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CHILDREN AND HOUSEHOLD ECONOMIC ACTIVITY IN LAGUNA, PHILIPPINES

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- Preliminary Version -

I.- Introduction

It is widely believed that high fertility in rural areas of less developed countries arises from the fact that on average the benefits to parents from having births are relatively great and the cost relatively low at least up to some large number of births. The benefits of births include the psychological satisfaction parents derive from having births[2] and living children, as well as the economic contributions of children to household output. These economic contributions include their performance of household chores, additions to family income from their market activity, and their provision of financial security in old age or when parents are otherwise unable to work.[3] The costs of children include direct monetary outlays on children as well as the opportunity costs of time of parents in bearing and raising children.

There has been much research examining the psychological and economic rewards and costs of children. No attempt will be made in this paper to review the literature. The series of volumes edited by J.T. Fawcett, including one on the Philippines by R.A. Bulatao, provides an excellent introduction to studies attempting to assess the perceived or psychological value of children to parents. B. White's (1975) study of the activities of children in Indonesia contains a good survey of the literature on the economic costs and benefits of children, and

M. Nag (1975) gives a summary of White's Indonesian finding and those by C. Peet for Nepal and C. Espeland for Peru.[4] Nag's summary of these last three studies concludes that "the work input by children under age 15 in the Javanese, Nepalese and Peruvian villages is quite substantial --- (and that) --- at the current rates of reproduction and under the present circumstances, children most probably have net positive economic value to their parents in these villages, aside from the old-age security provided by them to their parents." (Nag, 1975, p. 54.)

The purpose of this paper is to present some preliminary findings on the impacts of children on household economic activity in Laguna province, Philippines. The findings are preliminary in two senses. First, they consist of the initial analysis of the data. Second, they are only part of a larger project to assess the economic benefits and costs of children to the survey households. Part II of this paper summarizes family time data and gives estimates of the contribution of children to family income for 573 rural households.[5] Part III examines the influence of children on the time allocation of mothers and fathers. Part IV is a conclusion.

II. Family Time Allocation and Income Contribution of Children

Table I presents detailed estimates of the time allocation of family members and contributions to family income for all survey households and separately for farm and non-farm families. Data for children are the time and income of sons and daughters of the head of the household for children still living in the household. A farm family is defined as one

which has any income from crops, excluding home gardens and plots of land less than 200 square meters -- or in which any family member reports time working in crop cultivation in the last month before the survey data. Before Table I is discussed, the derivation of the data is described briefly.

II.1 Data

The time allocation data in Table I are estimates of average hours worked per week in the year preceding the date of the survey. They are prepared from mothers' and fathers' responses to time questions about time spent by family members in a variety of activities.

For crop cultivation and fishing, average hours per week is calculated by multiplying the average number of hours per day spent in the activity in the past month times the number of days worked and dividing by 4.35 weeks per month. The last month is assumed to be a typical month for the purpose of converting these data to average hours worked in the past year. May, June, and July are months of relatively intense activity of crop cultivation in the Philippines, so that estimates of time spent in crop cultivation are probably overstated. On the other hand, the time of children devoted to economic activity may be somewhat understated since school begins in June. A similar procedure is used for time caring for livestock and poultry for which questions asked minutes per day and days worked in the last month. For wage earning time and time spent engaged in a profession, the number of hours worked per week in the last month multiplied by the number of months

worked in the last year divided by twelve for both primary and secondary jobs. For business activities, the number of days worked per week in the last month is multiplied by eight hours per day times the number of months worked in the past year divided by twelve. Time spent in income producing home production is summed from responses to questions about hours worked in the past week devoted to home gardening, washing and ironing for sale, furniture making and handicrafts, food preservation for sale, woven crafts, and other activities. Together these activities are denoted "work time," even though some of the time in crop cultivation, poultry and livestock care, fishing, and gardening is really time devoted to production for home consumption.

Childcare time is time devoted to feeding, bathing and dressing and cuddling and watching infants (0-2 year olds) and other pre-school children. Non-income home production time is time spent in the last week in the following activities:

(a) Marketing of food,
(b) Washing dishes,
(c) Cleaning backyard,
(d) Cleaning house,
(e) Cooking and preparing food,
(f) Other feeding time,
(g) Washing and ironing clothes,
(h) Getting water and firewood, and
(i) Mending, sewing, or repairing children's clothes

All home production time (income and non-income) and child care time data are taken from questionnaires given to mothers. Other income earning time data are taken from the fathers' questionnaires. Question-

naires were checked to eliminate duplication in the reporting of time (e.g., weaving reported as home production by mothers and as business time by fathers). When such duplication occurred, mothers' reports of their own time and childrens' time were used.

Several questions may be raised about the accuracy and interpretation of the time data. The first question is whether retrospective reports of time are at all accurate. In a second phase of the Laguna project one hundred households were interviewed three times at approximately two and one-half month intervals. The interviews included a two day observation of time allocation. Although the processing of these data is not completed, preliminary tabulations suggest that the data from the second phase are not inconsistent with those from the first survey, giving one somewhat more confidence in the rough estimates reported in this paper. A second question relates to joint activities. That is, it is possible for a person to be engaged in two or more activities simultaneously. For instance, a woman might tend a sari-sari store and watch children at the same time or a woman might report 30 hours a week cuddling and watching infants and 30 hours cuddling and watching other pre-school children . In the latter case, the woman could have spent between 30 and 60 hours watching children. Lacking data to resolve these questions, we have no choice but to assume that all times are additive.

An attempt has been made to estimate income earned by each individual residing in the household.[6] Incomes from wages, business and professions, and net income from home production for sale is identified by individual in the original questionnaire. (In the next section,

estimates of production for own use or consumption are also presented.) To allocate income from home gardening, the value of gross output is multiplied by the share of the individual's time in total household time devoted to gardening. This procedure assumes that all persons are equally productive in gardening.

For crop cultivation, livestock and poultry production, and fishing, an individual's income was measured by the number of days worked in the last month multiplied by the average wage per day if someone else had to be paid to do the activity (times twelve months). There are several difficulties with this procedure. First, respondents may have difficulty in calculating the replacement cost of an individual's time. The data do look reasonable, however. For mothers, fathers, and older children the implied hourly wage rates are similar to wage rates for adult hired labor and wage rates for younger children are somewhat lower than those for older children. Second, the time spent by an individual in the care of livestock and poultry may be as little as fifteen minutes a day. In reporting the replacement cost of this time, respondents may be unable to conceive of hiring labor for such short periods if laborers are typically hired in half day or full day units or respondents may include in the replacement cost some compensation spent for commuting time by hired laborers. Evidence of the problems raised here is revealed in an examination of implied hourly wage rates for the care of livestock and poultry. For durations up to an hour, the implied hourly wage rate decreases the longer is the duration of time. Although there are measurement problems using this approach, neglecting compensating for commuting

the replacement cost procedure does provide an estimate of the value of the marginal product of family members' time.[7]

Finally, it should be noted that this procedure leaves unallocated income such as rent, interest and dividends, gifts, and other income which accrues to the household as a whole.

