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LIVING ARRANGEMENTS AND FAMILY NETWORKS OF OLDER WOMEN IN ITALY

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Foreword

One of the major social problems associated with population aging in industrialized societies is diminished family support for the elderly. One useful approach to the study of this question is the analysis of living arrangements of the elderly. This study on Italy is the third paper in an international comparison conducted at IIASA. Previous papers using a similar methodology refer to Canada and Hungary. They were produced as part of the Population Program's research activity in family demography and kinship patterns at older ages with Douglas Wolf as principal investigator.

Wolfgang Lutz
Deputy Leader
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Abstract

Population aging in Italy is, as in many other industrialized countries, disproportionately a phenomenon associated with unmarried women, mainly widows. This paper examines the extent to which older unmarried women live alone, and the extent to which they receive help in everyday tasks from others outside their households, using data from a large Italian household sample survey conducted in 1983. Older women can either live alone or with others, and may or may not receive external help in either case; thus there are four distinct combinations of outcomes analyzed. In both descriptive, bivariate analysis and a multivariate model of the outcomes we find pronounced differences in behavior according to region of residence, educational level, age, degree of disability, work experience and pension receipt. The findings indicate the importance of family as a source of help and/or coresidence in situations of need.

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Douglas Wolf*, Antonella Pinnelli**

INTRODUCTION

The population in Italy is rapidly becoming more aged and will soon be on a par with those of other industrialized countries. Italy's population 65 years and older, which was 3.895 million in 1951, had increased to 7.485 million in 1981, and by the year 2000 is projected to have reached 9.609 million (Golini et al., 1987). Those 65 and older will comprise 16.8 percent of the overall population by the year 2000, compared with 8.2 percent in 1951, and 13.2 percent in 1981 (see Table 1A).

The phenomenon of aging has led demographers to study more closely the socio-economic circumstances, health conditions, and living arrangements of the elderly, in order to provide relevant and useful information to policy makers. Recent research, for example, has shown that the stereotypical image of older Italian people living alone in poverty is not entirely correct (Golini, 1986; Pinnelli, 1986a, 1986b).

Growth in the *relative* size of the elderly population has been due mainly to a fall in fertility levels, while growth in the *absolute* size of this group largely reflects increases in longevity. Moreover, the mortality rates of women have fallen relative to those of men, and for this reason population aging is a phenomenon which will affect women moreso than men. For example, in 1981, for every 100 men of a corresponding age there were 124 women aged 65–69 years, 157 aged 75–79 years and 231 aged 85–89 years (Table 1B).

Sex differentials in mortality underlie marital-status patterns as well as female-male ratios among the elderly. In the 65–69 age group, a little over half (52 percent) of women were still living with their husbands, while for those aged 75–79 years this had fallen to 26 percent, and in the 85–89 age group this was as low as 7.8 percent (Table 1B).

Thus any discussion of the elderly must recognize the predominance of unmarried older women. Also, because women are more likely than men to experience the death of their spouse, older women live alone more often than do men. The percentage of women

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Table 1. Aspects of population aging in Italy.

A. Size of older population by age and sex, various years (in 1000s)

Age	1951		1981		2000	
	M	F	M	F	M	F
65–69	688.9	843.5	1165.2	1442.2	1348.2	1640.9
70–74	515.5	605.3	935.8	1258.1	1105.3	1489.3
75–79	333.7	397.9	558.5	878.0	782.4	1261.2
80–84	154.4	195.7	276.4	525.3	310.9	592.0
85+	65.6	94.6	133.2	312.2	297.2	778.6
Total	1758.1	2137.0	3069.3	4415.9	3844.0	5762.0
Percent of total population	7.6	8.8	11.2	15.3	13.9	19.6

B. Composition of older population by sex, marital status, 1981

Age	Sex ratio (F/M) ($\times$ 100)	Percent married	
		M	F
65–69	123.8	84.3	52.0
70–74	134.4	79.1	39.4
75–79	157.2	76.6	26.0
80–84	190.0	58.3	15.1
85–89	231.0	44.6	7.8
90+	245.1	30.1	3.6
Total	143.9		

C. Percentage of older people living alone, by sex and year

Year	M	F
1961	7.8	17.8
1971	9.2	22.1
1981	12.5	32.4

Source: Census data, and Golini et al. (1987) for projected population figures.

