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6 The Role of Time in the Measurement of Transfers and Well-Being

James N. Morgan

6.1 Introduction

The usual analysis of redistribution deals with taxes and the regular money transfer payments made by government and perhaps some institutions. And the usual analysis of income and income distribution makes use of concepts like total family money income measured before taxes but after some transfers. The purpose of this paper is not to provide a comprehensive discussion of an ideal set of national accounts but to touch on a few aspects where we have some data to enliven the theoretical discussion. In the process we need to be conscious of three kinds of models: an institutional model that determines many of the insurance and governmental transfers, a behavioral model that deals with individual decisions about giving and getting help in time or money, and an accounting model that focuses on each individual's net contribution to or benefit from the various transfer mechanisms including voluntary and altruistic (nonreciprocal) ones.

We can think of individuals, in families, where institutional arrangements alter earned incomes into disposable incomes after the regular (involuntary) transfers and taxes. Rules and regulations and insurance principles determine all these, and we pick up the situation after they have done their work. Three types of voluntary transfers take place within the private sector: (a) transfers between individuals and philanthropic institutions; (b) transfers between individuals not living together, between friends or relatives, including alimony and child support; and (c) intrafamily transfers implicit when people live together and some produce or earn more than others.

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6.2 Institutional Voluntary Transfers

A major form of transfer currently attracting attention is private philanthropy, donated in both money and time. We need a behavioral model to deal with these, but we know very little about the sources and motivations for altruism except that we know altruistic attitudes go along with altruism, but that does not explain much (Thiessen 1968); Macaulay and Berkowitz 1970; Smith 1973; Sills 1957). Also giving time and giving money tend to be complementary rather than competitive (Morgan, Dye, and Hybels 1977). Tax provisions make them equal for upper-income people, but giving money is more costly than giving time for those who do not itemize tax deductions. Our study of giving in 1973 is the only one that covered both time and money. Indeed, no full-scale national surveys of details of philanthropy had been conducted prior to that study. The Consumer Expenditure Survey of the Bureau of Labor Statistics generally includes "contributions" as a category (Lamale and Clorey 1959; U.S. Bureau of Labor Statistics 1965). Two rather specialized studies of large givers focused on reactions to tax laws (Commission 1970; Hunter 1968). In the course of studying well-being and its intergenerational aspects, the Survey Research Center in 1960 asked about gifts to friends and relatives, to churches or religious organizations, and to other organizations "like Community Chest, schools, cancer or heart associations, and so forth." A 1965 Survey Research Center Study, *Productive Americans*, asked about time spent doing "volunteer work without pay such as work for church or charity, or helping relatives" (Morgan, Sirageldin and Baerwaldt 1966). The older and more affluent and better educated were giving more money, and the better educated were giving more time.

In the spring of 1973 the Office of Tax Analysis of the United States Treasury asked us to do a small study of the giving of those who itemized and those who did not itemize their deductions (Roistacher and Morgan 1974). With the relatively small sample and no overrepresentation of the upper-income groups, the Treasury study could not distinguish among those with widely differing marginal tax rates; but it could look at those who were itemizing their deductions compared to those who were not. Income, home ownership, and family size largely determined whether it paid to itemize, and income and itemization status largely determined whether the household gave and how much it gave. Indeed, itemization seemed primarily to affect whether the household gave at all. Only at incomes above \$10,000 did it affect the amounts givers gave to religious organizations, and only at incomes above \$25,000 did it affect the amounts givers gave to nonreligious charities. But as Martin Feldstein pointed out to us, the combination of differences in "whether" and "how much" leads to estimates of substantial "price elasticities" of giving. The Treasury study also showed substantial differences in the age pattern of

giving between those giving to religious organizations and those giving to other donees.

Finally, to provide an extensive pretest and some early indications of responses to changed standard deductions, the Filer Commission funded a small national survey in October 1973, repeating the questions of the Treasury study and adding some questions to cover gifts of time and money, itemization and changes in itemization, and the perceived effects of the latter (Roistacher, Morgan, and Juster 1974).

When asked general reasons for recent past changes in giving, almost no one mentioned tax considerations. Among the families who had stopped itemizing, only 7.5 percent said that the change had affected the amount they contributed to charity. On the other hand, just as in the larger study reported here, many (43 percent) felt that people in general would give less without the tax incentive of deductibility, and a substantial minority (26 percent) felt that people like them (in the same financial situation) would give less. At incomes of \$25,000 and more, nearly half of the respondents felt that families in financial situations like theirs would give less without deductibility.

The October 1973 data on actual giving also showed substantial effects of tax deductibility (itemization). Once again the effect was greatest on whether the family gave at all; but among the givers, itemizers also gave more. Adjustments for spurious correlation through age and income differences between itemizers and nonitemizers (and nonfilers) reduced the apparent effects but did not erase them. Additional adjustments for differences in education, family size, occupation, race, homeownership, and marital status reduced the differences to the borderline of significance, but such adjustments involve overcorrection. In any case, the remaining differences still indicated that itemization was associated with greater giving.

These data also indicated what we found in the 1974 study—that itemizers also give more time. This would indicate that time and money go together since gifts of time are “tax-exempt” regardless of itemization status. That is, if one had spent the time to earn money and given the money, the result would have been the same as giving time, provided the money gift could have been itemized. Actually, itemizing was mostly associated with whether time was given at all rather than with the amount given.

None of those other studies asked much detail about giving, about information about tax laws, or about the giving of both money and time (in the same interview). Also, none of them provided an adequate sample of upper-income families. Indeed, the 1960 Survey Research Center study oversampled the lower end of the income distribution because of its interest in poverty. In an earlier study made before recent legal changes, we found that even the affluent lacked information about marginal tax

rates and made only infrequent gifts of appreciated assets (Barlow, Brazer, and Morgan 1966).

A lot of research has been done on altruism using experiments or studies of organized groups and there is a good deal of historical discussion of the development of philanthropy in the United States (Lenrow 1965; Macaulay and Berkowitz 1970). One of the founders of the Society for the Study of the Grants Economy, Kenneth Boulding, has recently attempted to develop a theoretical structure within economics to handle philanthropy and other transfers, as well as coercive redistributions by war, taxes, robbery, and extortion (Boulding 1973). However, no neat equilibrium or set of maximization rules can handle factors such as gifts, taxes, theft, and war. Nor did this study attempt one. Our purpose was to find out who gives what to whom and to add several kinds of evidence as to why they give.

Studies have been made of voluntarism, but the only national sample surveys of volunteer time in addition to *Productive Americans* were two that were done by the United States Census Bureau, the first in 1965 for the Department of Labor and the second in 1974 for ACTION (U.S. Department of Labor 1969; ACTION 1975; Wolozin 1975) and there have been some recent economic discussions of voluntarism (Becker 1976; Weisbrod 1977; Alchian 1973; Phelps 1975).

Even though sample surveys are more useful for providing data helpful in understanding who gives what to whom and why than for estimating amounts, it is interesting to note that the aggregates derived from the survey covering 1973 totaled \$26 billion in philanthropic contributions and nearly six billion hours of volunteer time. Valued at estimated opportunity cost for individuals (by gender and education and age), that volunteer time came to \$19 billion for husbands and single household heads, and another \$10 billion for wives, totaling more than the money given.¹ In addition, wives who did volunteer work reported an additional \$760 million in out-of-pocket costs. Aggregates of skewed distributions from sample surveys are of course crude (and made more so by possible response variance) but it seems clear that private philanthropy is substantial, even relative to public transfers, and that at any reasonable valuation, the time given is as important as the money given.

6.3 Private Interfamily Transfers

Time spent helping friends, neighbors, and relatives on an individual basis was also reported in this study, and a crude estimate of about 83 hours per family for 69 million families comes to more than 7 billion hours. At the same average value per hour calculated above for volunteer time, this time would be valued at \$42 billion, though this may be an

exaggeration since much of the help was manual labor. These time transfers were reported at all income levels, however.

In our economic surveys we frequently ask about money transfers to individuals to estimate the number of outside dependents affecting income taxes. About 11 percent of families report such out-transfers, but only 4 percent provide more than half of anyone's support, and fewer than 2 percent provide more than half the support for more than one person. If we take the 1980 13th wave of the Panel Study of Income Dynamics reporting on 1979 and the 1974 study of philanthropy in 1973, we can derive the crude estimates, using 1979 prices and 1979 population, in table 6.1. Table 6.1 also uses a 1965 estimate of time spent helping individuals or in volunteer work for organizations and a 1960 estimate of contributions to derive 1979 aggregates, allowing for expansion in population and price levels (Morgan, Sirageldin, and Baerwaldt 1966; Morgan et al. 1962).