II.2 Results

Table I presents some summary data using the above data for all families, farm families, and non-farm families.[8]

For farm families, fathers contribute about 65 percent of work time, mothers about 20 percent, and children 15 percent. Their shares of total family income approximate these percentages. Children contribute surprisingly little time to crop cultivation and poultry and livestock raising. About one-half of their income earning time is spent in wage earning jobs (including working on the farms of others for wages) and about 20 percent in income producing home production. Of family time devoted to their activities, they contribute about one-fourth of wage earning time and about one-third of income-producing home production time. Mothers spent about equal moments of time (between 3.76 and 4.47 hours per week) in the case of poultry and livestock, wage earning activities, and businesses and professions. They spend approximately three hours a week in income producing home production. Fathers are clearly the most active participants in family income earning activity. It is of interest to note that only about forty percent of farm fathers' income earning time is devoted to crop cultivation, although about one-sixth of their time is

devoted to caring for poultry and livestock. The multiplicity of sources of income for farm fathers is partly explained by the rather broad definition of farm families, but also by the variety of activities from which income is received by farmers.

Compared to their time devoted to income earning activities, children are much more important contributors to family time used in non-income home production and child care, accounting for approximately 30 percent of the former and 25 percent of the latter. Mothers are also very important in these activities, supplying on average about forty hours per week to non-income home production and nine hours per week to the care of infants and pre-school children. Fathers play unimportant roles in both activities.

The questionnaire also asked mothers to value home production for own consumption. Although one can have little confidence in the estimates, they suggest that on average parents contribute ₱617 annually to household output in these activities, children ₱139, and other household members ₱25.

Comparing farm and non-farm families, we have several interesting findings. First, non-farm fathers spend about seven hours fewer per week in income earning activities. Their time devoted to non-income home production and child care times are similar to those of farm fathers. Mothers in nonfarm families spend about one and one-half more hours per week in each of the three major time categories. Children in non-farm families contribute about 40 minutes a week less to family income earning time, about six hours a week less to non-income home production, and about one

and one-half hours more to child care. The total amounts of income contributed by children in farm and non-farm families are quite similar.

I can report only some very preliminary findings on the determinants of childrens' time allocation for children ages seven and older living in the household in the week before the survey. Other things being equal (including the age and sex composition of children) an increase in the education of parents increases the amount of time spent by children in school, with the coefficient on mothers' education being larger than the one on fathers' education. An increase in fathers' education diminishes the time children devote to income earning activities, child care, and home production, but increases their leisure. The effects of mothers' education are similar, except that an increase in their education increases by a small amount children's work time. An increase in family wealth is associated with an increase in the time children devote to school, child care, and leisure and decreases in the time spent working or in home production. An increase in fathers' wage rate raises the amount of time children spend in home production and leisure and reduces time devoted to other activities. An increase in the hourly wage rate of mothers has virtually no effect on children's schooling or work time, but does increase child care time, and home production time at the expense of leisure. Other things being equal, children in farm households spend substantially more time in school, home production, and leisure and less time in other activities. Each additional non-family member in the household slightly decreases the amount of time children spend in the care of younger siblings and in income earning activities and increases their time devoted to other activities.

Yet to be examined are patterns of children's time allocation and their contribution to household output by age and sex and the ways in which the age and sex composition of other siblings affect, say, the time allocation of a seven to nine year old female. Expenditures on children are still to be compared with their contributions to family income. Finally, the effects of the children on the health and nutritional status of their parents will be explored.

III. The Effects of Children on Parents' Time Allocation

III.1 The Model

In Section II of this paper, data which suggest that children play an important role in household production while they continue to live with their parents were summarized. In this section their influence on the time allocation of their parents is examined.

One approach to exploring the variables influencing parental time allocation is to assume that each family has a utility function which has as argument a variety of complex goods or "consumables" which are produced by combinations of the time of household members, simple consumer goods, and household capital.[9] Examples of "consumables" are the education of each child in the family and the nutritional and health status of family members. Some simplification is achieved by assuming that the number of household members is fixed and then focussing on the short-run determinants of time allocation. Thus, we will assume that the family maximizes $U = U(Z)$, where Z is a vector of consumables (Z_i) subject to a set of

production functions for the Z_i, $Z_i = Z_i(L_i, K_i, X_i)$, where L_i is a vector of family time devoted to producing Z_i, K_i is a vector of services of household capital goods, and X_i a vector of ordinary purchased consumer goods. The parameters of the production functions or household technology are presumably affected by the knowledge of family members. Family time, capital, and purchased inputs can also be used to produce goods which are marketed and for which the family receives income. In the simplest case, the family exports only time to the market for which it receives wage payments. The wage rate of an individual is affected by characteristics such as his experience, health, and education and characteristics of the market to which his labor is supplied. It is probably not reasonable to assume, as is usually done, that there exists an exogenous wage at which each person can work as many hours as he wishes. Rather, there are sets of jobs with time and effort requirements and income payments.[10] In turn, the income earned from the sale of goods and time and non-labor income (plus borrowing) may be used to purchase market goods or time of non-household members or for savings (a budget constraint). In the short run, it is assumed that prices of market goods and wage rates are fixed. Finally, the production process is subject to constraints that the time each person devotes to each activity sums to the total available time of the individual - sleep is assumed to be an activity which enters the utility function of the family and which requires time and capital to produce - as well as conditions that the amount of time each individual allocates to an activity must be greater than or

equal to zero and that services of each household capital good used in household activities must be less than or equal to available capital services.

The solution to this model is a set of equations relating the amount of time of each family member to each activity as a function of the prices of goods which may be purchased or produced in the household for sale or own consumption, wage rates, parameters of the production function, household capital goods, and the demographic composition of the household. The precise form of these equations depends upon the utility function and the production functions. Without specifying the utility function and the production processes, we have little guidance from this simple theoretical model for constructing the time allocation equations or imposing restrictions on them. Convenient but unrealistic assumptions include constant return to scale and no joint production. Moreover, this simple model ignores uncertainty and important dynamic questions relating to investment in human and physical capital and even the composition of the household, including birth, death, and simple movement of family members and others into and out of the household.

At this early stage of research, the model outlined above has been used as a framework for describing relations among demographic and economic variables. The models estimated below are exploratory empirical models and are not formulated to test specific hypotheses about the influence of various factors on parents' time allocation.

As an example, it is found in the following empirical work that older female children tend to specialize in home production relative to older male children. We do not know whether this represents comparative advantages of female children in home production, lower market wages for female children, the preferences of parents or female children (or male children) for female participation on these activities, or the outcome of an investment process by which female children obtain human capital enabling them to obtain better husbands.

III.2 Empirical Model

For the purpose of examining the effects of children on the time allocation of parents, the time of each parent has been divided into four activities: income earning time (work), time devoted to the care of pre-school children (child care time), time spent in non-income home production (home production), and leisure, defined as 168 hours per week minus the time devoted to the other three activities.

The influence of demographic and economic factors on time allocation of parents is explored with ordinary least squares multiple regression, ignoring simultaneity questions except as they are discussed in the text.[11] The demographic factors include the ages of mothers and fathers, variables representing the age and sex composition of children living in the household in the week prior to the survey, and the number of other persons living in the household (grandparents, other relatives of the parents, servants, and other

persons). Economic variables include education, which presumably affects productivity of parents in various activities, knowledge of production processes, and influences their preferences; whether or not the family received income from crop cultivation; the value of the household's farm animals, tools and land (input wealth); the value of the house if owned, the home lot and consumer durables (home wealth); and the capitalized value of non-labor income (other wealth); and weighted averages of the father's and mother's hourly wage rates, the wage rates being calculated by dividing income earned from an activity by the amount of time devoted to the activity and the weights being time allocated to each activity.[12] For non-working men and women, we have estimated a predicted wage using the average wage of men or women living in the same barrio with the same education.[13] In later work the wealth variables will be disaggregated.

