The Case of Nicaragua

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Introduction

What do we know about how Nicaraguans use time and, in particular, the time they devote to care? If responding to this question is important under any welfare and care regime, it is especially important when there are market and state "failures" in meeting the basic needs of the population. In this context, one would expect a much larger part of the unpaid work to be done in households and communities.

From the very inception of economics as a discipline, the central corpus of its work has been developed with a view to understanding capitalist production (Hausman 1984 and Albelda 1997, cited in Carrasco 2006). Thus, "work" has been defined to include only those activities that are actual or potential objects of commerce. This concept of work has profoundly affected the recognition of women's contribution to the economy and to the society.

Feminist economics regards this approach as incomplete, since a society's survival depends not only on its pattern of economic production, but also on the pattern of social reproduction[1], which includes unpaid service production for household's consumption. Under prevailing theoretical approaches, the invisibility of reproductive work has also rendered reproductive work—and those who perform it— socially invisible. More specifically, what is obscured is the relationship between production and reproduction characteristics of the capitalist system (Picchio 1994).

[1] The term "social reproduction" is used to refer broadly to the reproduction of the ideological and material conditions that sustain a social system. "Reproduction of the work force" refers to the daily maintenance of workers and future workers, as well as to the process of educating and training them. "Unpaid care work" is a similar concept.

For feminist economics, social reproduction requires a set of activities generally designated as work, most of which fall outside what is typically defined as being part of "the economy." The most important of these activities, in terms of both content and time consumed, are (unpaid) domestic work and caregiving (Carrasco 2006).

Historically, care work has been provided by women within the household on an unpaid basis. However, it may be supplemented by paid work performed in the home, paid work in the public or private service sectors, and volunteer work. According to Picchio (1999), however, the ultimate responsibility for reconciling these forms of work, and for dealing with their less-than-sufficient yield, continues to be borne by those who perform unpaid work within the family—especially women.

To address care work in Nicaragua, this chapter (a) categorises work-care regimes in Nicaragua according to the different ways in which households combine activity in the labour market with unpaid care work, and the manner in which they allocate these activities among their members; and (b) estimates the contribution to the national economy made by women's unpaid care work, in order to reveal this hidden cost of economic production. To this end, we have analysed data from the time use section of the 1998 National Standard of Living Survey (Encuesta Nacional de Medición del Nivel de Vida, or EMNV) conducted by Nicaragua's National Institute of Statistics and Census (Instituto Nacional de Estadísticas y Censos, or INEC).

The study sample, which is representative of the national population, comprises 8,756 persons of 6 years of age or above who were regular residents of the 2,325 selected housing units surveyed between April and August for the time use section of the 1998 EMNV. Each of these individuals was asked 25 questions, in order to establish whether he or she had carried out specified activities the *day prior* to the interview. The time spent in various daily activities was also checked, ensuring that they totalled 24 hours. The population's socio-demographic and economic characteristics were registered on other sections of the 1998 EMNV.

Obtaining information on time use by asking about pre-defined activities is problematic inasmuch as activities not covered by the questions (e.g. care of older adults) may be inadvertently omitted. In addition, the reliance on respondents' memory increases the chance that responses will reflect what respondents "normally" do (or think they should do), rather than what they actually did on the reference day. Basing the reports on respondents' memory also affects the quality of the data on the time devoted to different activities, since respondents have a tendency to round off times.

Furthermore, the fact that the number of questions related to different activities was not constant may have affected the final time use data. For example, there were four questions on household work, but only one on childcare. (In the latter case, no details were solicited regarding the specific activities involved, or to determine whether the children cared for were members of the household, as opposed to members of other households.) Responses thus reflected only what the respondents themselves considered to be childcare and their subjective perceptions of time.

Despite these limitations, and as shown in the chapter more broadly, the data collected through the survey are valid and extremely useful, not only for assessing actual time use in Nicaragua, but for public policy making that would hopefully deal with the many tensions involved in balancing paid work and unpaid care work.

What Do We Mean by Work and Care Work?

There are two basic definitions that are important for this study: employment-related "work" and unpaid care work. The definition of employment-related work used by the Nicaraguan government is based on the standards and guidelines of the System of National Accounts (SNA). The labour force statistics consider as employed those persons doing productive activities within the SNA production boundary. The SNA, however, excludes unpaid domestic and personal services performed by households for their own consumption, such as food preparation; care, education and training of children; care of the ill and the elderly; and cleaning, maintenance and repair of durable goods, etc. (See chapter 1).

The present study adopted a modified version of the SNA definition of work. Collection of water and wood, which in the SNA are part of employment-related work, are excluded here on account of the fact that they are not considered as such in the official statistics of Nicaragua. They are therefore included here as part of unpaid care work. In effect, SNA work covers the following categories:

- Paid work.
- Unpaid work in family or non-family firms or businesses[2].

Care work, on the other hand, is defined as activities, whether paid or not, which are done for the household-family with the aim of assuring the daily reproduction of its members. Unpaid care work is similar, but excludes any care work that is paid.

In view of its objectives, the present study examines only *unpaid care work.* Based on the content of the time use section of the 1998 EMNV, the activities included are classified in two categories:

- Domestic tasks, including cooking, housecleaning, dishwashing and laundry, ironing, house repairs, household shopping, and collection of fuel and water.
- Care for persons, including childcare and care of the ill. (Adult care more generally is not under examination here). However, the way in which the questions in the time use section of the 1998 EMNV were formulated makes it impossible to determine whether the persons being cared for did or did not belong to the interviewees' households.

[2] Although the time use section of the 1998 EMNV included questions referring specifically to these categories, it also included two questions on family economic activity (both agricultural and non-agricultural), but without inquiring as to whether remuneration was received. To deal at least partially with this situation, we consulted the economic activity section of the survey and used its classification scheme to categorise activities as paid or unpaid.

We decided not to include community and related services on account of the fact that, because of the way in which the questions were asked, it is not possible to determine to which category of the SNA they correspond.

What is the Socio-Demographic and Economic Profile of the Study Population?

To study the time use patterns of Nicaraguans, we use a combination of variables, among which sex is the central axis of the analysis given the importance of gender roles for time use. In this section we discuss what the surveyed population looks like in terms of these variables. Based on this depiction we can tell whether the sample is reliable in respect of the population as a whole and better understand the primary results concerning time use.

The sample is almost equally distributed between the sexes: 49.7 per cent men and 50.3 women. Just over half the sample (52.6 per cent) lived in urban areas. However, disaggregation by sex shows the men are almost equally distributed between urban and rural areas, while a significant majority of the women reside in urban areas (55.6 per cent).

The greater propensity of rural women to migrate to cities reflects the greater job opportunities available in urban centres, where these women traditionally find work as domestic employees or, more recently, in *maquila* enterprises in free zones.

