

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Modeling the Distribution and Intergenerational Transmission of Wealth

Volume Author/Editor: James D. Smith, ed.

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-76454-0

Volume URL: <http://www.nber.org/books/smit80-1>

Publication Date: 1980

Chapter Title: Relevance in Economic Measurement: Public Inheritances

Chapter Author: Nelson McClung

Chapter URL: <http://www.nber.org/chapters/c7450>

Chapter pages in book: (p. 289 - 319)

Relevance in Economic Measurement: Public Inheritances

Nelson McClung

In recent years questions have been raised about the substitutability of pension and other wealth. Reviewing research on this issue, one must conclude that statistical analysis has rather more than exhausted the potential of available data to supply answers to these questions.¹ The new Survey of Income Program Participation (SIPP)² could be designed to collect the data required for answering better these and other questions of family decision making in a lifetime planning context.

In this paper I use the substitutability of pension and other wealth as an example of data collection capabilities which SIPP should have. Policy analysts in estimating or testing postulated theoretical relationships should not be forced by unnecessary data limitations into such tortured reasoning and farfetched estimating expedients that the interpretation of their research results is too doubtful to admit of definite conclusions. We need a survey vehicle which is responsive to policy analysis requirements, whatever these may be at any time. I would hope that SIPP will be designed to collect data such as those which I identify in this paper. But I emphasize that mine is merely one of many examples of data requirements that SIPP should be able to satisfy.

This paper is a constructive criticism of economic measurement, not of economic analysis. Three comments may be made on that statement. First, the set of measurements criticized and for which I propose

Nelson McClung is Assistant Director (Personal Taxation), Office of Tax Analysis, U.S. Treasury.

As I use the term, the distinction between public and private activities is not synonymous with any distinction between government and private activities. The presumption that government activities produce only public goods, that is, goods which for one reason or another are consumed in common, and that other activities produce only private goods never was accurate and is less so now than formerly.

reforms is defined by the data requirements of models of family lifetime savings plans. There are many models of the family lifetime savings process. A simple and easily accessible one is that of Laurence Kotlikoff (1979). Mordecai Kurz (1980) has developed a model which is more complete and is better formulated for estimation. Second, no implication is intended that these or any other economic models are beyond criticism; it is just that I choose not to critique models in this paper. Third, the set of economic measurements considered is not necessarily that most deserving of criticism.

8.1 Concept of Transfers

Pensions are transfers. To appreciate their economic significance we need to distinguish transfers from transactions which are not transfers. There are two concepts of transfers: the theoretical and the institutional.³ Only the institutional has been measured at all well. However, for behavioral analysis, only the theoretical is of any interest.

In the National Income Accounts, Disposable Income differs from Personal Income by the net of transfers out over transfers in. The transfers out are mainly taxes and the transfers in are mainly grants through government programs. In equations which purport to explain consumption, saving or transfers, available micro equivalents of Personal Income or of Disposable Income are not correct nor are they the best concepts of income that we could construct from family surveys. Personal Income does not include current period accruals of capital gains and Disposable Income does not include taxes which may be voluntary allocations of income and does include charitable contributions and other outlays which may be as involuntary as any taxes. The Federal Personal Income Tax concept of Taxable Income does not include state and local tax outlays or charitable contribution outlays even though they may be in either case purchases of services for personal use. What we require for behavioral analyses is a measure in each period for each family of just that income over which it has a degree of control. There is no one measure that will satisfy all analysts in all applications. But, while analysts must choose, statisticians need not; they should collect income and outlay data in sufficient detail that analysts have appropriate choices of measures.

8.1.1 Transfers as Transactions

Transfers are transactions ultimately between persons. In common with all transactions, transfers engage two classes of actors: payors and payees. We want to distinguish transfer transactions from other transactions between persons, transactions in consumption goods (consumption) and transactions in assets (saving) or transactions in labor services and transactions in property rentals. With suitable definitions, income

(Y) equals output (O). Consumption (C), saving (S), and transfers out (TO) may be an exhaustive classification of income allocation transactions. Wages (W), rentals (P), and transfers in (TI) may be an exhaustive classification of income receipts transactions. Thus, aggregating without netting across units: $Y = C + S + TO$ and $O = W + P + TI$. An alternative and for certain analyses preferable interpretation of this budget identity is that uses of funds (Y) equal sources of funds (O). On this alternative interpretation, S may be either a use or a source of funds, depending upon the sign of the net transactions on capital account. In these identities there are some difficulties which I will try to resolve.

8.1.2 Direct and Mediated Transfers

One person may transfer resources (or command over resources) to another directly through bequest or gift. Or the transfer may be arranged through an intermediary. These intermediaries may be business firms, governments or, of course, other persons. Debt forgiveness is an example of a transfer through a business firm. Tax financed grants are transfers mediated by governments.

As transfer intermediaries, business firms fall into two classes: those which do a little and those which do a lot. Firms organized for profit do little transferring relative to gross income. Insurance companies, pension funds, charitable foundations and universities do much more. However, the meanest governments do relatively more than all but a very few firms. Among governments, the federal is preeminent. The aggregate mediated transfer through all intermediaries is very large, perhaps a quarter to a third of the national output, but much depends upon how one counts.

8.1.3 Transfers as Unrequited Transactions

Most transactions, what we may call economic transactions, leave both transactors with a value after the transaction that is the same as or greater than before. Transfer transactions are noneconomic, are not genuine exchange transactions, because they leave grantors with less value, although they may leave grantees with greater value, after the transfer than they had before. In general, there is no way to determine in any one instance or in the aggregate whether the gain to grantees is greater or less than the loss to grantors. The rule in statistical practice is to value transfers at apparent cost to grantors. But, as we shall see, apparent cost to grantors is not actual cost to grantors; actual cost is equal to or less than, possibly much less than, apparent cost. That it may be less weakens the case for measuring the institutional concept, for the valuation rule may be no more correct for grantors than for grantees.

The institutional definition of transfers is merely a list of transactions which are presumptively gratuitous on at least one side of the exchange. But in these putative transfers there may be substantial elements of compensation or consumption. On the other hand, transactions not on the list in fact may have large gratuitous elements. Thus, we may see people cheerfully paying taxes; potential AFDC recipients questioning whether they should take up the trade, given the meagerness of the rewards; and electric rate payors complaining that they are being ripped off. The question, then, is what to do. We could apply more imagination than we have in the past to measuring the theoretical concept of transfers but, to the extent that we must use measures of institutional concepts in behavioral analyses, we should be very careful in the interpretation of our results.

8.1.4 Asymmetry in Transfers

A transaction which may be a transfer to one transactor may not be a transfer to the other. A person in paying his utility bill may think that he has received full value; yet, if the utility company would have supplied in a negotiated deal the same amount of electricity for half the price, half of the bill is a transfer in to the utility company, although it is not a transfer out to the person. Similarly, taxes paid by a person may be a transfer out to him but, if the tax receipts are used by a government to purchase the labor services of persons who but for the compensation would not supply them, the amounts received are not transfers. The services provided by government employees may be transfers in to users of the services. This asymmetry holds for both the theoretical and the institutional concepts of transfers.

At this point, we need to modify the expressions above in section 8.1.1. They become

$$Y = C + S + TOD + TOM$$

$$O = W + P + TID + TIM$$

where *TOD* is direct transfers out, *TOM* is mediated transfers out, *TID* is direct transfers in and *TIM* is mediated transfers in. The argument is that $TOD \neq TID$ and $TOM \neq TIM$. More generally, $TO \neq TI$, whether at the unit level or in the aggregate. Measures of transfers thus depend upon whether we add up the receipts (*O*) side or the allocation (*Y*) side of family budgets.