Table II presents regressions showing the determinants of the time allocation of fathers and Table III presents regressions explaining the determinants of mothers' time allocation. Table IV includes regressions with mothers' and fathers' time per preschool child as the dependent variable. The sample used in these regressions consists of intact households (i.e., mother and father both present).

We examine first the fathers' regressions. Estimates are presented for all fathers, only working fathers, only fathers with

children, and only fathers with children less than age seven. The results of the regressions for the different subsamples are similar, so that only the regressions for all fathers are discussed here.

In general the regression results for fathers are dissapointing. That is, the R^2 and F - statistics are rather low as are the "t" - statistics for economic and demographic variables. The patterns of the coefficients are, however, quite interesting. First, the economic variables. An increase in the wage rate of fathers by ₱1.00 per hour decreases work time by about one and one-fourth hours per week and increases leisure by about the same amount (both coefficients statistically significantly different from zero at the .01 level), leaving child care and home production time unaffected. The uncompensated wage elasticity of income earning time is -.05. Changes in mothers' wage rates do not appear to influence fathers' time allocation,

None of the coefficients of the wealth variables is statistically different from zero. An increase in input wealth by ₱10,000 raises work time by about three-fourth of an hour per week and decreases leisure by a similar amount. The positive coefficient in the work time equation is expected for two reasons. First, an increase in input wealth raises the productivity of fathers' time in income earning activities. Second, fathers who have a "taste" for wealth will devote more time to work. The second reason may account for the large (and unexpected) positive coefficient in the fathers' work

time equation. The size of the coefficient is deceptive. To obtain the response of hours worked per week to a one peso increase in non-labor income per week, the coefficient must be divided by 52,000. Fathers in farm households work about five and one-half hours per week, have about four hours more leisure time, 45 minutes less child care time, and 45 minutes more home production time.

The coefficient of the demographic variables are especially interesting. An increase in fathers' age by one year decreases work time by about one-sixth of an hour per week and increases leisure time by a similar amount. Each additional non-family member in the household increases work time by one and one-half hours per week, slightly increases child care time, slightly decreases home production time, and decreases leisure by about one and one-half hours. We have no a priori expectation as to the effects of others in the household. The positive effect on fathers work time may come from the fact that others consume more than they produce, so that fathers are encouraged to work longer hours. On the other hand, it may be that men with more regular employment and higher income may attract relatives.

Each additional pre-school child increases fathers' work time by about two hours per week for 0-1 year olds and two and one-half hours for 1-6 year olds, increases child care time by about 20 minutes per week increases home production time about 40 minutes for 0-1 year olds and 50

minutes for 1-6 year olds, and decreases leisure by about three hours for 0-1 year olds and three and one-half hour for 1-6 year olds. Older children, with the exception of 7-9 year old males and females, 13-15 year old males, and females 20 and over, seem also to increase the work time of the father. Older male children reduce slightly fathers' time devoted to child care activities, and older female children appear to substitute for their fathers' child care time by relatively larger amounts. Older female children appear to substitute for fathers' time in home production. And older children, with the exceptions noted above, tend to decrease fathers' leisure.

Regressions similar to those reported above were estimated for small (1-3 children) and large (4 or more children) families. There were no important differences in the equations. Chow tests on the different time components for small versus large families indicated no statistically significant differences.

Perhaps the most interesting finding of the fathers' equations is that children tend to increase fathers' participation in income earning activities. It might be argued that the positive coefficients on older children are the result of a higher proportion of living children remaining in the home when fathers have regular employment or have higher incomes. However, an examination of this proportion by age group of children is uncorrelated with fathers' wage rates, family income, or fathers' work time.

The effects of demographic variables on mothers' time allocation are much stronger than on fathers' time allocation. We examine the influence of economic and demographic variables on all mothers, discussing estimates for other subsamples when relevant. For all mothers, an increase in fathers' wage rates has little impact on her work time or child care time, but each additional ₱1.00 per hour reduces her time spent in home production by about three-fourths of an hour per week and increases her leisure by one hour per week. An increase in her own wage (or potential wage) by ₱1.00 per hour reduces her work time by about one hour per week, raises her child care time about 15 minutes per week, home production time 30 minutes per week, and leisure 9 minutes. The uncompensated wage elasticity of income earning time is -.10. Women in farm households enjoy two and one-half hours more leisure per week, work one hours less, and have one-third of an hour less child care time and more than one-hour less home production time. The higher the educational attainment of women the more time they devote to work, child care, and leisure, with a relatively large reduction in home production time.[14] None of the wealth coefficients in the mothers' time equations is statistically significant from zero at the .10 level. The signs of the coefficients are puzzling. For instance, the coefficient of input wealth in the work time equation is negative and the coefficient of other wealth is negative in the leisure equation and positive in all other equations. The consumer wealth coefficients suggest that an increase in consumer wealth raises home

production and work time and reduces child care and leisure time. Interpretation is difficult because different kinds of consumer wealth can be expected to have quite different effects on time allocation and because the purchase of some durable goods and time allocation are decided simultaneously.

Turning now to demographic variables, we see that older women have less child care time, more work time (though the increase in work time decreases as a woman ages), more time in home production over the age range of women in the sample, and less leisure. Additional non-family members appear to substitute for the mother's time in home production, each additional person reducing her home production time by somewhat more than an hour and a half per week, permitting increases both in child care time and in leisure by slightly more than one hour per week and in work time by about 40 minutes a week.

Infants have very great effects on women's time allocation. Each additional infant reduces a mother's work time by about four hours per week and leisure by more than six hours per week. Child care time increases by more than nine and one-half hours per week and home production time by one hour per week. Other pre-school children increase child care time by five and one-half hours per week and increase home production time by about two hours per week, both at the expense of leisure, with a slight increase in work time. The influence of older children depends on their age and sex.

Seven to nine year old males increase home production time by three hours per week and decrease leisure by about two hours per week. Seven to nine year old females have a smaller effect on home production time, but lead to an increase in work time by about three hours per week. Older male children tend to substitute for mothers' work time, somewhat for home production and child care time (see particularly the regression on the subsample of women with young children and those estimated for working women), permitting increases in leisure of two to six hours per child. Older female children, on the other hand, reduce mothers' home production time by three and one half hours per week, resulting in increased work time (except for 13-15 year old females), and a large increase in leisure. When the sample of all women is examined, older female children do not appear to substitute for mothers' time in child care. The regressions for working mothers and for only mothers with young children give one the opposite impression.

Regressions for small families (1-3 children) and large families (4 or more children) were estimated. Chow tests of the various time equations reveal no significant differences in the coefficients of the economic and demographic variables taken as a whole in the two subsamples. However, it is of interest to note that the impact of a young child on a mother's child care time appears to be quite different. In small families an additional child raises child care by about 11.2 hours per week and an older pre-school child by 5.6 hours.

For large families, the increases are 6.1 and 4.5 hours per week, respectively. Mothers' leisure decreases more in small families (7.4 hours per week for 0-1 year olds and 8.0 hours for 1-6 years old) than in large families (2.0 hours and 6.3 hours, respectively).

