>Ratio household/individual cost of the basket</i>				3.99	3.72	3.52

Note: MfA = Minimum for Adequacy; MfS = Minimum for Subsistence; PL = Poverty Line; UP = Ultra-poverty line.

As anticipated, unfortunately I have no way to measure how many households or individuals in Barcelona are located below these thresholds and to what extent. The data that Cerdà provides on wages, however, gives us some idea: the standard set by Cerdà – the minimum for adequacy – can be reached by families in which husband and wife earn the average daily wage of their gender (8.64 reales for men, 2.67 reales for women), but it would be difficult for families in worse situations; in the case of a single-income family, in fact, for more than 60% of the distribution labor income would not be sufficient to ensure a standard above the poverty line.

We can enrich this analysis on several dimensions.

First of all, while Cerdà's data enable us to calculate the minimum for subsistence threshold for 1856 – in Barcelona, secondary sector –, the budgets provided by García Sanz (1979) and Moral Ruiz (1979) directly determine minimum for subsistence thresholds for several Spanish provinces, focusing on the primary sector. Using these data, we can calculate a poverty line also for the latter context, as illustrated in Table 3.

Interestingly, these values are not distant from the ones shown above: while the poverty line for Barcelona (1856) amounts to 1,201 reales, the poverty line for the agricultural provinces (1850) amounts – in 1856 prices – to about 1,030 reales.

Table 3 – Minimum for subsistence threshold, 1850 (primary sector).

<i>Item</i>	<i>Budget value (reales)</i> <i>(S.E.)</i>	<i>Budget share</i> <i>(%)</i>
Food	919.3 (470.1)	72.7
Clothing	179.5 (99.3)	14.2
Housing	79.4 (37.9)	6.3
Others	86.4 (53.4)	6.8
<i>Total expenditure</i>	1264.6 (514.4)	100.0

Sources: García Sanz (1979) and Moral Ruiz (1979).

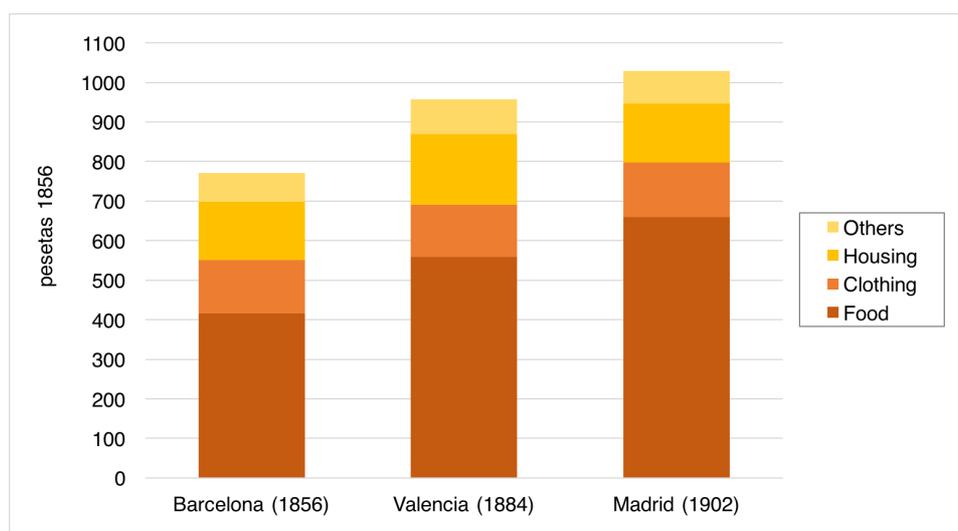
For all the reasons discussed so far in this paper, however, we should be careful in interpreting these values as national poverty lines, since we have seen that both the sectoral and the territorial component play a crucial role.

We should remember, however, that the purpose of standard budgets lies in trying to identify levels of living above poverty, as with the definition of the minimum for adequacy threshold. In addition to the data provided by Cerdà for Barcelona, in fact, two additional budgets – one for Valencia (1884; see Comisión de Reformas Sociales, 1891) and one for Madrid (1902; see Úbeda y Correal, 1902) – make specific reference to this standard. Importantly, they also refer to the same context – large urban environments – and to the same sector – industry.

Figure 6 illustrates the relationship between these standards, which look similar both in terms of magnitude and in terms of expenditure patterns. The budget values are expressed here in constant prices, using the new CPI illustrated in section 4.3.

