

Lights and Shadows of Household Satellite Accounts: The case of Catalonia, Spain

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ABSTRACT

The construction of Household Satellite Accounts (HSAs) is not a new object of study. However, as their use has widened, efforts have been focused on resolving technical aspects of valuation assessment and far less attention has been given to the underlying conceptual aspects. The purpose of this paper is to contribute to improving the HSA as an analytical tool. To do so, two approaches are proposed. The first one involves the incorporation of the analysis of time as one of the key components of HSAs, making it possible to explore aspects of unpaid housework without the influence of monetary valuation. The second develops a new methodology that captures information on both housework and market work overcoming some of the limitations of current databases used in the calculation of HSAs and allowing an analysis of the various interrelationships that exist between the two types of work.

Key words: Household Production, Satellite Accounts, Time analysis

J.E.L. codes: B54, D13.

1. INTRODUCTION

The construction of Household Satellite Accounts (HSAs) is not a new object of study. In fact, the debate over measuring and valuing household production has its roots in the nineteenth century. Later, in the nineteen seventies, the second wave of feminism gave a strong impetus to the subject and re-established it in some sectors as a fundamental issue for reflection and discussion. In the nineteen nineties, with the recommendation to use HSAs in order to introduce household production into the system of national accounts in 1993 and the contributions of the International Conference on the Measurement and Valuation of Unpaid Work (Canada 1994) and the United Nations Fourth World Conference on Women (Beijing 1995), statistics institutes began to include the official, across-the-board valuation of household production on their agendas¹.

Once the debate had become an institutional issue it underwent a significant change, focusing increasingly on the technical aspects of valuation rather than on its political or conceptual foundations. Beyond the matter of compiling HSAs, the conceptual debate on time use and the measurement of housework² has remained open. New ideas and contributions have emerged, but they have not always been incorporated in the construction of HSAs.

The aim of this paper is to bring together all the conceptual richness of the ongoing debate over time use and measurement of housework, so as to introduce improvements in the methodology HSAs use and to underline the importance of their conceptual foundations; thereby avoiding the danger that they might become mere exercises in bookkeeping.

The construction of HSAs requires the establishment of shared conventions that allow researchers to move forward in the same direction and carry out comparative studies (INSTRAW 1995, 1996; United Nations 2000a, 2000b; EUROSTAT 2003). However, the acceptance of such “guidelines” has, to some extent, worked against the attempts to realize the potential of the HSAs. Originally, satellite accounts were conceived to fulfill two roles: first, as a statistical tool, and second, as an analytical tool (United Nations 1993: paragraph 21.5). The HSAs were designed to make household production visible and measurable and also to serve as a basis for an analysis of the relationships between the market and household spheres within the broader economy. As the methodologies currently in use do not allow HSAs to operate as analytical tools, the resulting situation has impeded the analysis of key aspects of these relationships.

This paper offers two proposals intended to improve HSAs as an analytical tool. The first is to introduce the analysis of time use as one of the key components of HSAs³, making it possible to analyze aspects of unpaid housework without the influence of monetary valuation. The second proposal is a new methodology to capture information on both housework and market work, overcoming some of the limitations found in current databases used to calculate HSAs and, additionally, allowing an analysis of the interrelationships between these two types of work. Unfortunately, resources are not available to fully implement the latter proposal. The last section of this paper, however, demonstrates how time-use, labor force, expenditure, and input-output data from separate, existing sources can be used to enrich HSAs using the example of Catalonia in 2001⁴. In any event, this study is less powerful and subject to greater weaknesses in its analysis of time and work than would be the case using the new methodology proposed in section 3, due to the lack of sufficiently standardized information obtained in a single survey.

2. TIME MEASURING: ADVANTAGES AND LIMITATIONS

From the 1970's, but particularly from the two last decades, various authors have held that housework devoted to the care of other household members occurs in a social and emotional context that differs from paid work. As a result, it cannot simply be substituted by market production (Dieter Schäfer 1995; Jens Bonke 1995; Alisa Del Re 1995; Nancy Folbre 1995, 2001; Susan Himmelweit 1995, 2002; Cristina Carrasco 1998; Amaia Pérez 2006). It is this specific dimension of care work that poses the greatest difficulties in establishing the limits of activities considered as household productions and in measuring the time devoted to this work.

The advantages of measuring time use are set out below, along with some of its limitations. We then analyze the time-use diaries frequently used today as an instrument for gathering this type of information.

Advantages of using time for measurement

Firstly, the study of inequalities between women and men in the performance of unpaid domestic and care work do not need to be expressed in monetary values. In fact, the disparity is more transparent in terms of work measured in time. Information on time use makes it possible to conduct life cycle analyses that reveal the differing situations of women and men over the course of their lives (Martha MacDonald 1995, Folbre and

Bittman 2004), and serves to construct indicators to analyze the consequences for housework of demographic shifts or changes in household behavior.