There are three reasons why the impact of an additional young child on mothers' time allocation varies by family size. First, the larger is family size, the greater is the number of older children who can substitute for mothers' time in child care activities. Second, mothers who have more children also have more younger children. If there are economies of scale in child care or home production activities (e.g., having two young children rather than one requires less than a twofold increase in mothers' time for watching or supervising children or less than a two fold increase in food preparation or washing clothes), the marginal time requirement per child will decline with additional pre-school children. Finally, young children provide services yielding utility to parents. There services may be increased by raising the number of children or by spending more time and goods per child with a smaller number of children. If there is a diminishing marginal rate of substitution between the consumption of child services and other consumeables, then parents who have an additional young child will spend a smaller amount of goods and time per child (depending of course on production relationships).

To examine the second and third hypotheses, the square of the number of pre-school children was included in the mothers' time equations for the sample of women with pre-school children. The coefficient of this variable was negative in the child care and home production equations and positive in the income earning and leisure time equations. In no equation was the coefficient statistically significant from zero at the .05 level. In part, the large standard errors of this variable are due to multicollinearity. The simple correlation coefficient of the number of children age one to six and the number of pre-school children squared is .89. Ignoring the question of statistical significance, there is some evidence for economies of scale on child care or home production activities or for other sources of a decline in mothers' child care time per child in families with more than one young child. Averaging the coefficients of children 0-1 and 1-6 in the time equations, we can show that the addition of one young child increases child care time by nearly nine hours and home production time by a like amount and decreases work and leisuretime by seven and three-fourths and ten hours, respectively. The addition of a second pre-school child increases child care time by seven hours and home production time by five hours and decreases work time by four hours and leisure by eight hours. Because mothers' time for care of pre-school children is probably overstated (see p.5), it is likely that these regression results overestimate the increase in mothers' child care time associated with additional pre-school children.

IV. Summary

The major findings of this paper are that children in Laguna households do contribute non-negligible amounts of time to income earning activities and of income to their families, that they play important roles in non-income home production and child care activities, and that their presence has a considerable influence on their parents' allocation of time. Children of all ages appear to stimulate fathers to work longer hours at the expense of leisure. Young children reduce mothers' time in income earning activities and their leisure. Older male children substitute for mothers' work time and, to a lesser extent, child care and home production time; older female children are substitutes for mothers' home production time, and their presence raises the number of hours mothers spend in income earning activities. Older children of both sexes appear to increase substantially mothers' leisure.

The results reported here are only preliminary results and much remains to be done in specifying and estimating models to capture adequately these influences of children and in measuring the net contribution of additional children to parents' welfare and to the welfare of other household members. Besides the research on the time allocation of children discussed earlier, some experiments are being conducted on alternative aggregations of time data. Presumably one wants to combine activities into units which respond similarly to changes in economic and demographic variables. The income earning and non-income home

production aggregations used here are essentially arbitrary. Although each of the aggregates responds differently to the explanatory variables, we have not yet tested whether subunits of time behave similarly. For instance, is the response of wage earning time to a change in the number of children the same as income producing home production time or does income producing home production time behave more like non-income home production time? In a developed country the appropriate categories are more clear cut. As Gronau (1976) notes, there are wage earning jobs for which individuals receive income, enabling them to purchase market goods which substitute for home produced goods. Analytically interesting assumptions are that time spent in these activities yields no direct utility and that the goods are only intermediate to the production of final consumables which yield direct utility when combined with consumption time (e.g., recreation). Child care time and time devoted to physiological needs (e.g., sleeping) are two other distinguishable categories. Each of these time categories comprises a separate analytic grouping. In rural areas of developing countries in which only a small proportion of persons are engaged in wage earning activities, a high proportion of time is devoted to the production of home goods, some of which exchanged for market goods some of which are intermediate goods in home production processes, and some of which are consumables yielding direct utility. Further experimentation with alternative aggregations may yield additional insights into time allocation decisions of rural households.

DESCRIPTION OF VARIABLES

Dependent Variables

1. TTYARF, TCHILDF, THPNOYF, LEISF - averages of number of hours spent per week by fathers in income earning activities, in care of pre-school children, in non-income home production, and leisure (168 minus the sum of the other three time variables).

2. TTYARM, TCHILDM, THPNOYM, LEISM - the same variables defined above for mothers.

3. TCHILDFC, TCHILDMC - average hours spent by fathers and mothers in child care per pre-school child.

Independent Variables

1. WAGEF, WAGEM - hourly wage rates (in ₱1.00 per hour) of fathers and mothers. For non-working fathers and mothers these variables are predicted wages (see text).

2. AGEF - age of father in decades.

3. AGEM - age of the mother in decades.
   AGEM2 - the square of AGEM.

4. FARMHH - 1 if the household is a household with income from crop cultivation; 0 for other households.

5. EDUCF, EDUCM - education level of fathers and mothers, an index going from 0 (no schooling) to 9 (postgraduate college).

6. OTHERS - the number of non-family persons (grandparents, other relatives of the parents, servants, and other persons) living in the household.

7. WEALTH

   (a) Input - the current value of farm animals, land and tools owned by the household (measured in ₱10,000).

(b) Consumer Durables - the current value of the house, home lot, and consumer durables owned by the household (in ₹10,000).

(c) Other - the capitalized value of non-labor income (measured in ₹10,000).

8. CHILDREN - the number of children of the household living in the household in the week preceding the survey. The variables are the number of children in each age and sex group.

FOOTNOTES

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2. The psychological satisfactions from childbearing are influenced by social norms. Not all psychological satisfactions come from playing with and watching the growth of living children. Satisfaction may come solely from childbirth if society awards prestige to demonstrated fecundity. It is also possible for the net psychological satisfactions of children to be negative since not all births are wanted births.

3. As investments of old age security, children may be relatively poor investments in that the rate of return may be very low, especially under conditions of high mortality for parents and children. In the presence of imperfect capital markets, however, children may be virtually the only investments available for financing old age security.

4. See Espenshade (1973) for a survey of attempts to measure the costs of children in more developed countries.

5. Households in the sample were chosen by simple random smapling from household lists prepared for thirty-four rural barrios selected to give a mixture of household economic activities (e.g., fishing barrios and rice cultivation barrios).

6. Contribution of non-family household members to household income earning time and to household income are quite small. For all households taken together, "others" contribute 1.90 hours per week to non-income home production, .47 hours to income producing home production, and .46 hours to child care. The average number of other persons per household is .44 persons.

7. An alternative approach, the multiplication of net income from crop cultivation by an individual's time as a share of household

time devoted to crop cultivation is easily seen to be an inferior measure. First, there is no adjustment for labor quality. Second, other inputs are used besides family labor. The difficulty here may be demonstrated by an example. Suppose crop income is negative. This alternative method would yield a negative contribution for the individual even though the value of his marginal product might be postive and large.

8. Average annual net income as conventionally calculated, except for using gross livestock income instead of net livestock income, is ₱5881 for all households, ₱6077 for farm households, and ₱5602 for non-farm households.

9. See Becker (1974) and Evenson (1976) for discussions of the issues involved in constructing household utility functions.

10. If productivity is related to nutritional status and nutritional status is related to income, employers may choose to pay workers a wage in excess of the supply price of workers and there can be equilibrium with involuntarily unemployed workers. See Mirrlees (1975).

11. All equations have been estimated assuming linearity in parameters. An implicit assumption of the specification is that the coefficients of economic variables are not influenced by household size or composition and vice versa. Experiments stratifying by the number of children are summarized later in the text. An advantage of estimating the linear model and using the same variables in each time equation is that the sum, across equations, of the coefficients of each variable equals zero. No cross-equation restrictions have been imposed.

