APOLOGIA FOR A PSID-BASED TIME-USE SURVEY:  
AN ECONOMIST’S VIEW

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I. Introduction

No single aspect of the PSID makes it unique. Other longitudinal household data sets (e.g., some of the original NLS series) have been running as long; other data sets also provide information on huge numbers of covariates; and others (including the CPS) are demographically representative of the U.S. population. What makes the PSID unique is its combination of representativeness, breadth and longitudinality of information. In considering whether and how to structure a time-use survey within the PSID, this combination of unique characteristics must be considered.

The American Time Use Survey (ATUS) has begun to provide detailed time diaries on large numbers of individuals representing the U.S. population. Representativeness is taken care of here. Other surveys, including in North America the Canadian GSS, provide a fairly large number of covariates describing the respondents, although the breadth of the covariates hardly approaches that of the PSID. What is missing from the worldwide arsenal of time-diary data is longitudinality—there simply is no longitudinal time-diary survey, in the U.S. or elsewhere; nor, except for a minuscule extension of the 1975-76 American survey, has there ever been one. The best scientifically valid justification for the substantial cost of a time-diary module in the PSID arises if there is a commitment to include time-diary information in at least two waves. Throughout the rest of the discussion I will therefore assume we are speaking of a longitudinal survey. Much of the usefulness I outline will stem from this aspect, while most of the rest comes from integrating a time-diary module with the breadth of the PSID’s covariates.

II. Theoretical Motivations

A. Flows of Activities

Perhaps the most important new facts coming out of the PSID in its entire history have been those related to the fluidity of households’ position in the income distribution. This knowledge could only be generated from longitudinal data. More generally, there is a wide range of phenomena—labor force participation; workplace injuries, and others—that can be characterized as a rate that is determined both by the incidence of an activity/even and its persistence/duration. While knowing the rate and its determinants is important, differences in incidence and duration can have substantially different implications for economic welfare within the same rate (e.g., lower average welfare with long-duration, rare-incidence injuries or unemployment). The ATUS data allow us to focus on differences across fairly small

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demographic groups; but we can’t learn anything from them about sources of within-group variation across individuals.

No time-diary dataset allows us even to tabulate how individuals move over time among household activities (except for nearby or adjacent day comparisons in a few countries). Simply measuring the incidence/duration of various household activities is not currently possible. The dynamics of household production cannot now be addressed, nor can the welfare burden. We currently cannot know much about what variation there is over time within couples in the burden of such household activities as childcare, meal preparation/clean-up, household maintenance, and others. Nor can we test models of the nature of household bargaining and the burdens and benefits of household activity without data on their idiosyncratic temporal variation.

Information on the incidence and duration of such important productive activities as volunteering is also not currently available. Do the same people volunteer, while others do not; or is there a flow into and out of volunteering? Similarly, do the same people engage in religious activities day after day, or is there a flow here too? Retrospective questions on these and other production and consumption activities are possible; but, as we have seen from comparisons of CPS data on recent versus further past unemployment experiences, the “filter of memory” here is generally quite coarse.

B. A Basis for Satellite Accounts

One of the pillars of economic data is the measurement of the amount of production (GDP) in an economy. Recognizing that the shifting loci of production bias this measurement, the U.S. is increasingly edging toward the creation of Satellite National Accounts to accompany the NIPA data. This interest provides a very strong series of arguments for a PSID-based time-diary module. Major measurement difficulties arise here on both quantities and prices. The first is valuing the time of people engaged in household production (in activities for which a market substitute could be employed). One sensible alternative is to use what has been called the “quality adjusted replacement cost” of an activity, essentially the value of the actor’s time adjusted for his/her efficiency in producing the good or service at home. The difficulty arises in determining how to make the quality adjustment. Direct observation is unlikely; instead, relating individual economic and demographic characteristics to the time spent generating different household activities may be useful in providing baseline quality adjustments for use in updating ATUS-based satellite accounts. A broad range of covariates, as in the PSID but not the ATUS, would seem crucial here.