A second advantage is that the approach does not rest on the attribution of market values to an activity that is not performed under market conditions. This avoids the biases arising from wage discrimination in the marketplace.

A third advantage is that time is the basic measure shared in common by market and household production. Building input-output tables on time use (Carsten Stahmer 2000) and analyzing time use in the HSAs should together make it possible to link housework with market work in the national accounts and to analyze the two kinds of work as interconnected flows. For example, accounting for unpaid time devoted to care within households and paid time devoted to care offered by the market or by public institutions would make it possible over time to monitor possible changes in the way that caregiving is organized in a society.

A final advantage, which is related to the preceding one, is that calculating work time provides real rather than inferred measurements. As a result, the measurements are directly subject to change from other variables such as technology, but not from monetary variables. When the analysis is performed in monetary terms, inflationary processes, for instance, can obscure the actual relationship between time devoted to housework on the one hand and time corresponding to market work on the other.

Limitations of time as a quantitative measure

In spite of these advantages, the various dimensions of time also present a number of drawbacks, which we will discuss now.

In addition to its more objective dimension which can be measured and quantified and which, in capitalist societies, has taken the form of money, time also has a more subjective dimension, which is difficult to measure or quantify. It incorporates intangible aspects which arise from the subjectivity of the individual involved and which take their form in lived experience (Cristina Borderías and Carrasco 1994; Barbara Adam 1999; Soledad Murillo 2001; Carrasco, Maribel Mayordomo, Màrius Domínguez, and Anna Alabart 2004). This kind of time, which is known as “reproduction time”, is not so much time measured and paid as time lived, given and generated, with a component that is difficult to translate into money (Karen Davies 1990; Carmen Leccardi 1996; Linda Hartrais and Marie-Théresè Letablier 1997; Adam 1999).

Ignoring the distinct senses of time and considering only the dimension that can be objectively measured is a further example of the inequality between women and men. Time is much more complex than a simple timetable suggests, but the use of timetables has won out as the measure equating time labor (the work day) and price (wages) (Teresa Torns 2004). The logic of the male organization of production dismisses the more qualitative dimensions of time, which are in closer connection with the life cycle and care of individuals and in fact are more typical of women's experience. This problem pertains directly to the difficulty of integrating care work into the definition of household production.

As a consequence, to capture the distinct dimensions of time devoted to housework and care work and to enrich the analysis, there is a clear need to supplement the quantitative studies compiled using time-use diaries with more qualitative methodologies (e.g., in-depth interviews and life histories), which draw fundamentally on the fields of sociology and historiography.

The use of time-use or activity diaries

Time-use diaries have been a significant step forward in the study of the various activities performed by people throughout the day, especially unpaid domestic and care work. However, their methodology and their application need some refinement if we are to craft a tool that also responds to the more intangible aspects of care work.

a) Firstly, time-use diaries describe how a given population allocates time across different activities. Although this allocation of time may be the result of freely taken decisions, it generally responds to the existence of prior social conditioning. Women and men are not only conditioned differently, but also unequally. For example, the decisions of women with respect to their participation in the labor market—while not free of personal tensions—will also be severely limited by a variety of social forces (e.g., the patriarchal tradition, the family environment, supply of public care services) which have a far lesser effect on men and on their decision-making processes. This “gap” is not reflected in the statistics on time.

b) Secondly, the diaries only capture the most quantitative dimension of labor time (market work and housework). This has several implications for housework (Folbre and Bittman 2004; Michelle Budig and Folbre 2004; Carrasco 2006). One is that the diaries fail to capture all aspects of household management, organization or responsibility, because no specific time is generally allocated to the completion of these

activities within the household. The inclusion of some specific questions would serve to gather information on these aspects, as the methodology we propose later on in this article will show.

A second corollary is that the term “care” does not correspond exactly to the performance of a specific set of activities. Care is also, and especially, a state of mind involving responsibilities, organization and constant availability. It concerns time spent being “attentive, available or watchful”⁶, which is difficult to specify in measured time – for example, looking after a child at night⁷. In order to capture these diffuse aspects of caregiving, a question has been included in Canada and the US asking whether the respondent “was looking after children” or “had responsibility for children” (Folbre 2006). Significantly, however, the questions have not addressed the care of the elderly or the ill (Bittman, Janet Fast, Kimberly Fisher and Cathy Thomson 2004; Carrasco, Domínguez and Montserrat Simó 2005), despite the gradual ageing of the population and the consequences that this process may have in the near future. Nor do time-use diaries capture time spent caring for adults (i.e., healthy adults), because the notion has not even been conceptualized (Eva Feder Kittay 1999; Martha Albertson Fineman 2004, 2006).