65 years old and older living alone has increased from 17.8 percent in 1951 to 32.4 percent in 1981 (Table 1C).

The situation of elderly Italian women, in comparison to their male counterparts, reflects a number of critical factors in addition to the more frequent loss of the spouse. Equally critical is the precarious economic position of many older women, which tends to exacerbate the problems associated with widowhood. In the past the number of Italian women in paid employment and with the right to an acceptable pension was quite low. For this reason the majority of elderly women do not have what could be described as an

adequate pension. A 1969 law created a noncontributory social pension for low-income elderly; as of 1973 87.9 percent of its beneficiaries were women. A large majority of Italian pensioners receive only the minimum-level pension, which is "...barely enough for subsistence" (Florea, 1980: 243).

Frequently the absence of a partner, precarious economic circumstances, and the declining health which comes with older age combine so as to place older women in a situation of need. Yet this condition of need occurs in only a limited part of the population; more generally, older women succeed in retaining their autonomy as long as possible, and provide help to their children rather than receive help from them (Pinnelli, 1986a, 1986b).

Thus the institution of the family seems to be maintaining its sustaining functions; the middle generations provide a certain amount of help both to the older and to the younger generations. Also, people outside of the family participate in informal solidarity networks (Sgritta, 1986; Donati, 1986). Moreover, help is given more often to those living alone, and there is a strong relationship between the phases of the family life cycle and the amount of help received: older women without husbands receive more help than do older couples, and the amount of help received increases with age (Diatrich, 1988).

This paper addresses the issue of living arrangements, and the receipt of help from outside the household, in more detail. Our focus is upon older women without husbands, a group of particular interest as discussed above. We present descriptive information regarding the extent to which older women live with family members, and/or receive help from family members living elsewhere. We also present results from a multivariate analysis of living arrangements and the receipt of help, in which we simultaneously consider the effects of region, age, education, work experience, having a pension, and level of disability.

Several recent studies have presented multivariate analyses of the determinants of the living arrangements of older women, using data from a number of countries. Perhaps the best-established findings are those indicating that income is positively related to living alone, while the severity of physical disability is negatively related to living alone. Among the many studies supporting these conclusions are, for the United States, Michael, Fuchs and Scott (1980), Schwartz, Danziger and Smolensky (1984), Wolf (1984), and Wolf and Soldo (1988); for Canada, Wister and Burch (1983) and Wolf, Burch and Matthews (1988); for the Netherlands, Wils and Wolf (1989), and for Hungary, Wolf (forthcoming).

On the basis of findings from the studies cited above, we can hypothesize that in a situation of reduced economic circumstances and/or a deterioration of functional capacities, an elderly unmarried woman's family—children, siblings, or other close relatives—

will usually take on the burden of responsibility, offering assistance in particular activities or taking the woman into their own household. The latter situation may arise as a last resort, either in the case of economic necessity, or if the woman is unable to care for herself. A system of regular or irregular assistance may be offered in less serious circumstances, and this assistance may tend to become less frequent, or indeed non-existent, if the woman's health and/or economic situation are considered satisfactory. Overall, in Italy as elsewhere the percentage of women living alone can be interpreted as an indicator of the degree of women's autonomy.

DATA AND VARIABLES

The data used to explore these hypotheses are based on a survey carried out by IS-TAT (Italy's National Institute of Statistics) in November 1983, addressing household structure and behavior. The survey covered a national sample of 28,404 households, and obtained information on 90,000 household members. The survey was based on a two-stage probability sample, with a stratification of the first stage units (municipalities). The second stage units were the households, comprising elementary cluster units (the household members). Given the aims of our study, data records for all unmarried women—that is, spinsters, separated, divorced, or widowed women, or those not cohabiting with a partner—aged 65 years and older were selected for analysis.