As we can see, the evolution in the amount of resources needed for “adequacy” is more pronounced than what could be predicted by the evolution of prices. This is partly explained by geographical and other contextual differences in the cost of living, but is mostly due to the change, over about 50 years, in what could be perceived as “adequate” for a working-class family.

Figure 6 – Minimum for adequacy budgets, 1856–1902.



Source: author's elaboration from Cerdà (1867), Comisión de Reformas Sociales (1891), and Úbeda y Correal (1902).

Lastly, it is interesting to see how the thresholds illustrated so far relate to the contemporary Spanish poverty lines. Spain currently defines poverty using relative poverty lines. The threshold for the risk of poverty is set, as usual, at 60% of median yearly income, amounting respectively to 8,209 euros for individuals and to 17,238 euros for households, in 2016 (INE, 2017). Severe poverty is set, instead, at 30% of median income, amounting to 4,104 euros for individuals and to 8,618 euros for households (España, 2017). If we wanted to look at ultra-poverty, instead, we could take as reference the absolute poverty lines used by the World Bank (see Ferreira and Sanchez, 2017): the \$1.90/day poverty line (625 euros per year), the \$3.20/day poverty line (1,052 euros per year), and the \$5.50/day poverty line (1,809 euros per year).

Projecting the historical data to the present day, we can see that: the ultra-poverty line set for Barcelona (1856) would amount to ca. 707 euros per year, right above the lowest poverty line set by the World Bank for individuals (and usually employed in low-income countries); the minimum for subsistence poverty line for 1850 and 1856 would amount respectively to 1,134 euros and to 1,322 euros per year, so still below the highest World Bank poverty line and more than 6.5 times lower than the line identifying severe poverty; the minimum for adequacy thresholds for Barcelona (1856), Valencia (1884), and Madrid (1902), instead, would amount respectively to 1,700 euros, 2,130

euros, and 2,226 euros, still well below contemporary severe poverty and more than 7.7 times lower than what defined the risk of poverty in modern Spain.

5 Conclusions

Standard budgets can be a useful alternative to household budgets, especially for contexts in which the latter are frequently unknown to historians, as in Spain. Budget standards, in fact, have been often employed in the past for the study of cost of living and poverty, with procedures and methodologies that have been quite uniform over time and space.

The potential for economic history is relevant: standard budgets can be used to identify poverty lines and other welfare thresholds, to construct poverty profiles, to validate results obtained through other sources, to obtain quantitative data on prices and expenditure patterns, to build household profiles retrospectively. These potentialities, however, come with important *caveats*: we should always handle them with care, fully evaluating the impact of arbitrary judgements on their representativeness, and checking the consistency of the underlying assumptions.

In this gray area, we should also be careful in defining what standard budgets are, since atypical objects such average budgets, modal budgets, and Leplaysian budgets could be the source of misinterpretations and inconsistencies.

The history of Spain offers a perfect case study for the application of the standard budget approach. Lacking of household budgets proceeding from surveys or other initiatives, budget standards can tell us more about the conditions of the population after the second half of the 19th century. Using the non-negligible number of budgets traced for the period 1850–1905, in fact, we can point towards some interesting conclusions.

First, we can acknowledge substantial variation in the cost of living between different sectors, provinces, and also socioeconomic status, with the former dimension which might have played a major role. Analogously, also the study of the standard expenditure patterns points towards the relevance of the sectoral component.

Second, and importantly for cliometrics, expenditure patterns derived from standard budgets can have a non-trivial impact on the historical CPIs used so far, by redefining

the underlying weights. Apart from the quantitative determination of this impact, it is important to ask ourselves whether we should reconsider the assumptions on the weighting schemes, given that some relevant items might have been understated.

Third, standard budgets prove helpful in identifying poverty and above-poverty thresholds. Following the most recent standard budget approaches – often mirroring the approaches of the historical sources themselves –, we can coherently define *minimum-for-adequacy* and *minimum-for-subsistence* thresholds for several Spanish contexts.

While confirming that a long way has come in the last 150 years for the living conditions of the Spanish population, these analyses support the idea that, especially in the lack of household budgets of sufficient quantity and quality, standard budgets might be more than a second best, proving instead as a solid complement for studying the long-term evolution of wellbeing.

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Appendix: Figures

Figure A1 – Standard budget for Cádiz (1884).

