

**Aging and Changing Expectations of Support in Old Age: Some Lessons from a Rural
Costa Rican Survey**

**Victor M. Gomez A., Universidad de Costa Rica and Jeffrey B. Nugent, Universidad de
California del Sur***

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ABSTRACT

I. Introduction

Costa Rica will be the first country to go through a radical change in its age structure from a youth-oriented one to an aging one in Central America. Female life expectancy at birth in Costa Rica of 79 in 1997 was virtually equal to that of the United States of 80 and considerably higher than those of Mexico (75), El Salvador (72), Nicaragua (70), Honduras (69), and Guatemala (68). Having risen by a full ten years since 1970, it is clear that life expectancy has been rising rapidly and may be expected to continue to rise over the foreseeable future. At the same time, the total fertility rate has been declining quite steadily from over 6 in 1960 to 4.9 in 1970, 3.7 in 1980 and 2.7 in 1996. While the share of those over 60 in the population was a modest 6.4% in 1990, it is expected to rise to 14.3% in 2020 and 19.2% in 2030. The group that will be over 60 in 2020 or 2030 are already young adults. They will be caught in a squeeze inasmuch as they have to face more and more years of old age dependence but with fewer children and other young people to provide that support.

For those in urban areas of Costa Rica there are rapidly improving means of storing financial assets for use in old age and increasing number of jobs providing pension plans and social security. The problem would seem to be most serious in rural areas where insurance and pension coverage are much more limited and yet self-employment (a major source of own support) for elderly is declining in importance. Rural Costa Rican women are typically several years younger than their husbands at marriage, generally outlive their husbands and, when widowed or divorced, have greater difficulty remarrying than men, women are more vulnerable to this child support squeeze than men. For this reason, the present study focuses on the problem of old age support for rural Costa Rican women.

Relevant questions to be addressed in this paper are: (1) To what extent are these young rural women adjusting their labor force participation and other behavior to cope with the

challenge. (2) How is their ability to adjust and to ensure other sources of support affected by education? (3) Does education of children help induce more support from children or does it undermine their loyalty?¹ (4) What other determinants of support from adult children to their elderly parents are evident? (5) How do the observed patterns of behavior relate to changing attitudes and environmental conditions?

To answer these questions, this paper draws upon the results of a survey of both elderly and younger generation households in rural Costa Rica undertaken in the early 1990s under the auspices of the International Labor Office. The survey consisted of 1722 young wives and their families and 529 elderly women and their families, as well as community questionnaires, and focus group sessions with men and women from both age groups.² The concentration on rural areas is intentional since in urban areas there are more alternative extrafamilial sources of old age support and care, such as means of accumulating financial and other assets for old age and community or institutional sources of care.

The present study is based on comparisons between generations of wives (and in some cases husbands) with respect to labor force participation by type, savings and accumulation, number of children and expectations of old age support. The patterns with respect to labor force participation, accumulation of real assets and children are described in Section II. Section III describes the extent, nature and patterns of support by adult children of their elderly parents and how these are affected by education. Section IV provides a more formal analysis of the determinants of support of the elderly by their children and relates these findings to the observed changes in attitudes and environmental conditions. Speculations about future changes are also provided.

II. Intergenerational Comparisons of the Labor Force Participation, Asset Accumulation and Number of Children among Married Women

Table 1 provides comparative summary statistics of labor force participation from the aforementioned samples of wives and their husbands between generations. The young women

¹ Since time spent at school implies less time under the direct tutelage of parents, education might well undermine the loyalty of children. On the other hand, according to both the exchange and altruism theories of interhousehold transfers, investments in the education of children might raise the expectation of support of parents during their old age.

were 28-39 years old in the survey year whereas the older women were 60-74. For the younger generation women, observations on their labor force participation were obtained for several points in time, in particular, before marriage, immediately after marriage and in the last 12 months. For the older generation women and their husbands, such observations were obtained for about age 50 and in the last 12 months. In each case, we classify their type of employment in three ways: SALWORK = 1 if they received a wage or salary for their work from an employer outside the household; OWNWORK = 1 if they were self-employed, and FAMWORK = 1 if they were an unpaid family worker.