c) Thirdly, the diaries fail to reflect the conflicts and tension involved in the organization of life and work times, particularly in the case of women. Studies conducted by Folbre and Bittman (2004) and MacDonald, Shelley Phipps and Lynn Lethbridge (2005) have shown that the significant change in women’s laboring behavior has not resulted in an increase in total time devoted to total work, but rather its impact can be seen in the tensions caused by combining housework and market work. This “double presence” (Laura Balbo 1994) or “double presence/absence” (María Jesús Izquierdo 1998) is partly addressed in the methodology we propose in this article.

d) A fourth issue is the problem of “simultaneities” (María Sagrario Floro 1995) and how the manner of gathering information in the diaries leads to under-reporting of activities which focus on the care of children. Among the activities that can be—and usually are—performed simultaneously with another household task, care work is one of the most frequently mentioned. However, the manner in which people prioritize activities introduces a potential for significant subjectivity which is filtered through a culture that has traditionally taken care work, in particular, to be an activity for women (Budig and Folbre 2004; Carrasco 2006). As a result, time-use diaries show a tendency not to classify tasks of caregiving as a primary activity. Quite often, caregiving is not

even noted as a secondary activity. This problem could be minimized by introducing a question exploring the notion of “looking after other people”.

The subject of simultaneities presents another problem as well. The diaries typically ask “whether you were alone or with someone you know” while performing an activity. This question introduces ambiguity or confusion when considering care work, because it makes it easier to mistake being present for giving care.

Another aspect of simultaneity is when a father and mother are both looking after a child at the same time. Both will note down the time spent caregiving without making explicit the fact that it has been performed jointly (Folbre et al. 2005). This method of counting not only distorts the total time given to looking after the child, but also hampers the analysis of caregiving in terms of gender. The problem could be avoided by introducing a change in the way diaries are analyzed or by requesting that explicit mention be made if the caregiving was performed jointly.

e) A final mechanism that may conceal the true extent of caregiving activities is that the age limit is arbitrarily set at 10 years, at which point children are no longer considered to be in need of specific care. This decision is highly debatable, because children of all ages, not to mention adolescents, require care of many different kinds (Timothy Smeeding and Joseph Marchand 2004).

3. A METHODOLOGICAL PROPOSAL: the Non-Androcentric Labor Force Survey (NA-LFS)s

One of the main problems encountered in the study of work in general and the HSAs in particular is the lack of a methodological tool that is able to account for the different kinds of work in an integrated manner, particularly housework and market work. Labor force surveys gather information exclusively on paid work, classifying unpaid activity in the household as non-work. On the other hand, time-use surveys offer information on the time spent on each activity through the use of activity diaries, but the questionnaires do not log detailed information on the activities performed in the household. They also offer only very limited information on employment. Therefore, although time-use surveys represent a major step forward in the visibility of unpaid domestic and care work, it remains difficult to perform integrated analyses of the two kinds of work which would make it possible to study and recognize the strategies pursued by women and men in response to the needs of time and work in daily life.

For this reason, we propose an alternative methodology involving a periodic survey which replaces labor force survey and collects information on overall activity and its distinct components: paid work, housework, study, and voluntary work. With this methodology, the analysis and calculations of current HSAs could be expanded. The survey, which we call the Non-Androcentric Labor Force Survey, includes a household questionnaire, individual questionnaires, and time-use diaries for all members of the household. The survey is aimed at individuals of 10 years of age or higher, with the exception of questionnaire on market labor, which is only for individuals of 16 or higher (the minimum legal working age). The NA-LFS has so far been used only once, in a pilot study conducted in Barcelona (Carrasco et al. 2004).

The household questionnaire will gather information on certain household variables such as household structure, total income and specific care needs. The individual questionnaires will basically record data on individuals' activity, education and skills, and other personal aspects. All kinds of work are considered activity so this last aspect introduces a fundamental shift in perspective: anyone who performs any time of paid or unpaid work is considered a working person. This point involves the main difference with the old proposal made by many gender-aware statisticians of collecting LF and TU data from the same set of households. The NA-LFS approach substantially increases the number of activities that constitute work, and also broadens the scales used to identify individual activity. So situations are not considered merely as activity or inactivity, but are treated as multiple and diverse (e.g., market activity/inactivity, unpaid domestic activity/inactivity, etc). This also permits combinations between the categories.

The individual questionnaire then continues with two main sections referring to market work and to housework. In the case of employment, the questionnaire broadly reproduces the format used in labor force surveys. However, the section on housework includes questions on responsibilities, organization and tensions in work time, a number of more qualitative aspects of caregiving activities, the reasons given by women and men for performing them, their experience and skill at these tasks and the difficulties in combining and reconciling household activity with paid work. Lastly, the time-use diary, which supplements the information from the questionnaires, would incorporate the suggestions raised by various authors, as mentioned in the previous section.