8.1.5 Transfers as Involuntary Transactions

There is a presumption that transfers out are involuntary. But grantors taking into account all indirect benefits may not always be dissatisfied

with their role in transfer transactions. A person paying his taxes may reason that in being able to continue living inside the country and outside of jail he is better off than if he did not pay. The person giving to charity may be really buying the approval of his neighbors. On the other hand, the child, who, having said grace, must now confront the vegetables may consider himself worse off for the Lord's beneficence. Nevertheless, he may be better off eating the vegetables than forgoing dessert. There are good reasons, as the Trojans discovered, for giving a gift horse an examination before accepting it. Proceeding along these lines, we make transfers vanish, and all transactions become economic exchanges.

There is something to be said for preserving a distinction between those transactions which a person enters into for personal advantage, absent external influences, and those which he acquiesces in from social coercion. The distinction, however, is one not easily preserved in statistical measurements. A family's disposable income properly may be defined as family total income, somehow defined, minus involuntary transfers out or minus the sum of involuntary and voluntary transfers out, depending upon one's interest or confidence that the transfers out identified as voluntary or involuntary in fact really are so. Statistical measurements should be conducted so as to give analysts as much freedom as is feasible either to classify only involuntary payments as transfers out and only gratuitous receipts as transfers in or to include voluntary payments among transfers out and, illogical as it may be, include receipts which in fact are compensation among transfers in.

8.1.6 Transfers and Consumption

Primarily because they appear so much to be involuntary, taxes commonly are considered transfers out. We distinguish between benefit and equity taxes, but even with respect to benefit taxes, we recognize that generally some form of coercion is necessary, else people would take the benefits and not pay the taxes. In enclaves of rich families, fortunate enough to have their own local government, people pay high property taxes to buy schools, swimming pools, tennis courts, and other amenities through their local governments and recognized charities, contributions to which are deductible under the Federal Personal Income Tax on a par with state and local taxes. All of these amenities are available at a price from private for-profit suppliers or through governments and nonprofit institutions at a user charge. Prices and user charges paid, however, are not deductible under the Federal Personal Income Tax. If the weighted average marginal Federal Personal Income Tax rate in a community is 0.50, then the people of the community can buy with local government property taxes tennis courts at half price. At that price, one may suppose that much of the taxes paid is voluntary, a supposition reinforced by the

evident responsiveness of local political processes. Through its Personal Income Tax the federal government subsidizes socialism for the rich. In promoting socialism one sensibly might begin by coopting the rich.

The point for our purposes is that there is no clear distinction between equity and benefit taxes and, hence, no neat statistical distinction between transfers out and consumption expenditures. As a consequence, estimated elasticities of consumption with respect to income depend upon specific institutional arrangements. Imagine what would be the case were the oft-made suggestion adopted for setting the income tax rate equal to the ratio of federal expenditures to aggregate taxable income and allowing all taxpayers unlimited deductions for contributions to federal agencies for specified purposes, such as fish and wildlife conservation. Little or no tax would be collected and measured personal consumption outlays would increase by nearly total present income tax collections. The difference between Personal and Disposable Income that is accounted for by Federal Personal Income Tax would vanish. However, even though there is no precise demarcation between transfers and consumption expenditures, we need not abandon theoretical refinement at the low level of sophistication which we now do. The test should be whether payments buy a family things which it wants for its own personal use. On this test most local property tax payments would be classified as consumption outlays. There are, as we know, childless persons who pay local property taxes with the thought that government schools at least keep little rascals busy and may give them some marketable skills that offer them an alternative to growing up big rascals.

That brings up a related matter. In addition to personal consumption financed by tax and charitable contributions, we must recognize direct or mediated vicarious consumption. If A's consumption enters into the utility function of B, then it is usual to say that A's and B's utility functions are interdependent, although strictly speaking B's utility merely is dependent on that of A. It may be that some people pay taxes, make charitable contributions or direct transfers of income to others from motives purely of love. More commonly, perhaps, the payments made are intended to motivate and finance modifications in the behavior of the recipients which are agreeable to the payors. To the extent that payments are intended to change behavior and in fact do, they are compensation to receiving units for services rendered and consumption by paying units.

8.1.7 Transfers and Saving

We observe people paying insurance premia, Federal Insurance Contributions Act and Self-Employment Act taxes and employee pension plan contributions, if we accept that employer payments are distributed in some manner over employees and borne entirely by them. On the

other hand, we observe people receiving insurance benefits, OASDHI benefits and employee pensions. In a strictly economic sense the payments and receipts are current period transfers. Those who produce the output of a period transfer command over some part of that output to those who have rights under these government and private programs. Yet, we have a problem with this view. In a period as short as one year, much wage income and perhaps most property income received are economic rents and, hence, transfers in. Even in a long run, some wage and much property income is economic rent: actual compensation for supplying labor and capital services is above owner supply prices. With respect to property income, this is true if people hold wealth for the control of businesses or, as implied by lifetime saving theory, for income averaging and, although sensitive to relative rates of return, would engage in these activities almost irrespective of the level of returns.

In making advance preparation for the financial consequences of some bad outcome, such as death and survivorship, disability, sickness, unemployment, fire, theft, a person has a choice: he may save or he may insure. All insurance is a scheme for averaging bad outcomes over more families than suffer bad outcomes in any period. It is not always apparent whether people are insuring or saving. Saving, in a lifetime net zero saving model, is self-insuring and that is the root of the difficulty. In simple term casualty insurance, a person buys coverage in each period which presumably is worth the premium. This is a consumption (or business) outlay. Insurance proceeds received in the event of a loss are merely an involuntary asset conversion; in the normal case, apart from gain (or loss) on a conversion, the insurance proceeds net against the loss to zero. Contributions to employee pension plans may be regarded by the persons covered as saving for retirement (and perhaps other events which result in a loss of income). But, if the plan is fully funded, all plan members, both those active and those retired, neither save nor dissave: plan contributions and interest receipts each period just match plan benefit payments and administrative expenses each period. The arrangement looks much like term insurance.

There are two consistent treatments of family pension saving. One is to classify certain family income allocations as transfers or saving from a knowledge of the extent to which the pension plans that they participate in are not only advance funded but funding. The other is to classify all contributions and interest earnings as savings by families and net out the benefit payments in aggregation. Either we measure family income (1) inclusive of transfers out and allocations to saving and exclusive of transfers in and withdrawals of saving or we measure income (2) exclusive of transfers out and allocations to saving and inclusive of transfers in and withdrawals of saving. The first is a Haig-Simons concept of income; the second is a Fisher-Kaldor concept. Basically, the choice is

one between accrual and realization accounting for income, although Fisher measured income by accruals. The basic complication is in distinguishing between transfers out and saving. We would like to preserve a concept of saving such that allocations of income to saving by all families sum to the amount that is available for capital accumulation. However, an individual family may regard payment of FICA taxes as purchasing a future interest not significantly different from that which could be acquired through personal saving. But FICA taxes finance no capital accumulation while personal saving does.

8.1.8 Transfers and Wages

In the administration of federal tax laws, cases come up commonly in which the issue is whether a payment is subject to gift tax payable by the payor or to income tax payable by the payee. Decisions in these cases turn on whether the transaction is a transfer or compensation. If the recipient modified his behavior in some significant manner with the expectation of receiving the payment, the presumption is that the receipt is compensation. In fact, much of inheritances and gifts received is earned income; a larger fraction is earned than one would infer applying the rules which the courts use.

In a more romantic age, Robin Hood took from the rich and gave to the poor. Modern day robbin' hoods take from rich and poor and keep it all. In suits for restitution initiated by persons who have been swindled, for example, the IRS may interpose a tax lien, asserting that the value of the property appropriated is earned income of the swindler on which income tax is payable. The courts are rather inclined to regard the transaction as a transfer on which neither gift nor income tax is due.