From the results of Table 1 it can be seen that in each generation and period observed, husbands had a higher participation rate in SALWORK and OWNWORK but a lower one in FAMWORK.³ Of greater relevance, however, is the fact that even though the younger women were still in their child-bearing and -raising years, in each dimension they reported higher rates of participation than did the older generation women at age 50. Another important (though not surprising) finding is the substantial declines in SALWORK for both husbands and wives between age 50 and 60-74. There was also a sharp decline in FAMWORK for women between these two periods of time. Notably, however, these declines were partially offset by quite sharp increases in OWNWORK for both women and men. Hence, it is clear that older people have difficulty in retaining employment in the formal labor market but attempt to offset this by increasing their more informal labor market activities.⁴

Table 2 summarizes labor force participation before marriage and immediately after marriage for the younger generation married women and relates all forms of their labor force participation to their education levels. As can be seen, the labor force participation rates of the younger generation wives' sample are above 50% before marriage for women at all levels of education and rise gently but noticeably with education. The participation rates of such women fall off quite sharply after marriage (and of course pregnancy and childbirth) but much less so for those with 12 or more years of education. For the current period, however, there is little variation in OWNWORK and FAMWORK by educational attainment level, but SALWORK is considerably higher for those women with 12+ years of education than for the others. Among the

² For detailed descriptions of the survey including descriptive statistics, see Gomez and Nugent (1997).

³ Adding across types, the participation rates can add to greater than one since any individual could report more than one different type of activity.

older generation women, at age 50 the pattern of variation in each type of participation is very similar to that observed for the younger generation wives in the last 12 months. During the last 12 months, however, the extent of participation declines with education for SALWORK and FAMWORK but rises very sharply with education for OWNWORK. Indeed, one can see that the substitution of OWNWORK for SALWORK and FAMWORK is primarily one accomplished by the better-educated women.

From the numbers of sample women (N) of the two generations in the various educational categories, another very striking finding of Table 2 is the dramatic increase in female education between these two generations of women. Hence, one distinct change over time is a sharp increase in the accumulation of human capital by rural women.

What about financial savings and land purchase? To what extent do such patterns vary by education and generation? Table 3 provides comparisons of the mean percentages of sample women reporting savings, debts, land purchases and sales between generations and educational levels. Even though, at the time of the survey, the older generation women were at a point in their life cycles where they should have been much more able to have accumulated savings than the younger women, in fact, at each level of education the percentage of them reporting savings was lower than for the younger generation women. Similarly, those reporting having made land purchases in the last ten years were generally higher for the younger women than the older ones, except in the highest two educational categories. Yet, the incidence of both debts and land sales was also higher for the younger generation women than for the older generation women. As far as the effect of education is concerned, it is clear that education has the effect of sharply increasing net savings, and more so among the younger women than the older ones. Indeed, for the younger generation, the incidence of savings increases sharply with education while the incidence of debt falls with education.⁵

Taken together, Tables 1-3 show that younger women have participated more fully in the labor force, especially in SALWORK, accumulated more net savings, and human capital than their counterparts in the older generation. Partly as a result of their greater participation in the wage labor force (and that of their husbands), a much larger percentage of young generation

⁴ Prominent among the particular informal activities which increased were child care and animal raising among sample women and own farming, animal raising, fishing and artisan activities among sample men.

⁵ The patterns with respect to land purchases and sales are more mixed probably because better educated wives and their husbands are less likely to be in farming or other activities requiring land.

wives expect to be eligible for a social security pension (46%) in their old age than the older generation women (11%).

By contrast, Table 4 shows that the number of children accumulated by young generation women is *much* smaller than that among older generation ones. Note for example that the number of children ever born was 8.78 on average for the women of the older generation but only 3.45 for those in the younger generation. It is true, of course, that these sizable intergenerational differences in children ever born and surviving children may be somewhat overstated by the fact that some women in the younger generation sample had not completed their child-bearing careers at the time of survey. Yet, given that they are generally rather late in their reproductive careers, that a significant percentage of them have been sterilized and over 75% were practicing family planning at the time of the survey, and finally that the desired and actual numbers of children were very similar, it is also very doubtful that this bias would be large. For married women of both generations, the numbers of children ever born and surviving decline with the level of education. Hence, this table points to the squeeze in support from children for old age that we pointed out in the introduction.