YEARLY INCOME.		YEARLY EXPENDITURE.	
Husband's wages	\$223 88	Rent of two rooms and kitchen	34 74
Wife's wages	111 94	Food and fuel	179 21
	<u>335 82</u>	Clothing	43 42
		Personal tax	39
		Tobacco	17 61
		For incidentals or savings	63 45
			<u>335 82</u>

Articles.	Cost.	Articles.	Cost.	Articles.	Cost.
	<i>Pesetas.</i>		<i>Pesetas.</i>		<i>Pesetas.</i>
Bread 1½ lbs..	.25	Bread 1½ lbs..	.25	Bread 1½ lbs..	.25
Potatoes 1 lb..	.07	Potatoes 1 lb..	.07	Potatoes 1 lb..	.07
Beans 2 ozs..	.04	Chickpeas 2 ozs..	.04	Rice 2 ozs..	.04
Salt pork ¼ lb..	.28	Fresh fish 1 lb..	.25	Salt cod ¼ lb..	.30
Eggs 2	.16	Eggs 2	.16	Eggs 2	.16
Coffee 1 oz..	.11	Coffee 1 oz..	.11	Coffee 1 oz..	.11
Fuel and sundries09	Fuel and sundries08	Fuel and sundries07
	<u>1.00</u>	Olive oil 1 oz..	.04		<u>1.00</u>
			<u>1.00</u>		

	<i>Pesetas.</i>
Working suit	17
Better suit	35
Three pairs of shoes	36
Shirts, underwear, &c.	28
Hats	14
Total	130

In the case of a married couple, there would likely be some economy on this head, and 200 or 225 pesetas would cover the cost of clothing for both.

Source: US Dept. of State (1885, p. 1352).

Figure A2 – Household budget from Denia (1885).

HOW FARM LABORERS LIVE.

The following are answers from a farm laborer:

I am thirty years old; I am a farm laborer; have a wife and child; I earn 50 cents per day; labor from sunrise to sunset, half an hour at 9 a. m., one hour from 12 to 1, and half an hour about 4 p. m., for food. Occasionally my wife earns 25 cents a day. It is a good year when we can save \$10 to \$20; jointly we earn about \$190 a year. I pay per annum: For rent of rooms, \$13; clothes, self, wife, and child, \$25; tobacco, \$6; food, \$127.75; leaving for doctor, &c., \$18.25; total, \$190. My meals consist of the following: For breakfast, bread and raw onions; dinner, bread, rice, and beans; supper, bread and salted or dried fish.

No means are provided for safety, nor are any provisions made by employers in case of accidents, nor have they political rights.

No emigration takes place from this district.

Source: US Dept. of State (1885, p. 1396).

Figure A3 – Household budget from Malaga (1885).

HOW THE WORKING PEOPLE LIVE.

I have selected a representative Spanish workman, and I give the following answer to the questions contained in the circular, viz: A carpenter, forty years old, has a family of four children, from three to ten years old; his pay amounts to \$21 per month, and his expenses are as follows, viz: For rent of rooms, \$1.50; clothing, \$1.50; food and fuel, \$12; his personal expenses, \$3; incidental expenses, \$3; total, \$21. His complaint was bitter that he could never save a cent from his earnings; that would be impossible, and if sickness unfortunately overtake him, why he must eat less, to pay the doctor. Their meals consist (besides the puchero) principally of fish and vegetables, both of which are cheap. For breakfast, stewed potatoes, fish soup, sardines, fresh, and bread. For dinner puchero, salad, and fresh or dried fruit.

Source: US Dept. of State (1885, p. 1414).

Figure A4 – Parts of the questionnaire form sent by the Instituto de Reformas Sociales (IRS) to Andalucía and Extremadura.

V

Ingresos de la familia obrera. (1)

NOMBRE DEL CABEZA DE FAMILIA	JORNAL DIARIO DEL CABEZA DE FAMILIA				JORNALES DIARIOS DE OTROS INDIVIDUOS DE LA FAMILIA				IMPORTE de lo que anualmente entregan para los gastos de la casa.	SI LA FAMILIA habita en el campo ó en el pueblo.				
	En épocas ordinarias.		En épocas extraordinarias.		NÚMERO de individuos de la familia que ganan jornal.	En épocas ordinarias.		En épocas extraordinarias.						
	Metálico.	Ali- mentos.	Metálico.	Ali- mentos.		Com- pleto.	Redu- cido.	Metálico.			Ali- mentos.	Metálico.	Ali- mentos.	
	Pts. Ct.	Pts. Ct.	Duración en días de las épocas ordinarias.	Duración en días de las épocas extraordina- rias.	Pts. Ct.	Pts. Ct.	Pts. Ct.	Pts. Ct.			Pts. Ct.	Pts. Ct.	Pts. Ct.	Pts. Ct.