The age groups used to analyse the information are based on a combination of the official Nicaraguan definition of childhood (0 to 17) and of women's reproductive age (15 to 49). Although the behaviour of the retirement-age population (65+) is also of interest, it was necessary to aggregate this group with the 50-64 year group, since the number of observations in the 65+ population constituted less than 5 per cent of the total population interviewed.

The sample was concentrated in the first two age groups, with the 18-49 group predominating, especially among women. Thus, slightly less than half of the population interviewed consisted of

individuals in the peak productive and reproductive age group. The sample in the 50+ group was evenly divided between the sexes, and thus does not reflect women's greater life expectancy.

As to age distribution within the sample, 64.1 per cent of the sample (63.3 per cent of males and 64.9 per cent of females) fell in the 15- to 64-year-old group.

We categorised individuals according to whether they were members of conjugal unions (whether married or not[3]) at the time of the interview, had been in the past (i.e., were currently separated, divorced or widowed) or never had been (single people). Using this categorisation, slightly under half of the 12-years and older population was married or in conjugal unions, and over one third was single. Men and women were more or less equally likely to be married or in conjugal unions. Interestingly, the proportion of single men is 12 percentage points higher than that of single women. The percentage of separated, divorced or widowed men is approximately one third the percentage of separated/divorced/widowed women. In other words, men who have had a stable couple relationship that ends are unlikely to continue living without a partner.

In Nicaragua, information on conjugal status is sought on individuals 12 years old and older, as a result of the early average age at which women enter a first union.[4] However, inclusion of the under-15 population affects the data on conjugal status, increasing the relative weight of single persons and reducing that of the other categories. Thus, for example, more than half of the 15+ population is married or in conjugal unions – 7 percentage points higher than for the broader age group. Conversely, the proportion of single people is nearly 9 points lower.

Respondents were categorised according to the type of household to which they belonged. The categorisation was based on the stage of the household members' life cycle. Three groups were defined: children (under 18), adults (18-64) and older adults (65 and over). The various possible

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[3] Nicaragua's legislation grants equal rights to all couples, regardless of the type of conjugal union of which they are a part.

[4] According to the Encuesta de Demografía y Salud [Demographic and Health Survey] (ENDESA), the median age of first unions was 18.2 years in 2001.

combinations of these groups produced seven types of households: adults and children; children, adults and older adults; adults only; adults and older adults; only older adults; older adults and children; and children only. However, the last four types combined represent a mere 3.1 per cent of the total. Meanwhile, slightly over three quarters of the respondents belong to households composed of adults and children, without significant differences according to sex. The other household types to which respondents belong, in descending order of incidence among respondents, were as follows. A total of 16.3 per cent of respondents belong to three-generation households (children, adults and older adults), with women more likely than men to be members of such households. Adults-only households account for less than 5 per cent of respondents, and (unlike the previous group) men are more likely than women to belong to such households.

The presence of young children can have a substantial impact on the amount of unpaid care work done. Two fifths of the surveyed population live in households without children under 6 years. The rest are evenly divided between households with one such child and households with two or more. The distribution of women and men in the latter categories is the same.

In terms of economic activity, we utilise the categories used in traditional labour statistics, which are based on SNA definitions of production, and which consider persons who have performed some "work" during the previous week to be employed, those who have not worked, but have sought work, to be unemployed, and those who neither worked nor actively sought work to be economically inactive.

Nicaragua defines the working-age population as 10 to 64. However, the 1998 EMNV investigated the economic activity status of the population from age 6 and over, in order to investigate the extent of child labour in the country. As is customary, the calendar week prior to the interview was the reference period used. For the time use section of the survey, however, the reference period was the day prior to the interview. This discrepancy explains some apparent inconsistencies, such as the phenomenon of individuals who were unemployed (the previous week) performing paid work (the previous day).

One half of the population interviewed was economically inactive, and less than one half were employed, but there are significant differences by sex. A majority (60.8 per cent) of men were employed, and only one third were economically inactive, while less than one third of women were employed, and 67.3 per cent were economically inactive. The unemployed population constituted only 5.2 per cent of the total, with the proportion of men 1.3 percentage points higher than that of women.

In the 15- to 64-year-old population (i.e., the population capable of fully engaging in work), the proportion of employed individuals is 16.0 percentage points higher than for the broader age group, with a greater rise in the figure for men than for women (21.3 points and 11.2 points), while the economically inactive population drops by 17.7 points (the figure for men this time falling more than for women—23.1 points vs. 12.7 points).

For the purpose of the analysis, household monetary income was defined to include all monetary income of household members, whether from work, income from property, current transfers or extraordinary income from sources such as inheritances or insurance payments. The income ranges defining the quintiles are shown below.

As may be seen, quintile 1, which has an upper bound of C$410, includes some households without any monetary income during the calendar month prior to the interview. This is explained largely by the fact that the survey was conducted between April and August, before the harvest of annual and perennial crops—the time when households whose sole economic activity is agricultural receive the income from the sale of their products. The upper bounds for the remaining four quintiles are C$950, C$1,612, C$2,997 and C$140,333 respectively.

To understand what the above figures mean, we note that in 1998 the poverty line[5] was C$355.00 per person, and the nation's average household size was 5.4 individuals. Thus, an

[5] The poverty line is defined in terms of the monthly per capita consumption needed to satisfy minimum caloric requirements (the extreme poverty line), plus an additional amount to cover consumption of essential non-food

average household required monthly monetary income of C$1,917.00 or more to cover its basic consumption needs and not be classified as poor.[6] This means that the households in quintiles 1, 2 and 3 and some of those in quintile 4 do not have the necessary financial resources to cover their basic consumption needs.

This is no significant differences in the distribution of men and women by household income quintile. However, there is a very slightly greater tendency for women to live in households in quintiles 3 and 5.

In short, the summary analysis above confirms that the structure of the survey population matches that of the National Population Census of 1995 reflecting the main demographic and economic trends of the past decade.

Work-Care Regimes of the 15 to 64 Year-Old Population

What are the time use patterns of the population aged 15-64 years? These are the ages which cover the peak of productive capacity as well as the reproductive years of women (15-49 years). In order to answer this question we analyse SNA work, and paid work in particular, together with unpaid care work. We subsequently deepen the study by looking at time spend on care of children.

To analyse the way in which the population distributed its time among the different activities in 1998, we use three basic indicators:

- Rate of participation, which shows the proportion of the population that undertakes the given activity, irrespective of the time spent on it.
- Mean time per participant, which refers to the mean number of hours spent per day on the activity by those who undertake the activity.

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goods and services, such as housing, transportation, education, health and clothing, as well as daily household expenses.