From time to time suggestions are made for including AFDC payments in the Personal Income Tax base. The Personal Income Tax essentially is a tax on factor incomes before tax. Thus, unless one is proposing a fundamental redefinition of the tax base, inclusion of AFDC payments must rest on an argument that they are a factor income. If the children are regarded as wards of the state and the mothers as hired caretakers, then one may argue that AFDC payments are wage income. If we assume that the mothers enjoy their children as do other parents, no deductions for outlays on the children would be allowed and the entire grant would be taxable compensation. From this perspective AFDC does not necessarily reduce compensated work effort; it may increase the total. But it changes the form; the mothers, instead of supplying labor outside the house, work at home. The taxes which finance AFDC payments may not be transfers. Present generation income tax payors may be investing in exemptions from military service for their children or in additional FICA taxpayers to pay the taxes which will assure that

OASI grants will be maintained when the present active generation retires.

These examples are intended to suggest that wages and transfers cannot be distinguished with much precision. I have mentioned economic rents as a component of wage income. These economic rents do not affect decisions to work a little more or less except through their effect on total income. But the neglect of accruals of wage income through the accumulation of pension rights may distort estimates of the relationships of labor supply, consumption and saving to total income or to wage income because either the dependent or independent variables or both have been mismeasured. To assume in behavioral analysis that what is usually called wage income is earned (has an opportunity cost) and what is usually called transfer income is unearned is to invite confusion. Estimated labor supply responses will be in error if the measured marginal wage income in fact is nonwage income or if the true marginal wage income is erroneously classified as transfer income.

8.1.9 Transfers and Property Income

Old-fashioned socialists asserted that property income is theft. New-fangled socialists recognize that the old conclusions remain as valid as ever if property income is subsumed under the more general heading of transfers. In the period in which they are received, property incomes are economic rents and, hence, transfers.

In one essential respect property incomes cannot be distinguished from deferred compensation. Both are legally enforceable rights to command over the outputs of future periods. These rights are acquired ultimately through saving out of current period income. But they are enforceable only under law. Thus, both those who expect property incomes and those who expect to receive current period earnings in future periods must look to government for their assurances. Their claims are never any better than the guarantees which government provides. Their claims indeed may be worth very little if the government is irresponsible with the money supply or is overturned by redistributing revolutionaries, who are given to viewing all property income as "earned" by capitalists only through the efforts made by capitalists to maintain control of government.

8.1.10 Income and Wealth Transfers

Transfers of income are transfers of present interests, that is, rights to dispose over current period output. In statistical practice, the period usually is the calendar year. Transfers of wealth are transfers of future interests. Future interests may be classified with respect to transferability and contingency. The right to receive property income typically

is transferable and noncontingent. Property income receivable under a trust may be qualified with respect to transferability and may be contingent upon the satisfaction of certain conditions. The right to receive pension income typically is contingent upon attaining an age at which pensions are payable, being disabled, becoming unemployed or dying (in the case of a survivor pension) and may be contingent upon other circumstances, such as quitting employment with a firm or industry or, as with OASDI, leaving the wage labor force. Pension rights typically are not directly transferable.

Present interests can be converted into future interests at some rate of interest and future interests can be converted into present interests at some rate of discount. The rate at which any particular interest can be converted is a market rate for that interest and that conversion. In any period, a family may convert present interests to future, future interests to present, both or neither. A family converts present interests to future interests by buying physical or financial assets or own debt held by others; it converts future interests to present interests by selling physical or financial assets or own debt. Subject to certain qualifications, if all families in any period sought to convert all of their future interests to present interests, market discount rates would rise until the value of all future interests fell to zero. However, usually some families are converting one way and others another and indeed most families in any period are converting both ways.

What is interesting for our purposes is that the structure of asset markets is quite complex and not all families have equal access to all markets. To simplify, assume that rates of return on real assets for each family are equal to some lending rate to which it has access. We may relate family lending and borrowing rates to family permanent income as in the illustrative graph in figure 8.1. Federal and state tax treatment of property income and interest expense affects the shape of these curves. Their location for any family is affected by age and sex of head, race and other factors.⁴

The curves shown in figure 8.1, with the indicated and other qualifications, describe families' opportunity cost of funds. Suppose that a family has occasion to raise funds in some period. If it is rich, it should borrow; if it is poor, it should sell assets. Alas, poor families have few assets to sell and the lending curve tends to become undefined below an income which I have indicated as Y_1 . Thus, poor families borrow but at higher rates than do rich families.

The point is that the cost (positive or negative) of shifting funds between periods varies from one family to another, depending upon family income and other circumstances. Given that a family has some expected flow of future income, we cannot know what the present value to the family is of that flow until we know its opportunity cost of funds, the

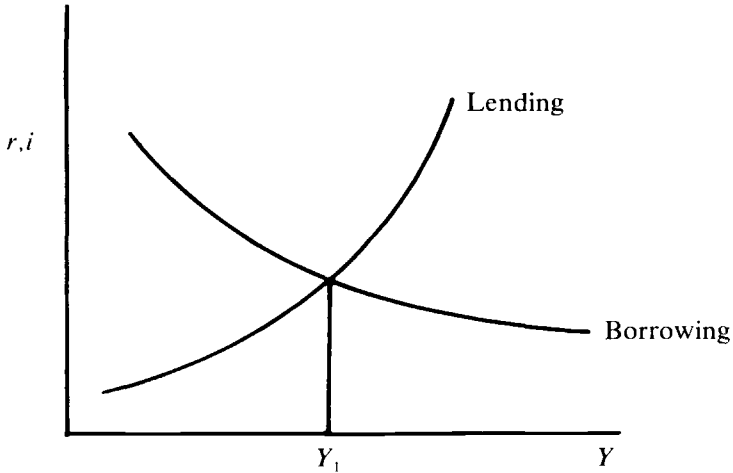


Fig. 8.1 The Relation of Family Lending and Borrowing Rates to Permanent Income

lower of its accessible lending or borrowing rates. It is incorrect to use an interest or discount rate that may be appropriate for another family or even for the average of all families unless one has an effective way of controlling for implicit weighting. Furthermore, rates which are appropriate for transferable interests are not necessarily appropriate for nontransferable interests. One would suppose that the transferable are lower because generally transferable interests are more valuable than nontransferable. By the same token, noncontingent interests are worth more than contingent.

8.1.11 Intragenerational and Intergenerational Transfers

Transfers may be within or between generations. Generations may be defined in terms of relationships or of age cohorts. Defined in terms of relationships, there may be at any time a generation of grandparents, a generation of parents and a generation of children. Defined as age cohorts, there may be the class of all persons aged 65 or more, those aged 18 to 64 and those under 18. We can specify age cohort generations such that there is not a significant number of two relational generations in a cohort. Fifteen years certainly is adequate and twenty might do.

The problem with relational generations is that they require the collection of data on a large number of possible relationships of persons in one household to persons in other households. Samples must be sufficiently large that the relationships among persons in the sample are representative of the relationships in the total population. The sample could be smaller if they were drawn from frames which had all of the relation-

ships but these frames would be quite costly to construct. The alternative is the construction of synthetic samples after the manner of Guy Orcutt and his associates (1976). Otherwise, we are restricted to an age cohort concept of generations and for some purposes this is adequate.

Given that there are transfers and that some of these could be between age cohort generations, then the diagram shown in figure 8.2 may indicate the primary flows of intergenerational transfers.

In this scheme, *S* is support and *G* is gifts. The distinction between support and gifts may be thought of as equivalent to that between income and wealth transfers. Support is a transfer which normally is consumed within an income accounting period. Gifts are transfers not normally consumed entirely in one accounting period. Gifts in this usage include bequests. Bequests, of course, are made by living persons and differ from other transfers only in having in each individual case an indeterminate although determinable effective date.

The flows of transfers are between minors (*K*), nonaged adults (*A*) and aged adults (*O*). If we regard persons under 18 as minors and persons 65 years of age and older as aged, then the nonaged adults are 18 through 64. Within the age range 18 through 64, there may be three relational generations; in the open ended class of aged, there may be two; in the under 18 class, there may be one, if for each class we ignore statistically insignificant higher orders. Transfers between relational generations within an age cohort are treated as intragenerational transfers in the three-cohort classification suggested.