12. For crop cultivation, care of poultry and livestock, and fishing the wage rate of an individual is calculated by dividing the reported replacement cost by hours worked. One of the reasons for the relatively large negative uncompensated substitution effect of the mother's wage rate on hours worked in income earning activities is the problem of measuring the poultry and livestock wage (see above), i.e., a declining wage rate for longer work duration.

13. The predicted wages for non working men and women are not necessarily good approximations of the opportunity cost of their time. (See Gronau (1973).) For that reason, regressions are presented for subsamples which include only working men and women.

14. Leibowitz (1974) finds for U.S. women that increases in mother's education increases work and child care time and diminishes time spent in such activities as laundering.

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TABLE I. Time and Income Contribution of Family Members

A. All Families

1. Time (Hours per Week)

	Father	(%)	Mother	(%)	Children	(%)	Family Total (100%)
(a) Crops	12.96	(88.6)	.77	(5.3)	.90	(6.2)	14.63
(b) Fishing	1.45	(100)					1.45
(c) Poultry and Livestock	8.58	(62.9)	3.83	(28.1)	1.24	(9.1)	13.65
(d) Wage	22.00	(61.8)	6.20	(17.4)	7.42	(20.8)	35.62
(e) Business and Professions	2.75	(38.3)	4.05	(56.4)	0.38	(5.3)	7.18
(f) Income Producing Home Production	1.81	(29.0)	2.50	(41.7)	1.83	(29.3)	6.24
Total Income Earning Time	49.41	(63.0)	16.9	(21.5)	12.14	(15.5)	78.45
(g) Non-income Home Production	2.75	(4.7)	41.55	(70.6)	14.56	(24.7)	58.86
(h) Child Care	0.65	(4.5)	10.01	(69.4)	3.77	(26.1)	14.43
Total Non-Income Time	3.44	(4.7)	51.56	(70.3)	18.33	(25.0)	73.33
Total	52.85	(34.8)	68.46	(45.1)	30.47	(20.1)	151.78

2. Income

(a) Crop	P1069	(89.0)	P 46	(3.8)	P 87	(7.2)	P1202
(b) Gardening	3	(16.7)	6	(29.7)	10	(53.6)	19
(c) Home Production	33	(17.6)	108	(57.6)	47	(24.8)	188
(d) Livestock and Poultry	532	(60.5)	270	(30.7)	77	(8.7)	878
(e) Business and Professions	450	(67.5)	148	(22.2)	62	(9.3)	667
(f) Wages	1012	(59.2)	185	(10.9)	510	(29.9)	1706
(g) Fishing	86	(100.2)	-	-	-	-	86
Total	4099	(71.3)	824	(14.3)	829	(14.4)	5753

TABLE I. (continued)

B. Farm Families

1. Time (Hours per Week)

	Father	(%)	Mother	(%)	Children	(%)	Family Total (100%)
(a) Crops	22.03	(88.6)	1.31	(5.3)	1.54	(6.2)	24.88
(b) Fishing	0.43	(100.0)					0.43
(c) Poultry and Livestock	9.84	(62.7)	4.47	(28.5)	1.38	(8.8)	15.69
(d) Wage	15.72	(58.9)	4.29	(16.1)	6.67	(25.0)	26.68
(e) Business and Professions	2.06	(34.1)	3.76	(62.3)	0.22	(3.6)	6.04
(f) Income Producing Home Production	2.04	(28.5)	2.80	(39.2)	2.31	(32.3)	7.15
Total Income Earning Time	52.13	(64.5)	16.33	(20.2)	12.43	(15.4)	80.89
(g) Non-Income Home Production	2.85	(4.7)	40.94	(67.4)	17.00	(28.0)	60.79
(h) Child Care	0.30	(2.3)	9.38	(73.1)	3.16	(24.6)	12.84
Total Non-Income	3.21	(4.4)	50.83	(68.3)	20.16	(27.4)	73.70
Total	55.34	(35.8)	66.66	(43.1)	32.59	(21.1)	154.59

2. Income

(a) Crop	₱1818	(89.0)	₱77	(3.8)	₱148	(7.2)	₱2043
(b) Gardening	3	(16.5)	3	(16.2)	13	(67.3)	20
(c) Home Production (other than gardening)	27	(13.9)	120	(63.0)	44	(23.1)	191
(d) Livestock and Poultry	624	(60.1)	332	(32.0)	83	(8.0)	1038
(e) Business and Professions	135	(45.3)	145	(48.6)	22	(7.3)	298
(f) Wages	670	(53.2)	150	(11.9)	439	(34.9)	1259
(g) Fishing	39	(100.0)	-	-	-	-	39
Total	3552	(67.7)	882	(16.8)	810	(15.4)	5244

TABLE I. (continued)

C. Nonfarm Families

1. Time (Hours per Week)

	Father	(%)	Mother	(%)	Children	(%)	Family Total (100%)
(a) Crops	-	-	-	-	-	-	-
(b) Fishing	2.90	(100.0)	-	-	-	-	2.90
(c) Poultry and Livestock	6.77	(63.1)	2.92	(27.2)	1.04	(9.7)	10.73
(d) Wage	30.96	(64.0)	8.92	(18.4)	8.48	(17.5)	48.36
(e) Business and Professions	3.73	(42.4)	4.45	(50.6)	0.61	(6.9)	8.79
(f) Income Producing Home Production	1.49	(30.2)	2.30	(46.7)	1.14	(23.1)	4.93
Total Income Earning Time	45.53	(60.7)	17.72	(23.6)	11.72	(15.6)	74.97
(g) Non-Income Home Production	2.62	(4.7)	42.41	(75.6)	11.08	(19.8)	56.11
(h) Child Care	1.15	(6.9)	10.91	(65.3)	4.64	(27.8)	16.70
Total Non-Income Time	3.76	(5.2)	53.32	(73.2)	15.73	(21.6)	72.81
Total	49.29	(33.4)	71.04	(48.1)	27.45	(18.6)	147.78

2. Income

(a) Crop	-	-	-	-	-	-	-
(b) Gardening	3	(16.9)	9	(51.0)	6	(32.1)	18
(c) Home Production (other than gardening)	42	(22.9)	92	(49.7)	51	(27.4)	184
(d) Livestock and Poultry	400	(61.6)	181	(27.9)	68	(10.5)	650
(e) Business and Professions	901	(75.4)	153	(12.9)	119	(10.0)	1194
(f) Wages	1497	(63.8)	236	(10.1)	613	(26.1)	2346
(g) Fishing	152	(100)	-	-	-	-	152
Total	4881	(75.3)	741	(11.4)	857	(13.2)	6479