Using information on household composition the women were classified as either living alone or with others (including kin and non-kin). For each household, the survey indicates whether help is received from persons outside the household. The types of help include economic or health care assistance, or company, or assistance with the housework, or assistance with bureaucratic matters. With regard to each form of assistance received the relationship to the provider is indicated (parent(s), sibling(s), child(ren), other kin, or non-kin), as well as the reason why this help is needed (economic, emotional, health, etc.) and its timing (ad hoc, irregular, regular). If the woman lives alone she is clearly the direct beneficiary of the assistance; if she lives with others, the beneficiary is not indicated. It can, however, be assumed that it is the presence of the elderly woman in the household which stimulates these forms of assistance in the first place.

The variables included in the survey data which may be hypothesized to influence living arrangements and the receipt of help and assistance from persons outside the household are age, education, work experience, pension receipt, disability status, and region. Age, measured in single years, is straightforward. The other variables are coded as follows:

Educational levels We coded three levels of education. The "low" group consists of women with less than an elementary-school education (less than 5 years of school), the "middle" group consists of women with an elementary school education, and the "high" group consists of women with more than 5 years of school. The educational levels in our study population are quite low, reflecting the fact that until 1962 compulsory schooling lasted only 5 years.

Work experience is coded as a dummy variable indicating whether a women has ever worked outside the home.

Another dummy variable indicates *pension receipt*; this includes both pensions that women have earned on the basis of their own work, as well as their former husband's pensions. In addition, some older people without other income receive social pensions.

In order to assess the *degree of disability*, respondents were asked to indicate whether they had any of the following conditions: problems with movement (paralysis, muscular dystrophy, missing limbs, and so on); sensory problems (complete deafness, blindness, inability to speak); mental disorders; and serious chronic diseases (cardiovascular and kidney diseases, and so on). Those with one or more of these conditions were asked about their degree of autonomy: whether autonomy was possible, with or without the help of special apparatus, or with various types of human assistance. We use a three-category variable to summarize this information. The first category consists of women with no reported conditions of invalidity. The second ("moderate disability") consists of women with one or more limiting conditions, but for whom autonomy is attained with or without the help of special apparatus. The final category ("severe disability") includes those women with limiting conditions such that some assistance from others is necessary.

The primary intent of these variables is to assess the socio-economic conditions of the woman and her capacities for remaining autonomous in her relationships outside the household (eg., with public offices, the health care system and so on).

Finally, we included variables indicating *region of residence*, given geographical differences in demographic factors and the degree of economic development, which are reflected in the living arrangements of elderly women. Fertility levels in North and Central Italy are extremely low, thus limiting the availability of siblings and kin. Fertility levels in the South are higher, having only recently declined. Moreover, traditional family ties are still strong in the South, even though migratory flows to Northern Italy and abroad, which were particularly intense up until the 1960s, have tended to weaken family support. Our coding of region consists of two dummy variables, one indicating Central Italy and one indicating the South (the North is the reference group).

METHODS

The two dimensions of our analysis, living arrangements and the receipt of regular help from outside the household, can be treated as jointly determined outcomes. The binary variable for living arrangements (living alone, living with others) and the binary variable for receiving help (no help, receiving help) together form a four-category variable representing all possible combinations of the two binary outcomes. We use a multinomial logit specification to represent the relationship between the dependent variable and several explanatory variables.

Following the approach laid out by Nerlove and Press (1973), we write the multinomial logit probabilities in terms of two *main effects* and one *interaction effect*, each of which is, in turn, a function of all the explanatory variables. Let y_1 represent the receipt of regular help, and y_2 represent living arrangements. In particular, $y_1 = 0$ if i does not receive help, and $y_1 = 1$ if i receives help regularly from outside the household, while $y_2 = 0$ if i lives alone, and $y_2 = 1$ if i lives with others. Then the probabilities of all possible joint outcomes of these two variables is as follows:

$$pr[y_1 = 0,\ y_2 = 0] = \frac{1}{D} \quad ; \tag{1a}$$

$$pr[y_1 = 1,\ y_2 = 0] = \frac{1}{D}\ e^{\theta_1} \quad ; \tag{1b}$$

$$pr[y_1 = 0,\ y_2 = 1] = \frac{1}{D}\ e^{\theta_2} \quad ;\ \text{and} \tag{1c}$$