Of course, other aggregate sources of information on the main institutional and government transfers are available. Our purpose is neither to estimate aggregates nor to compare survey data with other sources, but rather to put the dollar amounts in perspective with the nonmoney transfers of time or services. The survey data are likely to underreport government transfers received more than they underreport time or money given, and the valuation of the time given is difficult. But the numbers in table 6.1 indicate substantial private transfers ignored in the national accounts. The parenthetical dollar estimates were opportunity cost estimates in 1973 and an arbitrary \$6 an hour in 1979.

Returning to our behavioral model, individuals can also make transfers to relatives by doubling up and providing housing and other goods and services directly and probably more efficiently, but at some emotional cost. Clearly people prefer to live in "nuclear families," and, in particular, one person in the kitchen is seen as optimal (Morgan et al. 1962, chap. 14). The nation has seen a long period of undoubling of households since the end of World War II, facilitated, many believe, by the increasing adequacy of the incomes of older people as Social Security benefits improved. At present, fewer than 10 percent of families provide housing for others who are not their young children, and it is most commonly large nuclear families of seven or more who also house other relatives. Between 1970 and 1980 the percentage of those aged 65-74 living as guests in others' households has decreased from 10.4 to 6.9 percent; for those aged 75 or older, the decrease was from 19.5 to 13.9 percent. On the other hand, money contributions to others come largely from families where the taxable income of the head and wife is greater than \$25,000, implying that affluent families send money to needy relatives, while less affluent, larger, families invite them to share their home. In our early

Table 6.1 Annual Giving of Time and Money—Some Crude Aggregates

	Per Family		Aggregates (billions)		Aggregates (billions) ^a	
	1973 Hours	1973 Dollars	1973 Hours	1973 Dollars	1979 Hours	1979 Dollars
1974 Study of Philanthropy in 1973						
Money philanthropy	—	\$459	—	\$25.7	—	\$63.0
Time to organizations						
Husband or single head	47	—	3.2	(19)	—	—
Wife (48 million wives)	55	—	2.7	(10)	7.2	(43.2)
Per household	85	—	5.9	(20)	—	—
Time helping individuals	83	—	5.7	(28)	7.0	(42.0)
1979 Dollars						
1980 13th Wave Panel Study						
Out						
Spent helping relatives		\$293.75				\$24.9
Interfamily						
Alimony		9.29				0.8
Child support		—				0.8
Help from relatives		46.07				3.9
Contributory—government						
Unemployment comp.		59.51				5.0
Workers comp.		30.73				2.6
Social Security		844.54				71.5
Contributory—nongovernment						
Pensions		530.68				44.9
Other						
Head		80.57				6.8
Wife		83.20				7.0
Total transfers head and wife ^b		1924.72				163.02
Total transfers others		138.80				11.76
1965 Productive Americans						
Time spent helping organizations or individuals	87				7.37	(44.2)
1959 Dollars						
1960 Income and Welfare in the U.S.						
Contributions to individuals and institutions, including alimony, gifts in kind		\$315				66.4

^a84.7 million families in 1979. Inflation 1959–79 = $\times 2.48$; 1973–79 = $\times 1.62$.

^bDoes not include alimony.

study of income distribution, *Income and Welfare in the United States*, we actually divided families into “adult units” consisting only of those married to each other plus their children (Morgan et al. 1962). For purposes of examining inequality or studying factors affecting doubling up this may still be necessary, but for purposes of estimating transfers, as we shall see, we can deal with families as they live together and estimate the intrafamily transfers.

Some people, about 5 percent of households, live rent-free. Much of the free rent is probably a transfer, but some may reflect a nonmoney income, as when the building engineer lives free in the building.

6.4 Emergency Help—Time and Money

Regular interfamily transfers are not common, nor large, but a natural question arises: Is the insurance value of commitments to provide emergency help in the form of time or money important? While we cannot answer that question in aggregate dollar or hour terms, we do have information from the 1980 13th wave of the Panel Study of Income Dynamics, based on a series of questions about emergency help, actual and potential, in time and money, given and received, to or from friends or relatives, nearby or far away.²

Since emergencies may not come every year, respondents were asked about actual help in the last five years. Given the known tendency for people to include some previous year’s activity in reports on a single previous year, we should also avoid exaggeration this way, but we also might have some understatement from memory losses, particularly of help received. In fact, whether it is better or not, it is *easier* to remember giving than receiving: 15 percent reported getting help in the form of time, but 28 percent reporting giving it. Twenty-two percent reported getting emergency help in the form of money, but 29 percent reported giving it.

The real bias could be smaller than these figures indicate, of course, since a single family could get help from more than one other family. Since more help goes from parents to children than the reverse, and most parents have more than one child, multiple giving could actually be more common than multiple receiving, resulting in more receivers than givers. On the other hand, couples have two sets of parents from whom to receive help.

At any rate, a substantial minority reported giving or receiving emergency help, and some of the financial help was seen as a gift rather than as a loan. Perceived availability of help was even more common: two-thirds said they could get “several hundred dollars” or more, mostly from parents or siblings, mostly as a loan. Eight in ten said they could call on friends or relatives nearby to “spend a lot of time helping out” in a serious emergency, in two-thirds of the cases with no obligation to repay

in some way. If those persons were not available for help, the vast majority said there would be someone else. More than 70 percent said that they could get emergency help from someone who did not live nearby. We have not attempted to estimate probabilities, average amounts, or economic values (net of expected repayments), but there clearly is real sharing in society today. The growth of public transfer systems has not supplanted all of the old private altruism or extended family responsibilities.

The age patterns are interesting and important to note, since we shall find strong age patterns in intrafamily transfers too. The young benefit largely from interfamily emergency help in time and money, and the older-middle-aged but not retired largely provide it (see table 6.2).

6.5 Intrafamily Transfers

We turn now to our third concern, the area where the role of time and other nonmoney transfers becomes most important: transfers inside the family living together. At this point we leave the behavioral model of decisions about who lives with whom and who supports others outside the household, and move to a model where accounting is more important as we attempt to attribute the income and the consumption of the family to individual family members. The difference between them is the net transfer of the individual to or from the family he or she lives with.

We start with the components of a more comprehensive estimate of total family income, then (a) allocate it to the individuals who earned it or account for its presence, and (b) estimate for each individual what fraction of the total is of benefit to that person. The first step requires including nonmoney components of income, and the second step involves estimating the different needs of individuals of different age and gender. We do not have to deal with economies of scale from living together because it is the average, not the marginal, benefit we estimate.³

We have a considerable amount of detail on money income in the 1980

Table 6.2 Percent Reporting Giving or Getting Emergency Time or Money Help in the Last Five Years, by Age (6533 family heads reporting in 1980)

Age	Gave \$	Gave Time	Got \$	Got Time
18-24	22%	29%	38%	14%
25-34	28	28	35	18
35-44	28	29	19	12
45-54	35	30	17	12
55-64	38	32	7	11
65-74	28	28	5	15
75+	18	19	4	22

Panel Study. We use the net equity in any owned home for estimating imputed rent, and the hours spent on housework and child care for estimating time contributions other than those involved in earning money for the family. In 1979 we asked about other unpaid productive activities—repairing the house or car; growing and preserving food—but did not attempt to divide the hours spent between family members. For those interested in the informal economy, unaccounted for in National Income, people's reports of amounts saved by such work per household in 1978 were \$118 for work on the car, \$327 for work on the house, and \$62 for growing or preserving food. It was mostly the young who worked on cars, the middle-aged on houses, and the older people who grew food (Morgan 1981).

The total real income of the family that must be allocated to individuals can be accounted for and classified as follows:

1. Labor income
2. Other taxable income
 - Asset income—rent, interest, dividends, etc.
 - Alimony
3. Other earned income (nontaxable)
 - Child support received
 - Imputed rent (5 percent of net equity, to approximate)
4. Contributory transfers
 - Social Security
 - Private pensions
 - Unemployment compensation
 - Worker's compensation
5. Noncontributory transfers
 - Aid to Families with Dependent Children
 - Supplemental Security Income
 - Other welfare
 - Value of food stamp subsidy
 - Value of heating subsidy
6. Value of time spend on housework and child care

The sequence of questions that elicit this information asks more detail about husband and wife than about other family members. The aggregate income components of "others" (other than head and wife) are coded with assignments of missing information at the family level, but coded for each individual only as taxable or transfer income, with an indication of whether the taxable income was labor, asset income, or both, and the main source of transfers. Appendix B gives the procedures we used for allocating income to individual family members. The most important policy we adopted was to pool and split the asset, contributory transfer, and imputed rental income evenly between husband and wife on the grounds that they contributed equally to it or at least that we do not know

the actual contributions of each. Their noncontributory transfer incomes were attributed to family members in the same way that consumption was allocated, neutralizing any "redistribution" of such income.