Table II. Time Allocation of Fathers

A. All Fathers

Variable	TTYARF	TCHILDF	THPNOYF	LEISF
CONSTANT	49.63	0.95	1.17	116.25
WAGEF	- 1.26 (2.42)	-0.01 (0.10)	0.07 (0.64)	1.19 (2.27)
WAGEM	- 0.04 (0.09)	-0.01 (0.15)	-0.01 (0.15)	0.06 (0.01)
AGEF	- 0.15 (1.66)	-0.01 (0.83)	0.02 (0.88)	0.14 (1.57)
FARMHH	5.47 (2.01)	-0.75 (1.86)	-0.79 (1.30)	-3.93 (1.43)
EDUCF	1.05 (1.38)	-0.04 (0.34)	0.22 (1.29)	-1.24 (1.60)
OTHERS	1.46 (0.87)	0.36 (1.47)	-0.33 (0.87)	-1.50 (0.88)
WEALTH				
WINPUT	0.69 (0.86)	-0.04 (0.30)	0.05 (0.30)	-0.71 (0.87)
WCON	- 1.40 (0.78)	-0.06 (0.24)	-0.22 (0.54)	1.68 (0.93)
WOTH	7.73 (1.39)	0.02 (0.03)	0.73 (0.59)	-8.49 (1.51)
CHILDREN				
0 - 1	2.00 (0.53)	0.32 (0.58)	0.64 (0.75)	-2.96 (0.78)
1 - 6	2.46 (1.78)	0.35 (1.73)	0.77 (2.49)	-3.59 (2.57)
7 - 9 Male	0.93 (0.35)	-0.08 (0.20)	-0.43 (0.72)	1.44 (0.53)
10 - 12 Male	1.52 (0.48)	-0.17 (0.36)	-0.47 (0.66)	-0.88 (0.28)
13 - 15 Male	- 1.73 (0.57)	-0.49 (1.07)	0.13 (0.19)	2.09 (0.68)
16 - 19 Male	4.72 (1.61)	0.65 (1.50)	0.87 (1.32)	-6.24 (2.11)
20 up Male	0.72 (0.29)	-0.32 (0.87)	0.95 (1.69)	-1.35 (0.53)
7 - 9 Female	- 1.06 (0.38)	-0.002 (0.00)	0.09 (0.13)	0.97 (0.34)
10 - 12 Female	5.02 (1.84)	0.74 (1.82)	-0.22 (0.35)	-5.54 (2.01)
13 - 15 Female	0.95 (0.31)	0.22 (0.50)	-1.28 (1.86)	0.10 (0.03)
16 - 19 Female	3.82 (1.25)	0.77 (1.70)	-0.57 (0.82)	-4.02 (1.30)
20 up Female	- 2.80 (1.01)	-0.31 (0.76)	0.21 (0.34)	2.90 (1.03)
R^2	0.06	0.04	0.04	0.07
$\bar{R}^2$	0.03	0.01	0.01	0.04
F	1.67	1.13	1.10	1.90

N = 534

Table II (Continued)

B. Working Fathers

Variable	TTYARF	TCHILDF	THPNOYF	LEISF
CONSTANT	53.58	0.99	0.88	112.55
WAGEF	-1.30(2.53)	-0.01 (0.08)	0.07 (0.64)	1.24(2.36)
WAGEM	-0.12(0.30)	-0.01 (0.14)	-0.004(0.05)	0.13(0.33)
AGEF	-0.18(1.99)	-0.01 (0.82)	0.02 (1.01)	0.17(1.86)
FARMHH	3.57(1.31)	-0.74 (1.80)	-0.56 (0.91)	-2.28(0.83)
EDUCF	0.84(1.10)	-0.04 (0.36)	0.22 (1.27)	-1.02(1.32)
OTHERS	1.09(0.65)	0.38 (1.51)	-0.27 (0.70)	-1.21(0.71)
WEALTH				
WINPUT	0.70(0.87)	-0.04 (0.31)	0.06 (0.32)	-0.72(0.89)
WCON	-0.92(0.50)	-0.08 (0.29)	-0.33 (0.79)	1.33(0.71)
WOTH	8.91(1.60)	-0.03 (0.03)	0.59 (0.47)	-9.47(1.67)
CHILDREN				
0 - 1	2.28(0.61)	0.32 (0.56)	0.65 (0.77)	-3.25(0.85)
1 - 6	2.19(1.59)	0.34 (1.63)	0.80 (2.56)	-3.33(2.38)
7 - 9 Male	-0.91(0.34)	-0.08 (0.20)	-0.52 (0.88)	1.52(0.56)
10 -12 Male	1.57(0.50)	-0.16 (0.34)	-0.60 (0.85)	-0.81(0.25)
13 -15 Male	-1.58(0.52)	-0.49 (1.07)	0.18 (0.26)	1.88(0.61)
16 -19 Male	4.85(1.66)	0.65 (1.48)	0.99 (1.50)	-6.49(2.19)
20 up Male	2.09(0.81)	-0.37 (0.97)	0.55 (0.95)	-2.27(0.87)
7 - 9 Female	-1.10(0.39)	-0.002(0.00)	0.12 (0.19)	0.98(0.35)
10 -12 Female	4.74(1.75)	0.74 (1.81)	-0.17 (0.27)	-5.31(1.93)
13 -15 Female	0.34(0.11)	0.23 (0.50)	-1.19 (1.74)	0.62(0.20)
16 -19 Female	2.60(0.86)	0.79 (1.72)	-0.35 (0.51)	-3.04(0.99)
20 up Female	-1.14(0.40)	-0.36 (0.83)	-0.09 (0.14)	1.59(0.55)
R^2	0.06	0.04	0.04	0.07
$\bar{R}^2$	0.02	0.01	0.002	0.03
F	1.41	1.11	1.01	1.68
N = 525				

Table II. (Continued)

C. Fathers with Young Children

Variable	TTYARF	TCHILDF	THPNOYF	LEISF
CONSTANT	63.30	2.57	-1.37	103.50
WAGEF	-1.65(2.48)	-0.01 (0.08)	-0.18(1.18)	1.84(2.71)
WAGEM	-0.43(1.01)	-0.001(0.00)	-0.06(0.62)	0.49(1.13)
AGEF	-0.27(1.83)	-0.03 (0.99)	0.05(1.58)	0.24(1.62)
FARMHH	4.94(1.42)	-1.32 (2.01)	-0.59(0.72)	-3.03(0.85)
EDUCF	-0.35(0.34)	-0.01 (0.07)	0.21(0.87)	0.16(0.15)
OTHERS	-0.07(0.03)	0.57 (1.36)	-0.37(0.71)	-0.13(0.05)
WEALTH				
WINPUT	1.63(0.74)	0.07 (0.16)	0.60(1.18)	-2.30(1.02)
WCON	3.96(1.17)	-0.63 (0.98)	0.04(0.05)	-3.38(0.98)
WOTH	-20.63(0.56)	-0.52 (0.08)	0.61(0.07)	20.55(0.54)
CHILDREN				
0 - 1	1.05(0.26)	-0.15 (0.19)	1.57(1.64)	-2.47(0.59)
1 - 6	1.48(0.78)	-0.04 (0.11)	1.45(3.27)	-2.89(1.48)
7 - 9 Male	-1.61(0.52)	-0.14 (0.24)	-0.47(0.65)	2.23(0.70)
10 -12 Male	6.03(1.53)	-0.41 (0.55)	-0.61(0.67)	-5.01(1.24)
13 -15 Male	-4.51(1.14)	-1.05 (1.40)	-0.46(0.50)	6.02(1.48)
16 -19 Male	-1.09(0.22)	2.21 (2.33)	2.23(1.92)	-3.35(0.65)
20 up Male	6.69(0.97)	-2.19 (1.68)	-2.31(1.45)	-2.19(0.31)
7 - 9 Female	-2.86(0.85)	0.18 (0.28)	0.25(0.32)	2.44(0.71)
10 -12 Female	4.35(1.32)	1.28 (2.04)	0.10(0.13)	-5.72(1.69)
13 -15 Female	-3.20(0.81)	0.54 (0.72)	-1.35(1.47)	4.01(0.99)
16 -19 Female	-0.19(0.04)	2.27 (2.46)	-0.79(0.70)	-1.29(0.26)
20 up Female	0.69(0.07)	-2.88 (1.54)	-2.11(0.92)	4.30(0.43)
R^2	0.06	0.08	0.10	0.07
$\bar{R}^2$	0.001	0.02	0.04	0.01
F	0.96	1.29	1.51	1.04
N = 321				