$$pr[y_1 = 1,\ y_2 = 1] = \frac{1}{D}\ e^{\theta_1 + \theta_2 + \theta_{12}} \quad ; \tag{1d}$$

where $D = 1 + e^{\theta_1} + e^{\theta_2} + e^{\theta_1 + \theta_2 + \theta_{12}}$. Moreover, each of the θs are themselves functions of the explanatory variables, for example $\theta_1 = B_1 X$, with X representing the set of explanatory variables. The parameters θ_1 and θ_2 represent main effects for the receiving help and the living arrangements variables, respectively, while θ_{12} represents interaction effects. Borrowing from the language of log-linear modelling, we are estimating a *saturated* model. Note that if $\theta_{12} = 0$, then receiving help and living arrangements are independent; in other words, when $\theta_{12} = 0$ the joint probability of y_1 and y_2 is merely the product of the marginal probabilities for y_1 and y_2. The unknown parameters to be estimated are the vectors B_1, B_2, and B_{12}; these are estimated by standard maximum-likelihood methods, which produce asymptotic t-statistics for each element of each vector.

In order to obtain an estimate of the quantitative importance of an explanatory variable, it is useful to calculate predicted probabilities of all the possible outcomes, by sub-

stituting values of the explanatory variables (that is, a particular X) and the estimated parameters of the model into equations (1a)-(1d). Using this approach, it is possible to selectively vary just one of the explanatory variables, and thus to determine the marginal or net effect of that variable, all else held constant.

RESULTS

We present the results of our study in three parts. First, we show some descriptive information about our sample of older unmarried women. We then present the estimates of our multinomial-logit model of living arrangements and the receipt of help. Finally, as an aid to interpreting the estimates we present some illustrative probabilities of selected living arrangements/receipt of help situations, for various combinations of values of the explanatory variables.

Descriptive Analysis Descriptive information about the sample is given in Table 2, which deals with the overall patterns of living arrangements and receipt of help, and the combinations of each, and in Table 3, which shows variations in the living arrangements/receipt of help categories according to the values of the explanatory variables.

In the sample data, 42.6 percent of the unmarried women 65 years and older live alone. Those not living alone are classified according to the ages of those they live with (in the upper part of Table 2) and according to their relationship to those they live with (in the middle part of Table 2). Unfortunately the data permit us only to determine, in all sample cases, three types of relationships between the older women and any other household members: parent, sibling, and child. Older women living with others generally live with their children and, often, their children's children. Overall 36 percent of the sample lives in households containing young people less than 20; this age group can contain not only grandchildren but great-grandchildren of women 65 and older. As noted in Table 2, a substantial percentage of those living with others (41.5 percent) are living with neither parents, siblings nor children, but only with "others"—this probably consists mostly of grandchildren. At older ages the percentage of elderly women living alone decreases, but without any notable change in the type of household composition, other than the obvious decline in co-residence with the very young.

Elderly women frequently receive some form of external assistance, either regularly or not so regularly. Children provide much of the externally-provided help received, particularly that which is given regularly. Assistance is both more extensive and more regular among elderly women living alone, as shown in the bottom panel of Table 2.

Table 2. Living arrangements and receipt of help from others, for older women in Italy, 1983.

A. Living arrangements

Percent living alone, by age:	65–69	70–74	75–79	80+	Total
	41.2	48.8	42.7	36.8	42.6

Percent distribution by age group(s)
lived with, if not living alone

	65–74	75+	Total
with elderly (65 and older) only	11.9	10.2	11.0
with adults (20–64) only	42.5	46.6	44.7
with children (0–20) only	0.3	0.1	0.2
with elderly and adults	4.9	6.3	5.7
with elderly and children	0.5	0.0	0.2
with adults and children	37.6	34.7	36.0
with all three age groups	2.3	2.1	2.2

Percent distribution by kin
lived with, if not living alone

	65–74	75+	Total
with children*	44.7	54.5	50.0
with sibling(s)/parent(s)* (but not with children)	10.1	7.2	8.6
with others	45.1	38.4	41.5