[6] According to official 1998 data, 47.9 per cent of the country's population was under the consumption poverty line.

- Mean population time, which is a synthetic indicator based on the previous two, and is defined as the mean number of hours spent per day on the activity averaged over the full population.

Because the first two indicators refer only to those who undertake the activity, neither of which on its own provides sufficient information on the time use of the full population, it is necessary to analyse them together.

Below we present three main findings: The distribution of men's and women's time by type of work and by basic socio-demographic and economic characteristics, and multivariate analysis to establish the strength of the relationship between unpaid care work and care of persons with a range of variables.

Distribution of time between the main types of work

All the activities that a person does can be classified into three major categories according to the SNA: SNA work, unpaid care work (UCW) and personal care or non-productive activities (see Table 7.1).

As one can see, there are big differences in the participation rates of men and women in SNA work and unpaid care work. In the first case, the participation rate of men is more than double that of women; in contrast, for UCW women show higher rates of participation. The difference in the rates for women and men are less for unpaid care work than for SNA work. This is probably due to the inclusion of collection of water and wood as part of unpaid care work, as these are activities that in some cases are done by adult men and/or boys.

The participation rates in non-productive activities are 100 per cent for both women and men, which confirms that all do at least one personal activity (sleeping, eating, bathing, etc).

Table 7.1 Participation rates, mean actor time and mean population time of the population 15-64 years by sex and SNA category

	Total	Male	Female
Participation rate (%)			
SNA	53.9	74.9	33.7
UCW	70.8	50.8	90.1
Non-productive activies	100.0	100.0	100.0
Mean actor time (hours per day)			
SNA	8.2	8.5	7.6
UCW	5.2	3.0	6.3
Non-productive activities	15.9	16.1	15.7
Mean population time (hours per day)			
SNA	4.4	6.4	2.6
UCW	3.6	1.5	5.7
Non-productive activities	15.9	16.1	15.7

In terms of the mean time spent on each of the three activity categories, for a particular sex the mean per actor will be bigger than the population mean. This difference increases with lower participation and vice versa. This is the reason that the difference (between the two means) for the mean time spent on SNA work is less for men than for women. In contrast, the gap for mean time spent on UCW is less for women than for men. In the case of non-productive activities the difference is zero, given that the participation rate is 100 per cent for both sexes.

We note that although only a third of women do SNA work, and the time that they spend on this work is only 10 per cent less than that of men. In other words, these women are subjected to tension in the use of time that does not face men.

According to Table 7.2, in terms of both total SNA work and each of its components, the participation of men is a little more than double the participation of women. The difference in the time devoted by participants to paid work is only 8 per cent, but with unpaid SNA work the difference increases to 39 per cent, both in favour of men. The difference increases to 145 per cent and 200 per cent, for paid SNA work and unpaid SNA work respectively, when we consider the mean population time.

Table 7.2 Participation rates, mean actor time and mean population time of the population 15-64 years in SNA work by sex

	Total	Male	Female
Participation rates (%)			
SNA	53.9	74.9	33.7
Paid work	42.9	60.1	26.3
Unpaid work	9.7	12.9	6.6
Mean actor time (hours per day)			
SNA	8.2	8.5	7.6
Paid work	8.8	9.0	8.3
Unpaid work	6.4	7.1	5.1
Mean population time (hours per day)			
SNA	4.4	6.4	2.6
Paid work	3.8	5.4	2.2
Unpaid work	0.6	0.9	0.3

With unpaid care work, women have higher participation rates and mean times than men (see Table 7.3**Error! Reference source not found.**). The biggest differences are observed for care of persons and domestic chores, for which the participation rate of women is more than 4 and 2 times respectively that of men. For both sexes, higher rates of participation are recorded for domestic chores.

If we look at actor means, the time spent by women in these same activities is 50 per cent and 100 per cent more than the corresponding times for men. In contrast, for collection of water and wood the differences are less stark. However, if we take the mean population time, the difference between the time spent by women and men for care of persons and domestic chores increases to 550 per cent and 460 per cent respectively.

Table 7.3 Participation rates, mean participant time and mean population time of the population 15-64 years in unpaid care work by sex

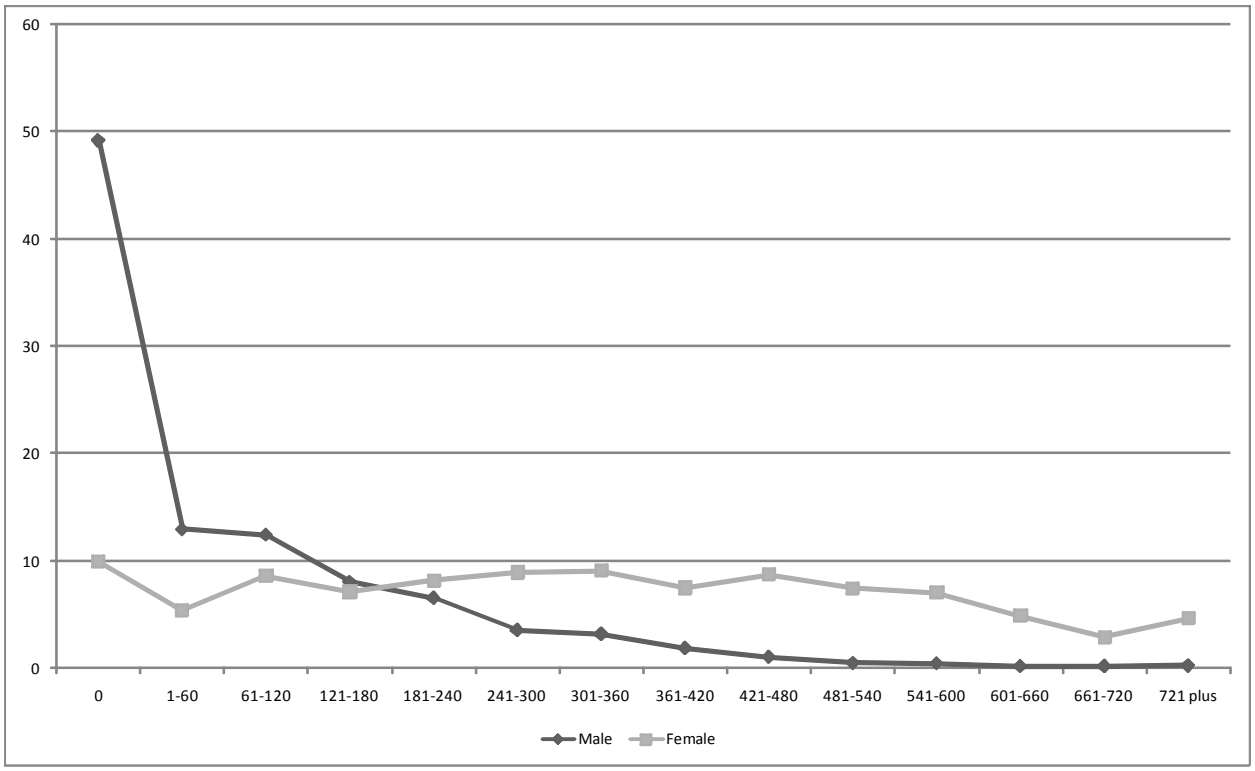
	Total	Male	Female
Participation rate (%)			
UCW	70.8	50.8	90.1
Care of persons	22.5	7.9	36.5
Household maintenance	62.0	35.9	87.1
Collection of fuel and water	25.5	23.5	27.5
Mean actor time (hours per day)			
UCW	5.2	3.0	6.3
Care of persons	2.9	2.1	3.0
Household maintenance	4.1	2.5	4.8
Collection of fuel and water	1.7	1.9	1.5
Mean population time (hours per day)			
UCW	3.6	1.5	5.7
Care of persons	0.6	0.2	1.1
Household maintenance	2.6	0.9	4.2
Collection of fuel and wáter	0.4	0.5	0.4