VI

Alimentación de un bracero

(CONSUMO DIARIO)

	Kilogramos.	Litros.	Pesetas.	Cts.
Pan de (2)				
Carne				
Tocino				
Aceite				
Vino				
<i>Otros comestibles:</i>				

(1) Se procurará incluir en este estado el mayor número posible de declaraciones individuales.
(2) Trigo, centeno, morcajo, maíz, etc.

VII

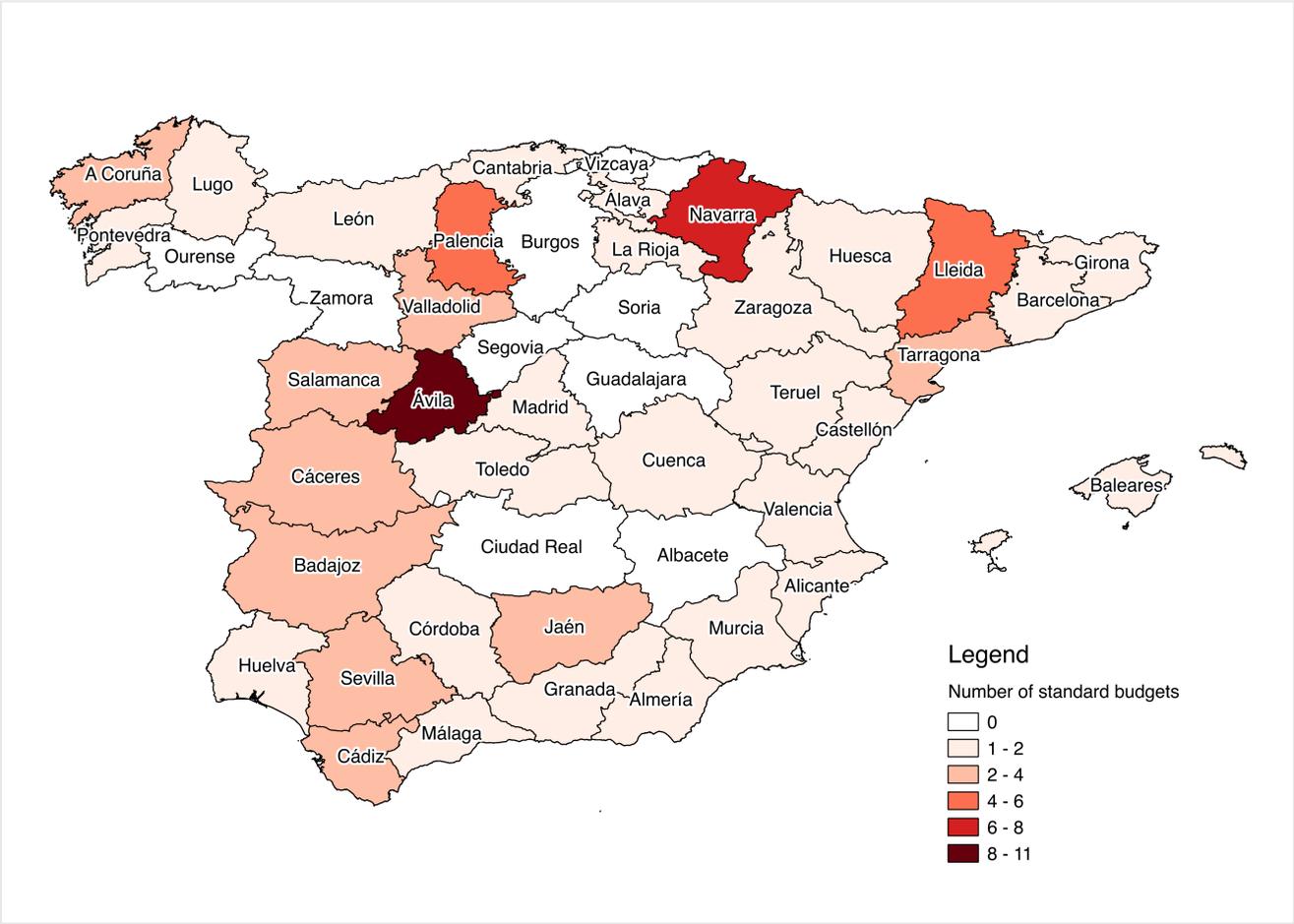
Gasto de una familia obrera

(MATRIMONIO Y TRES HIJOS)