The NA-LFS presents some advantages. Firstly, the individual questionnaire on housework will provide information on aspects which are impossible to capture with a

time-use diary, such as the responsibility for household management and organization, the difficulties in reconciling the different kinds of work when the household contains dependents, and the desires or preferences of women and men in relation to work and their use of time.

Secondly, by considering the two kinds of work together, it is possible to study the work requirements of social reproduction. This process involves two dimensions. The first concerns the amount of work society performs in order to live in its current conditions, and the second consists in analyzing family strategies for subsistence and reproduction. In the second case, the NA-LFS allows an analysis according to family type of the overall work (household and market work) performed by household members for their subsistence and the overall work, paid or unpaid, aimed at satisfying the direct needs of individuals.

Thirdly, it is important to consider the entirety of the information on market work and housework in order to explain how the two kinds of work interact and mutually affect one another. The need for an analysis of this kind has become urgent in recent years because of the significant changes occurring in the organization of production and the new and more extensive forms of flexibility, which complicate the ways in which individuals (particularly women) organize their daily lives. Since the NA-LFS will provide information on market work (workday, type of schedule, shifts, type of contract, etc), on the time and distribution of activities performed throughout the day by each family member, as well as on family structure and dependents, it will be possible to analyze the repercussions of new social circumstances on the lives of individuals.

Thanks to the features described, the information gathered through the NA-LFS will allow the construction of a set of indices and indicators that integrate both kinds of work at the same time and more realistically reflect the issue of total work performed by women and men.

4. SATELLITE ACCOUNT FOR CATALONIA

While we cannot fully implement all of the methodological changes outlined above at this time, we can illustrate some of our points using existing data for Catalonia. To do so, we will structure the HSA for Catalonia in three parts: physical measurement in units of time, valuation only of housework according to the net method, and valuation of household production according to the input method. The last two parts are typically

included in an HSA (section 4.2); however, given our interest here in highlighting the measurement of work time, we believe that it is important to introduce the first part as one of the principal and essential parts of the HSAs (section 4.1). By doing so we hope to respond to, and overcome, some of the limitations arising from the monetary valuation of housework.

Our calculation of Catalonia's HSA drew on basic information sources such as the Time-Use Survey 2002-2003 (Spanish National Statistics Institute 2004a), the Wage Structure Survey 2002 (Spanish National Statistics Institute 2004b), and the Input-Output Table for Catalonia 2001 (Catalan Statistics Institute 2005). Given that time use changes at a very slow rate and that the Input-Output Table for Catalonia corresponds to 2001, we decided to deflate wages and calculate the HSA for households in Catalonia for the year 2001⁹.

4.1 Analysis of time dedicated to household production

Daily work time

Table 1 presents the first data on time dedicated to the different types of work¹⁰. The most striking feature is the continuing difference between women and men: while the time devoted by women to market work is 55 per cent of the time devoted by men, the relationship is reversed with regard to housework, in which case men spent 41 per cent of the time spent by women. In other words, women in Catalonia work one hour longer than men overall.

The second observation to make is that, when comparing time devoted by the population as a whole to each type of work, on average, people spend 21 minutes more on housework than on market work. This finding challenges the notion that housework is a marginal activity of no importance: market work is in effect supported by housework.

However, if the time-use data are corrected to better reflect caregiving time by adjusting the diaries as described above, and to capture time spent on household management and organization as proposed in the NA-LFS, the differences between men's and women's work time widen sharply, with women devoting significantly longer to work. Also the time devoted to housework would increase.

TABLE 1

Life cycle perspective

Taking a life cycle perspective raises an interesting opportunity for the analysis of working time. Individuals pass through different periods in their lives with respect to their time availability and distribution, due to the demands for care work from other individuals in the household. This situation is strikingly different for women and men; it highlights the importance of analyzing the stages which create the greatest conflicts in the organization of work, because the overall workload is not just a question of hours spent, but, perhaps more importantly, of how time is organized as well.

A life cycle approach could incorporate variables such as age, marital status and household type. Here we limit our comments to the last of these, because it is the variable for which the most information is available. The analysis takes into consideration the significant types of household for Catalonia (Table 2). The most relevant findings are discussed below.

TABLE 2

Firstly, in single-person households at any age, women dedicate more time than men to housework. An interesting example is the case of individuals over 65 years of age, who are no longer employed outside the home. The difference is approximately one hour and a half a day.

If single-person households are compared with single-parent households, we also find differences between the amounts of time devoted to housework by women and men which cannot be explained by the requirements or characteristics of the household. Significantly, in single-parent male households the time that men dedicate to work is less than half that spent by women in single-parent female households. This gap can be explained by the potentially greater collaboration of children or other women from the “extended family” and also particularly by discrimination in the labor market which reinforces gender bias in the household and leads to wage gaps in favor of men, enabling them to purchase goods and services in the market and thus perform less housework.