III. Support of Parents from their Adult Children

While the number of children may have declined sharply, this does not necessarily mean that support from children has declined or that it must in the future. Indeed, since the children are better educated, they will presumably earn more income and thus could provide more support.

Table 5 provides information on the percentages of women in the young wives' sample who have provided support to their parents before marriage, immediately after marriage and in the current period. As shown in the first few columns of the table, almost 50% report having helped their parents with money and over 25% with help in kind (food, clothing, consumer durables, etc.) As was the case with labor force participation, however, such support drops sharply after marriage as the costs of household formation and child-raising claim priority of their attention. In the current period, large fractions of these women report providing cash or kind help to their own parents (CASHPAR or KITOPAR, respectively) as well as to their parents-in-laws (CASHPARL and KITOPARL). Note that these figures are remarkably high. Three caveats should be considered in interpreting these numbers. First, they are computed on

the basis of living parents only. Second, those responding positively to providing support include those who admit they do so only rarely. Third, the reports are undoubtedly biased upwards by the fact that any interviewee would not want to reveal herself as being stingy or uncaring in support of her (or his) parents.

Two findings stand out in the table. One is that for the current period, which is the one of particular relevance to support in old age, the highest propensity to help is in the form of kind to the married woman's own parents. The other is that, with the exception of kind help to parents-in-law, which may be dictated by custom or duty, all of these propensities to support parents and in-laws increase with the woman's educational level.

Table 6 provides information on help from children as measured from the reports of the older generation women and men. Judging by their answers to the first question in the table concerning whether or not they receive any kind of support from *any* of their children, over two-thirds of the respondents answer positively. The percentages are higher among women than among men, and among women, they are higher among widows and others not presently living in a marital union. Of the approximately one-third who say they don't receive help from their children, 24% attribute this to the poverty of their children, 42% to the obligations of their children to their own children and 7% indicate that they don't need such support, anyway.

The responses to the third question in Table 6, however, give a much more modest impression of support actually being received from children from the perspective of the elderly. For male children, less than 25% of them are said to provide any help at all and for female children, less than 20%. Only 10% of the male children and 6% of the female children say they help regularly with money. Hence, while most sample elderly parents (529 women and 62 men) report receiving some help from children, they report that only a small minority of these children actually help. For this older generation of parents (60-74) who on average had well over eight children, this low percentage of children helping by no means has spelled economic disaster.

IV. Factors Determining Support in Old Age and Changing Attitudes and Expectations of Such Support

In order to forecast the help that parents can expect to obtain in the future and if necessary to make policy recommendations, one needs to know something relative to the

determinants of help from children to elderly parents. To this end, in Table 7 we report the results of a more formal multivariate analysis of such help, based on the same sample of 529 elderly women (and their 4034 children identified by name and other characteristics) from rural Costa Rica used in generating Table 6. Two different variables are analyzed: a dummy variable for receiving any help from any child (ANY HELP) and the number of children who helped. The potential determinants included in the analysis are of two types: characteristics of the elderly household (age and education of the woman) and characteristics of the children (number of surviving children, the average educational attainment (in years), the proximity of their place of residence relative to that of the elderly woman, and the percentages of such children which are male and married. The exact definitions of the measures used are given in the table.

Because of its dummy variable character, the relationship for ANYHELP is estimated as a probit equation. The age but not the education of the elderly parents has a significant positive effect on the probability of receiving help. The probability of receiving help is also positively related to the number of surviving children (SURCHILD) and to co-residence with parents. Both the average level of education of the children and the fraction of children which is male have positive but not statistically significant effects on ANYHELP. The fraction of children which is married, however, has a negative effect (which is also statistically significant at the 1% level).

Because of its more continuous nature, the number of children who help equation is estimated with ordinary least squares. As can easily be seen, the effects of some of the variables are quite similar as in the ANYHELP equation. The fraction of married children has a strong negative influence and the number of surviving children a strong positive influence. In this case the positive effects of older age are not statistically significant but the effect of average education is positive and significant. These results provide an answer to one of the questions posed in our introduction. In particular, *ceteris paribus*, it appears that by educating children one increases their propensity for them to help (and undoubtedly also the amount of help provided). There is one important caveat to this. Since these estimates are obtained in a relationship which also controls for location of the children vis-à-vis the elderly parent(s), it should be recognized that in a rural context the higher the education of the child may also increase the likelihood that the child would move further away from the parental home, which itself would have a negative effect on both ANYHELP and the number of children helping.