	Pesetas.	Cts.
Alimentación diaria		
Alquiler de la casa por año		
Gasto anual en ropa		
Lumbre y luz		
<i>Otros gastos necesarios:</i>		

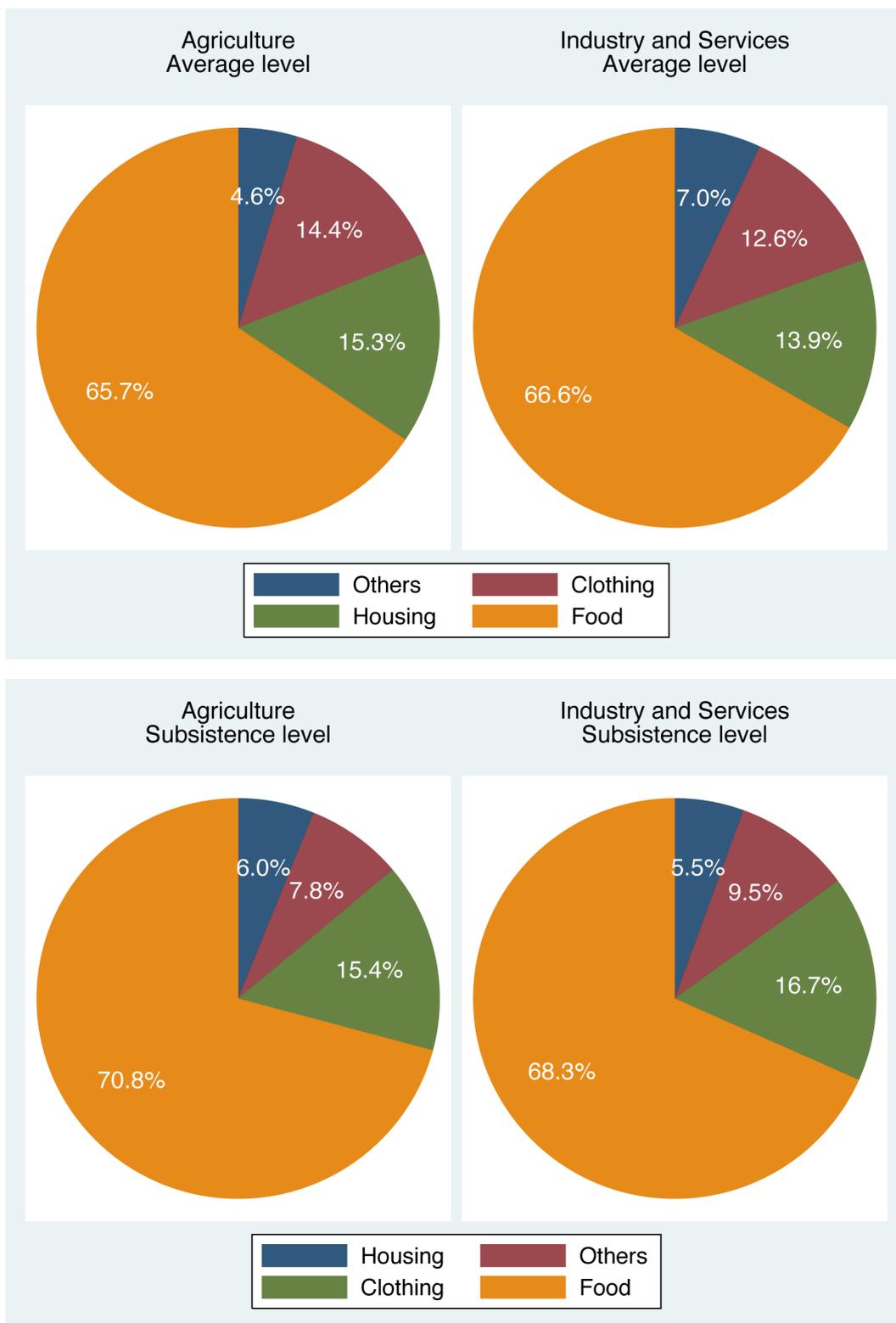
Source: Instituto de Reformas Sociales (1905, pp. 10-11); De La Calle (1989, pp. 376-378).

Figure A6 – Geographical distribution of Spanish historical standard budgets (1850-1904).