B. Receipt of help from outside the household, by number, regularity, source, and living arrangement

	Source and living arrangement			
	From children		From children + others	
Number of types of help; regularity of receipt	Living Alone	Living with Others	Living Alone	Living with Others
1 type, regularly	9.3	1.5	16.7	4.1
2 types, regularly	3.5	0.9	5.3	1.5
3+ types, regularly	3.9	0.5	5.8	0.9
1 type, regularly or irregularly	14.1	3.8	23.0	12.0
2 types, regularly or irregularly	6.6	1.7	10.4	3.8
3+ types, regularly or irregularly	7.0	0.9	13.1	2.3
Average number received:				
regularly	0.31	0.05	0.48	0.10
regularly or irregularly	0.54	0.11	0.93	0.28

*other relatives, or unrelated persons, may also be present

Table 3. Distribution of older unmarried women by living arrangement and whether receiving help regularly, by selected attributes: Italy, 1983.

| | | | | | | Percent of those with given attribute | | | |
| | | | | | | Alone | | With others | |
Attribute	Percent of total	Living alone	Living with others	No help	Receive help	No help	Receive help	No help	Receive help
Region									
North	55.55	46.65	53.35	84.27	15.73	34.85	11.80	49.42	3.92
Central	20.78	31.32	68.68	87.15	12.85	21.81	9.51	65.34	3.34
South	23.67	42.83	57.17	86.16	13.84	32.62	10.22	53.54	3.63
Age									
65–69	19.71	41.15	58.85	89.72	10.28	33.91	7.24	55.81	3.04
70–74	29.04	48.77	51.23	86.73	13.27	38.66	10.12	48.08	3.15
75–79	24.44	42.68	57.32	84.65	15.35	31.17	11.51	53.48	3.84
80+	26.80	36.77	63.23	81.14	18.86	22.69	14.08	58.46	4.78
Education									
Low	50.43	41.30	58.70	83.25	16.75	29.22	12.08	54.02	4.68
Medium	38.15	41.00	59.00	87.95	12.05	31.93	9.07	56.03	2.98
High	11.42	53.36	46.64	85.65	14.35	41.10	12.26	44.55	2.09
Disability									
None	81.04	43.67	56.34	87.46	12.54	33.95	9.72	53.51	2.82
Limited	12.03	44.79	55.21	79.85	20.15	30.42	14.37	49.43	5.78
Severe	6.93	25.81	74.19	69.76	30.24	6.37	19.44	63.39	10.81
Has Pension									
No	5.63	37.14	62.86	88.03	11.97	26.50	10.64	61.53	1.33
Yes	94.37	42.89	57.11	85.15	14.85	31.92	10.97	53.24	3.88
Has Work Experience									
No	41.19	36.41	63.59	86.03	13.97	25.86	10.55	60.16	3.42
Yes	58.81	46.87	53.13	84.82	15.18	35.64	11.23	49.18	3.95
Total	100.00	42.56	57.44	85.32	14.68	31.61	10.95	53.71	3.73

Table 3 indicates a number of factors associated with differentials in living arrangements and the receipt of help. Living alone is more prevalent in the more economically advanced North (46.65 percent) than in the South (42.83 percent) or Center (31.32 percent). The proportion of more educated women who live alone is also higher (53.36 percent) than that of less educated (41 percent) or poorly educated women (41.3 percent). As would be expected, living alone is much more frequent among women without, or with only a slight, disability (44 percent) than among those with some form of serious disability (25.8 percent). Women who receive a pension, and women who have work experience, are more likely to live alone than women without a pension or work experience, respectively.

The categories of women who are more likely to be receiving some form of regular, external assistance are those living in the North, the most elderly, the least well educated, the disabled (increasing in accordance with the extent of disability), pensioners and women who have worked; thus the number of women receiving regular aid is sometimes higher among those categories where it is also more common to live alone. In such cases the receipt of assistance could be seen as an alternative form of support to cohabitation. However, the receipt of assistance is sometimes higher for categories of women likely to have the greatest needs, such as for example the oldest women (those 80 and older) or those seriously disabled, that is for those among whom cohabitation is also more frequent.