Table 8 provides the mean responses to a number of attitudinal questions obtained from married women from the two different generations. Consistent with the behavioral finding from Table 7, larger percentages of women in both generations say that education *increases* a child's disposition to provide help in old age than for those believing that education decreases it. There is also almost universal agreement on the fact that "women have more opportunity to work than they used to". Other important indications of changing attitudes and environmental conditions are: (1) the higher percentage of younger wives who agree that pensions make parents independent, (2) the higher percentage of younger wives who believe that education increases children's disposition to help in old age, and (3) the lower percentage of younger wives who indicate that they would expect to receive help from their children if they asked for it.

With the multivariate findings of Table 7 and the changing attitudes of Table 8 as background, we now turn to the forward-looking results of Table 9. This table summarizes the responses of both younger husbands and their wives to various questions concerning their expected sources of support when they reach old age (defined as 60 years and over). The first two columns of the table provide a comparison of husbands and wives expectations. As is now well accepted in the old age security literature, the wives expect to depend more heavily on their children than husbands. The husbands, on the other hand, expect to depend more on savings, their own employment and pensions (which are to a large extent job-related). Indeed for men, pensions and savings are the two most important sources of expected support whereas for women it is pensions closely followed by children.

Given the observed trend toward increased education among the younger generation women, of particular interest is the effect of the wife's education on her expectations of support. From the responses in the first three rows of the table, it is clear that reliance on children declines rather sharply with the wife's education. So, too, does her expectation of living with relatives (including children) at age 60. Correspondingly, the importance of savings, pensions and own employment increases with the level of her educational attainment.

Hence, what emerges from these findings is a strong indication of the existence of over time and inter-generational changes in both the opportunities and strategies for providing for old age security. Employment opportunities in the labor market, especially at young ages, for women are increasing as are educational opportunities. These two increasingly available opportunities are encouraging young women to stay in school longer, participate in the labor force earlier and,

as a result, increase the likelihood of savings and eligibility for pensions. Even though jobs in the formal labor market (SALWORK) are hard to maintain for older persons, those women with more education are better able to substitute other less formal activities for formal ones. This, therefore, explains why they increasingly expect to be supported in old age by their own work, savings and pensions, and less so by children. At the same time, they expect their own children to be even better educated than themselves but increasingly feel that education of their children increases rather than decreases the likelihood of support from children. They seem to believe that fewer but better educated children will be able to provide support, especially when asked. This will at least partially offset the sharp reduction in children relative to the number that their parents had.

By and large, therefore, the results suggest that, even in its rural areas, Costa Rica is witnessing the kind of increasing commercialization, labor market participation and financial development which makes an entirely different strategy for providing for old age support feasible. In contrast to the more traditional strategy of having large numbers of children for old age support, the new strategy emphasizes female education, employment, and capital formation. While children are not absent from the new strategy, their role is less primal and more largely limited to ones of providing both insurance (if other sources of support should fail) and companionship and care. It stands to reason from these changing roles that daughters are becoming equally important as sons within the new strategy, whereas traditionally sons were viewed as the primary sources of support.

Since not all rural Costa Rican women have managed to attain the secondary or higher levels of education which seem to make the most difference in employment, savings and other patterns of behavior, this by any means denies that there will be many members of the younger generation who are likely to confront a severe old age security problem. Even though these women are likely to have on average a slightly larger number of children than their less educated counterparts, they are likely to remain dependent on a much smaller number of children than their mothers. Given that even among the present adult children (of the older generation of women) only about 10% of the children are reported to provide regular support to their parents, the unreliability of support from children could be a cause of serious social concern for these relatively less educated women. While their children will be better educated and, *ceteris paribus* are believed to be more inclined (and able) to provide support, proximity is another major

determinant of support from children. Therefore, the fact that better educated children are less likely to remain near their parents is another reason to suspect that this support may prove less reliable than might at first be believed.