A variety of estimates of the value of imputed rent are possible. If one believed Irving Fisher, one might argue for 2 or 3 percent as the real return on the net equity, the rest being capital gains eroded by inflation. At the other extreme one might argue for 13 percent, the 10 percent annual increase in the house prices in this period plus a 3 percent net rental income, earned and consumed by the owner. Of course, the real cost and hence net rental income of a house depends on the family's tax bracket and how much mortgage interest it can deduct (Duncan and Morgan 1980). We settled for 5 percent of the net equity, a compromise.

The major problem in estimating intrafamily transfers, however, is how to value the time people contribute. Even the time spent working for money, it might be argued, should be valued somewhat differently from wages, to allow for income taxes and a certain disparity between wages and real contribution arising from "dual labor markets" or other market imperfections (e.g., immobile workers). Housework time is even more difficult, since using "opportunity cost" estimated as hourly earnings of people of similar age, gender, and education involves two possible selection biases arising from people's decisions about working for money and about having children and doing a lot of housework. So before using even a compromise estimate, we look separately at intrafamily transfers of money and of housework time.

This procedure involves some difficult decisions. We can assume that the family money income is consumed roughly in proportion to the food needs of individuals by age and gender (see appendix B for details), but what about time? We have bravely assumed that the benefits of housework time are proportional in the same way, which probably underestimates the benefits to children, who need *more* attention. A not-quite-appropriate bit of evidence is the impact of changing family composition on housework hours, which estimates the *marginal* cost of family members. Table 6.3 shows one set of estimates based on changes from 1975 to 1979, although they are not adjusted for economies of scale, and another set based on 1979 static (long-term?) interfamily differences.

At any rate, if we credit each individual with the housework hours provided and deduct an estimated "consumption" of a fraction of the total housework benefits, we have the net time contributions by age and gender of figure 6.1. It is no surprise, of course, that women are the contributors of such time, and men the beneficiaries. By comparison, if we take the money income (including imputed rent, asset income, and money transfers) and for each individual deduct from his/her contribution his/her estimated consumption of the money's benefits, we have the patterns of figure 6.2. Only in the 35–44 age group, when there are

Table 6.3 Effects of Family Members on Level and Change in Time Costs (Housework) and Food Costs—Regression Coefficients (for 4730 families with the same head or wife 1975–80)

Gender and Age	Our Scale	Regression Coefficients			
		1975–79 Change in ^a		1979 Level of ^b	
		House-work	Food Con-sumption	House-work	Food Con-sumption
Children 1–2	.286	341** (38)	96* (47)	356** (45)	91 (65)
3–5	.571	147** (34)	121** (41)	213** (39)	305** (56)
6–13	.857	267** (24)	273** (29)	304** (20)	607** (28)
Girls 14–17	1.000	318** (35)	340** (43)	388** (39)	768** (56)
Boys 14–17	1.000	296** (34)	456** (41)	310** (39)	819** (56)
Females 18–20	1.000	160** (50)	448** (60)	290** (57)	866** (81)
Males 18–20	1.000	176** (49)	369** (59)	113* (54)	593** (76)
Females 21–29	1.000	140* (70)	678** (85)	170* (75)	677** (107)
Males 21–29	1.000	35 (58)	579** (70)	270** (58)	672** (82)
Adults 30+	1.000	421** (38)	731** (46)	826** (29)	841** (41)

^aRegressing change on change in numbers of family members of each type, controlling also for income component changes.

^bRegressing level on number of family members of each type, controlling also for overall income/needs.

*Significant at $p < .05$.

**Significant at $p < .01$.

children to benefit too, do women contribute more dollars than their estimated consumption of dollar benefits. We assume, of course, that even dollars saved or used to pay taxes benefit individuals in the family in roughly the same proportions as the dollars spent for living costs.

Another way to compare men and women is to compare their total hours spent in earning money, commuting, or doing housework. Figure 6.3 shows that over most of the life course, things are pretty even in those dimensions. Only when the men retire and the women still do most of the housework does a discrepancy appear. It should be said that we truncated the reports on housework hours at 6000 hours per person per year, which is more than 16 hours, every day.

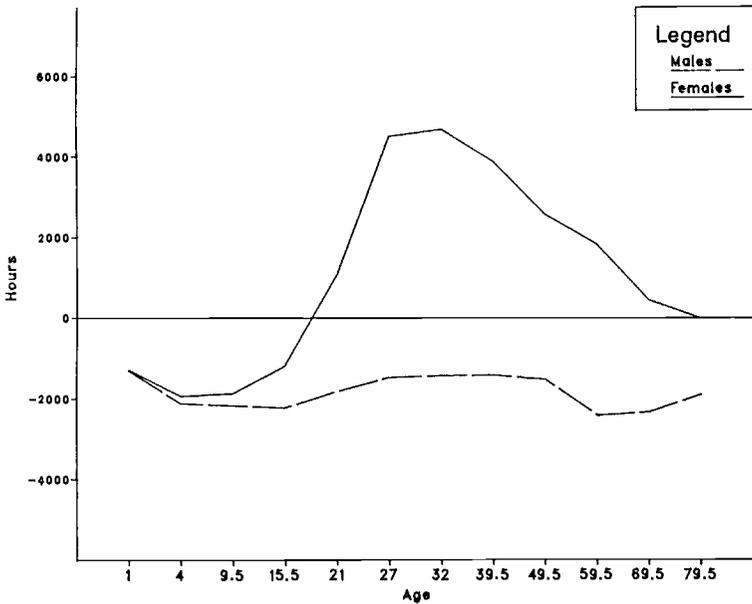


Fig. 6.1 1979 intrafamily transfers of time (housework)—net contributions of males and females, by age. (truncated at 6000 hours/person, scaled at \$6/hour)

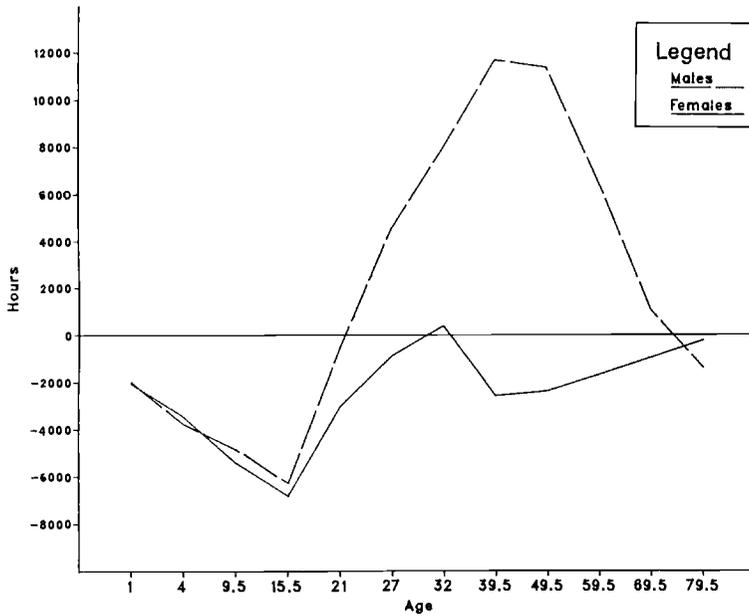


Fig. 6.2 1979 net contribution of \$ income to family for males and females, by age, for 18,920 sample and nonsample individuals in 1980 (includes transfers, asset income, imputed rent)