In the case of people living with a partner, gaps also appear between women and men when comparing single-person households and couples without children, both under 65 years of age. Although it is not a diachronic analysis, we think that the comparison holds some validity. We find that women transitioning from living alone to

living in a couple experience an increase of 26 minutes in housework, while men going through the same process dedicate 10 minutes less. It would seem logical to expect that economies of scale would reduce both persons' working time, but in fact women work longer, suggesting that they assume a portion of the men's reproduction.

In addition, a comparison of households under 65 years of age without children and households under 65 years of age with a child under 18 shows that women dedicate 2 hours and 5 minutes to the new demands of caregiving. However, men in the same situation only spend an additional 14 minutes.

Another interesting analysis addresses employment in the labor market. In Table 3, the most striking finding is that unemployed men dedicate significantly less time to housework than working women (1 hour 23 minutes). Another striking gender-related difference can be found in the time spent on housework by employed and unemployed: in both cases, the time spent by women on housework is more than double the time spent by men.

In conclusion, the time that men dedicate to housework appears unaffected by life cycle.

TABLE 3

The invisibility of time spent on care work

An initial approximation of time spent on care work could be performed by observing the time dedicated to housework in households with infants (Table 4).

TABLE 4

While showing that women in all situations dedicate more than twice as much time as men, the data also reflect an important aspect of the invisibility of care work: women living in households with children under three years of age spend 2 hours and 17 minutes longer on housework than the set of women as a whole. In the case of men, the presence of children of this age also increases the time spent on housework, but only by 1 hour and 7 minutes. In any event, the difference in time caused by the presence of infants is probably greater than this, because three-year-old children require constant adult supervision. This supports the notion that the time-use diaries present problems in capturing time devoted to caregiving, basically because they do not reflect the care

provided by adults while simultaneously engaged in other tasks. The problem would be lessened by the addition of the question “were you taking responsibility for anyone?” as noted earlier in section 2.

To capture more specific information on care needs, the analysis compared households with and without “dependents”, i.e. children under 10 years of age and individuals of 75 years of age or more. The analysis also considered all time devoted to caregiving, whether identified as the primary activity or a secondary activity (Table 5)¹¹.

TABLE 5

The results once again show that care work tends to “disappear” in the absence of specific activities: the total time for caregiving is relatively low and barely changes when time for caregiving as a secondary activity is included. In fact, the frequency of references to caregiving as a secondary activity is very limited.

4.2 Valuation of housework and household production

Given that one of the objectives of an HSA is to introduce household production compatibly and consistently within the logic of the national accounts system, the valuation is performed in the context of market conditions under which the production hypothetically would have taken place. This is the justification for the use of monetary valuations in the HSAs,¹² although valuing a non-market activity according to market prices raises serious difficulties. Indeed, the most serious problem concerns the valuation of housework, which is the main component of household production.

The most common valuation of housework uses a wage rate, although this kind of valuation raises a series of disadvantages¹³. Firstly, as this form of work is socially undervalued, it is allocated wages equivalent to among the lowest wage levels in the marketplace. As a result, the importance given to it falls sharply with respect to market work measured in work time.

Secondly, the monetary valuation hampers the analysis of any inequalities between women and men because it is still influenced by the wage discrimination between the sexes present in the labor market. As a result, it dilutes a critical type of information that reflects the differing levels at which women and men participate in the different kinds of work.

A third problem is the wide range of values obtained for household production as a consequence of using different wage rates (Statistics Canada 2003; Schäfer 2004, cited in Statistics Finland 2006). This aspect is crucial in any comparative study.

A fourth limitation stems from using a single market wage to value the entire total of time spent on housework. This method of valuation fails to account for the “qualifications” or the “seniority” of the person performing the housework¹⁴, although both of these aspects would give rise to higher wages in the marketplace. The failure to account for important differences by sex and age in the performance of housework means that the work of adult women is undervalued with respect to the rest of the population.

Lastly, a number of theoretical problems also arise, which are not addressed conclusively in this paper but which point to conflicts underlying wage valuations. In any economy, prices and wages are determined jointly and a significant change in one factor rarely leaves the other unchanged. Introducing the sector of housework into the monetary economy would give a more precise idea of the sector’s weight in the economy and of the existing interactions (Wassily Leontief 1951). However, it would also lead to an adjustment in the prices of goods and services in other sectors, which would in turn alter the original price and wages in the newly introduced sector.

Valuation of housework according to the net method

The first requirement in valuing housework in Catalonia is to uncover the total annual amount of time dedicated to it for the entire population of Catalonia. To achieve this, the figures for average daily time from Table 1 are multiplied by 365 days for the female and male population of 10 years of age or higher. The results appear in Table 6.