Table 1
Types of Labor Force Participation of Married Women and Their Husbands by
Generation

Type of Participation	Younger Generation		Older Generation			
	In Last 12 Months		At Age 50		In Last 12 Months	
	Wife	Husband	Wife	Husband	Wife	Husband
N	1722	1569	529	398	529	398
SALWORK	0.31	0.72	0.27	0.56	0.08	0.30
OWNWORK	0.21	0.45	0.06	0.38	0.15	0.48
FAMWORK	0.07	0.02	0.22	0.03	0.06	0.04

Table 2**Labor Force Participation of Married Women by Educational Attainment Level**

Type of Participation	Education in Years	Younger Generation			Older Generation			
		N	Before Marriage	After Marriage	In Last 12 Months	N	At Age 50	In Last 12 Months
SALWORK	0-2	172			0.36	256	0.27	0.10
	3-5	347			0.28	209	0.25	0.08
	6	723			0.29	45	0.27	0.07
	7-11	227			0.29	12	0.58	0.00
	12+	253			0.56	7	0.43	0.00
OWNWORK	0-2	172			0.18	256	0.05	0.13
	3-5	347			0.18	209	0.07	0.11
	6	723			0.24	45	0.07	0.24
	7-11	227			0.23	12	0.00	0.42
	12+	253			0.16	7	0.00	0.57
FAMWORK	0-2	172			0.04	256	0.23	0.05
	3-5	347			0.10	209	0.22	0.08
	6	723			0.08	45	0.16	0.07
	7-11	227			0.06	12	0.33	0.00
	12+	253			0.06	7	0.14	0.00
ANY FORM	0-2	172	0.53	0.16				
	3-5	347	0.55	0.11				
	6	723	0.60	0.14				
	7-11	227	0.63	0.24				
	12+	253	0.64	0.48				

Table 3**Capital and Debt Formation by Generation and Education in Years**

Generation	Form of Accumulation	0-2 Years	3-5 Years	6 Years	7-11 Years	12+ Years
Younger	Savings	0.12	0.12	0.13	0.31	0.58
	Debt	0.71	0.65	0.57	0.38	0.30
	Land Purchase	0.52	0.19	0.28	0.29	0.28
	Land Sale	0.76	0.19	0.23	0.34	0.37
Older	Savings	0.11	0.10	0.11	0.16	0.30
	Debt	0.20	0.24	0.20	0.18	0.18
	Land Purchase	0.13	0.10	0.18	0.34	0.41
	Land Sale	0.12	0.09	0.08	0.19	0.18

Table 4
Number of Children (Children Ever Born and Surviving Children) by Generation and
Mother's Education (in Years)

Generation	Education Group	Desired Number of Children	Children Ever Born	No. of Surviving Children
Younger	All Groups	3.50	3.45	3.30
	0-2	3.96	4.85	4.78
	3-5	3.65	3.75	3.70
	6	3.46	3.38	3.31
	7-11	3.13	2.79	2.74
	12+	2.92	2.37	2.32
Older	All Groups	n.a.	8.78	7.34
	0-2	n.a.	9.75	7.06
	3-5	n.a.	9.62	7.02
	6	n.a.	9.60	7.61
	7-11	n.a.	8.48	6.97
	12+	n.a.	7.66	6.79

Table 5

**Co-residence and Help Provided by Married Young Women to Their Parents
At Various Points in Their Lives by Educational Level (in Years)**

Gener- -ation Repor- -ting	Educat ion Group	Before Marriage		After Marriage	Current Period (Age 28-39)					
		Cash	Kind	Any Help	Co- Res- idence	Live on Same Street	CASHP AR	KITO PAR	CASH PARL	KITO PARL
Youn ger	All	0.49	0.27	0.09	0.13	0.42	0.49	0.81	0.50	0.33
	0-2	0.42	0.25	0.05			0.38	0.72	0.40	0.36
	3-5	0.46	0.26	0.05			0.44	0.81	0.47	0.34
	6	0.49	0.26	0.06			0.49	0.80	0.50	0.32
	7-11	0.50	0.28	0.11			0.52	0.89	0.55	0.31
	12	0.54	0.33	0.18			0.55	0.89	0.55	0.30
Older					0.22	0.18				