The factors most closely associated with living alone, without receiving external help, are being from Northern Italy, being 70 to 74 years of age, being more educated, having no disability, being entitled to a pension and having had work experience. In general, women with such traits can be assumed to have fewer problems with regard to economic status and/or health conditions.

Thus our descriptive analysis provides some support for the hypothesis put forward at the beginning of this paper. The traits of the elderly women who live alone in general appear to indicate the preservation of autonomy, particularly those not receiving outside help. At the other extreme, in conditions suggestive of an objective need for aid, the family intervenes by providing help and, more often, cohabitation. In more serious cases the system of support is even more complex, with a higher frequency of cohabitation and more marked assistance, not only for the elderly women who live alone but also for those living with others.

One case, which falls somewhat outside the pattern to emerge so far, is that concerning women in the 65–69 age group. Here, what we would expect to find is the highest percent of women living alone without help: given their age one would expect a high level of autonomy. However, on the contrary, we find a level of cohabitation with others even

higher than among women aged 70 to 74 years. Presumably this reflects the fact that the older women—who are in fact still relatively young—are able to answer to the needs of their children and/or grandchildren, rather than reflecting the needs of the older women themselves.

However, the existence of obvious interactions between the characteristic features of these women prevents us from drawing any definite conclusions from the descriptive data. What is necessary is a method of analysis which can take into account all of the variables simultaneously, while separating effects on coresidence from effects on the receipt of external help. For this we turn to our multivariate analysis.

Multivariate Analysis Maximum-likelihood estimates of the multinomial logit model of living arrangements and receipt of help are presented in Table 4.

The results shown in Table 4 can be used to infer the direction and significance levels of the effects of the explanatory variables. A positive sign in the column headed "θ_1" indicates that the associated variable raises the probability of receiving help, relative to the probability of not receiving help. Similarly, a positive sign in the column headed "θ_2" indicates that the associated variable raises the probability of living with others, relative to the probability of living alone. Finally, the results in the column headed "θ_{12}" refer to the interaction effects: the effect of a given variable upon the probability of the *combined* outcome, receiving help *and* living with others, is given by adding the appropriate parameters in the θ_1, θ_2 and θ_{12} columns.

Our results indicate that the level of disability is most strongly related to patterns of living arrangements and the receipt of help from others outside the household, among those variables we were able to test. Women with moderate levels of disability—women with a physical condition which restricts their activity, but does not rob them of their autonomy—are more likely to receive help than those without disabilities, other factors held constant. The variable indicating moderate levels of disability does not, however, have a significant effect on living with others. In contrast, the variable indicating women with severe levels of disability significantly raises the relative probabilities of receiving help, and of living with others.

Age is also found to be significantly related to living arrangements and the receipt of help. The effect of age is nonlinear, as indicated by the significant effects found for the age-squared variable in both the θ_1 and θ_2 vectors.

Finally, we find some significant effects of region, education, work experience and having a pension. For five of the variables, the interaction effect between living arrangements and receiving help is statistically significant, and with an opposite sign of that

Table 4. Estimated parameters of multinomial logit model of living arrangements/-receipt of help: women 65 and older.

Variable	θ_1 (receiving help)	θ_2 (living with others)	θ_{12} (interaction effect)
Intercept	-1.172 (3.54)***	0.938 (4.47)***	-2.800 (3.67)***
Central	0.168 (1.00)	0.662 (6.14)***	-0.608 (2.07)**
South	-0.237 (1.55)	-0.012 (0.13)	0.056 (0.204)
Age – 65	0.004 (0.11)	-0.073 (3.27)***	0.046 (0.812)
$(\text{Age} - 65)^2$	0.003 (1.99)**	0.005 (4.89)***	-0.004 (1.85)*
Middle Education	-0.237 (1.75)*	0.032 (0.38)	-0.150 (0.61)
High Education	-0.194 (1.04)	-0.501 (4.00)***	-0.225 (0.54)
Moderate Disability	0.564 (3.28)***	0.060 (0.49)	0.213 (0.72)
Severe Disability	2.110 (6.98)***	1.624 (6.00)***	-1.018 (2.61)***
Work Experience	-0.189 (1.46)	-0.368 (4.38)***	0.437 (1.88)*
Pension	-0.243 (0.89)	-0.270 (1.52)	1.155 (1.68)*

Absolute values of t-statistics in parentheses.