Source: See Table A4.

Figure A7 – Comparison of expenditure patterns across sectors and budget standards (1850–1902).



Source: author's elaboration.

Appendix: Tables

Table A1 – Standard budgets elaborated by Ildefonso Cerdà for Barcelona (1867).

Items	a) Single worker			b) Worker's family*		
	Quantity	Price (reales)	Cost (reales)	Quantity	Price (reales)	Cost (reales)
Bread	800 gr	1,77/kg	0,72	2000 gr	1,175/kg	2,35
Sardines	1	0,12	0,12	2	0,12	0,24
Wine	48 cl	1,5/lt	0,72			-
Soup	1 portion		0,47			-
Stew	1 portion		0,47			-
Fruit	1 portion		0,12			-
Beans				400 gr	1,75/kg	0,7
Potatoes	1 portion		0,47	1400 gr	0,59/kg	0,82
Cod	1 portion		0,47			-
Olive oil			-	31 ml	5,12/lt	0,44
<i>Total food expenditure (daily)</i>			<i>4,26</i>	<i>4,55</i>		
Shoes	2 pairs	16	32,00	2 pairs	16	32,00
Underpants	2 pairs	8	16,00	2 pairs	8	16,00
Shirts	3	12	36,00	3	12	36,00
Trousers	2 pairs	24	48,00	2 pairs	24	48,00
Vests	1	20	20,00	1	20	20,00
Corduroy jacket	1	24	24,00	2	24	24,00
Spring jacket	1	7	7,00	2	7	7,00
Working blouse	2	12	12,00	2	12	12,00
Neck scarves	2	3	6,00	2	3	6,00
Night scarves	2	2	4,00	2	2	4,00
Blankets	1	60	5,00	1	60	5,00
Hats	1	8	8,00	1	8	8,00
Repairs			12,00		0,29/week	27,30
Laundry			60,38		1,30/week	67,30
Wife and children			-			230,00
<i>Total clothing (yearly)</i>			<i>290,38</i>	<i>542,60</i>		
Housing and light		0,74/day	270,00			
Rent			-		40/month	480,00
Bleaching			-			2,00
Condo fees			-			19,00
Furniture			-			91,28
<i>Total housing (yearly)</i>			<i>270,00</i>	<i>592,28</i>		
Tools and ironmongery			24,00			24,00
Personal hygiene		4/month	48,00		4/month	48,00
Mutual aid			52,00			52,00
Stationery			2,50			2,50
Tobacco		0,94/week	48,88		0,94/week	48,88
Charity		0,24/week	12,48			-
Religious services			-			8,00
Healthcare			-			108,00
<i>Total others (yearly)</i>			<i>187,86</i>	<i>291,38</i>		
TOTAL EXPENDITURE			2303,14	3087,01		
TOTAL INCOME**			2302,64	3096,19		

* Husband, wife, and two children.

** Single worker: daily wage of 8.556 reales, 269 working days; Married worker's daily wage of 9.94 reales, wife's daily wage of 1.57 reales, 269 working days.

Source: author's translation from Cerdà (1867, pp. 650-657).