For the most part, the flows *A* to *K* are completed within nuclear family groupings and those *O* to *K*, *A* to *O* and *O* to *A* within extended family groupings. These direct flows primarily of provision of goods and services are intergenerational flows. They are mainly income flows. The allocation of total flows between income and wealth transactions depends upon how one chooses to treat education and health expenditures by parents on their children. Assuming an accounting period as long as one year, doubtless no one would treat expenditures for children's food and

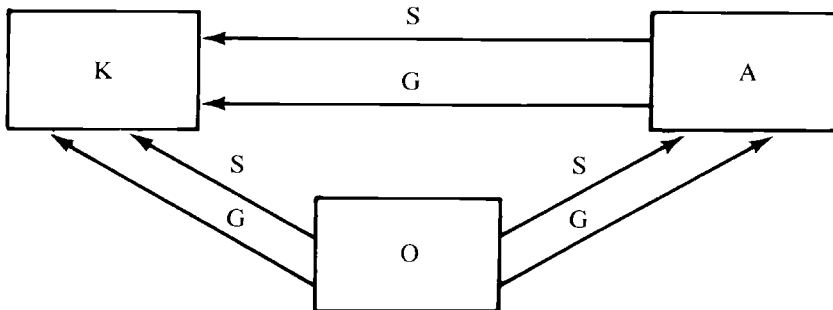


Fig. 8.2 Flows of Intergenerational Transfers

clothing as wealth transactions. The basic analytic problem in transactions within families is what part should be regarded as transfers from adults to children and what part should be regarded as consumption by the adults. In contrast to direct flows, mediated flows do not raise so serious an issue of adult consumption, except in the flows A to O . Non-aged adults, in paying Social Security and income taxes to support aged adults through OASI and SSI, may be substituting mediated for direct intergenerational transfers. If having the old folks in the house is a nuisance but the old folks would prefer to live with their children, the transactions are compensation for the abatement of a nuisance and all gain.

8.2 Transfers and Saving

In this section I want to consider an issue in government policy: does the availability of transfers, particularly intergenerational transfers, reduce saving. The questions that come up are the following. (1) Does the promise of AFDC, legally enforceable if eligibility is established, discourage poor young women and perhaps poor young men from making the human capital investments which could make them self-supporting? (2) If OASI discourages saving, do not SSI and Veteran Pensions also? (3) If OASI reduces saving, would not employee pensions do so equally when plans have become fully funded? (4) Should not bequests be taxed at a 100 percent rate in order to avoid the discouraging effect of inheritances on saving? In each case, we are concerned with the relationship of transfers, direct or mediated, to saving. The general case is this: if a person has a reasonably well defined consumption ambition (or standard of living), any income expectation will contribute to the satisfaction of that ambition. An expected increase in income from private or public inheritances or an expected reduction in transfers out will enable the person to maintain his standard of living with less saving or lesser earnings from sales of labor services or capital rentals. In this paper, I am considering effects on saving of only one form of public inheritance, a pension.

8.2.1 Saving Models

There are two general classes of family saving models: the extended family model and the nuclear family model.

Extended Family Model

An extended family usually is thought of as a multigenerational household in which the nonaged adults support the old and the young in a succession of age cohort duties to support and rights to receive support. In practice, each person in a family is expected to do his best; the

young who receive full support are very young and the old are very old. Some persons in the family, the disabled, the not so old and not so young, make partial contributions to their support. However, members of an extended family need not all live together in one household. Genuine extended families from antiquity have maintained members in distant abodes for long periods as traders, branch bankers, missionaries, students, and so on. The essential condition for a family to be an extended family is that the association of persons include at least three generations with substantial transfers of income within some relevant time frame between the nonaged adults and the aged adults and from the adults to the children. There are other associations of persons, such as associations of adult siblings, which may be referred to as extended families but they do not have the same analytic implications as the multiple generation family and should be called perhaps communes. Doubtless in almost all extended families the members are related by blood or marriage. Furthermore, the economic relationships among the members in the main are quid pro quo exchanges. For short periods of time, such as one year, it is recognition of duties and rights to support and not actual transfer transactions which define the association as an extended family.

If an extended family is large enough or has brought over adequate resources from the past, it need not save for consumption averaging purposes. It may, of course, save for estate building purposes. Now, if a family is self-insuring against the risks of unemployment and disability due to illness, injury or old age and perhaps does not need to insure against an unfavorable shift in the age composition of its membership, the introduction of a compulsory comprehensive scheme of social insurance will leave it overinsured. It cannot compensate by reducing its saving. If it is saving for estate building or human capital formation, it can build faster by reducing or changing the direction of intrafamily transfers but, in any event, it can reach its desired level of risk-protection only through reducing or redirecting intrafamily transfers. Indeed, the overinsured argument was that made by certain religious sects in protesting coverage under OASDHI and, were we sure that they could keep their close-knit extended families from coming unraveled, the argument would be sufficient for leaving them out.

Robert Barro (1977) has attempted to infer indirectly the effect of Social Security transfers on intrafamily transfers. The data used were macro time series constructed by BEA or others using similar methods. With all variables measured in annual real per capita units, he regresses consumer expenditures on (a) disposable personal income, current and lagged one year, (b) net corporate retained earnings, (c) surplus of the government sector, (d) net stocks of capital or net wealth, (e) consumer durables and (f) Social Security (OASI) wealth or Social Security

(OASDHI) benefits. To these independent variables he adds (g) an average annual unemployment rate. He finds that the effect on consumer expenditure of either Social Security wealth or benefits using either the stock of capital or net worth is not significantly different from zero. Thus, the effect on saving is not significant and family adjustments over the period since the 1920s to the introduction of Social Security must have been substitutions of mediated for direct transfers. The substitutions could have been made through (a) reduced transfers from nonaged to aged adults, (b) larger transfers (gifts and bequests) from aged to nonaged adults that compensate them for the negative wealth effect of FICA taxes or (c) larger transfers from nonaged adults to children in order to enhance their earning capacity and thus reduce the burden of FICA taxes which they will pay when grown to finance the benefits their parents will receive.

There are observations which lend credence to Barro's inferences. For example, with the growth of OASI grants, old people have tended increasingly to live in their own rather than their children's households. That is presumptive evidence of a reduction in intrafamily exchange and transfer transactions. One would expect adjustments to the introduction of OASI to take the form partially of family reorganizations and it should be possible to identify these reorganizations in part from Current Population Surveys since the late 1940s and from the consumer expenditure survey at about the time that OAI went into effect. However, it is the amount and direction of transfer flows that define adjustments and these cannot be identified in the microdata. Implicit evidence now is all that we shall ever have for the past. Not even retrospective surveying could capture these distant past adjustments now. Nevertheless, the Barro evidence, although highly implicit, is support for his conclusions. It does not eliminate a third alternative: that people made no adjustments either to direct transfers or to saving.

Uncertain evidence as the Barro estimates are, there are problems of specification. Barro regresses consumer expenditure, a realization accounting concept, on BEA disposable income, also basically a realization accounting concept. But Barro then mixes realization and accrual accounting by introducing corporate retained earnings as a proxy for the current period accrual of capital gain on corporate shares. Accrual of gain on noncorporate real estate is reflected in the capital stock or net worth variables. The Barro model in common with all models estimated on macro time series data is quite sensitive to specification error, as he recognizes. Dropping the unemployment variable, he gets results comparable to those of Feldstein when estimating a similar model on similar data; that is, Social Security wealth reduces saving. Keeping the unemployment variable, he gets estimates for the Social Security wealth coefficients that are not significant. The basic problem is the data. In the

National Income Accounts there are the misclassifications of transactions and other measurement errors which I consider in section 8.1 and suggest in section 8.3 could be avoided in suitably planned microdata collection. But, in addition, the techniques of estimation used in the construction of BEA and related macro time series introduce such high orders of autocorrelation in each series and serial correlation between series that the data give a researcher little help in choosing among competing hypotheses. Within each of Barro's several sets of equations, the R^2 s differ only in the third and fourth places and, for two sets, round to 1.0 at the third digit. No one can believe that the world is really that thoroughly determined.