A second difficulty in valuing household production is its frequent jointness—a particular activity, e.g., my wife’s and my doing the laundry together, or preparing dinner, uses time inputs of several household members. In order to measure how much of their joint time is consumption (not to be counted) and how much is productive (should be counted) we need to observe patterns of interactions of husbands and wives (and perhaps others in the household) in productive activities; and we need to know the correlates of the probability and intensity of these interactions in different activities. Since the ATUS provides data
on only one household member and has a sparse set of covariates, it cannot be used to provide baseline
information on this issue.

A subject of continuing debate in the valuation of household productive time deals with secondary
activities, those that are conducted while another, primary activity takes place (in production, childcare
while preparing meals; in consumption, reading a newspaper while watching television). The ATUS
records only childcare as its only secondary activity; and its paucity of covariates means that it is of little
help even in predicting the extent and incidence of childcare. Clearly, if we are to include secondary
activities (being careful not to double-count time the same time spent on two productive activities), we need
to obtain data that allow measuring and predicting the amount of secondary activities in a variety of areas.

C. Linkages to Life-Cycle Models

The central economic model of household behavior is the life-cycle model, in which individuals (or
households, perhaps through bargaining) maximize over a variety of outcomes, including labor supply to
the market and goods consumption. The PSID has been crucial for estimating these models and thus in
understanding life-cycle behavior, because it contains data on both hours of work and (at least a few
components of) goods expenditures. Yet neither it nor any other available data set can be used to shed light
on such questions, which are typically ignored in formulating variants of the life-cycle model, as: 1) How
does time use at home interact with goods purchases and market labor supply, under the reasonable
assumption that these are not separable inputs into household production? Are we possibly missing
important aspects of behavior when we implicitly assume that the life-cycle outcomes we have analyzed are
separable from the major components of household activities? 2) How does wealth accumulation interact
with the choices people make about how to spend their non-market time? 3) How does our use of time
affect the amount of saving we may be doing out of bequest motives? 4) What are the dynamics of the
interactions among time use in the household, market work and goods expenditures?

While models whose estimation would be possible if time-diary data were available in the PSID are
important for understanding how individuals behave, they are even more important for understanding
macroeconomic fluctuations. Several exploratory studies have pointed out the role of household production
in macroeconomic fluctuations; yet these studies have been based on informal tests using aggregates of time
use observed at one point in time and unrelated to the behavior of the households on which the time-diary
data were based. We cannot get a better handle on consumption behavior, by far the biggest component of
expenditures in GDP and the major driver of macroeconomic fluctuations, unless we can link it to its
interactions with time use over the life cycle.

D. Household Production and Marital Bargaining

Households produce the same final commodities differently depending upon their endowments and
opportunities. The outcomes depend partly too on the bargaining power of household members. Only
recently have we even begun to measure how goods and time are combined in the household and to
examine a few correlates of the determinants of their combination. Knowing the facts about this is central
for analyzing well-being as societies become richer; but regrettably, due to the absence of data on goods expenditures and time diaries from the same households, the knowledge gained to date must be based on linking cell averages of goods spending and time use. This absence causes us to miss the probably more important idiosyncratic aspects of these combinations. The PSID has contained an expending set of information on respondents’ consumption expenditures, to the point where it is essentially as comprehensive, albeit not so thorough, as the Consumer Expenditure Survey data. A time-diary component in the PSID would provide researchers and the public the first available data that describe BOTH a household’s spending and its time allocation. In addition to general research interests this combination would be very useful for the research and policy analyses discussed in Part B above.

A central focus of labor economists has been the analysis of power relations within the household, with studies focused on the specification and estimation of models that determine outcomes using the framework of household bargaining. The questions have focused on spouses’ relative power and how this affects the kinds of goods purchased and the amount of time spent in market work. The absence of data on time use and on the panoply of covariates that affect it has meant that we have not been able to address the distributional effects of spouses’ relative power on outcomes beyond the broad market work—non-market time distinction. Again, the implicit assumption that non-market time is aggregable for purposes of analyzing spouses’ relative power is probably untenable. Similarly, understanding the role of power relations in determining how time use interacts with goods expenditures will enhance our knowledge of women’s well being and of the institution of marriage more generally.