In addition to the enormous gender gaps observed for unpaid care work, for the total and the main components, the low participation and very limited time devoted by men and women to care of persons is worrying. It is less than one hour per day – slightly more than an hour for women and for men only 0.2 hours. While internationally child care tends to be under-reported, including because it is often done simultaneously with other activities and is often perceved as a "responsibility" rather than "activity", considering the age structure of the Nicaraguan population and the almost non-existent supply of care services, whether public or market, this result suggests that younger people might be caring for themselves more than is desirable. This merits further in-depth study.

Figure 7.1 shows the distribution of time devoted to unpaid care work by the population in the 15-64 age group. As this figure indicates, nearly 50 per cent of men and 10 per cent of women devoted no time to this type of work during the reference day (the day prior to the interview). Between 1 and 120 minutes of unpaid care work is located 25 per cent of the men and 13.9 per cent of the women.

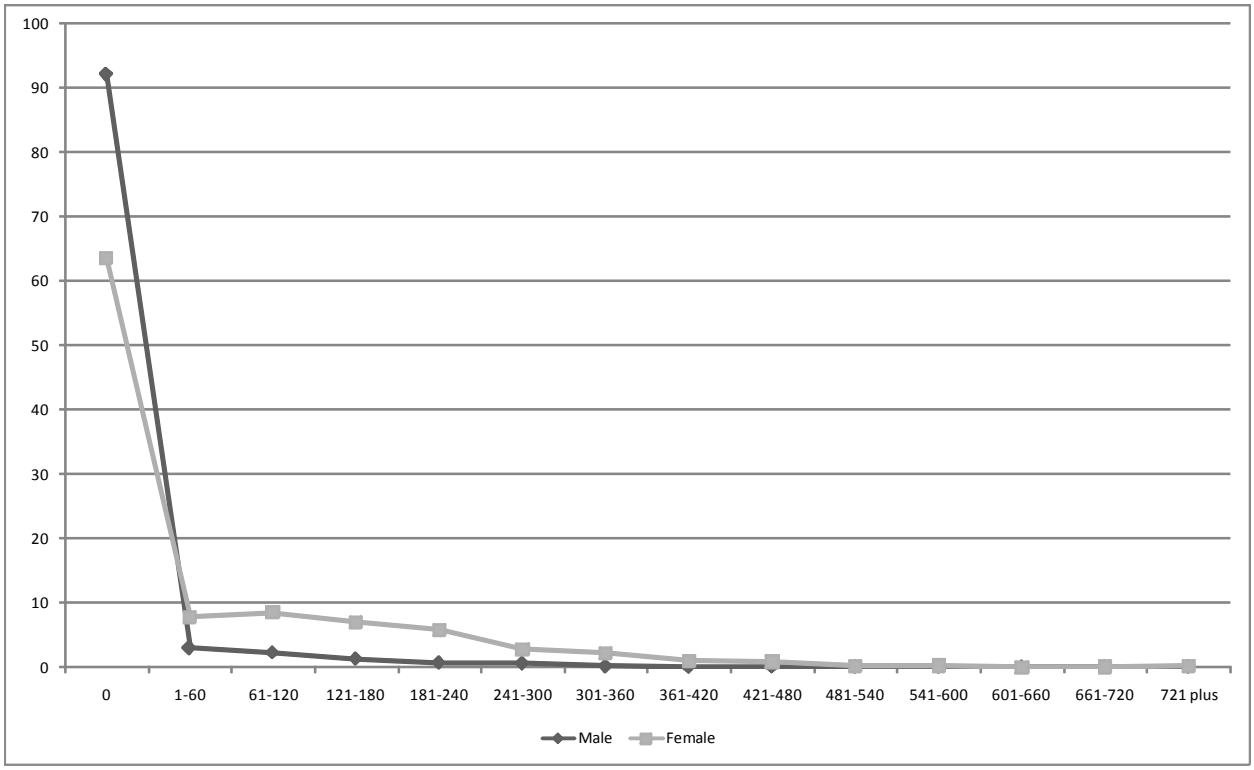
The concentration of men in the first groups, in terms of time devoted to unpaid care work, along with the fairly even distribution of women across the time groups (including the last ones), shows the profound gender inequality that exists in this area.

Figure 7.1 Distribution of time spent on unpaid care work by sex



The distribution of time devoted to care for persons by the population in the 15-64 age group shows that 92.1 per cent and 63.5 per cent of men and women, respectively, stated that they had spent no time in care for persons (Figure 7.2). Thus, a majority of the population does not dedicate time to care for persons, whether children or individuals who are ill.

Figure 7.2 Distribution of time spent on care of persons by sex



On the one hand, 7.9 per cent of the men who devoted time to care for persons were concentrated in the 1- to 120-minute group. On the other hand, 36.5 per cent of women who stated that they had cared for persons were in the 1- to 240-minute group.

Who uses time for what?

In this section we analyse the relationship between the use of time by men and women aged 15-64 years and selected socio-demographic and economic characteristics.

Men's rates of participation in SNA work and paid work are higher than women's in both urban and rural areas. Within the sexes, rural inhabitants show the highest participation rates in these types of work, suggesting that women have greater opportunities for paid work in the cities. The gender gap in these parameters is greater in the rural population.

Men also spend more hours per day in SNA work and paid work than do women. It is striking that it is in the rural population that the difference in time devoted to paid work (0.5 hours, or 6 per cent of the day) is the least pronounced.