TABLE 6

The valuation has been obtained by using the “generalist replacement cost method” with the wage for category 51 “personal services workers” from the CNO-94, which is recommended by EUROSTAT (2003) for European Union member states¹⁵. The advantage of using this wage over the other possible categories which cover activities performed in the household is that category 51 includes some organization and management tasks not covered by the other categories, but which are nonetheless an important part of the work done in households.

Two alternative valuations have been obtained in order to observe the differences arising from valuing housework according to differing wages. The first valuation follows the generalist replacement cost method, applying the wage rate corresponding to division 95 of CNAE-93 (Rev. 1)¹⁶ “activities of private households as employers of domestic staff” obtained from the Spanish national accounts (María Luisa Moltó and Ezequiel Uriel 2002). By applying one of the lowest wages in the marketplace, this wage rate undervalues housework.

The second alternative does not directly assign a wage rate from CNO-94 or from CNAE-93, but its estimation of the wage rate for housework follows the same methodology used by businesses to value new positions of employment (Josep Maria Comajuncosa, Francisco Lobos and Ignacio Serrano 2001). This valuation reflects a set of characteristics which are important to businesses and which are in fact implicit in housework, such as experience, responsibility or complexity of work. The use of this method restores key aspects of housework not included in other types of wages. However, the novelty of this approach means that it is difficult to make international or over time comparisons.

Table 7 shows the differences obtained in valuing housework at each chosen wage rate as a percentage of GDP. A matter of particular interest is the enormous disparity in comparing market and non-market work in terms of time and monetary value. As it can be calculated from Table 6, housework measured in working time represents 112 per cent of the time dedicated to market work in Catalonia. In Table 7, by contrast, the conventional method recommended by EUROSTAT (2003) suggests that housework represents 40 per cent of GDP in Catalonia¹⁷. The gap points to the social undervaluation of housework reflected in the assignation of low wages. In any event, the size of the differences suggests that the two results should always be presented together, not only the monetary valuations alone.

TABLE 7

Valuation of household production according to the input method

According to the input method, a household is a unit of production that combines work, intermediate goods and capital goods to produce household goods and services. Hence, valuing household production involves estimating the monetary value of housework as

calculated above, the monetary values of households' intermediate consumption and their consumption of fixed capital.

Intermediate consumption is the value of goods and services acquired by households and used as inputs in the process of household production. However, the system of national accounts records all household spending as final consumption, making it necessary to identify and reclassify all expenditure considered intermediate consumption in the HSA. For some goods and services, it would appear reasonable to assume that the entire expenditure should be classified as either intermediate or final consumption, but for others the classification is not so simple. When the good or service could be used equally either in household production or in activities viewed as final consumption the expenditure should be allocated to intermediate consumption according the time-proportionality criterion¹⁸.

On the other hand, the consumption of fixed capital is determined by the depreciation of a household's fixed capital goods used in the household production process in a given year. A household's fixed capital is one of the most critical factors when examining shifts in productivity in the case of housework. Washing machines, dishwashers and microwave ovens are examples of household appliances that have led to a reduction in housework time, while the production value of some household activities has remained steady or even risen (Ironmonger 2000). Fixed capital consumption should be estimated based on the stocks of fixed assets and the likely average economic life of the different categories of these goods. However, because of the lack of direct information on this type of household goods, the recommended method and the one most used in HSAs (Varjonen 1998; Holloway, Short and Tamplin 2002; Basque Statistics Institute 2004; Galician Statistics Institute 2006; Varjonen and Kristiina Aalto 2006) is the Perpetual Inventory Method (PIM) (OCDE 2001).

Lastly, we obtain the value of household production in Catalonia 2001 adding together the values for housework, intermediate consumption and fixed capital (Table 8).

TABLE 8

One of the principal conclusions drawn from the findings is that, despite the constant introduction of appliances and other labor-saving devices, household production continues to be a labor-intensive activity in which capital plays only a residual role.

Nearly three-quarters of the total value of household production comes from housework. The consumption of intermediate goods accounts for the other quarter, while the percentage relating to the consumption of fixed capital has almost no significance. The relative proportions show the importance and influence of the aspects analyzed in earlier sections on the final valuation of household production.

5. SUMMARY

This paper has proposed two approaches in order to improve Household Satellite Accounts (HSAs). The first addresses the need to incorporate time devoted to housework into HSAs, in order to study inequalities without the influence of wage discriminations. The second proposal involves the use of a survey which is able to gather information on both housework and market work; allowing analyses that would be impossible with the standard employment or time-use surveys. The proposed survey incorporates an integrated analysis of both kinds of work into HSAs in order to provide a more complete and realistic view of the lives of women and men – particularly, in the case of women, the phenomenon known as “double presence”. Data from the HSAs for Catalonia have been used as examples in support of these proposals.