Table A2 – Historical household budgets available for Spain

Source (Year)	Le Play (1856)		Le Play (1840-47)		Le Play (1856)		US Dept. of State (1885)		US Dept. of State (1885)			
Location	Galicia		Revilla (Cantabria)		San Sebastian (Guipuzcoa)		Malaga		Denia (Alicante)			
Head's occupation	Peasant and miner		Metayer		Fisherman		Carpenter		Farm laborer			
Composition	Husband, wife, and two children		Husband (33), wife (30), two daughters (9, 4), son (8)		Husband (45), wife (30), four sons (13, 10, 6, 2), daughter (8)		Husband (40), wife and four children		Husband (30), wife and one child			
Yearly budget			Property (francs)		Property (francs)							
	Cash		95		–		–					
	Animals		583		–		–					
	Working equipment		192		Working equipment		1033					
	Furniture and clothing		544		Furniture and clothing		1208					
	<i>Total</i>		<i>1414</i>		<i>Total</i>		<i>2241</i>					
	Income (francs)		Income (francs)		Income (francs)		Income (pesetas)		Income (pesetas)			
	Husband's wage		430		Cash		456		Cash		2168	
	Other wages		215		Property		45		Property		69	
	–		–		Subventions		143		Subventions		40	
	–		–		Labor		389		Labor		849	
	–		–		Industries		469		–		–	
	<i>Total</i>		<i>645</i>		<i>Total</i>		<i>1502</i>		<i>Total</i>		<i>3126</i>	
	Expenditure (francs)		Expenditure (francs)		Expenditure (francs)		Expenditure (francs)		Expenditure (pesetas)		Expenditure (pesetas)	
	Food		405.51		Food		481		Food		630.1	
	Clothing		146		Clothing		129		Clothing		120.52	
	Household		–		Household		111		Household		145.3	
	Recreation, health etc.		–		Recreation, health, etc.		52		Recreation, health, etc.		124	
	Others		–		Others		18		Others		15.92	
	<i>Total</i>		<i>645</i>		<i>Total</i>		<i>791</i>		<i>Total</i>		<i>1035.84</i>	
<i>Savings</i>		<i>0</i>		<i>Savings</i>		<i>252</i>		<i>Savings</i>		<i>363</i>		
								<i>Total</i>		<i>1305.70</i>		
								<i>Total</i>		<i>1049.22</i>		
								<i>Total</i>		<i>1305.70</i>		
								<i>Total</i>		<i>1049.22</i>		
								<i>Total</i>		<i>1305.70</i>		
								<i>Total</i>		<i>1049.22</i>		
								<i>Total</i>		<i>1305.70</i>		
								<i>Total</i>		<i>1049.22</i>		
								<i>Total</i>		<i>1305.70</i>		
								<i>Total</i>		<i>1049.22</i>		
								<i>Total</i>		<i>1305.70</i>		
								<i>Total</i>		<i>1049.22</i>		
								<i>Total</i>		<i>1305.70</i>		
								<i>Total</i>		<i>1049.22</i>		
								<i>Total</i>		<i>1305.70</i>		
								<i>Total</i>		<i>1049.22</i>		
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Table A3 – The survey of the Social Reforms Commission: Valencia, 1884.

<i>Items</i>	<i>a) Single worker</i>	<i>b) Worker's family</i>
Food expenditure		
Bread (800 gr)	0.30	0.60
Sardines and peppers	0.15	
Rice with meat	0.30	
Stew	0.25	0.50
Fruit	0.10	
Salad	0.10	
Legumes		0.30
Cod or bacon		0.20
Spices		0.06
Olive oil		0.15
<i>Total food expenditure (daily)</i>	<i>1.20</i>	<i>1.81</i>
Clothing		
Worker/husband	69.50	69.50
Shoes	17.00	32.00
Hats	8.00	8.00
Repairs		4.50
Laundry	37.44	
Wife and children		42.00
<i>Total clothing expenditure (yearly)</i>	<i>131.94</i>	<i>156.00</i>
Housing		
Rent	60.00	120.00
Light	7.80	18.25
Cleaning	6.24	
Heating		54.75
Condo fees		3.00
Bleaching		3.00
Furniture		12.00
<i>Total housing expenditure (yearly)</i>	<i>74.04</i>	<i>211.00</i>
Other expenditure		
Societies	18.20	18.20
Personal hygiene	13.00	31.25
Tobacco	47.84	47.84
Personal documents		2.25
Healthcare		6.00
<i>Total other expenditure (yearly)</i>	<i>79.04</i>	<i>105.54</i>
TOTAL EXPENDITURE	722.14	1131.13
TOTAL INCOME	725.00	1087.50

Source: author's translation from Comisión de Reformas Sociales (1891, pp. 465-467).

Table A4 – Sources of historical standard budgets for Spain (1850-1904).

<i>Year</i>	<i>Source</i>	<i>Location</i>	<i>Profiles with total income or expenditure</i>	<i>Profiles also with expenditure composition</i>	<i>Industrial workers</i>	<i>Occupation Agricultural workers</i>	<i>Undefined or other</i>	<i>Standard of living Minimum for subsistence</i>	<i>Average level</i>
1840	Moreno Lázaro (2002)	Palencia	1	–	–	1	–	1	–
1850	Garcia Sanz (1979)	28 provinces	40	18	–	40	–	8	32
1850	Moral Ruiz (1979)	4 provinces	5	–	–	5	–	5	–
1850	Domínguez Martín (2002)	Villalba	1	1	–	1	–	–	1
1855	Moral Ruiz (1979)	Cacéres	1	1	–	1	–	1	–
1856	Cerdà (1867)	Barcelona	2	2	2	–	–	–	2
1857	Moreno Lázaro (2002)	Palencia	1	–	–	1	–	1	–
1878	US Dept. of State (1879)	4 provinces	3	3	–	–	3	–	3
1884	US Dept. of State (1885)	6 provinces	6	6	–	–	6	1	5
1884	Comisión de Reformas Sociales (1891; 1892; 1893)	4 provinces	17	17	16	1	–	10	7
1902	Úbeda y Correal (1902)	Madrid	1	1	1	–	–	1	–
1904	Buylla y Alegre (1904)	2 provinces	2	2	–	2	–	–	2
<i>Total</i>			<i>80</i>	<i>51</i>	<i>19</i>	<i>52</i>	<i>9</i>	<i>28</i>	<i>52</i>