Table 7.4 Participation rates and mean time spent by population 15-64 years on selected activities by area of residence and sex

Area of residence and sex	Participation rate (%)			Mean time (hours per day)		
	SNA	Paid work	UCW	SNA	Paid work	UCW
Total	53.9	42.9	70.8	8.2	8.8	5.2
Male	74.9	60.1	50.8	8.5	9.0	3.0
Female	33.7	26.3	90.1	7.6	8.3	6.3
Urban	53.5	44.8	67.7	8.4	9.0	5.0
Male	67.7	57.9	44.4	8.8	9.3	2.9
Female	41.4	33.8	87.3	7.8	8.4	5.8
Rural	54.5	40.7	74.5	8.1	8.5	5.4
Male	82.2	62.4	57.2	8.3	8.6	3.0
Female	23.3	16.3	93.8	7.1	8.1	7.0

The greatest difference between SNA work and paid work participation rates is seen among rural men, reflecting the extent to which they are active in the unpaid labour market.

As expected, women, and particularly rural women, show the largest amounts of time and highest rates of participation (over 90 per cent) in unpaid care work. Independent of area of residence, they devote twice as long to these activities than do men. Among men, it is rural inhabitants who are most involved in unpaid care work¸ a phenomenon that may reflect the inclusion of water collection and firewood gathering, though the time they spend is comparable to that spent by their urban counterparts.

Rural women devote 20 per cent more time than urban women to unpaid care work, probably due to their poorer housing conditions and the greater number of members per household. However, the data suggest that these factors do not affect men's behaviour.

Rates of participation in SNA work and paid work show marked differences from one age group to another. Both sexes show the highest participation rates in the 31-49 year group, followed by the 50-64 year group, the 18-30 year and the 15-17 year age groups. The average time devoted by men and women shows a similar pattern.

As shown in Table 7.5, the greatest gender difference in SNA work is seen in the 18-30 year age group, followed very closely by the 50-64 year group, which also exhibits the greatest difference between men's and women's participation in paid work. In terms of time devoted by the two sexes to these types of work, however, the greatest difference is seen in the 15-17 year group.

Table 7.5 Participation rates and mean time spent by population 15-64 years on selected activities by age group and sex

Age group and sex	Participation rate (%)			Mean time (hours per day)		
	SNA	Paid work	UCW	SNA	Paid work	UCW
Total	53.9	42.9	70.8	8.2	8.8	5.2
15-17 years	33.8	17.0	71.8	7.2	8.2	4.5
Male	50.2	25.5	54.8	7.8	8.5	3.0
Female	17.0	8.3	89.3	5.6	7.3	5.5
18-30 years	53.5	40.2	70.3	8.2	8.8	5.3
Male	75.7	57.3	49.5	8.5	9.0	2.9
Female	31.6	23.4	90.7	7.4	8.4	6.6
31-49 years	62.7	55.5	71.3	8.5	8.9	5.3
Male	84.8	76.4	49.5	8.8	9.1	3.0
Female	43.1	36.9	90.5	8.0	8.4	6.4
50-64 years	56.3	49.3	70.3	8.3	8.7	4.9
Male	77.9	70.4	53.1	8.6	8.8	2.9
Female	34.0	27.6	88.0	7.7	8.2	6.2

The difference between rates of participation in SNA work and paid work diminishes with advancing age in both men and women, which could indicate that the proportion of unpaid market work diminishes with age.

Women's participation rates in unpaid care work do not vary significantly by age group, although slightly higher values are found in the 18-30 and 31-49 year groups, which are precisely

the groups in which men's participation rates are lowest. The time that men devote to unpaid care work is practically invariant with age (2.9 hours per day), and although women's time varies little, it is twice that spent by men.

As Table 7.6 shows, participation in SNA work and paid work is greatest among men who are married or in conjugal unions and separated/divorced/widowed women, while the lowest rates are among single men and women.

As concerns time devoted to SNA work, men who are married or in conjugal unions, along with separated/divorced/widowed women, report the highest figures, while the lowest are among single persons of both sexes. For paid work, the highest times are reported by men who are married or in conjugal unions and separated/divorced/widowed men, and by women who are married or in conjugal unions and single women. The lowest times are reported by single men and separated/divorced/widowed women.

Table 7.6 Participation rates and mean time spent by population 15-64 years on selected activities by conjugal status and sex

	Participation rate (%)			Mean time (hours per day)		
Conjugal status	**SNA**	**Paid work**	**UCW**	**SNA**	**Paid work**	**UCW**
Total	53.9	42.9	70.8	8.2	8.8	5.2
Married or in conjugal union	58.2	51.0	71.8	8.5	8.9	5.6
Male	84.7	77.1	50.0	8.8	9.0	3.0
Female	32.2	25.4	93.2	7.7	8.4	7.0
Separated, divorced, widowed	52.8	44.0	82.5	8.0	8.5	5.6
Male	75.4	60.0	59.0	8.5	8.9	3.4
Female	46.0	39.2	89.6	7.8	8.2	6.0
Single	46.6	27.5	63.2	7.8	8.6	3.9
Male	60.3	34.8	50.5	8.0	8.7	2.9
Female	25.2	16.0	83.2	7.0	8.4	4.9

In unpaid care work, women's participation rates are higher than men's by at least 50 per cent, and the differential is nearly 100 per cent among the population that is married or in conjugal unions. Separated/divorced/widowed men are most involved in unpaid care work—most likely

driven by the lack of a partner—while those who are married or in conjugal unions and single men are least involved. Women who are married or in conjugal unions show the highest rates of participation in unpaid care work, and single women the lowest. This confirms that the likelihood of doing unpaid care work increases with being female, with having a family, with having a conjugal partner in the case of women, and with not having a stable partner in the case of men.

The greatest time devoted to unpaid care work is seen among separated/divorced/widowed men, and among women in conjugal unions, with the lowest rate being among single men and women as well as men in conjugal unions. These data suggest that for women who have their own family, having a conjugal partner increases unpaid work time, while this situation decreases unpaid work time for men.

As Table 7.7 shows, men's participation in SNA work and paid work increases with the presence of children under 6 in the household, especially when there are two or more children, while women's participation in SNA work decreases. There is a slight tendency for the amount of time that men devote to these types of work to increase with an increase in the number of children in the household. For women, the average time devoted to SNA work and paid work increases from the no-children to one-child group (6 per cent and 3 per cent, respectively, for the two types of work), but diminishes by 10 per cent when there are 2 or more children in the household.

In regard to unpaid care work, men's and women's participation rates diminish when the number of children in the household increases from 0 to 1, then increases again when there are 2 or more. The time that men devote to care work follows a pattern similar to that described above for participation rates. In contrast, women's time clearly increases.