In summary, the implementation of these proposals would allow the HSAs to regain one of the initial purposes for which they were designed: to serve not only as a statistical tool, but also as an analytical tool in studying the work done by women and the relationships between the market and household spheres.

¹ Notable examples of estimation made by statistics offices at national level include Australia (Australian Bureau of Statistics 2000), Canada (Statistics Canada 2003), the United States (Bureau of Economic Analysis 2005), Finland (Statistics Finland 2006), New Zealand (Statistics New Zealand 2001), the Netherlands (Statistics Netherlands 2004) and Spain (Spanish National Statistics Institute 2008).

² Housework includes unpaid domestic work (such as ironing, washing and cleaning, cooking, etc.) and also unpaid care work provided by members of the household.

³ A limited number of HSAs have integrated an analysis of time use: the ones prepared by the Australian Bureau of Statistics (2000), Statistics New Zealand (2001) and particularly Statistics Netherlands (2004).

⁴ Spain, with 45,828,172 inhabitants, is divided into 17 regions known as autonomous communities, as well as the cities of Ceuta and Melilla on the African continent. Catalonia, located in the northeast of Spain, is the second largest autonomous community by population (7,290,292) and it accounts for the

greatest percentage of domestic GDP, at nearly 19 per cent. (Data refer to January 1st, 2009. Spanish National Statistics Institute: <http://www.ine.es>).

5 The definition of household production which is typically used in preparing HSAs is the “third party criterion” put forward by Margaret Reid (1934). Today this definition is under fire as too restrictive (see, for example, Folbre and Michael Bittman 2004, Folbre 2006).

6 Folbre, Jayoung Yoon, Kade Finnoff, and Allison Sidle Fuligni (2005) call this “passive care”.

7 Curiously, jobs exist in our society in which part of the work time which is socially recognized and remunerated involves “being on call” (e.g. firefighters).

8 The Labor Force Survey (LFS) is an employment survey which has been harmonized across International Labor Organization (ILO) member nations.

9 Catalonia constructed its HSA according to European regulations (EUROSTAT 2003). For more information on the methodological aspects of the HSA for Catalonia, see Carrasco and Mònica Serrano (2007). The Time-Use Survey 2002-2003 was the first survey of its kind to be conducted in Spain. It was carried out between September 2002 and October 2003; interviews were administered to all household members over the age of 10. The activity diary, broken into 10-minute intervals, covered 24 hours, from 6 am of the designated day until 6 am of the following day; the diary captured information on primary and secondary activities. In Catalonia a total of 3,362 private households were interviewed.

10 The concept of “social average time” used in some of the tables refers to the average for the entire reference population whether or not they take part in the activity. By contrast, the concept of “average time per participant” refers to the average only of that portion of the population actually participating in the activity.

11 The low frequency of time devoted to caregiving as a secondary activity in the Time-Use Surveys limits the variable to being considered only as indicative.

12 See, for example, Oli Hawrylyshyn (1976, 1977); Reuben Gronau (1980); Ann Chadeau and Annie Fouquet (1981); Marianne Ferber (1982); Martin Murphy (1982); Lourdes Benería (1982, 1992, 2003); Luisella Goldschmidt-Clermont (1983); Marilyn Waring (1988; 2005); Folbre (1991, 1994); Folbre and Barnet Wagman (1993); INSTRAW (1995); Himmelweit (1995, 2002); *Política y Sociedad* (1995) issue 19, in particular the articles by Goldschmidt-Clermont and by Del Re; *Feminist Economics* (1996) volume 2(3); Sue Holloway, Sandra Short and Sarah Tamplin (2002); Andrew Harvey and Arun Mukhopadhyay (2005).

¹³ In addition to the problems related to the wage rate, the literature also poses other problems of a technical nature (Johanna Varjonen, Eeva Hamunen, Taru Sandström, Iris Niemi and Hannu Pääkkönen 1999; EUROSTAT 2003) which, although requiring discussion, are not relevant to the aim of this paper.

¹⁴ For example, a 40-year-old mother will cook a better meal than her 18-year-old son or daughter, although the time spent is valued at the same wage rate. The NA-LFS does not entirely solve this problem, but it incorporates improved elements such as questions like: “how long have you performed the activity?” and “how would you rate your skill at this activity on a scale of 1 to 10?” Advances in methodology will be necessary to overcome this limitation more fully.

¹⁵ CNO-94 is the Spanish acronym for *Clasificación Nacional de Ocupaciones de 1994*, which corresponds to the International Standard Classification of Occupations (ISCO-88).

¹⁶ CNAE-93 (Rev. 1) stands for *Clasificación Nacional de Actividades Económicas de 1993* in Spain, which corresponds to the International Standard Industrial Classification of all Economic Activities (ISIC Rev. 3.1.) of the United Nations Statistics Division.