Table A5 – Comparison of CPI weights, 1850-1905.

	<i>Food</i> (%)	<i>Clothing</i> (%)	<i>Housing</i> (%)	<i>Others</i> (%)
Le Play (1877)				
1847	60.8	16.3	14.0	8.8
Prados (2003)				
1850	60.4	8.9	24.2	6.5
1868	64.4	10.4	17.5	7.6
1884	62.7	13.2	14.9	9.2
1905	61.6	13.4	15.4	9.7
Maluquer (2013)				
1850	69.4	10.3	14.4	5.9
1868	68.9	8.4	14.5	8.3
1900	65.7	6.2	16.2	11.9
Olivanti (2018)				
1850	71.0	15.4	5.8	7.8
1884	61.3	16.5	14.4	7.8
1905	60.9	16.7	16.9	5.5

Table A6: Comparison of expenditure shares by source, year and budget type: food items and miscellaneous goods and services.

FOOD ITEMS															
Year	Bread (%)			Potatoes (%)			Meat (%)			Legumes (%)			Fish (%)		
	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)
1850	28.2	52.6	33.7	13.2	7.6	0.0	11.7	0.0	28.6	0.0	10.2	4.6	0.0	0.0	0.0
1856	34.8	–	32.3	14.9	–	5.2	11.7	–	29.1	13.6	–	2.4	10.0	–	0.0
1884	25.2	30.9	27.2	1.6	7.7	3.8	20.8	15.9	25.8	18.0	3.7	1.7	11.0	18.4	0.0
1902	–	40.0	24.7	–	8.1	3.5	–	19.6	23.5	–	3.9	1.6	–	10.2	0.0
1904	50.6	–	24.7	5.1	–	3.5	0.0	–	23.5	0.0	–	1.6	12.7	–	0.0

Year	Wine (%)			Other food items (%)		
	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)
1850	41.4	0.0	16.9	5.6	29.6	16.2
1856	34.8	–	32.3	–	5.2	15.1
1884	17.9	–	15.9	12.2	–	28.1
1902	21.0	0.0	13.4	19.2	25.3	34.5
1904	–	0.0	12.2	–	18.2	34.5

MISCELLANEOUS GOODS AND SERVICES															
Year	Hygiene (%)			Heating (%)			Durables (%)			Health (%)			Tobacco (%)		
	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)
1850	6.1	5.5	0.0	27.4	20.1	31.5	18.8	20.1	27.1	6.1	14.8	0.0	13.6	22.3	23.8
1856	14.6	–	0.0	–	–	31.5	20.8	–	27.1	24.7	–	0.0	17.0	–	23.8
1884	19.7	–	16.8	29.5	–	23.4	6.5	–	19.7	3.1	–	0.0	–	–	12.7

Year	Mutual aid (%)			Others (%)		
	Avg.	Subs.	Maluquer (2013)	Avg.	Subs.	Maluquer (2013)
1850	0.0	0.0	0.0	28.0	17.1	17.7
1856	21.0	–	0.0	1.8	–	17.7
1884	9.2	–	0.0	32.0	–	23.8

Legend: Avg. = Average budgets; Subs. = Subsistence level budgets.

Table A7 – Caloric intake of a typical diet: Barcelona, 1856.

<i>Item</i>	<i>Husband</i>	<i>Wife</i>	<i>Son</i>	<i>Daughter</i>	<i>Total</i>
Bread	1922	1282	1068	1068	5340
Fish	49	49	49	49	196
Legumes	182	121	91	91	485
Oil	282	188	141	141	752
Potatoes	1040	693	520	520	2773
	3474	2333	1868	1868	9543
<i>Yearly cost of the diet (reales)</i>					1660.75
<i>Cost of 1 kcal (reales)</i>					0.174

Source: author's elaboration from Cerdà (1867).