It would seem, then, that the presence of children under 6 in the household leads to a reinforcement or resumption of traditional gender roles, as women reduce their participation in paid work to devote more time to unpaid care work, whereas men do the opposite.

Table 7.7 Participation rates and mean time spent by population 15-64 years on selected activities by sex and number of children under 6 years in household

Sex and number of children under 6 years	Participation rate (%)			Mean time (hours per day)		
	SNA	Paid work	UCW	SNA	Paid work	UCW
Total	53.9	42.9	70.8	8.2	8.8	5.2
Male	74.9	60.1	50.8	8.5	9.0	3.0
None	69.5	56.3	55.3	8.4	8.9	3.2
One child	71.5	57.5	47.8	8.4	9.0	2.8
Two or more	76.4	61.2	50.7	8.6	9.0	3.0
Female	33.7	26.3	90.1	7.6	8.3	6.3
None	42.4	32.9	89.0	7.8	8.7	5.2
One child	33.2	28.1	86.0	8.3	9.0	5.9
Two or more	33.0	25.4	91.0	7.4	8.2	6.5

As might be expected, the employed population of both sexes reports the highest participation rates and average time devoted to SNA work and paid work. For both types of work, the greatest differences between men's and women's rates are among the unemployed. However, it would be inadvisable to draw any conclusion from this, since this segment represents less than 7 per cent of the total population in the 15-64 age group, and shows participation rates below 5 per cent.

Unemployed men and economically inactive women are the most involved in unpaid care work—69.0 per cent and 95.5 per cent, respectively. However, unemployed and employed women's participation rates are high (92.4 per cent and 82.2 per cent), which indicates that these women are doing both types of work. Employed men and women show the lowest participation rates (48.2 per cent and 82.2 per cent). Unemployed men and economically inactive women devote the most time to unpaid care work (4.1 and 7.3 hours per day, respectively). Employed men and women show the lowest amounts of time (2.8 hours and 4.7 hours per day, respectively).

Table 7.8 Participation rates and mean time spent by population 15-64 years on selected activities by activity status and sex

Activity status	Participation rate			Mean time		
	SNA	Paid work	UCW	SNA	Paid work	UCW
Total	53.9	42.9	70.8	8.2	8.8	5.2
Employed	83.9	70.4	59.5	8.5	8.8	3.7
Male	87.1	72.7	48.2	8.7	9.0	2.8
Female	77.4	65.9	82.2	8.0	8.4	4.7
Unemployed	28.2	4.7	79.3	5.2	7.9	5.3
Male	36.1	5.6	69.0	5.7	8.1	4.1
Female	18.2	3.5	92.4	4.0	7.6	6.4
Inactive	4.1	0.0	89.8	3.6	0.0	6.9
Male	6.1	0.0	57.8	3.9	0.0	3.2
Female	3.7	0.0	95.5	3.5	0.0	7.3

Men's and women's participation in SNA work and paid work diminishes as household income increases, although the pattern is clearer for women (Table 7.9). The very limited participation of first-quintile women in paid work is striking.

As regards time spent in SNA work, there is a tendency for men to do less as one moves from quintile 1 to quintile 5. The pattern for women fluctuates, both increasing and diminishing as one moves from one quintile to the next. The time spent by both sexes in paid work increases along with household income.

In terms of unpaid care work, there is a clear pattern of diminishing participation rates among both men and women with increasing household income. A similar pattern is seen in the time devoted by both sexes to this type of work, although the pattern is more pronounced among women. As mentioned above, these patterns, particularly evident among women, suggest that domestic workers in the household are assuming some of the care burden.

Table 7.9 Participation rates and mean time spent by population 15-64 years on selected activities by sex and monetary household income quintile

Monetary household income quintile and sex	Participation rate (%)			Mean time (hours per day)		
	SNA	Paid work	UCW	SNA	Paid work	UCW
Total	53.9	42.9	70.8	8.1	8.2	5.2
Quintile 1	49.3	30.5	81.4	8.4	7.7	5.6
Male	84.4	55.3	67.2	8.9	8.0	3.1
Female	16.2	7.2	94.8	8.0	6.0	7.4
Quintile 2	51.8	40.0	75.5	8.5	8.1	5.6
Male	76.8	59.5	56.9	8.4	8.4	3.4
Female	27.8	21.2	93.4	8.6	7.5	6.9
Quintile 3	52.6	44.0	72.7	7.9	8.3	5.0
Male	72.8	61.1	52.2	7.8	8.7	2.8
Female	32.6	26.9	93.0	8.1	7.3	6.2
Quintile 4	54.8	46.8	67.8	8.0	8.3	5.1
Male	71.0	60.7	45.5	7.4	8.6	2.8
Female	39.4	33.8	89.0	8.5	7.6	6.1
Quintile 5	58.6	48.3	62.2	7.8	8.5	4.6
Male	73.0	62.3	40.0	7.5	8.8	2.7
Female	44.6	34.9	83.6	8.2	8.1	5.5

What are the Participation Rates for Care?

Just as one commonly estimates the "rate of economic dependency", the UNRISD project on the Political and Social Economy of Care developed the rate of care dependency. As discussed in Chapter 1, this is defined as the proportion of the population that, on account of its age (under 15 years and more than 64 years) is likely to depend on care provided by people aged 15-64 years, who are considered capable of caring both for themselves and, in addition, caring for younger and older people.

Table 7.10 Care dependency ratio

	Age group	Population 1995	Weight	Weighted population	%
A	0-6	970,547	1.0	970,547.0	26.7
B	7-12	753,197	0.5	376,598.5	10.3
C	75-84	45,269	0.5	22,634.5	0.6
D	85 plus	16,247	1.0	16,247.0	0.5
E	15-74	2,254,956	1.0	2,254,956.0	61.9
	Total	4,040,216		3,640,983.0	100.0
Care dependency ratio = (A+B+C+D)/E = 0.61					

Table 7.10 reveals that the care dependency rate for Nicaragua is 0.61. That is, each person providing care is responsible for more than half of the care needed by a dependant person. The age group 0-6 years contributes the most to the care dependency rate, followed by the group aged 7-12 years. This is consistent with the demographic trend of the last decades in which fertility has fallen, but the level remains relatively high.

Nicaragua records the highest care dependency rate when compared with the other countries covered by the UNRISD project.

Multivariate Analysis of Time Use

How do the above variables combine to influence the number of hours spent on unpaid care work in general and care of persons in particular?

To answer this question we use the Tobit model of censured regression, as discussed in Chapter 1. Below we present two Tobit estimates, the first for unpaid care work and the second for care of persons. The definition of unpaid care work used includes the care of persons, domestic chores and collection of fuel and water.