Nuclear Family Model

A nuclear family includes at most two generations and one but no more than two adults. If there are two adults, they are related by marriage, somehow defined. The family may or may not include minor children. One adult living alone is a nuclear family. This definition of nuclear family together with the extended family definition of the previous section leaves some persons in limbo. If minors living alone are considered adults, all in limbo are living in associations of two or more persons and, as suggested in the previous section, these associations might be called communes. Communes would include persons living together in group quarters and in institutions. The reason for not putting these associations of persons in either of the classes of extended or nuclear families is the uncertainty about whether such units can be considered reasonably to have a lifetime consumption plan.

Extended families have consumption planning horizons which may be indefinite but at least are not bounded by the life expectancies of adult members at any time. Nor is the time path of income conditioned by the earning capacities of any one family member, if the family is sufficiently large and/or well-heeled. For nuclear families, saving (positive or negative) is a necessary device for averaging consumption over time. When income is higher than the cost of maintaining its standard of living, a family saves; when income is below the cost of the standard, it dissaves. If the standard is set realistically or the family suitably adjusts its work effort, it just breaks even over its life span, barring surprises. A typical pattern is for a family to save during its active years, but perhaps only after a child rearing period, and dissave in retirement.

For nuclear families, transfers are of no small consequence. There are, of course, the intrafamily transfers from parents to children. When the children leave the parent unit and go out to form nuclear families of their own, they do not go naked and alone. They begin their adult life with a complement of skills, attitudes and connections which can be converted into a stream of income. An intriguing idea in taxation is sub-

stitution of a lifetime cumulative inheritance tax for the present federal estate tax. The value of the initial endowments which children take from home would be the first term in the inheritance tax base. To avoid driving people back into extended family associations we might value the endowments at an arbitrary age, say 25. Keeping the Personal Income Tax, we would value the endowments at cost to the parents. Data on the cost of rearing children suggest that the Treasury would be enriched even at modest rates and an exemption equal to mean estimating error. Direct transfers between nuclear families are far from insignificant. They are merely grossly underestimated, in effect ignored, in available microdata. If we are concerned about the effect of transfers on saving, we should pay some attention to direct transfers. Attention thus far has been directed only toward mediated transfers and not even to all of them.

There are two interesting sets of estimates of the effects of mediated transfers on saving. Both are in an implicit nuclear family context and both sets of estimates were made using microdata, a fact which by itself would make them interesting. The first study, by Martin Feldstein and Anthony Pellechio (1977), measures the effect of OASI on saving. The second, by Alicia Munnell (1976), measures the effect of employee pensions on saving, along with the impact of OASI. The models in both cases are variants of the Ando-Modigliani lifetime consumption (or saving) model. Current period saving by each family is regressed on the family's current period labor income, its expected future labor income and its holding of net wealth. Wealth enters the equations in two (or three) components: (a) noncontingent, transferable wealth, (b) OASI wealth and (c) employee pension wealth, Munnell only. With respect to OASI, the two studies come out at about the same place: OASI grants substitute for personal saving approximately dollar for dollar in lifetime planning models. Private pension grants apparently substitute somewhat less well.

At first glance, these results are something of a mystery. They suggest that people regard contingent and nontransferable future interests as almost or equally as good as noncontingent and transferable future interests. Yet, when a young man receives an inheritance we do not observe him in the typical case running off to a life insurance company to buy a life annuity beginning at age 65 and subject to the restrictions to which company or OASI pension rights are. The results, thus, would seem to require some interpretation. Perhaps, for the purposes for which income averaging saving is undertaken at all, contingent and nontransferable wealth serves essential purposes. Allowing for asset management expenses and temptations to fritter away the estate, it may be even better than noncontingent and transferable wealth. We know next to nothing about people's attitudes toward holding assets of various types. Relative

market rates of return give us average opinions but only for traded assets.

Every family, we may suppose, has certain saving objectives. One of these may be maintenance of a standard of living in retirement (or, more generally, in the event of any interruption in wage income). A family may be able to satisfy this objective by holding assets specialized to the purpose, that is, pension rights. To the extent that this is so, we may observe both lifetime net zero and lifetime positive savers trading the accumulation of other types of claims on future output for pension rights. This merely recognizes that the purchase, for example, of a life annuity beginning at age 65 may make satisfactory provision for contingencies which are of consequence only as long as one lives after age 65. We might expect, as the Feldstein and Pellechio and Munnell estimates suggest, that lifetime net zero savers would hold only pension wealth and that lifetime positive savers would hold at least some. For either to hold pension wealth, they must have access to these claims. Given access, the choice of how much pension wealth a family can hold typically is severely constrained. It is likely that there are families some of whom hold less and others more of this wealth than they would were they able to choose without constraint.

For some families, and perhaps for most families to some extent, the nontransferability of pension claims may give pensions an advantage over other claims. Pension claims, thus, are not unlike spendthrift trusts. Restrictions on dissipation may be not only accepted but welcomed by persons covered by pension plans, as they often are by spendthrifts, as protection from their own too generous dispositions. It may be convenient but certainly it is unnecessary to assert that the persons holding pension claims care nothing for their potential heirs. This is not necessarily true even of those persons who hold only pension wealth. These people may make *inter vivos* donations of human and nonhuman capital to their children and others which satisfy any reasonable bequeathing motive. And holders of other claims may do so for motives of control or of social status and in fact care nothing for potential heirs.

A final advantage is the tax treatment of pension relative to other saving. Where the option is available, a given financial contingency can be provided for with less sacrifice of current consumption through pension than through other saving. In the case of OASI, half of contributions and all of implicit earnings on total contributions are in effect saving out of before-tax income and benefits are received tax free. For employee plans, some and typically all of contributions and all of earnings are saving out of before-tax income and benefits are taxable as received. Allocations of income to personal saving, in contrast, are out of after-tax income and earnings are taxed as they accrue; spending from accu-

mulated balances is tax free. Thus, as compared with personal saving, saving through employee plans permits tax deferral and through OASI exemption of income from tax. Implicitly, the Feldstein and Pellechio and the Munnell measured substitution elasticities reflect these relative tax treatments. Taking into account explicitly and accurately the relative tax treatments would require better data than are now available.

8.2.2 Generalizing the Estimates

Both Feldstein and Pellechio and Munnell generalize their results to the estimation of the effects of pension plans on aggregate national saving. The generalizations are of doubtful validity. The question raised by Barro remains unanswered: do pensions substitute for personal saving or for transfers? The issue is not easily resolved because the substitution of pensions for direct transfers is confounded with changes in family organization and the participation of individuals in the wage labor and nonwage labor forces. For extended families without pension plans, entry into the labor force and retirement are less well defined than for nuclear families with pension plans. In a lifetime planning model for nuclear families, labor supply decisions and savings decisions are related through the effect of labor supply decisions on the amount of income which may be allocated to consumption averaging in any period and through the length of time over which savings may be accumulated. For extended families, one substitutes transfers for savings in these relationships. The relationship between labor supply and consumption decisions is recognized by Barro, Feldstein and Pellechio and Munnell but none accounts adequately for the likely variation in the relationship that is associated with differences in family organization. Feldstein and Pellechio and Munnell recognize that there is a problem and the problem is the whole point of Barro's analysis but available data will not permit an explicit treatment.

A second limitation on generalization is that both the Feldstein and Pellechio and Munnell estimates are for only subsets of the population. From the total Survey of Financial Characteristics of Consumers sample, Feldstein and Pellechio screen out high and low income units, young and old, the self-employed and units with female heads. They run their regressions on middle income units with middle-aged male heads who indicated in the survey that they planned no bequests. Munnell introduces a variable into her equations for National Longitudinal Survey men aged 45-59 in 1966 to indicate whether they did or did not intend to make bequests. Either procedure is a way, although crude, of classifying survey respondents into lifetime savers and nonsavers. Munnell probably had an inadequate representation of lifetime nonzero savers in her sample; she casts out five rather obvious nonzero savers. The be-

questing variable is significant in all equations and, thus, if a unit intends a bequest, its saving will be greater, other things equal. Nevertheless, however good the estimates may be for families with middle-aged male heads, they may not accurately reflect the behavior of other families.