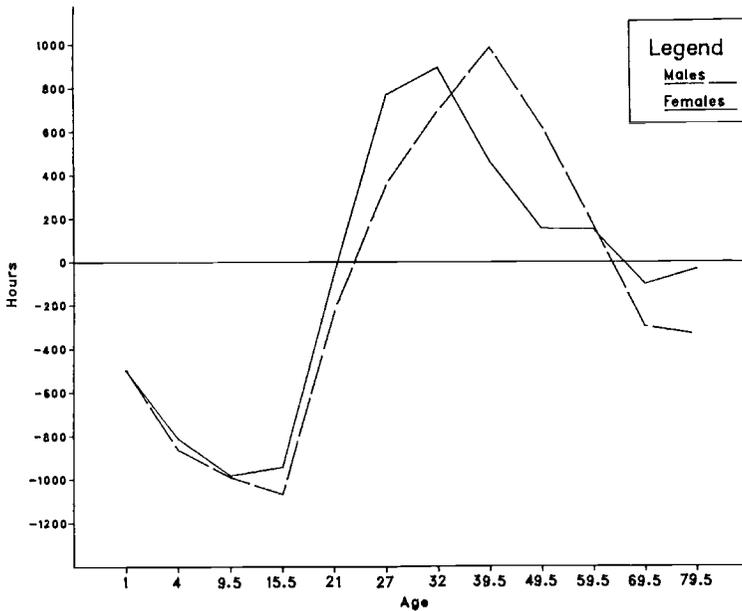


Fig. 6.3 Net contribution of hours to family for males and females, by age, for 18,920 sample and nonsample individuals in 1980 (money work, commuting, housework, consumption of time allocated like consumption of family income)

In estimating the aggregate amount of intrafamily transfers, we cannot of course keep time and money separate. To do so would exaggerate the total amount of transfers—failing to balance money transfers from husband to wife by time transfers the other way. Hence we are driven to estimate the dollar value of housework, however arbitrarily. We settled on \$6 an hour, with no distinction between men and women or between education levels, although it is entirely possible to experiment with a variety of assigned values. Figure 6.4 shows the age-gender patterns when we value housework at \$6 an hour. We have selected a level at which some net transfer from men to women occurs during the men's peak earning years, and from women to men later on. The average hourly earnings of working wives in 1979 was \$5.40, that of all household heads was \$8.09, and that of female heads somewhere between. Table 6.4 reports some aggregate estimates from 1970, for 1976 and for 1979 from the Panel Study of Income Dynamics, which are similar to those presented in this study, except that two values of housework time are used in 1976, \$5/hour and an opportunity cost wage corrected for selection bias, and in 1970 opportunity cost and a market cost estimate for housework were used (Baerwaldt and Morgan 1973; Morgan 1978).

Table 6.A.1 in appendix B gives the housework data separately at \$6/hour, allowing different values for different age and sex groups to be

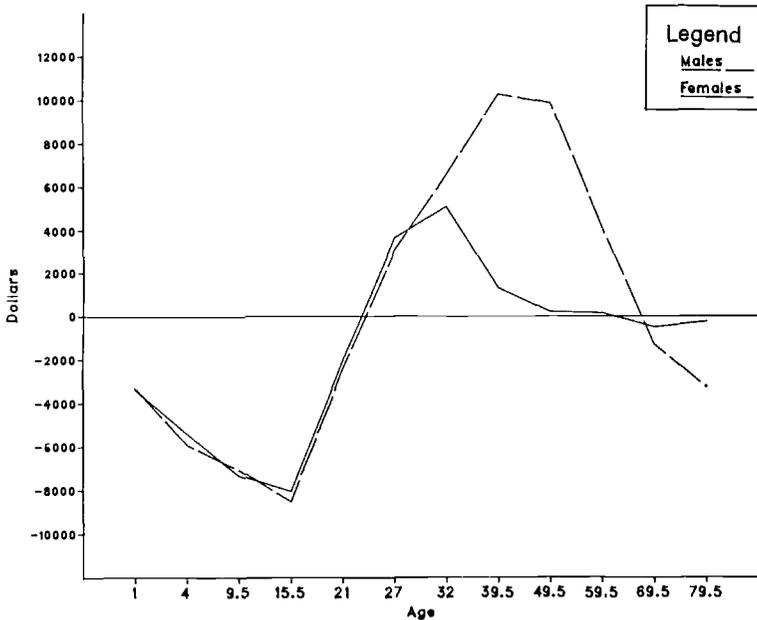


Fig. 6.4 1979 average net contribution to the family living together, by age and sex (counting housework and child care at \$6/hour)

used and the implications spelled out at least for subgroup average net contributions. Given the limitations on available extra work, and on available paid day care, opportunity cost estimates have problems too. On the other hand, it is credible that people do housework and child care believing it is better than what they might pay for.

6.6 Estimating Aggregate Intrafamily Transfers

In the NIPA the flows of money that go to people who did not currently earn it are also called transfer incomes. National income accounting for family transfers should count only the aggregate of the net subsidies received, or the aggregate of the net contributions made, but not both since that would count a dollar transfer twice—once when contributed, once when received. On the other hand, averaging to obtain the net contributions of a group can eliminate offsetting amounts completely. Indeed, except for errors and rounding, the overall average net contribution for the whole population should be zero. If we ignore the sign, add up the contributions and subsidies, and divide by two, we have the amount of transfer flow for either a group or for the whole sample. Table 6.A.1 in appendix B gives such average estimates for the subgroups by age and

Table 6.4 Intrafamily Transfers—Some Rough Aggregates (assuming 225 million individuals in 1979)

	1979 Estimates (using 18,930 individuals)		Aggregates (billions)	
	Average Per Person	Hours	Hours	Dollars
Absolute average \$ transfer	\$5396	—		\$607
Absolute housework—				
child care time transfer	440	49.50		297
Absolute total time (hours)	757	85.16		511
Combined average absolute net transfer allowing housework—child care at \$6/hr.	6180	—		695

A Comparison of Estimates^a

Housework Valued At:	1970		1976		1979
	Market Cost ^b	Oppor- tunity Cost ^c	Oppor- tunity Cost ^d	\$5	\$6
Intrafamily transfers	313	398	528	552	695
Gross national product	982	982	1516	1516	2400
Ratio TR/GNP	327	41	35	36	29

^aIn current dollars and populations. See Baerwaldt and Morgan (1973) and Morgan (1978) for earlier data.

^b\$1.50–2.50 depending on region and city size.

^c\$1.67–4.32 depending on marital status, education, and city size.

^dComplex estimate allowing for selection bias (see Morgan 1978).

sex, but a more important estimate is the aggregate amount of intrafamily transfer in comparison with the transfers in the national accounts.

Estimating aggregates from a sample is best done by estimating an average per person and then multiplying by an outside, more precise, estimate of the aggregate number of persons. Estimating averages in our sample necessitated using weights to take account of different sampling and response rates, and all the data we have given are so weighted. Some of the individuals were not sample members, yet we had to include them to balance out the families we studied for this purpose. They were given the same weights as the other family members. Actually, weights used in estimating a weighted average of 18,920 cases will make very little difference. Other sources of variation plus conceptual and measurement problems are probably more serious. In fact, omitting nonsample members

and using individual weights resulted in 15,317 cases and an average absolute net transfer of \$6204 rather than the \$6180 of table 6.4.

The results given in table 6.4, assuming 1979 prices and a 1979 population of 225 million, are an aggregate intrafamily transfer of \$695 billion. If we look at dollars and time separately, we have \$607 billion in dollar transfers, and nearly 50 billion hours of housework transfers, which at \$6 is nearly \$300 billion.

The implication remains as we stated it some years ago—we have not “socialized” the responsibility for dependent members of society as far as we might think; families remain responsible for most of the burden. The implications of continued sluffing off of responsibility for each other could be a huge increase in the government or institutional transfers to replace the private interfamily and intrafamily transfers. The marketizing or monetarizing of child care will quite likely continue, decreasing intrafamily transfers. In so far as people already pay for child care, the housework hours in our estimates have already been reduced.

Whatever the measurement and conceptual problems, time and its productive use in unpaid ways are clearly important in assessing the amount of transfers taking place. The valuation of that time and the expectations about it underlie much of the discussion of equity between men and women.

6.7 Time in the Assessment of the Results of Transfers

The other side of the coin is that the time-use that produces real income, often for the benefit of others in a family, also affects the well-being of people by reducing their leisure. And even if we despair of estimating the reallocation of resources within the family, we need to know how much time is being devoted to paid and unpaid productive activities by family members if we are to assess their level of well-being and discuss the distribution of “income” in its most meaningful sense.

Perhaps the simplest way to start is to think of family well-being as resulting from two main components: its control over resources relative to its needs, and its time remaining to enjoy those resources after the work it takes to get them. If there is some indifference curve relating leisure and things, or some revealed preference, then there must also be a *ophelimité* function (to use Pareto’s term). If we assume this function is similar to a production function with labor and capital, then the question is: What are appropriate exponents to the two terms, income/needs and leisure/adult?