We define unpaid care work as the dependent variable, and explore the factors that can explain it. The explanatory factors considered are sex (being male), age, age squared, being a child (6-17

years), place of residence (rural area), marital status (being partnered or married), the presence of someone less than six years of age in the household, household income and the natural logarithm of household income.

Unpaid care work

All of the variables except being a child and household income are found to be significant at the 95 per cent confidence interval, but the natural logarithm of household income is significant.

Being male has the strongest effect (highest coefficient in absolute terms) on the amount of unpaid care work done. The amount of unpaid care work tends to decrease if the person is male, and as log household income increases. The coefficient of age is positive while that of age-squared is negative. This implies that the time spent on unpaid care work initially increases with age but afterwards declines. All the remaining variables tend to result in an increase in the amount of unpaid care work done. The corrected r^2 of 29 per cent implies that the explanatory power of the model is relatively low.

Table 7.11 Tobit estimation of unpaid care work

Variable	Coefficient	Standard error	t	P > I t I	95% confidence interval	
Male	-4.3127380	0.0945324	-45.62	0.000	-4.4980460	-4.1274300
Rural	0.6973112	0.1009744	6.91	0.000	0.4993756	0.8952467
Married/in conjugal union	0.5814599	0.1224893	4.75	0.000	0.3413496	0.8215703
ln household income	-0.5603796	0.0575888	-9.73	0.000	-0.6732683	-0.4474908
Children under 6 in household	0.2602167	0.0402794	6.46	0.000	0.1812588	0.3391746
Age	0.1921783	0.0157332	12.21	0.000	0.1613372	0.2230193
Age squared	-0.0022111	0.0001724	-12.82	0.000	-0.0025491	-0.0018731
Child	0.0877233	0.1884553	0.47	0.642	-0.2816973	0.4571439
Household income	0.0000053	0.0000169	0.31	0.754	-0.0000278	0.0000384
Constant	4.4116400	0.5120024	8.62	0.000	3.4079850	5.4152960
Sigma	3.9348890	0.0401251			3.8562330	4.0135440

Based on the above, we can say that in Nicaragua those who spend most time on unpaid care work are women, rural residents, those who are married or partners, members of households

where the natural logarithm of household income is lower, and households which include a child under six years. The amount of unpaid care work at first increases with age, but then declines.

Care of persons

In this case the time dedicated to care of persons is defined as the dependent variable while the independent variables from the previous model are maintained.

Table 7.12 suggests that age and household income are not significant at the 5 percent level of confidence. Of the significant variables, being male, being a child (6-17 years), being in a conjugal relationship and the number of members less than six years of age in the household have the most influence over the time spent on child care. The first two reduce the amount of time while the last two increase it.

Table 7.12 Tobit estimation for care of persons

Variable	Coefficient	Standard error	t	P > I t I	95% confidence interval	
Male	-3.8706670	0.1658004	-23.35	0.000	-4.1956780	-3.5456560
Child	-1.6696470	0.2897171	-5.76	0.000	-2.2375660	-1.1017270
Married/in conjugal union	1.1743890	0.1762326	6.66	0.000	0.8289277	1.5198500
Children under 6 in household	0.8464503	0.0583250	14.51	0.000	0.7321183	0.9607823
Rural	-0.5256437	0.1529992	-3.44	0.001	-0.8255612	-0.2257263
Age squared	-0.0009105	0.0002812	-3.24	0.001	-0.0014617	-0.0003592
ln household income	-0.1652479	0.0888587	-1.86	0.063	-0.3394337	0.0089380
Age	0.0445207	0.0247253	1.80	0.072	-0.0039472	0.0929886
Household income	-0.0000043	0.0000278	-0.15	0.878	-0.0000588	0.0000503
Constant	-2.0983930	0.7885966	-2.66	0.008	-3.6442440	-0.5525419
Sigma	4.1942610	0.0917088			4.0144880	4.3740330

Taken as a whole, this model explains 33.3 per cent (r^2 corrected = 0.3316378) of the variation in the dependent variable, which, although a higher coefficient than the previous model, still represents a very low explanatory capacity. Nevertheless, we must bear in mind that a small value for r^2 does not necessarily imply that it is not a good model.

In summary, in Nicaragua, the people who invest most time in care of persons are women, older than 17 years, married or partners, members of households which include a member less than years, and those residing in rural areas.

What is the Value of Unpaid Care Work in Nicaragua?

This section provides an estimate of the value of unpaid care work and some of its components, in order to arrive at an approximation of this hidden cost of production, which is not recognised in the SNA, and to make visible women's contribution to the national economy. The procedure described in Chapter 1 is followed. The estimation methods used were median income and the generalist or replacement cost approach.

The median income method (as its name suggests) uses the median income for the entire population. For purposes of the present document, median income was calculated on the basis of the data in the economic activity section of the 1998 EMNV. The income of the employed population was considered, regardless of whether this involved wage workers, own-account workers or business owners. Only unpaid workers and those not reporting labour income were excluded. Recognising income differences by sex, the figures were calculated separately for men and women.

Though we realise that respondents tend to seriously understate their income, we did not adjust the 1998 EMNV data to reflect this. This decision was based on the difficulties involved in determining the magnitude of the overall adjustment required, as well as the impossibility of identifying individual incomes that were understated in a survey of this type.

The generalist or replacement cost method is based on the cost of replacing unpaid care work by the paid services of a person responsible for performing all such work. The services of this person are assumed to be remunerated at the median wage for the occupation involved. The occupation chosen for this purpose was domestic work; thus, the figure used was the median wage for domestic employees.

In determining remuneration of domestic employees, both monetary and estimated in-kind payments were considered, since the latter component represents a significant element in this occupation. In this case, we also used the median and the adjusted average[7] of the reported remuneration.

As Table 7.13 shows, in this case the value of unpaid care work is between C$11,606.76 million and C$20,531.37 million, depending on the approach and statistics used. The estimated value for unpaid care for persons is between C$2,060.61 million and C$3,629.39 million. Women account for approximately 79 per cent of the value of unpaid care work and 87 per cent of the value of care of persons.

Table 7.13 Estimated value of unpaid care work and care of persons for the population 15-64 years, 1998 (millions Córdobas)

	UCW			Care of persons		
	Total	Male	Female	Total	Male	Female
Average income of employed by sex approach						
Total value (adjusted average)	20,531.37	4,417.16	16,114.21	3,629.39	493.22	3,136.18
Generalist approach (domestic employee wage)						
Total value (median)	11,606.76	2,390.46	9,216.30	2,060.61	266.92	1,793.69
Total value (adjusted average)	13,192.78	2,717.11	10,475.67	2,342.18	303.39	2,038.79

In order to assess the meaning of the different estimates of unpaid care work and unpaid care for persons, we now examine these in relation to some key economic variables.