Table 6

**Percentages of Older Generation Women and Men Receiving Help in Some Form from
Their Children and the Reasons for Not Receiving Such Help**

Question and Response	Couples	Not in Union	
		Women	Men
Do you receive any help like money, food, clothing or assistance cooking, washing...from your children?			
Yes	63	78	51
No	37	22	49
N	328	201	62
Why do you not receive any help from your children?			
Children don't earn enough		24	
Children have their own obligations		44	
Children have large families		1	
Children are not appreciative		3	
I (We) don't need their help		7	
Other		21	
What percentage of your children help you?			
Male Children N	1229	728	183
In some way	23	26	16
With money regularly	10	12	2
With money but not regularly	8	10	10
In other ways	2	2	2
Female Children N	1267	710	187
In some way	19	23	13
With money regularly	6	6	2
With money but not regularly	4	7	2
In other ways	2	4	3

Table 7**Analysis of Reports of Older Generation Women of Getting Any Help from Children****(Sample Size: 512, No. of positive responses: 365)**

Variable	Definition	ANY HELP (Probit)	No. of Children Who Helped (OLS)
Intercept		0.104	-0.311
AGEGROUP2	Age 65-69	0.324**	0.127
AGEGROUP3	Age 70-74	0.381**	0.181
HPRIM	Dummy Variable for head's education being primary	-0.109	0.044
HSECH	Dummy Variable for head's education being secondary or higher	-0.592	-0.527*
SURCHILD	Number of surviving children	0.040**	0.078***
AVEEDUCCH	Average years of education of children	0.036	0.043**
RESIDCLCHSH	Residence of closest child is the same house	0.574**	0.516**
RESIDCLCHSS	Residence of closest child is the same street	0.046	0.113
RESIDCLCHSV	Residence of closest child is the same village	0.088	0.245
FRAMALECH	Fraction of children that are male	0.173	0.251
FRAMARRCH	Fraction of children that are married	-0.925***	-0.864***

Table 8
Comparisons of Mean Positive Responses to Attitudinal Questions between Married
Women of Different Generations

Attitudes: Answers to Questions “Do You Think that	Older Generation	Younger Generation
Education increases son’s disposition to help in old age	0.26	0.32
Education decreases son’s disposition to help in old age	0.07	0.07
Education increases daughter’s disposition to help in old age	0.27	0.33
Education decreases daughter’s disposition to help in old age	0.06	0.06
Pensions make parents independent	0.39	0.49
Parents can no longer count on children to help in work	0.58	0.45
Probability of receiving help from children if asked	0.86	0.63
Women have more opportunity to work than they used to	0.97	0.98
Sample Size	529	1722

Table 9**Probability of Expectations of Old Age Support of Younger Generation Wives and Their Husbands by Education of Wife**

Expectations for Old Age	All Husbands	Women by Educational Level in Years					
		All	0-2	3-5	6	7-11	12+
Count on Sons	0.07	0.14	0.23	0.19	0.14	0.10	0.05
Count on Daughters	0.06	0.11	0.21	0.15	0.12	0.09	0.07
Primary Resource: Children	0.19	0.267	0.35	0.31	0.29	0.21	0.06
Count on Savings	0.20	0.16	0.10	0.13	0.17	0.19	0.27
Count on Business	0.05	0.02	0.01	0.01	0.01	0.03	0.07
Primary Resource: Pension	0.33	0.288	0.18	0.31	0.27	0.27	0.38
Primary Resource: Wife's Job	0.02	0.21	0.15	0.19	0.20	0.24	0.20
Primary Resource: Husband's Job	0.16	0.04	0.03	0.04	0.03	0.06	0.06
Expect to Live with Relatives at Age 60	0.28	0.18	0.28	0.24	0.19	0.14	0.07
Education Helps to Assure Child Support	0.37	0.34	0.29	0.28	0.29	0.44	0.55
Other Actions* Help to Assure Child Support	0.38	0.34	0.53	0.43	0.35	0.31	0.25

Note: * indicates other than by educating children, serving as a good example, or providing loyalty training.