Much discussion of the problem of comparing single-earner and two-earner families implies this issue without coming to grips with it. And the discussions of families with and without children tend to focus on the

greater needs, but not on the greater unpaid but productive use of time in housework and childcare.

An initial bit of empirical evidence of the importance of taking account of differences in need and in leisure (or its other face, productive time use) is given in table 6.5. The positive correlation between income and needs implies that using income alone exaggerates the amount of inequality (high-income families tend to be larger and need more income). The high correlation between income and total work hours (paid and unpaid) implies that income alone also exaggerates inequality by ignoring the amount of effort provided by high-income families and the lower amount of time they have left to enjoy their income.

We also looked at the correlations of *change* to see whether changes in well-being were badly measured by changes in income because of correlated changes in needs or in leisure time. Again the correlations are sufficiently large to indicate systematic bias. (Even if the correlations were low, the measurement variance would remain a problem, perhaps made worse because no systematic correction would be possible.)

One more bit of empirical evidence relates to the question of whether the pattern of correlations among the components of well-being is uniform in the population. If the correlations were linear and uniform across population subgroups, then the proper weighting of components would not matter much. But as table 6.6 shows, the relationships vary among subgroups. Among middle-aged couples, accounting for leisure makes very little difference since everyone is working hard, and needs vary less and are only mildly correlated with income. The age extremes are where the disparities among the components of well-being make the use of income alone such a bad measure of well-being and of inequality. This is particularly true for families with no wife present.

Table 6.5 Some Static and Dynamic Correlations Relevant to Differences among Different Measures of Well-Being (for 5501 individuals who were head or wife in 1976 and in 1980, in families with the same head and wife 1975–80)

Correlations of 1979 data:	
Total family income and family needs	.239
Total family income and total work hours ^a	.369
Family needs and family work hours	.672
Correlations of change 1975–79	
Change in income and change in needs	.060
Change in income and change in total work hours ^a	.240
Change in needs and change in work hours	.184

^aWork hours include paid work of head, wife, and others; commuting of head and wife; and housework by head, wife, or others. Needs not adjusted for inflation, so no spurious inflation-trend correlation.

Table 6.6 Intercorrelations and Relative Variances of Components of Well-Being by Life-Cycle Groups

	Correlations			Relative Variability (standard deviation/mean)			
	Needs with In- come	Leisure with In- come	Leisure with Income/ Needs	In- come	Lei- sure	Income/ Needs	
All	.22	-.24	-.18	.24	.34	.25	.74
Single (no wife present)	.52	-.43	-.35	.37	.46	.31	.94
Under 30	.77	-.31	-.38	.44	.47	.26	.93
30 or older	.43	-.47	-.35	.34	.46	.33	.93
30-59	.10	-.21	-.21	.28	.38	.33	.91
60 or older	.82	-.74	-.57	.50	.66	.33	.98
Married	.15	-.20	-.13	.23	.33	.23	.70
Under 30	.12	-.23	-.25	.16	.18	.21	.52
30 or older	.15	-.19	-.11	.23	.33	.23	.73
30-59	.16	-.19	-.11	.21	.32	.22	.69
60 or older	.13	-.20	-.12	.24	.41	.28	.99

Is there any way to estimate what the exponents of the leisure and income/needs components of a utility function should be? One traditional approach is to infer the shape of an indirect utility function from a labor supply function. In fact, there would have to be two related labor supply functions for husband and wife. So far most such work has assumed a one-worker family and ended up with a utility function based on the main earner's wage rate and all other family income. It is difficult to be enthusiastic about an estimate of family well-being that treats the wife's earnings as exogenous.

Until we can come up with some more convincing empirical, revealed-preference estimate of the family utility function, it might be useful to look briefly at the implications of reasonable if arbitrary well-being functions that take account of income/needs and leisure/adult. Actually these functions have to do more than assign exponents, they also have to deal with economies of scale in the creation of a family "needs" standard to take account of family composition. The needs standard we have been using is the official, federal basis of poverty estimates. It starts with an estimate of food needs for each family member according to age and gender, applies an economy-of-scale correction for total family food costs, multiplies by three to expand to all costs, and applies another economy-of-scale correction. Corrections are also applied for farmers and for single, older people.

The 1981 poverty standard was roughly \$2500 plus \$1250 per person, so that a family with two children would "need" \$7500 if they stayed

together, but if each parent took one child, forming two-person families, each would “need” \$5000, for a total of \$10,000. Hence any income maintenance scheme based on that definition of need would imply substantial attempts to recapture economies of scale and substantial incentives to split.

The importance of the “needs” formula lies in its common use in setting income maintenance standards. Put simply, income maintenance programs attempt to recapture some of the economies of scale of living together, at the cost of providing incentives for families to split up.

Similarly, ignoring work and leisure in a well-being or poverty needs measure also has implications for incentives, both to double or undouble and to work. Particularly if “credit” is given for child care in assessing well-being, taxes and income maintenance payments based on such an expanded measure are more likely to approximate neutrality with respect to individual decisions about work and living together.

One way to see the relevance of an expanded definition of well-being is to define a reasonable one, assume an income maintenance and tax program based on it rather than dollar income, and assess the impact of individual decisions about working and about changing family composition on people’s well-being. We provide an example in appendix C.

Not only can a better definition of well-being, justified as a better measurement, be less distorting of people’s work, marriage, and child-bearing choices, but, since it provides larger income maintenance for people who are working more, it is also more likely to be politically acceptable. Allowing for child-care time gives more to mothers, but since they get “credit” for either child-care time or market-work time, some neutrality is still preserved with respect to fertility decisions.

One can think, then, of searching for a measure of well-being, and a taxation and income maintenance policy based on it, that would be as undistorting as possible of work and family decisions. No easy definition of “neutrality” exists, but perhaps we can recognize and avoid unduly large, potentially distorting effects.

6.8 Summary and Conclusions

We have examined several ways in which time and its use are important. In the area of private philanthropy, the value of time devoted to helping institutions or other individuals is at least as great as the money given. A whole range of interesting research projects awaits enthusiasts of selection bias to estimate the value of that time.

There is also emergency time and money help, on which we have relative frequency but no real quantitative measurement. Measurement here must deal with the expected value or insurance value of such rights to help, as well as the value of the time component.

Inside the family living together, money flows are unmeasurable, but we can look at the contributions of money and time each individual makes, including housework and child-care time. Once we agree on how to estimate each member's benefit from the family, we can estimate net benefit (plus or minus), particularly by age and sex. At any reasonable assumption about the value of housework time and the division of benefits, the amount of intrafamily transfers is much larger than the \$230 billion of transfer payments in the national accounts. The implications for explosion of transfer payments if private responsibility continues to diminish are obvious.

Finally, the level and distribution of well-being and its rate of improvement over time, as well as policy about redistribution, also require dealing with transfers and with time. We suggest the need for a standard definition that takes account of money and nonmoney transfers as both a measure of well-being and a criterion for taxation and income maintenance programs. An illustrative example suggests that better definitions are less likely to have distorting effects on people's decisions about work, having children, and who lives with whom (doubling up).

Appendix A *Questions Asked in the 1980 (13th Wave of the Panel Study of Income Dynamics on Interfamily Emergency Help Patterns*

K66. Last year did you help support anyone who doesn't live here with you now?

1. YES

5. NO → GO TO K71

K67. How many? _____

K68. How much money did that amount to in the last year?
\$ _____ IN 1979

K69. Were any of these people dependent on you for more than half of their total support?

1. YES

5. NO → GO TO K71

K70. How many? _____

K71. People sometimes have emergencies and need help from others—either time or money. Let's start by talking about time. In the last five years have you (or anyone living with you) spent a lot of time helping either a relative or friend in an emergency?

1. YES

5. NO → GO TO K74

K72. Was the person you helped a relative of (yours/anybody who lives here)?

1. YES

5. NO

K73. What kind of help was that? _____

K74. Suppose there were a serious emergency in your household. Is there a friend or relative living nearby whom you could call on to spend *a lot of time* helping out?

1. YES

3. DEPENDS

5. NO

8. DON'T KNOW

GO TO K80

K75. Would that be a relative?

1. YES

5. NO → GO TO K77

K76. What is that person's relationship to you?

K77. How much would that person mind spending time helping you out—a lot, a little bit, or not at all?

1. A LOT

3. A LITTLE BIT

5. NOT AT ALL

8. DON'T KNOW

K78. Would you feel you had to repay that person in some way?

1. YES

5. NO

8. DON'T KNOW

K79. If that person were not available, is there someone else you could call on?