¹⁷ The figure is similar to data for other countries: Norway 1990 (38 per cent); Australia 1997 (43 per cent); New Zealand 1999 (39 per cent); the United Kingdom 1999 (44 per cent); Finland 2001 (41 per cent); cited by Carrasco and Serrano (2007).

¹⁸ This method was first proposed and applied by Duncan Ironmonger and Evelyn Sonius (1989), Marjut Vihavainen (1995) and Iulie Aslaksen, Trude Fagerli and Hanne A. Gravningsmyhr (1995).

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Table 1. Time spent on market work and housework (social average per day, hours : minutes, and percentages)

	Men	Women	Average
<i>Market work</i>	3: 52 (66,6)	2: 07 (31,2)	2: 58
<i>Housework</i>	1: 56 (33,3)	4: 40 (68,8)	3: 19
Total	5: 48	6: 47	

Source: Authors' calculations from Spanish Time-Use Survey 2002-2003.

Table 2. Time spent on housework by principal person¹ and by household type (social average per day, hours : minutes)

Type of household	fpp ²	mpp ³	Total
Male single-person under 65 years		2: 20	2: 20
Male single-person over 65 years		3: 13	3: 13
Female single-person under 65 years	3: 45		3: 45
Female single-person over 65 years	4: 49		4: 49
Couples under 65 years without children	4: 11	2: 10	6: 21
Couples over 65 years with children	5: 35	2: 31	8: 06
Couples with at least one children under 18 years	6: 16	2: 24	8: 40
Couples with at least one children over 18 years	5: 50	2: 11	8: 01
Male single-parent with at least one children under 18 years		1: 29*	1: 29*
Male single-parent with at least one children over 18 years		1: 35	1: 35
Female single-parent with at least one children under 18 years	4: 03		4: 03
Female single-parent with at least one children over 18 years	4: 58		4: 58

Source: Authors' calculations from Spanish Time-Use Survey 2002-2003.

(1) Principal male and female person are the men and the women considered responsible of the household. For instance, in a household with an adult couple and children, the male and female principal person would be the father and the mother respectively.

(2) fpp = female principal person.

(3) mpp = male principal person.

* *Statistic non significative value.*

Table 3. Time spent on housework according to employment situation * (social average per day, hours : minutes)

	Employed in labor market	Unemployed in labor market
<i>Women</i>	3: 46	6: 13
<i>Men</i>	1: 46	2: 23

Source: Authors' calculations from Spanish Time-Use Survey 2002-2003.

* *Population between 16 and 65 years.*

Table 4. Time spent on housework in households with children (average time per day, hours : minutes)

Households with children	Role	Average time
under 3 years	mpp ¹	3:03
	fpp ²	6:57
from 3 to 10 years	mpp	2:02
	fpp	5:27
from 11 to 18 years	mpp	1:39
	fpp	5:20

Source: Authors' calculations from Spanish Time-Use Survey 2002-2003.

(1) *mpp = male principal person.*

(2) *fpp = female principal person.*

Table 5. Time devoted to caregiving according to the presence of dependent people in the household (time per day, hours : minutes)

	Social time. Main activity	Total social time	Time per participant. Main activity	Total time per participant
Men	0:40	0:45	1:36	1:45
Women	1:18	1:27	2:29	2:45

Source: Authors' calculations from Spanish Time-Use Survey 2002-2003.

(1) "Dependent people" are children under 10 years of age and individuals of 75 years of age or more.

**Table 6. Total time of total work in Catalonia 2001
(thousand of hours per year and percentages)**

	Men	Women	Total
<i>Market work</i>	3,963,800 (63.5) (66.7)	2,282,000 (36.5) (31.2)	6,245,900 (47.1)
<i>Housework</i>	1,981,900 (28.3) (33.3)	5,031,200 (71.7) (68.8)	7,013,100 (52.9)
Total work	5,945,700 (44.8)	7,313,200 (55.2)	13,259,000

Source: Authors' calculations.

Table 7. Monetary valuation of housework in Catalonia 2001

	Monetary valuation (thousand of euros per year)	Housework/GDP (%)
Method used in the HSA of Catalonia		
Replacement cost method using wage rate of category 51 of CNO-94.	54,243,000	40.0
Alternative methods		
1. Replacement cost method using wage rate of sector 95 of CNAE-93.	35,638,300	26.3
2. Business estimation of wage rate for housework.	81,981,500	60.4

Source: Authors' calculations.

Table 8. Household production costs in Catalonia 2001

	Value of household production	
	(thousand of euros)	(%)
<i>Housework</i>	54,243,000	73.5
<i>Consumption of intermediate goods and services</i>	19,377,700	26.2
<i>Consumption of gross fixed capital formation</i>	229,700	0.3
TOTAL	73,850,400	100

Source: Authors' calculations.