A third limitation is that substitutions among forms of saving have differential effects on flows of funds to loan markets. One dollar saved by a family in the purchase of a noncontingent, transferable future interest adds one dollar to the flow of funds available to finance capital accumulation. One dollar saved through an employee pension plan may add much less than one dollar to that flow of funds. Pension capital markets saving is done not by families but by pension plans. Not all pension plans are advance funded; some other than OASDHI are current funded and, hence, save nothing. A plan that is advance funded will not save if (a) it has funded all past service obligations and (b) it has a stable membership. Strictly, there are a few other conditions on zero saving but the point is that plans make funds available to capital markets only when they are striving to satisfy a funding standard. Were plans to adopt an endowment standard of funding, as Feldstein has suggested for OASI, that would set off a new saving process even for plans now fully advance funded. Thus it is that a family may substitute one dollar of pension saving for other saving but the pension plan drop less than one dollar into the capital accumulation kitty.

Fourth, we must recognize that apart from the degree of funding, pension plans are a more efficient device than personal saving for insuring against interruptions in wage income. If each family is self-insuring, each will feel impelled to provide for something approaching the worst case. But a group plan can play the odds and finance payments to those of its members who suffer the most costly experience (for example, live the longest in retirement) from the excess contributions made by those members of the group who have the least costly outcomes. So a shift in provision for interruptions of income from individual to group plans will reduce national saving even in a lifetime zero saving model.

In principle, we need to account independently for changes in family organization and the substitution of saving for transfers, the inherent efficiency of group income averaging plans and the degree of plan funding of accruing liabilities. The amount which plans save even if they are funding properly will not be equal to the increase in the present value of pension assets as viewed by families. What we can expect is that growth of pension coverage will reduce aggregate saving, for a given level of income security. The question is, how much? Estimating merely the effect of accruing pension claims on other saving by families overstates the effect. Measuring the offsets to this effect is not easy. If we had the data, we could construct and estimate a model which would show what substitution elasticity is compatible with no change in the aggregate saving

rate. Then if we should find that we can affect the substitution elasticity through tax policy, we would have a rule for the optional taxation of pension saving.

8.3 New Data

In sections 8.1 and 8.2 I have attempted to define a policy analysis problem. The results of section 8.2 reveal an unsatisfactory state of knowledge. Actually, we do not know what is the effect of pension saving on total saving. The purpose of this section is to suggest a remedy.

Like all arguments, this one starts from an axiom: if you want to know what people have done and why, go out and ask them. The Census Bureau survey program, merely deficient on the what, is hopeless on the why. Yet survey questions on motives are not hypothetical nor are respondents without readily retrievable information. Because it is possible to ask meaningful questions on motives, policy analysts need not be forced to fit behavior into always oversimplified rational action models. What we need is a responsive survey vehicle. It should be a flexible instrument which permits appropriate respondents to be selected and the right questions to be asked of them for any of a wide range of intensive data collection efforts. Routinized data collection for the construction of time series is the bane of policy analysis. This paper tries to make persuasive the case for a job order survey program by developing one of many examples of policy problems whose resolution requires a one-time data collection effort.

8.3.1 Interfamily and Intrafamily Transfers

In the analysis of the effects of pension saving on total personal saving our most basic data requirement is for information on transfers of income between or among persons. The larger are interview units (the more inclusive the concept of the family), the more these transfers will be intrafamily, and the smaller are interview units (the more exclusive the concept of the family), the more these transfers will be interfamily. Interfamily or intrafamily, the transfers to be measured are those which serve the purpose for a family of averaging consumption over time or, more accurately, reducing the variance in the consumptions of a series of time periods. It is these transfers which substitute for pension and other saving. What we want are cross-section data on transfers and pension and nonpension saving for persons with and without pension coverage. We can measure accurately the effect of pension saving on total saving only if we can control for transfers. The extended family is not extinct and a useful survey would enable an analyst to control for degrees of extendedness through measured interfamily and intrafamily transfers. It may be that the transfer effect is not significant but it is

better scientific procedure to measure the effect than merely to assert that it is of no consequence.

At the least, we must control for family organization. Without this, there is no way to measure accurately an entirely appropriate concept of transfers. We would find ourselves attempting to measure the value of the consumption of a live-in grandmother net of the value of the child care and other services which she provides. But we must recognize that a more inclusive family normally will have a smaller savings requirement than a less inclusive one. The more inclusive family has more degrees of freedom in averaging income over family members. It has a lower level of uncovered risk. Other things, such as age, sex composition and self-employment being equal, we would expect large families to save less, at least per head, than small ones. The rates at which large and small families substitute pension and other saving likely differ. If large families can more nearly meet their requirements for income averaging through direct as opposed to mediated transfers, they should be less willing to trade pension for other saving; their other saving will be prompted more strongly than for small families by considerations other than reduction of the variance in consumption over time.

But we can collect some information on the financial relationships of members of a household and the financial relationships between those persons and persons in all other households in the world. If persons in one household are making transfers to a person in another household, it is the transfer that is significant. The fact that the recipient is the wife's third cousin, twice removed, whatever that may mean, is of subordinate importance. There is no doubt that eliciting accurate responses to questions on interpersonal transfers will not be easy. Payments made for the upkeep of paramours or of love children kept out of sight may not be known to the respondent or, if known, a source of some embarrassment. Of course, one would not ask of each respondent, "Do you keep a paramour?" One might ask (a) "Did this family last year make any payments directly to persons in other families?" (b) "If so, what was the amount of payment to each person?" (c) "What is the relationship of that person to persons in this family?" (d) "What was the reason for the payment?" This suggested approach no doubt would miss much of the payments to paramours, which in the main, perhaps, are consumption and not transfers. It should yield reliable data on transfers and purchases of services which are free of moral taint and those surely are most of such payments.

8.3.2 Transfers Out and Consumption

Payments made by a family and not otherwise classifiable are either transfers or consumption expenditures but it is not always apparent which. However, questions may be asked in a survey which will assist in a proper classification. Thus, for example, one might ask about the

frequency of church attendance. If attendance is frequent, payments to the church might be classified as consumption expenditures (purchases of church services); if infrequent, as transfers. Property taxes paid by families which have children in elementary or secondary government schools might be classified as consumption expenditures; by other families, as transfers. This is, of course, too simple because property taxes buy government services other than schooling.

Questions can be asked which would enable us to make inferences with some confidence as to whether an apparent transfer transaction was in fact an exchange transaction or not. Although these inferences cannot be made with high confidence, any improvement over present practice would be welcome. In current tax and statistical accounting, transfers out through taxes are overstated and consumption expenditures are understated and, in the treatment of contributions of many sorts, consumption expenditures are understated in tax accounting and overstated in statistical accounting. Consumption expenditures, of course, include consumer surpluses (transfers in) and monopoly rents paid (transfers out possibly but not necessarily) but the failure to identify these transfers does not have so great a distorting effect in analyses of family economic decisions as the arbitrary classification of all taxes as transfers out, even though they buy personal consumption goods and services; all charitable contributions as consumption outlays, even though they are made under duress and buy only peace of mind; and all outlays by a family on consumption goods and services as consumption expenditures, even though the family is making in-kind contributions to the support of persons in another family.

Classifying what are properly consumption expenditures as transfers out, we understate family disposable income and understate family consumption. If the classification errors were uniform over all families, the errors introduced into estimated behavioral parameters would not be serious. But the classification errors are not uniform. The transfer element in payments to churches probably is substantially greater for the rich than for the poor. But it is in the misclassification of state and local taxes that the confounding of effects in the data is a major impediment to statistical analysis. In present practice, the family with a child in a private school has a larger consumption outlay than another otherwise the same with a child in a government school. The proportion of a family's state and local taxes which is properly a consumption outlay depends upon a number of attributes but the variation over families otherwise similar is quite large.