1. YES

5. NO

8. DON'T KNOW

K80. Do you have a relative or friend who *doesn't* live near you who could come to help you in an emergency?

1. YES

5. NO → GO TO K83



K81. Is that person a relative?

1. YES

5. NO → GO TO K83



K82. What is that person's relationship to you?

K83. In the last five years has either a friend or a relative spent *a lot of time* helping you in an emergency?

1. YES

5. NO → GO TO K85



K84. What kind of help did you receive? (Did you receive any other kind(s) of help?)

K85. We've talked about time, now let's talk about money. Do you have any savings such as a checking or savings account, or government bonds?

1. YES

5. NO → GO TO K88



K86. Would they amount to as much as two months' income or more?

1. YES

5. NO → GO TO K88



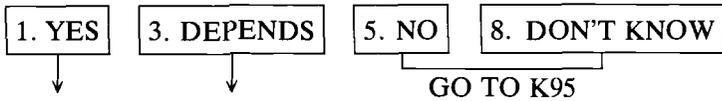
K87. Would they amount to as much as a year's income or more?



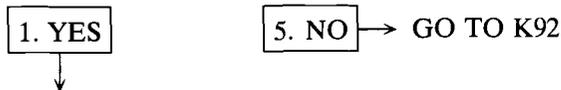
K88. Was there a time in the last five years when you had as much as two months' income saved up?



K89. Suppose in an emergency you needed several hundred dollars more than you had available or could borrow from an institution. Would you ask either a friend or a relative for it?

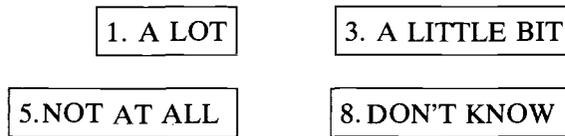


K90. Is the person you would ask a relative?

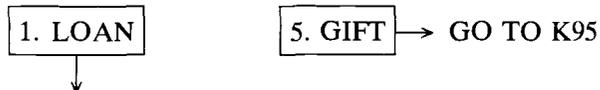


K91. What is that person's relationship to you?

K92. How much would that person mind helping you out with money—a lot, a little bit, or not at all?



K93. Would this money be a loan or a gift?



K94. Would you expect to pay interest on it?



K95. In the last five years have you received any amount such as several hundred dollars from either a friend or relative?

1. YES

5. NO → GO TO K98



K96. Was it a loan or a gift?

1. LOAN

5. GIFT → GO TO K98



K97. Did you pay interest on it?

1. YES

5. NO

K98. In the last five years have you helped out either a friend or a relative in an emergency by giving or loaning them several hundred dollars or more?

1. YES

5. NO → GO TO K103



K99. Was the person you helped a relative?

1. YES

5. NO → GO TO K101



K100. What is that person's relationship to you?

K101. Was that a loan or a gift?

1. LOAN

5. GIFT → GO TO K103



K102. Did (he/she) pay interest on it?

1. YES

5. NO

K103. Prices and costs have been rising generally—are there some particular increases that have hit you especially hard?

1. YES

5. NO

K104. What are they? _____

K105. Have you been able to do anything about it?

1. YES

5. NO

K106. What have you done? _____

Appendix B *Estimation of Intrafamily Transfers*

Assumptions must be made about the benefit allocation of the family income to its members and about allocation of some income components as to who contributed them. A realistic estimate also requires inclusion of the major nonmoney components of income. We start by defining a more global concept of income consisting of:

Total family money income (before taxes)

Imputed return (at 5 percent) on net equity in the house—free rent

Value of housing received free for those who neither own nor rent

Value of food stamp subsidy

Government subsidy of heating costs

Value of housework hours (at \$6 in 1979)

The individual benefits from the family income are assumed with everyone 14 or older counting as one, those 6–13 counting .857, those 3–5 counting .571, and those under 3 counting .286; the sum of these equivalent adult numbers being the base. Thus, an only child aged 4 is assumed to benefit from $.571/2.714$ of the family income. This implicitly assumes that taxes paid out of income purchase a benefit too.

As for the contribution attributed to individuals, we can identify the earnings of the wife, and the wages, bonus, professional practice, and market gardening labor income of the husband. All taxable income of the head and wife beyond that is divided equally between them, it being mostly asset income from assets that they presumably both helped accumulate. Imputed rent is also allocated 50/50 between husband and

wife. The transfer income of head and wife from contributory transfers—Social Security, retirement, unemployment, worker's compensation, child support—is also divided equally between them. Noncontributory transfers of head and wife are divided among the whole family in the same proportions as their estimated share of the consumption of income.

That leaves the income of "others," which appears in each individual's record in two parts: taxable income and transfer income. For the detail in the tables, other individuals' transfer income is considered to be part of their income from "contributory transfers or assets" if it is reported to be from Social Security, retirement pay, unemployment compensation, worker's compensation, or child support, otherwise to be income from noncontributory transfers. Notice that noncontributory transfers are attributed to the individual, even though such transfers to head or wife are allocated as a "contribution" by all family members. Taxable income of these other individuals is allocated between labor income and "asset income or contributory transfers" according to a code that distinguishes those whose taxable income was only labor income, only asset income, or both, with the "both" cases being assigned half-labor and half-asset income.

Our estimates of the family total income come from worksheets that lump the individuals other than the head and wife, but the contributions attributed to those other individuals come from individual records that contain the two figures for taxable and transfer income of that individual. This probably explains why the total net contribution across all family members does not come out to be zero, but the orders of magnitude of the components are reasonable, and it is the age and gender patterns we are concerned with.

To have complete families, we had to retain nonsample individuals, which means that the weighting is not precise. Rather than give nonsample individuals zero weights, we used the family weight for all family members. The effect on the overall average net or absolute contribution is very small.

Table 6.A.1 Average Gross and Net Contributions to Family, 1979 (for 18,920 sample and nonsample individuals)

Age	House- work × \$6	Total Contribution \$ + Hours of Housework at \$6		Total Hours Work + Commuting + Housework		Net Contribution	
		Gross	Net	Gross	Net	\$	Housework at \$6
Men							
0-2	\$ 25	\$ 158	\$-3301	4	-497	\$-2002	\$-1291
3-5	147	316	-5897	25	-864	-3771	-2118
6-13	809	1570	-7042	170	-991	-4854	-2167
14-17	999	1629	-8514	334	-1067	-6276	-2222
18-24	1444	4316	-2357	1696	-221	-524	-1819
25-29	2149	17268	3028	2494	359	4503	-1471
30-34	2315	21350	6516	2666	695	7942	-1423
35-44	1989	24158	10235	2693	989	11676	-1414
45-54	2201	26460	9821	2603	628	11351	-1519
55-64	2330	20874	4126	2122	170	6536	-2406
65-74	2956	13230	-1274	994	-297	1050	-2324
75+	3031	11565	-3260	700	-336	-1372	-1888
Women							
0-2	9	117	-3359	1	-498	-2056	-1295
3-5	184	370	-5383	31	-812	-3445	-1932
6-13	1100	1336	-7302	185	-982	-5408	-1869
14-17	2351	2886	-8032	511	-943	-6815	-1189
18-24	4615	9528	-1972	1829	-42	-3032	1068
25-29	7043	14401	1191	2348	357	-2076	3272
30-34	8026	16454	3601	2496	769	-880	4505
35-44	8218	17365	5057	2552	896	395	4677
45-54	7998	17312	1301	2417	463	-2572	3875
55-64	7570	16049	200	2008	154	-2374	2576
65-74	7264	14901	146	1400	150	-1681	1832
75+	5458	11918	-505	941	-103	-952	447
All	3635	11970	-253	1536	-33	-233	-8

Appendix C *A Test Model*

One way to see the problem of designing a tax and income maintenance system that is reasonably neutral with respect to decisions about working, having children, and sharing housing and child care is to look at the implications of an apparently reasonable system. Let me describe one as an example.

Suppose we have a tax or subsidy system that uses a uniform 50 percent rate; that is, if a unit has an income less than its threshold standard, half the difference is paid them in a “negative income tax,” and if they have more, half the excess is taxed away.

We thus focus on the definition of threshold “income,” and we propose to define it to set a level of family well-being that takes account not only of the family’s money income but also of needs and of the time they have left to enjoy it—that is, how hard they worked to get it. And we shall include in that work a credit for housework and child care.