Table III. Time Allocation of Mothers

A.. All Mothers

Variable	TTYARM	TCHILDM	THPNOYM	LEISM
CONSTANT	-11.49	7.75	49.65	122.09
WAGEF	- 0.16(0.43)	-0.13 (0.48)	-0.85(2.10)	1.14(1.85)
WAGEM	- 0.91(3.17)	0.24 (1.17)	0.53(1.68)	0.15(0.31)
AGEM	1.36(2.44)	-0.02 (0.06)	0.28(0.46)	-1.61(1.75)
AGEM2	- 0.01(2.01)	-0.002(0.43)	-0.01(0.88)	0.02(1.98)
FARMHH	- 0.94(0.49)	-0.36 (0.26)	-1.20(0.57)	2.50(0.78)
EDUCM	0.20(0.32)	0.17 (0.39)	-2.56(3.85)	2.19(2.17)
OTHERS	- 0.77(0.65)	1.33 (1.59)	-1.35(1.04)	0.79(0.40)
WEALTH				
WINPUT	- 0.83(1.44)	0.54 (1.34)	0.44(0.70)	-0.16(0.16)
WCON	0.38(0.29)	-0.90 (0.98)	1.55(1.10)	-1.03(0.48)
WOTH	2.92(0.73)	0.30 (0.10)	4.48(1.03)	-7.70(1.17)
CHILDREN				
0 - 1	- 4.22(1.54)	9.53 (4.94)	1.13(0.38)	-6.44(1.42)
1 - 6	0.65(0.63)	5.45 (7.57)	2.21(1.98)	-8.31(4.91)
7 - 9 Male	- 0.72(0.38)	-0.04 (0.03)	2.93(1.40)	-2.16(0.68)
10 -12 Male	- 1.78(0.79)	-3.28 (2.08)	-0.74(0.30)	5.80(1.57)
13 -15 Male	- 4.57(2.10)	2.38 (1.55)	-0.90(0.38)	3.09(0.86)
16 -19 Male	0.42(0.20)	-1.73 (1.15)	-0.53(0.23)	1.84(0.52)
20 up Male	- 2.50(1.41)	-1.19 (0.95)	-0.67(0.35)	4.37(1.49)
7 - 9 Female	3.08(1.52)	-0.06 (0.04)	1.41(0.64)	-4.43(1.32)
10 -12 Female	3.39(1.71)	-1.79 (1.28)	-2.58(1.19)	0.97(0.30)
13 -15 Female	- 0.52(0.24)	0.51 (0.33)	-4.19(1.76)	4.21(1.17)
16 -19 Female	1.02(0.46)	0.95 (0.61)	-4.09(1.71)	2.13(0.59)
20 up Female	- 1.07(0.54)	0.97 (0.69)	-2.45(1.13)	2.55(0.77)
R^2	0.08	0.29	0.11	0.15
$\bar{R}^2$	0.05	0.26	0.07	0.11
F	2.15	9.44	2.76	4.09

N = 534

Table III. (Continued)

B. Working Mothers

Variable	TTYARM	TCHILDM	THPNOYM	LEISM
CONSTANT	0.35	-0.45	59.46	108.64
WAGEF	0.44(0.58)	0.94 (2.09)	-0.38(0.46)	-1.00(0.81)
WAGEM	-1.06(3.50)	0.14 (0.77)	0.41(1.23)	0.51(1.03)
AGEM	1.32(1.68)	0.17 (0.36)	-0.36(0.42)	-1.13(0.88)
AGEM2	-0.01(1.55)	-0.003 (0.64)	0.001(0.06)	0.02(1.14)
FARMHH	-4.08(1.63)	0.94 (0.63)	1.67(0.60)	1.46(0.36)
EDUCM	0.02(0.03)	0.27 (0.59)	-2.09(2.43)	1.80(1.41)
OTHERS	-0.08(0.04)	1.75 (1.78)	-1.56(0.85)	-0.11(0.04)
WEALTH				
WINPUT	-1.27(1.27)	-0.13 (0.21)	0.16(0.14)	1.24(0.76)
WCON	3.69(1.85)	-0.69 (0.58)	2.36(1.07)	-5.36(1.64)
WOTH	0.81(0.19)	0.29 (0.11)	2.45(0.52)	-3.55(0.51)
CHILDREN				
0 - 1	-5.65(1.48)	10.84 (4.78)	2.75(0.65)	-7.94(1.27)
1 - 6	1.02(0.78)	5.45 (6.94)	1.68(1.15)	-8.16(3.78)
7 - 9 Male	0.16(0.06)	1.34 (0.86)	3.80(1.31)	-5.30(1.24)
10 -12 Male	-2.81(0.99)	-3.13 (1.86)	3.34(1.07)	2.60(0.56)
13 -15 Male	-3.34(1.21)	1.39 (0.84)	-1.57(0.51)	3.53(0.78)
16 -19 Male	-0.54(0.21)	-2.04 (1.31)	0.97(0.33)	1.62(0.38)
20 up Male	-2.30(1.05)	-0.60 (0.46)	-1.87(0.76)	4.77(1.33)
7 - 9 Female	2.73(1.07)	0.06 (0.03)	0.49(0.17)	-3.28(0.78)
10 -12 Female	2.45(1.00)	-1.98 (1.36)	-2.73(1.01)	2.26(0.57)
13 -15 Female	1.63(0.59)	-0.98 (0.59)	-4.34(1.42)	3.69(0.82)
16 -19 Female	0.30(0.11)	1.04 (0.63)	-4.31(1.40)	2,97(0.65)
20 up Female	-1.31(0.49)	-0.26 (0.16)	-2.00(0.68)	3.57(0.82)
R^2	0.12	0.37	0.12	0.17
$\bar{R}^2$	0.06	0.33	0.06	0.12
F	1.89	8.25	1.87	2.96

N = 334

Table III. (Continued)