8.3.3 Transfers Out and Saving

The first problem is whether employee pension contributions should be classified as taxes or saving. If a person as a condition for employment must allocate a part of his wage income to a pension plan and the

pension credits which he purchases with his contributions are worth nothing to him, the payments in effect are taxes and not saving. That he may later revalue the credits is another matter. The valuation of pension credits I take up in section 8.3.6, although valuation of the credits is the prior issue. The classification problem arises in the treatment of employee pension contributions where a person does not have effective access to jobs not entailing employee contributions and, in certain circumstances, employer contributions. In the simplest case, the issue is whether FICA contributions are taxes or saving. It is possible that for the young worker they are taxes, for mid-career workers partly taxes and partly saving and are fully saving only for older workers, such as those included in the Munnell data base. It may be, of course, that the contributions are in fact transfers out which substitute for other transfers out (the support of aged parents) which need not be made because FICA contributions are being made. For either case, the crucial question is each person's attitude toward the payments made. In an analysis of family spending decisions we want to know whether pension contributions are an allocation of income or a constraint: does the budget to be allocated include income before pension contributions or after pension contributions? This need not remain a conundrum. We can ask survey respondents questions which reveal their attitudes toward pension contributions.

A second but not unrelated problem is whether saving should be measured on an accrual or realization accounting. Pension saving has little meaning outside an accrual accounting framework. Pension saving may be measured in one or the other of two ways. As a first measure, we may take plan contributions by employer and employee plus current period earnings on accumulated funds that are attributable to an employee. An alternative measure which may yield quite different results is to take the difference between beginning and end of period valuations which a family makes of its accumulated pension credits. Both are accrual concepts. Relating pension saving measured either way to realized income, total budget allocations may exceed or fall short of the budget to be allocated. So we require measurements of incomes and outlays which are consistently on accrual accounting. This isn't impossible; merely difficult. Adding to employee income employer plan contributions and plan earnings, two major elements of accrual income neglected in a realization accounting, would entail two-stage surveying. We would administer a questionnaire to families and, for those with plan coverage, send a questionnaire to their employers asking for employer contributions on behalf of the covered worker and the worker's share of plan earnings. From an interest in evaluating employee attitudes toward pensions we might ask the employer (or the insurance company) for the value of the employee's pension accumulation, although as I point out in section

8.3.6 it is the employee's valuation, not the plan's valuation of the pension accumulation, that is relevant in any explanation of employee saving behavior.

8.3.4 Transfers In and Wages

In the estimation of a lifetime saving equation, one introduces a current period wage income variable in order to sort people into comparable stages of their lifetime income paths. One introduces an unemployment variable to sort people into those who are on their paths from those who are off their paths in the current period. Another variable, expected lifetime wage income, sorts people into path levels. The current and expected income variables together identify the path in "normal" cases. Expected lifetime wage income for most families determines their lifetime consumption plan. The income pattern together with the consumption plan determines current period saving. What has been left out thus far is the influence of wealthholdings and property income, which I take up in section 8.3.5, and whether a family is or is not a lifetime net zero saving unit, which I take up in section 8.3.7.

Estimated relationships depend upon the accuracy with which wage income is measured. Current survey data enable us to make certain reclassifications. We can, if we wish, reclassify AFDC as wage income. We would do less well reclassifying alimony and child support as wage income. Only by arbitrary rules can we reclassify wage income as property income. Reclassifications can be improved by collecting income data in sufficient detail. For the rest, it is a matter of collecting data which give us a basis for inferring whether an income receipt is wages, a transfer or a participation in profits.

Current survey data give us very little information for valuing and adding to family wage income the wage income of members that is earned in home production. An obvious expedient is to classify families into units of (a) one earner, one adult; (b) one earner, two adults; and (c) two earners, and estimate for each class separately. Imputing home wage income to family income is a preferable procedure but only if it can be done with reasonable accuracy. The basic problem is valuation. There are two valuation rules: opportunity cost (what the home worker could earn in the best alternative employment) and replacement cost (what it would cost to hire persons outside the home to perform each of the several tasks). With relevant information on the home worker, the opportunity cost valuation is feasible. It might be possible to make replacement cost valuations by using data collected for families which hire much help to impute costs to families which hire little.

Current survey wage income fails to include quite a bit of realized market wage income, such as employer contributions to life and health insurance plans and the value of employee consumption paid for by em-

ployers. If these errors of measurement were distributed uniformly over all employees, estimated relationships would be wrong only by a constant. The distribution, however, is far from uniform and policy prescriptions are likely to go astray on implicit weighting effects. But, not only is there missing realized income; data now collected do not enable us to construct an accrual concept of wage income for families. The main missing element is employer contributions to and earnings of pension plans, including OASDHI, or, alternatively, the change in the present value of pension rights less own current contributions. To combine a wealth variable or variables which include pension wealth with a current wage income variable which does not include employer contributions to plans will bias the effects on saving both of wealth currently held and of labor income. But only better data will make it possible to correct the error.

From current survey data we have no information on expected income. For estimating lifetime savings models, the practice is to infer expected income from recent past income and other information. The inferred expected income may vary widely from family expectations because the family has information and attitudes toward the future which are not taken into account. Yet it is not unreasonable to ask people questions about their income expectations. There is nothing hypothetical in such questions. What we want is each family's expectation. That is the relevant information. What we may guess is their objective expectation is not relevant. They act on the basis of their expectations however inaccurate or even logically inconsistent those expectations may appear.

8.3.5 Property and Property Income

Property income usually does not enter explicitly into lifetime saving models. Net wealth currently held enters as an element of total resources available to support the consumption plan. A family, of course, cannot spend both principal and interest but it can spend the interest as long as the principal is held and spend the principal at the sacrifice of the interest. In the extreme case, there may be a few families which finance their consumption plans entirely from property income. If they neither add to nor subtract from the capital, they are lifetime net zero savers. In the design of lifetime saving models there seems to be some uncertainty about the proper treatment of property income. If it is to be included explicitly, then it needs to be measured.

In family survey data now available property income is seriously underreported and apparently in a very nonuniform manner (McClung, Koenig, Barkerding 1973). We have two usable surveys of wealth in the past two decades, the latest over ten years old. Apart from their age, both surveys, but especially the Survey of Economic Opportunity, have major shortcomings. Except for the Surveys of Financial Characteristics

of Consumers and of Changes in Family Finances, the survey sample frames were or are inappropriate. Because of that and nonresponse, the surveys miss the rich and much of their income and wealth. The samples should be drawn from lists of persons whose income at least is known. It may not be possible to reduce nonresponse very much but it is possible to use more effectively information collected from respondents together with information from administrative records to impute missing income and wealth to nonrespondents.

There is one very important source of income on which the surveys make no attempt to collect data. This is the current period accrual of capital gains. Logically, in a savings model, the current accrual of capital gain appears on both sides of the equation: it is a component of income and a component of saving. Failure to include the current accrual of gain on both sides of the equation will yield an unbiased estimate of the parameter relating saving to income only if the true value of that parameter is 1.0. Accruals of capital gains are substitutable for other saving. A person may provide for his retirement or meet other savings objectives as well through accruals of gain as through other saving, allowance being made for uncertainty. Most families with substantial accruals of gain no doubt are not lifetime zero savers, but the Treasury at least, good shepherd that it is, is more concerned with those which are outside that fold than with those which are safely within. To measure current accruals of capital gains we need observations on beginning and end of period market values and current period net transactions. With gross transactions we could relate gain realizations to accruals. This does not necessarily imply two interviews. Two interviews might improve the quality of the responses, but if two interviews improve the second response more than the first, one interview may measure changes in values better.