* $.05 \leq p < .10$
** $.01 \leq p < .05$
*** $p < .01$

found for the main effects; moreover, in all these cases both main effects are of the same sign. In other words, the fact of living with others attenuates the need for help from outside the household, and vice-versa. This happens in the cases of women living in Central Italy; with increasing age; in cases of severe disability; for those with some work experience; and for those receiving pensions. These findings confirm the hypothesis that living with others and receiving help from outside the household are complementary strategies for older women in a situation of need; yet, if one of the two strategies is actually adopted, the tendency to use the other is reduced somewhat.

Illustrative probabilities The effects of the explanatory variables are most readily interpreted with the assistance of the predicted probabilities found in Table 5.

Table 5. Predicted probabilities of living arrangements and receipt of help, selected hypothetical individuals.

	Alone, no help	Alone, with help	With others, no help	With others, with help
Reference person*	0.34	0.11	0.52	0.03
Effects of region:				
Central	0.22	0.09	0.66	0.03
South	0.35	0.09	0.53	0.03
Effects of age:				
Age = 65	0.30	0.07	0.59	0.03
Age = 85	0.20	0.14	0.61	0.04
Age = 95	0.05	0.13	0.78	0.04
Effects of education:				
Middle group	0.34	0.09	0.54	0.02
High group	0.45	0.12	0.41	0.02
Effects of disability:				
Moderate	0.29	0.17	0.47	0.07
Severe	0.08	0.21	0.60	0.12
Effects of work experience:				
With work experience	0.41	0.11	0.44	0.04
Effects of pension:				
No pension	0.29	0.12	0.58	0.02

*Region = North, Age = 75, Low Education, No Disability, No Work Experience, Has Pension

The first row of Table 5 gives the predicted probabilities for each of the four combinations of the living-arrangements variable and the receipt-of-help variable, for a reference person with the following characteristics: living in the North region; in the low education group; age 75 (approximately the sample mean); in the low disability group; without work experience and with a pension. For this person we can see that the probability of living alone and receiving no help is 0.34, while the probability of living alone and receiving help is 0.11, of living with others and not receiving help is 0.52, and of living with others *and* receiving help is quite low, 0.03.

Other rows of Table 5 show the effects of changing selected variables, one at a time. Thus we find, for example, that the effects of region are to alter the probabilities of living alone without help, compared to living with others without help. In particular, older unmarried women in Central Italy are less likely to live alone, and more likely to live with others, than those in the North or South. The *overall* probability of receiving help—found by adding the figures in columns (2) and (4) of Table 5—varies little by region (holding other factors constant), being 0.14 in the North, and 0.12 in both Central and Southern Italy.

The regional patterns found in the gross data shown in Table 2 are confirmed by our model. However, the predicted probabilities from the model show a slight attenuation of the behavioral differences by geographic region. In particular, the unique situation of Central Italy is confirmed. Our hypothesis is that on the one hand, economic development in the North has enabled increased autonomy, and on the other hand, intense out-migration in the South during the 1950s and 1960s has weakened family ties. Together, these factors account for the increased tendency of women to live alone, without external help, in both the North and South, relative to the Center.

The effect of education appears mainly in the contrast between the most highly-educated women and the other two groups. The high-education group is more likely to live alone than are the other two groups; on the other hand, education appears to make little difference with respect to the receipt of help.