C. Mothers with Young Children

Variable	TTYARM	TCHILDM	THPNOYM	LEISM
CONSTANT	-19.66	-32.59		132.12
WAGEF	- 0.09(0.20)	- 0.12(0.28)		1.13(1.36)
WAGEM	- 0.68(2.30)	0.30(1.12)		- 0.13(0.25)
AGEM	1.89(1.42)	2.93(2.47)		- 3.08(1.31)
AGEM2	- 0.02(1.18)	- 0.05(2.67)		0.05(1.37)
FARMHH	- 0.13(0.05)	- 2.54(1.17)		5.99(1.39)
EDUCM	- 0.16(0.20)	0.33(0.46)		3.07(2.14)
OTHERS	- 0.33(0.21)	2.04(1.47)		0.07(0.03)
WEALTH				
WINPUT	- 2.04(1.34)	3.76(2.75)		- 0.76(0.28)
WCON	1.33(0.56)	- 2.28(1.06)		0.59(0.14)
WOTH	10.30(0.40)	10.85(0.47)		-71.42(1.55)
CHILDREN				
0 - 1	- 3.62(1.25)	7.18(2.77)		- 4.05(0.79)
1 - 6	1.02(0.75)	3.15(2.58)		- 5.72(2.35)
7 - 9 Male	- 1.75(0.77)	- 0.79(0.39)		- 3.09(0.77)
10 -12 Male	- 0.23(0.08)	- 6.07(2.44)		6.41(1.30)
13 -15 Male	- 5.27(1.89)	1.86(0.74)		3.26(0.66)
16 -19 Male	- 1.17(0.33)	- 3.08(0.97)		5.64(0.89)
20 up Male	1.15(0.24)	- 3.51(0.80)		1.74(0.20)
7 - 9 Female	5.06(2.08)	- 1.79(0.82)		- 5.68(1.31)
10 -12 Female	5.09(2.14)	- 3.40(1.60)		- 1.68(0.40)
13 -15 Female	- 0.03(0.00)	1.83(0.74)		3.87(0.78)
16 -19 Female	- 0.71(0.20)	4.13(1.33)		4.06(0.66)
20 up Female	-10.08(1.44)	6.58(1.05)		18.76(1.50)
R^2	0.11	0.16		0.11
$\bar{R}^2$	0.05	0.10		0.05
F	1.70	2.64		1.69
N = 321				

TABLE IV. Child Care by Mother and Father Per-School Child

Variable	TCHILDMC	TCHILDFC
CONSTANT	-11.23	1.78
WAGEF	-0.08 (0.26)	0.002 (0.03)
WAGEM	0.17 (0.88)	0.002 (0.05)
AGEF	-	-0.02 (1.22)
AGEM	1.85 (2.15)	-
AGEM2	-0.03 (2.41)	-
FARMHH	-2.79 (1.73)	-0.70 (1.96)
EDUCF		0.03 (0.31)
EDUCM	0.63 (1.20)	-
OTHERS	1.08 (1.07)	0.28 (1.25)
WEALTH		
WINPUT	2.04 (2.05)	0.07 (0.30)
WCON	-1.74 (1.12)	-0.43 (1.28)
WOTH	3.16 (0.19)	0.27 (0.07)
CHILDREN		
0- 1	-0.25 (0.13)	-0.27 (0.66)
1- 6	-3.07 (3.46)	-0.17 (0.91)
7- 9 Male	-1.00 (0.68)	-0.12 (0.38)
10-12 Male	-3.19 (1.77)	-0.24 (0.60)
13-15 Male	0.83 (0.46)	-0.51 (1.28)
16-19 Male	-0.83 (0.36)	1.14 (2.27)
20+ Male	-2.57 (0.81)	-1.06 (1.54)
7- 9 Female	-1.92 (1.21)	0.10 (0.29)
10-12 Female	-1.46 (0.94)	0.62 (1.87)
13-15 Female	2.10 (1.16)	0.26 (0.66)
16-19 Female	2.99 (1.33)	1.12 (2.29)
20+ Female	8.14 (1.78)	-1.35 (1.37)
R^2	0.13	0.08
$\bar{R}^2$	0.07	0.02
F	2.02	1.27

N = 321

Table IV . Means and Standard Deviations of Variables

A. Fathers

Variable	All Men		Fathers with Children under age 7		Working Men	
	Mean	S. D.	Mean	S. D.	Mean	S. D.
WAGEF	1.90	2.65	1.96	2.67	1.90	2.66
WAGEM	1.88	3.30	2.06	4.06	1.90	3.33
AGEF	42.40	16.91	36.84	12.94	42.39	16.67
FARMHH	0.54	0.50	0.53	0.50	0.55	0.50
EDUCF	2.74	1.90	3.08	1.83	2.75	1.91
OTHERS	0.43	0.81	0.32	0.78	0.43	0.82
WEALTH						
WINPUT	0.43	1.69	0.24	0.81	0.44	1.70
WCON	0.47	0.83	0.33	0.55	0.46	0.80
WOTH	0.03	0.24	0.01	0.05	0.03	0.24
CHILDREN						
0 - 1	0.16	0.37	0.27	0.45	0.16	0.37
1 - 6	1.03	1.10	1.71	0.93	1.04	1.11
7 - 9 Male	0.28	0.53	0.39	0.58	0.29	0.53
10 -12 Male	0.24	0.48	0.28	0.51	0.24	0.48
13 -15 Male	0.24	0.48	0.24	0.50	0.24	0.49
16 -19 Male	0.24	0.50	0.15	0.40	0.23	0.50
20 up Male	0.26	0.60	0.07	0.27	0.25	0.58
7 - 9 Female	0.26	0.49	0.33	0.52	0.26	0.49
10 -12 Female	0.23	0.50	0.25	0.54	0.23	0.50
13 -15 Female	0.21	0.48	0.18	0.48	0.22	0.48
16 -19 Female	0.22	0.48	0.13	0.40	0.22	0.49
20 up Female	0.19	0.54	0.03	0.18	0.18	0.51
TTYARF	52.41	30.47	54.92	29.82	53.31	29.94
TCHILDF	0.68	4.45	1.11	5.70	0.69	4.49
THPNOYF	2.77	6.77	2.79	7.05	2.67	6.71
LEISF	112.13	30.88	109.18	30.57	111.34	30.52

Table V . (Continued)

B. Mothers

Variable	All Women Mean	All Women S. D.	Women W/Children under Age 7 Mean	Women W/Children under Age 7 S. D.	Working Women Mean	Working Women S. D.
WAGEF	1.90	2.65	1.96	2.67	1.68	1.61
WAGEM	1.88	3.30	2.06	4.06	1.98	4.09
AGEM	38.66	12.56	32.18	7.64	39.93	12.47
AGEM2	1652.14	1064.78	1093.69	520.12	1749.38	1075.05
FARMHH	0.54	0.50	0.53	0.50	0.57	0.50
EDUCM	2.73	1.81	3.09	1.68	2.69	1.80
OTHERS	0.43	0.81	0.32	0.78	0.40	0.77
WEALTH						
WINPUT	0.43	1.69	0.24	0.81	0.39	1.26
WCON	0.47	0.83	0.33	0.55	0.43	0.67
WOTH	0.03	0.24	0.01	0.05	0.04	0.29
CHILDREN						
0 - 1	0.16	0.37	0.27	0.45	0.14	0.35
1 - 6	1.03	1.10	1.71	0.93	0.99	1.12
7 - 9 Male	0.28	0.53	0.39	0.58	0.27	0.51
10 -12 Male	0.24	0.48	0.28	0.51	0.24	0.48
13 -15 Male	0.24	0.48	0.24	0.50	0.23	0.48
16 -19 Male	0.24	0.50	0.15	0.40	0.25	0.52
20 up Male	0.26	0.60	0.07	0.27	0.26	0.62
7 - 9 Female	0.26	0.49	0.33	0.52	0.28	0.51
10 -12 Female	0.23	0.50	0.25	0.54	0.26	0.52
13 -15 Female	0.21	0.48	0.18	0.48	0.21	0.48
16 -19 Female	0.22	0.48	0.13	0.40	0.24	0.49
20 up Female	0.19	0.54	0.03	0.18	0.20	0.52
TTYARM	16.52	21.77	15.20	21.29	26.41	22.28
TCHILDM	10.67	17.40	17.35	19.66	9.54	15.66
THPNOYM	42.49	24.00	46.19	23.74	42.51	24.67
LEISM	98.32	37.33	89.27	37.92	89.54	37.61