Threshold income is where well-being is $-1.0 = 100$ percent where

$$\text{Well-Being} = \left(\frac{\$ \text{Money Income}}{\$ \text{Family Needs}} \right)^{1/2} \left(\frac{\text{Free Time per Adult}}{\text{Free Time if Each Adult Works Full Time 2,000 Hours per Year}} \right)^{1/2}$$

By simple algebra, then, the target or threshold income is

$$\text{Target \$Income} = (\$ \text{Needs}) \left(\frac{6760}{8760 \text{ work hours per adult}} \right).$$

The tax subsidy rule is that the subsidy should be half of the difference between the target figure and actual money income. If the amount is negative, it is considered a tax.

$$\text{Subsidy} = 1/2((\$ \text{Needs}) \left(\frac{6760}{8760 \text{ Work Hours per Adult}} \right) - (\$ \text{Actual Income})).$$

We now have only to define needs standards and the work hour allowance for housework and child care.

The well-being function is, of course, analogous to the usual production function—linear, homogenous.

One could argue about the exponents and develop more complex measures (Lazear and Michael 1980). And one can deduct sleep time from the base and make the measure much more sensitive to work hours (too sensitive, I think). But let’s proceed to fix the needs standards and work allowances and see the results.

We define needs with no economy of scale adjustments purposely to encourage living together and sharing:

Needs:

Each adult 18 or older	\$3,000
Each child 12–17	2,000
Each child 6–11	1,500
Each child under 6	1,000

But we allow for some economies in caring for children:

Work credit for housework and child care:

Household management (each dwelling) 1,000 hours plus 500 hours for each child under 18, plus another 500 if *any* child is under 6.
Maximum = 3,500 hours.

One could easily argue with these standards, but it is useful to think of them as a point of departure and see their implications for people's decisions about working, having children, or doubling up. And we can ask whether the results seem equitable, particularly as between families with two, one, or no *earners*.

A set of illustrative cases is given, skipping over the algebra and giving the net subsidy or tax, and the after-tax, after-subsidy disposable income, and the well-being measure. One can see the effects of decisions about market work by moving down the columns, of marrying by looking three columns to the right, of having children (and usually working less in the market) by moving diagonally up to the right.

To keep things as simple as we can, we assume a fixed \$3 per hour for market work.

A single adult with one child ends up with \$2,000, all subsidy, without doing any market work, \$3,840 after earning \$3,000 working half-time, or \$5,838 working full time. The marginal tax rates on money earnings are 41 percent and 33 percent because of the allowance for work effort and the well-being measure goes from .71 to .90 to 1.01, meaning that the person is better-off working. Some basic guarantee or separate child-care allowance might be necessary—I'll come back to that issue.

A couple with one preschool child ends up with \$6,500 if they do only 2,000 hours of market work—both half-time or only one working and the other minding the house and child. Increasing market work by 1,000 hours raises earnings by \$3,000, after-tax income by \$1,780 (\$6,500 to \$8,280), implying a marginal tax rate of 41 percent. Another 1,000 hours, meaning both parents work full time, would mean \$12,000 in earnings, \$10,095 after taxes. In terms of our well-being index, a couple with one child going from one full-time equivalent market worker to one and one-half to two has a well-being measure that goes from .96 to 1.05 and

1.11, a reasonable incentive compared with a straight 50 percent tax or subsidy of differences from the need standard of \$7,000, ignoring work effort which would produce well-being measures of .95, 1.01, and 1.05.

More important than work decisions, which have been overstressed anyway, are decisions about who lives with whom and pools resources and decisions about having children. More children always means a lower level of economic well-being even after the subsidies-taxes, even if the parent or parents manage to keep working for money. Presumably we want it that way. Even though we want to be sure children are properly cared for, we don't want it to be economically profitable to parents to have them.

The case where society would most like to encourage combining families is that of two single parents. Suppose they each have one preschool child. Separately they might each work half-time, end up with \$3,840 disposable income and a well-being ratio of .90. Together, even without working more than before in the market, the pooled family would have \$7,153 in disposable income and a well-being ratio of .93. The total subsidy would fall from twice \$840 or \$1,680 to \$1,153. And if there are economies in living together not incorporated in the needs standard and hence not recaptured by the government, the incentive to double up is still greater. For instance, it might easily be possible, because of shared responsibility for the children, for the parents to do more market work.

A more usual situation is a woman with several children and a man with no children he is taking any direct responsibility for. A woman with three children aged 2, 4, and 6, not working in the market, would get a subsidy of \$3,802 and be in difficult shape (well-being = .71). A single man working full time would end up with \$4,755 after taxes, well-being = 1.16. Marriage would produce a family with a disposable income of \$8,130, \$2,130 of it subsidy, and well-being of .89. The government has reduced the cost to the man of acquiring a family. Separately the government collected \$1,245 in taxes from the man, gave \$3,802 to the mother, net cost \$2,557. Together, the government provides a subsidy of \$2,130, recapturing almost none of the gains from doubling up. Additional child-support subsidies would help.

In general, as you can see from the tables, marrying is not discouraged, having additional children is discouraged, and you are always better-off, in terms of a sensible measure of well-being, if you work more. Most important of all, there is credit given for work, and the working poor are treated a little better. This may be all it takes to improve public acceptance of adequate income maintenance programs. Put another way, the marginal tax rate on income from work is lower than that on other income, and the needs standard on which subsidies or taxes are based is set higher the more work people do.

These figures and this set of definitions and subsidies and taxes are merely illustrative. The important issue is how to design a system that does not distort in antisocial directions decisions about having children, sharing households and child raising, or working. And the crucial point is that if the standard of well-being the program uses as a goal takes account of work/leisure as well as money income and family needs, it is more likely to be balanced in these three dimensions. The result should be a greater sense of equity between the working and nonworking (for money) poor, and between parents who devote more or less time to children, and between men and women.

As we have said, there is also a concern for the proper care of children, and there is the problem that income maintenance floors sufficient to assure that care might put a money premium on having children, while inadequate support might punish children for the indiscretion of their parents. I have suggested elsewhere the possibility of separate child-care subsidies, paid for by long-term surtaxes on all parents for each child they produced. Instead of trying to squeeze the full current cost out of parents, including divorced ones, we proposed a surtax for forty years on each parent for each child. For normal families, this amounts to an installment plan method of paying for child-raising costs. But it puts "women's work" in the market place, gives her free choice whether to work in the market or raise children, allows the setting of national standards for child care separately from the taxes, which imply a population policy or national fertility policy. Child care is expensive in both time and money, and it would take something like a 5 percent surtax per child to make the system generally self-financed. Remember that the subsidies come during the first eighteen years, the payments spread over forty, and even at 3 percent (real rate) the present value of forty annual surtax payments is only 23 times the annual payment while the eighteen-year cost has a present value of over 14 times the annual cost.

Such schemes are easy to invent, but their popular understanding and acceptance, and their actual effects on behavior, require some advanced research, and I mean more than speculating about the possible effects. A variety of research eliciting responses from representative samples of the population should be done. Are the needs standards and the housework-child-care allowances realistic and fair between different family sizes so they will not distort people's choices about living arrangements?

Our present Panel Study data could be used to be used to make estimates of the impact of any proposed scheme, though only before any effects it might have on behavior. Such impact studies are most useful if a scheme is not expected to alter behavior very much. But a change to a system that was more nearly neutral with respect to individual choices would produce changes by getting rid of past distortions of behavior.

Table 6.A.2 Amount of Subsidy (or Tax), Disposable Income, and Well-Being Index for Families of Different Composition, Work, and Earned Income under a Program to Maintain Well-Being (not just income)

		One Adult		
		No Children	One Child Under 6	Children 2,4,&6
Dollar income needs		\$3,000	\$4,000	\$6,500
Hours credit for housework & child care		1,000	2,000	3,000
Market Work				
Hours	Earnings	Subsidy or - Tax		
None	None	1,305	2,000	3,802
1,000	3,000	0	840	3,112
2,000	6,000	-1,245	-162	2,850
3,000	9,000	-2,370	-904*	3,459*
4,000	12,000	-3,303*	-1,102*	6,433*
Net Disposable Income				
None	None	1,305	2,000	3,802
1,000	3,000	3,000	3,840	6,112
2,000	6,000	4,755	5,838	8,850
3,000	9,000	6,630	8,096	12,459*
4,000	12,000	8,697*	10,898*	18,433*
Well-Being Measure				
None	None	.71	.71	.71
1,000	3,000	1.00	.90	.81
2,000	6,000	1.16	1.01	.87
3,000	9,000	1.25	1.06*	.88*
4,000	12,000	1.27*	1.05*	.86*

		Two Adults			
		No Children	One Child Under 6	Two Children Under 6	Children 2,4, & 6
Dollar Income Needs		\$6,000	\$7,000	\$8,000	\$9,500
Hours credit for housework & child care		1,000	2,000	2,500	3,500
Market Work					
Hours	Earnings	Subsidy or -Tax			
None	None	2,454	3,048	3,636	4,418
1,000	3,000	1,113	1,755	1,846	3,250
2,000	6,000	-210	500	1,153	2,130
3,000	9,000	-1,500	-720	0	1,058*
4,000	12,000	-2,760	-1,905	-1,092*	-104*
		Net Disposable Income			
None	None	2,454	3,048	3,636	4,418
1,000	3,000	4,113	4,755	4,846	6,250
2,000	6,000	5,790	6,500	7,153	8,130
3,000	9,000	7,500	8,280	9,000	10,095
4,000	12,000	9,240	10,095	10,908*	11,896*
		Well-Being Measure			
None	None	.71	.70	.71	.71
1,000	3,000	.88	.85	.79	.81
2,000	6,000	1.02	.96	.93	.89
3,000	9,000	1.12	1.05	1.00	.95*
4,000	12,000	1.19	1.11*	1.05*	.99*

*Would probably require paying for housework and child care, so net income after that, and well-being, would be smaller.