As Table 7.14 indicates, the value of unpaid care work is equivalent to 30.7 per cent of gross domestic product (GDP) if the median wage of domestic employees is used as a measure of value, and 54.3 per cent if the average income of employed men and women is used. The estimated value of unpaid care for persons represents between 5.5 per cent and 9.6 per cent of

[7] The adjusted average is calculated without including the extreme values (2.5 per cent at each extreme).

GDP, according to the approach and statistic selected. The estimated value of care of persons done by women aged 15-64 years is equivalent to 4.7 per cent and 8.3 per cent of GDP.

Table 7.14 Value of unpaid care work and care of persons of the population 15-64 years compared to gross domestic product, 1998 (per cent)

Approach	UCW			Care of persons		
	Total	Male	Female	Total	Male	Female
Average income approach	54.3	11.7	42.6	9.6	1.3	8.3
Generalist approach						
Median	30.7	6.3	24.4	5.4	0.7	4.7
Average	34.9	7.2	27.7	6.2	0.8	5.4

Using data from other sections of the 1998 EMNV, we can also compare the value of unpaid care work and care of persons with the value of paid work in the economy. For this purpose, we have considered only monetary income received by men and women as wage-earners, as own-account workers and as business owners. Unpaid workers are not included.

We find that the value of unpaid care work is either almost the same as (107.4 per cent of) or approximately double (190.0 per cent of) the value of paid work, according to which estimating method is used. Meanwhile, the value of unpaid care for persons represents between 19.1 per cent and 33.6 per cent of the value of paid work. Comparing these two types of work by sex, however, reveals major differences.

For men, the value of unpaid care work represents between 22.1 per cent and 56.5 per cent of the value of paid work. Among women, on the other hand, the figure is between 85.3 per cent and 539.6 per cent. The value of unpaid care for persons provided by men represents only between 2.5 per cent and 6.3 per cent of the value of paid work, while the value of this type of work done by women is between 16.6 per cent and 105.0 per cent.

Comparing with tax, the value of unpaid care work in 1998 represented between approximately 2 and 4 times the value of total tax revenue. When the comparison is with income tax revenue, the factor is very much greater: between 1,562.7 per cent and 2,764.2 per cent, due primarily to the

relatively low importance of income tax (and direct taxes in general) in the Nicaraguan tax system. The value of unpaid care for persons represents between 38.9 per cent and 68.6 per cent of total tax revenue, and between 277.4 per cent and 488.6 per cent of income tax revenue.

Finally, we calculate the value of unpaid care work and unpaid care for persons as a percentage of the amount budgeted by the central government in 1998 for salaries in the Ministry of Education, Ministry of Health and Ministry of Social Affairs. In 1988, the national territory was demarcated into regions, departments and municipalities, all of which were subordinate to the executive branch both administratively and financially. The Municipal Law of 2 July 1988 established the competencies of these entities, which did not include education, health or social security. The central ministry budgets thus provide a good approximation of government spending on social services.

Taking the smallest estimate of the value of unpaid care work (the median under the generalist approach), we find that it represents 4,353.1 per cent, 2,894.5 per cent and 360,890.5 per cent of salaries for the Ministries of Education, Health and Social Affairs, respectively. If the same calculation is done for unpaid care for persons, the resulting figures are 772.8 per cent, 513.9 per cent and 64,070.7 per cent. These enormous magnitudes largely reflect the central government's low level of social spending (one of the lowest in Latin America), particularly in the areas studied; and confirm the assessment of the political social regime in Nicaragua as residual and its welfare regime as highly familialist.

In Conclusion

The data analysed clearly point to a set of patterns—a number of which were to be expected—in the ways Nicaraguans aged 15 to 64 years old distribute their time between paid work and unpaid care work. Among these we highlight the following:

- On the one hand, more men than women participate in paid work and they dedicate more time to it.

- More women, on the other hand, engage in unpaid childcare, and they devote more hours per day to it than do men.
- Area of residence barely influences the participation of men in paid work, but does so for women. Urban women residents engage more and devote more time to paid work than rural women.
- Urban men's participation in unpaid care work is slightly higher than the rate for rural men, though the number of hours per day is the same for the two groups.
- More men and women in the 18-49 age group engage in paid work, and they devote more time to it.
- Men engage in unpaid care work more in the declining phase of their work lives. In contrast, women do so more at the peak of their labour capacity, suggesting competing pressures in terms of time use.
- Being in conjugal unions increases the probability of women's being involved in unpaid care work, and decreases their likelihood of doing paid work. For men, the pattern is the reverse.
- The presence of children under age 6 in the household seems to impel men toward paid work, and to prevent women from performing it. Nevertheless, the presence of these younger children in the household does not affect the time that men spend on unpaid care work, but instead that invested by women.
- Being employed does not free women from their responsibility for unpaid care work. Although they devote less time to this work than other women, the number of hours per day they spend (approximately 4) is hardly negligible, indicating that employed women face a work overload.
- Household income levels are positively correlated with men's and women's rates of participation in paid work. The opposite is true in regard to women in unpaid care work. That is, at high levels of household income the involvement of men and women in paid work is greater, with less involvement in unpaid care work, which could be associated with the presence of domestic workers in the household and/or the use of nursery or pre-school services for the care of the children.

The multiple regression analysis confirmed that the amount of time spent on unpaid care work and care of persons depends on sex, area of residence, marital status and the presence of children under six years of age in the household. Sex is the most influential factor in both cases.

The above suggests the persistence of traditional conceptions of gender that assign to men the role of household provider and to women that of carer, despite the fact that a significant proportion of women – including those with partners and children – are involved in paid work and play the role of providers for the household, given the need to have an additional income to satisfy household needs. However, men – especially those between 18 and 49 years – do not participate equivalently in unpaid care work, resulting in employed women being overburdened with work.

One surprising finding was the small time spent by men and women on care of person. Given the age structure of the Nicaraguan population and the almost non-existent supply of care services, whether public or market, this suggests that a large proportion of younger people care for themselves. To the ethical problems, of respect for and promotion of the rights of the child that this situation raises, are added the new capacities demanded of the labour force.This does not simply concern training in the use of new technologies, but also new personal and emotional skills to enable rapid adaptation to the changes caused by globalisation. In other words, generational reproduction requires more care work than before to avoid exclusion.

The most conservative estimate of the value of unpaid care work is equivalent to 30.7 per cent of GDP, 80 per cent of which is accounted for by women. However, the capacity of women to absorb the costs of economic policies or the growth in demand for care is not infinite. If we want to formulate public policies that have sustainable human development as their objective, we cannot ignore this reality. The need thus arises to continue generating information and analysis of the use of time of Nicaraguans, which can influence decision-making and improvement of the relationship between the state and Nicaraguan society.

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