Table 5 illustrates the large effects of disability on both living arrangements and the receipt of help. Women with a moderate level of disability are no less likely to live alone than those without disabilities: for the former, the predicted probability is 0.46 [found by summing the figures in columns (1) and (2)], while for the latter the corresponding probability is 0.45. However, those with moderate disabilities are much *more* likely to be receiving help than those without disabilities—the relevant probabilities are 0.24 and 0.14, respectively. When we consider women with severe disabilities we find that the probability of living alone drops to 0.29, and that a majority of those living alone receive help from outside the household. The chances that a woman with severe disabilities lives alone, without assistance from others, is only 8 in 100 [see column (1)]. The most likely outcome for such women is living with others, in a household which does not receive help from outside: the predicted probability of this category is 0.60, followed by "living alone, receiving help", with a probability of 0.21, and by "living with others receiving help", with a probability of 0.12.

Our model implies a rather steep age gradient, with the proportion of women living alone, without help, falling to 0.05 at age 95; however, the proportion living with others and not receiving help, is U-shaped. At age 65, the proportion in the latter category is 0.59; by age 75 (the age of the reference person shown in the first row of the table) this proportion has fallen to 0.52, after which it rises rapidly, reaching 0.78 for 95-year-olds. The pattern emerging from the model mirrors that found in the tabular analysis shown in Table 3. It should also be noted that most of the effect of age is to shift women from the "living alone without help" column to the "living with others without help" column; there is a slight increase in the probability of living alone with the help of others (from a low of

0.07 at age 65 to a high of 0.14 at age 85), and a very low probability of living with others while also receiving help from outside the household at all ages.

Finally, Table 5 illustrates the importance of both work experience and pension receipt. In both cases, the main effect of the variable is to alter the relative probabilities of living alone, without outside help, and living with others, without outside help. Those with work experience, and those with a pension, are considerably more likely to live independently than those without these attributes.

It is also evident that the predictions from the model show some attenuation of the differentials found in the gross data of Table 2: for example, in Table 2 we see that 36 percent of women without work experience live alone without outside help, while 26 percent live alone without help, a 1.38:1 ratio. In contrast, the corresponding predicted probabilities in Table 5 are 0.41 and 0.34, respectively, a considerably smaller 1.21:1 ratio. Similar, although not so pronounced, comparisons can be made concerning the effects of pension receipt. The reason for this attenuation, of course, is the fact than in Table 5 the probabilities show the effect of work experience, other variables held constant. However, the gross differentials shown in Table 2 are not *ceteris paribus* effects; it is likely that women with work experience are younger, better educated, and have fewer disabilities, than those without work experience; in the case of pensions, the most likely explanation is a cohort effect, such that younger women are more likely to be receiving a pension.

SUMMARY

The patterns of living arrangements and receipt of help from outside the household of unmarried women (65 years and older) in Italy are analyzed. Data are based on a survey carried out by the National Institute of Statistics in 1983. Explanatory variables considered include: education, work experience, having a pension, degree of disability, region of residence, and age.

A multidimensional logit model is also used to represent the relationship between the four-category dependent variable (living alone, with/without help, living with others, with/without help) and the six explanatory variables. A little over half the older women live with others, without receiving help from outside the household, and almost one third live alone without help of any nature.

The variables with the biggest effects on living arrangements and the receipt of help are age and level of disability. Concerning the age effects, the model confirms the pattern found in the gross data, a U-shaped relationship between age and living arrangement: 65-year old women live more often with others, in comparison with somewhat older wom-

en, but this is in response to the needs of children, and grandchildren, rather than to the needs of the older woman herself. In support of this interpretation, note that at this age the receipt of help is at a minimum. At older ages, the tendency to receive help from outside and to live with others both increase sharply.

More flexible are the solutions adopted in the case of disability. Passing from the condition of no disability, to moderate and then to severe disability, the solution of living alone without help is gradually excluded, and substituted mainly with living with others, but also with external help given either to a woman living alone, or to the family with which she lives.

The influences hypothesized for the other variables are all confirmed in the model, even if in some cases attenuated in comparison to the initial, gross data. Women with the highest level of education are more autonomous, preferring to live alone, possibly in combination with help from outside, in comparison to women with less education. The same can be said for women with work experience, and for those with a pension, although to a lesser degree than in the case of education.

Finally, the results confirm the influence of geographic region, with a similar pattern of living arrangements and receipt of help in the North and South for different reasons, presumably. In Central Italy, living with others is considerably more common than living alone.

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