Notes

1. We did not attempt to deal with the two possible selection biases which would occur if people who work for money earn more than those who do not work for money would have earned, and if people who do volunteer work would be more productive at the work than those who do not volunteer.

2. See the chapter giving details in *Five Thousand American Families*, vol. 10, Ann Arbor, Mich.: Institute for Social Research (forthcoming). See appendix A for the actual questions asked.

3. Measures of family well-being do have to deal with economies of scale in estimating family needs and relating income to needs, and the official poverty standards incorporate such estimates.

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Comment Daniel S. Hamermesh

In this study Professor Morgan has epitomized what the Survey Research Center has become most noted for: the production of interesting numbers

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based on survey results. This particular set of numbers on the magnitudes and directions of inter- and intrafamily transfers is important to anyone interested in problems of labor supply, taxation, discrimination, or the measurement of well-being. The figures will provide substantial grist for the mills of economists seeking to test theories of household behavior.

The paper stresses intrafamily transfers especially. It claims, based on the valuation of their size, that the death of private support for dependent family members has been announced a bit prematurely, that reliance on publicly provided income maintenance is much less extensive than we thought. This claim rests on the valuation of time spent in household production, which Morgan rates at \$6 per hour. If this is too high, as I believe it is, we should not abandon our preconceptions about the relative importance of public and private transfers as rapidly as this paper would have us do.

One way to get an upper bound on the value of time spent in home production is to ask: What would it cost to purchase the services in the market? The average woman age 30–34 (see table 6.A.1) does 1338 hours of housework. This is undoubtedly an underestimate of the amount performed by a nonworking mother with two small children, since Morgan's average includes unmarried women and married women with no small children. Therefore, assume 2000 hours is a fair guess of the hours spent in household production by a full-time housewife with children. Based on Gauger and Walker (1980), I estimate that in 1979 dollars the cost of purchasing the services provided by a housewife with one child under age 5 and the other under age 12 is \$11,000. We thus find that \$5.50/hour is all the market values her services.

The \$5.50 is clearly an upper bound, even for prime-age women. It ignores the fact that higher wages must be paid in the market to induce people to leave the home, to compensate for commuting costs and work in an unpleasant environment, and so forth. Also, because one can mix leisure and work much more readily at home than in the market, the supply price of an hour of household production is likely to be far less than the cost of purchasing the same hour in the market. Third, even if an hour purchased in the market did cost \$6, an hour of the nonspecialist's time at home is not worth \$6: I am quite sure no one would buy my services as a plumber, glazier, or carpenter for \$6. This last consideration means that the value of housework performed by men in the sample (who do not specialize in housework) is especially overstated. Finally, the \$6 per hour figure is far too high even as a price of time in the market for many persons in the sample: I doubt the average 4-year-old girl could have commanded \$6/hour for the thirty hours of housework Morgan lists for her, and similarly for the roughly five hundred hours per annum performed by men 65+ and the thousand hours performed by women 65+. One should note that these points have little to do with the selection

biases that Morgan refers to; those are statistical problems, these are economic ones.

What is an appropriate figure if \$6 is not? I am not sure, but I would bet it is much closer to the one-third of the market wage that has been estimated as the value of time spent commuting than it is to the full market wage. That being so, and noting that \$6 was around the average wage rate in 1979, valuing the average person's housework at \$2/hour seems reasonable. In that case the aggregate value of housework is \$273 billion rather than the \$818 billion implied by the average of 606 hours of housework per annum per person in the Panel Study of Income Dynamics sample. This recalculation alone reduces the total amount of intrafamily transfers by \$171 billion, from \$695 billion to \$524 billion.

Intrafamily transfers seem even smaller compared to interfamily and socially provided transfers when the latter are adjusted for underreporting. Morgan's aggregates of \$5.0, \$2.6, and \$71.5 billion for unemployment insurance, workers' compensation, and Social Security compare to official total benefits received in 1979 of \$8.6, \$8.4, and \$90.6 for these programs. Here too, another bias is introduced that leads to an overstatement of the case for the importance of intrafamily transfers.

The only calculation that might cause a downward bias in the size of intrafamily transfers is the attribution of contributory transfer income evenly to husbands and wives. Since the primary beneficiaries of Social Security, as well as unemployment insurance and workers' compensation, are disproportionately males, this clearly overstates (understates) the income received by females (males). Insofar as the calculations already show a slightly greater net lifetime transfer from males to females than vice versa, they are biased down. The bias, though, is likely to be tiny given the small size of contributory transfers relative to other sources of income.

Morgan constructs seemingly arbitrary equivalence scales among family members, counting persons aged 14+ as one, 6-13 as .86, 3-5 as .57, and those below age 3 as .29. This equivalence is used to reflect "needs" and thus allocate the family income among family members. I am not sure what "needs" means, indeed; as an economist I find the term somewhat repugnant. Certainly if one values a housewife's time at the market wage, the amount of the family's full income transferred to a newborn child must exceed the amount implied by a "need" equaling .29 of an adult's. More important, do men and women consume equal amounts of the household's full income, or, as many feminists claim, do men receive a disproportionate share based on claims stemming from their market work? If so, net transfers by men aged 25+ are overstated while those of women are understated.

The last section of the paper is quite separate from the rest; it represents an attempt to point out the importance of distinguishing leisure time

from time spent in household and market production in comparing well-being across families. Though I am not bothered by comparisons of income across families, nor by attempts to compare full incomes by valuing carefully time spent in home production, an interfamily comparison of utility, even though it is called "well-being" and is specified *ex ante* as a Cobb-Douglas function with coefficient $\alpha = .5$, is hard to swallow. It should suffice to note that leisure is important in measuring GNP, though Nordhaus and Tobin (1972) and others have already noted this.

Morgan has greatly overstated the size of intrafamily transfers by overvaluing time in home production and underestimating the correlation of gross contributions and "needs," and he has overestimated interfamily transfers by overvaluing time. Nonetheless, the raw data he presents are provocative; they pose some interesting mysteries and should lead to some fruitful extensions. Two of these caught my attention, and there are undoubtedly others. First, in table 6.2 there is a consistent inverse-U shaped relation between age and gifts of money and time, and the receipt of gifts of *time* bears a U-shaped relation to age. However, the incidence of receipt of *monetary* gifts is monotonically decreasing with age. This may result from differential underreporting of gifts by age, but why should the differential exist for time but not for money? Conversely, it may reflect the observation that people 65 and over decumulate wealth very slowly, if at all, and reduce their spending on goods as they age (Hamermesh 1984); that being so, emergency gifts of money are not needed, though emergency gifts of time may be required to complement goods as inputs in household production, especially among the oldest people. This is consistent with the sharp jump in the reported incidence of receipt of gifts of time in the 75+ age category.

Morgan's data can and should be used to examine differences in intrafamily transfers by husbands and wives across education groups and by race. Do these correlations correspond to what theories of marital sorting would predict? How do households compensate for the presence of discrimination in the market by reallocating effort in household production? Finally, on a corrected version of the data underlying figure 6.4, are the actuarial present values of net transfers by men and women equal, and, if not, how do these reflect adjustments to market discrimination? Clearly, Morgan's major contribution here is the provision of data that can enable social scientists to answer questions about the nature of exchange within households and its response to market forces.

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