8.3.6 Valuation of Future Interests

There are two rules for valuing assets (or debts). The first is to use current market values. The second is to discount to the present the stream of future net incomes (or outlays). These two rules would yield identical results were capital markets perfect. Capital markets not being perfect, a choice must be made. Regarding assets (or debts) as positive (or negative) resources for financing consumption plans, one encounters a logical problem in aggregating market values; not everyone could sell his assets without driving prices to zero or call his debts without causing prices to rise very high. In microanalysis, there is no problem because we consider the affairs of but one family; the affairs of all others are assumed to remain unchanged. In the case of discount values, there is a question of whether streams of net income would continue if no one were willing to pay anything for them. In real terms, some streams

would continue. Only the stark empiricist would insist that a flower is less fragrant because it wastes its fragrance on the desert air. Nevertheless, metaphysics aside, the custom in analysis of saving decisions is to use discount values primarily because certain forms of wealth, not being traded, have no market value.

The difficulty in using present values of future interests is finding the correct rates of discount. Theoretical analyses run in terms of time rates of discount weighted by various risk factors. A person's rate of discount for time and risk is not directly observable but in equilibrium it is equal to a market yield. Market yields are observable but vary from one lender and borrower to another. An obvious solution and one which avoids any assumptions about the perfection of capital markets and errors of implicit weighting is to ask survey respondents what they paid for funds raised recently. If they borrowed, that is the borrowing rate; if they sold assets, it is the lending rate sacrificed. If the family both borrowed and sold assets or borrowed at several rates or sold assets with different sacrificed yields, we might take a weighted average of the rates as the measure of its opportunity cost of funds. Having asked these questions, we could then discount future incomes and outlays at rates which are appropriate to each family.

That is one way out. There is another. It is simply to ask families to value their assets and debts. Now we will worry of course that the families will not get the values right; that is, they will not assign the value to an asset that we would assign or that the market has assigned to it. But a family is as rich as it thinks it is and makes its consumption and savings decisions with reference to its subjective wealth, not its objective wealth. Taking this way out, we get values directly and discount rates only implicitly. Since we have no interest in discount rates at least in this context, we lose nothing. We would still require rates for discounting expected wage income, unless we asked families for present values. The major difficulty with the procedure is assuring ourselves that the family decision makers are in fact agreed on subjective values. It will not do for the wife to think that the family has a net wealth of \$100,000 and the husband to think that its wealth is \$200,000. And this is true whether we interview husband or wife unless the one interviewed is a thoroughgoing autocrat. When we weight these subjective wealths, we will discover discrepancies between the resulting national estimates and estimates derived by other methods. However, we will not be able to say that the survey results are wrong, at least for behavioral analyses.

It is likely that people in general value noncontingent, transferable future interests at near their market value. The measurement problem there is that the respondent is not fully informed about the number of units in the stock held. But, with respect to contingent, nontransferable future interests, subjective valuations may differ markedly from objective valua-

tions. The young possibly value retirement pensions, for example, at a fraction of their objective worth while persons close to the end of their working lives may overvalue them. A perfectly satisfactory reason for asking survey respondents for their valuations and, in addition, collecting data for making objective valuations is that we do not know how people value their assets and debts. We may be substantially in error if we assume that they are well informed and completely objective.

8.3.7 Estate Building Plans

Presently we have very limited data on transfers by gift and bequest. The principal sources of these data are tax returns, on which the transfers are underreported. The Federal Gift Tax may be regarded as not a tax on gifts but a gift of tax to the federal government. The matching of Federal Estate Tax returns with decedent and heir Personal Income Tax returns, now being made by the IRS Statistics Division, will improve significantly our understanding of transfers by bequest for the approximately 7 percent of the population which leaves significant estates. It would be helpful to have more complete data on bequests and gifts.

However, for estimating a lifetime saving model, actual bequests and gifts paid are irrelevant. What we require is information on current plans for transferring wealth by gift and bequest. Essentially, it is plans for wealth transfers by bequest and gift which separate lifetime positive savers from lifetime zero savers. To the extent that gifts substitute for bequests, information on gifts assists in the classification. Again, much depends upon motives. Only from a knowledge of motives can we sort gifts from support. And the knowledge of motives can be acquired. A survey can ask respondents if they plan to make transfers in the future and, if so, whether the transfers are intended as consumption support or capital grants. Asking respondents about their transfer plans is a lot better than guessing that gifts made after some advanced age are an alternative to bequests and, hence, are capital grants and that transfers made prior to that age are consumption support or capital grants depending upon the size of the transfer. The fact is that each respondent has more relevant information than an analyst is likely to have. A person at age 30 who expects to die in a few years may make gifts which, however IRS auditors may later decide, in fact are in anticipation of death, and an 80-year-old who expects to live for 10 years more may not make gifts because he thinks that he has time remaining before the burden of proof shifts.

While we are asking respondents for their planned transfers out, we should ask them for actual and expected transfers in through inheritance, gift and support. Expected inheritances should affect current period saving in much the same way as expected wage income but, in any case, we make a mistake in supposing that they have no effect. Any effect, of

course, applies only to that small fraction of the total population which expects to receive inheritances. However, that small population accounts for much of family saving. More generally, we should try to identify the sources of a family's acquisition of its current holdings of future interests. Future interests acquired through gift and inheritance and through current funded and mature advance funded pension plans contribute nothing to aggregate saving. Only accumulations out of current income have a full effect; accumulations through immature advance funded plans have a partial effect. In explaining family saving, we should try to separate out that saving which adds to the supply of funds available for capital accumulation from that saving which does not. Saving through a current funded pension plan, OASI for example, is genuine saving to a family paying FICA tax but, to a family in receipt of a pension, the transaction may be and possibly should be regarded as a transfer in. From the viewpoint of the national economy the transaction is entirely a transfer. If this macrotransfer reduces macrosaving through its effect on microaccumulations out of current income, then there is a cause for concern. That concern should find its first expression in the collection of better data for analysis of the issue.

Notes

1. Martin Feldstein (1977) reviews research prior to 1978 and considers its implications for economic growth.
2. The survey program is being developed jointly by the Census Bureau and the Department of Health and Human Services. Under current plans, the survey program will become operational in 1982.
3. In U.S. Treasury Department 1977, there is an extended treatment of institutional concepts of income.
4. For an empirical analysis, see Eugene Steuerle 1975.

References

- Barro, Robert. 1977. "Social Security and Private Saving—Evidence from the U.S. Time Series." Mimeograph. University of Rochester.
- Feldstein, Martin. 1977. "The Social Security Fund and National Capital Accumulation." In Federal Reserve Bank of Boston, *Funding Pensions: The Issues and Implications for Financial Markets*.
- Feldstein, Martin, and Anthony Pellechio. 1977. "Social Security and Household Wealth Accumulation: New Microeconomic Evidence."

- Discussion Paper no. 530. Cambridge Mass.: Harvard Institute of Economic Research.
- Kotlikoff, Laurence. 1979. "Testing the Theory of Social Security and Life Cycle Accumulation." *American Economic Review* 69, no. 3.
- Kurz, Mordecai. 1980. "The Effects of Pensions on Capital Formation: A Framework for Sample Analysis." Menlo Park, Calif.: SRI International. Xerox draft.
- Munnell, Alicia. 1976. "Private Pensions and Saving: New Evidence." *Journal of Political Economy* 84, no. 5.
- McClung, Nelson, Lou Koenig, and Charlotte Barkerding. 1973. "Editing Census Survey Files for Income and Wealth." Washington, D.C.: The Urban Institute.
- Orcutt, Guy, Steven Caldwell, Richard Wertheimer III, et al. 1976. *Policy Exploration through Microanalytic Simulation*. Washington, D.C.: The Urban Institute.
- Steuerle, Eugene. 1975. Expected Rates of Return on Savings Portfolios: The Variance Across Socio-Economic Classes." Ph.D. thesis, University of Wisconsin.
- U.S. Treasury Department. 1977. *Blueprints for Basic Tax Reform*. Washington, D.C.: USGPO.