III. Aging Issues

A longitudinal time-diary survey appended to the Heath and Retirement Survey would undoubtedly yield more useful information for research on aging than would an equal-cost supplement attached to the PSID. (Similarly, a time-diary supplement to the NLSY97 would yield more useful information about youths’ behavior than would a PSID-based time-diary supplement.) No single survey can serve all purposes equally well. There are, however, sufficient numbers of observations on older people (and surely sufficient numbers on those who are nearing retirement age) that a longitudinal time-diary survey in the PSID would be a boon to researchers studying aging (although I recognize that the CAMS in the HRS is a start on eliciting information about older people’s time use).

Several of the theoretical questions discussed above take on particular interest among older people, particularly those having to do with labor-force behavior and consumption near the end of a working life. Light could be shed on the so-called retirement-consumption puzzle by a time-diary supplement, particularly with longitudinal data that allow the researcher to track individuals’ changing mixes of market work, household production and leisure in conjunction with their changing spending. Information on time devoted to investment in health and how it changes with age would also be readily available.

The main point here is that, faced with the choice of appending an equally costly longitudinal time-diary supplement to the PSID or the HRS, I have no doubt that the PSID route is the more desirable. It
would provide information that can help answer questions applying to all age groups and, perhaps more important, to issues covering the entire life cycle. The loss in both precision (because of the smaller number of older Americans in the PSID) and the absence of some covariates specific to the HRS seem a small price to pay for the generality obtainable from a PSID-based time-diary survey.

IV. Structure of the Survey

I should be clear here that I am speaking of a time-diary survey, not a time-use survey more generally. The latter also group includes surveys that elicit retrospective information on how the respondent typically used his/her time, as has already been done for many years for many activities in the PSID and as is being done for all activities in the CAMS-HRS. While retrospective surveys may approximate the true means obtainable from diaries, they are likely to be fraught with large measurement errors, as people respond especially strongly on those activities that were more salient. This problem ensures that any multivariate analysis will have severe difficulties.

A central issue in the construction of any time-diary survey is the set of categories into which to classify activities. While many U.S. surveys have used variants of the Szalai categories, taking advantage of the BLS’s investment in developing an enlarged, comprehensive and updated set of categories seems very desirable in any further U.S. surveys. Using the BLS lexicon also has the advantage of allowing researchers a clear-cut way of comparing results obtained from the smaller and less frequent PSID samples with those obtained in the massive ATUS samples, as well as reducing costs of developing a time-diary survey within the PSID. I expect the ATUS lexicon to become the standard for time-diary studies worldwide; it is thus crucial for purposes of comparability that any further U.S. study uses the ATUS categories.

A second choice to be made in any time-diary study is the number of days for which each respondent is asked to complete a diary. Choices have ranged from as few as one (e.g., in the ATUS, in Robinson’s surveys) to as many as four (in the 1975-76 U.S. survey). Within a fixed budget there is a clear trade-off between greater knowledge of the short-run idiosyncrasies of a smaller group of respondents’ time use and lesser knowledge about a larger sample. Of course too there are issues in response rates, ones that seem to have become more serious over time. With the ATUS sampling only one day, a market niche exists for a PSID supplement to sample each individual surveyed on two separate days. Going to four days seems to add very little, especially if those days are spread out over a year, a horizon not that much shorter than the biennial longitudinal survey that could be readily accommodated within the PSID framework. Moreover, for purposes of minimizing survey costs and maximizing response rates two consecutive-day diaries should be obtained (as in the German and Australian surveys).

That the ATUS surveys only one person per household creates a tremendous lacuna in American time-diary data, one that does not exist in most other countries’ recent surveys. Clearly the PSID should fill this niche by surveying at least two people per household, especially given its long-term focus on the family. In doing so it must rely on each surveyed individual completing a diary, as is done in the cross-
section German and Australian time-budget studies; proxy reporting is likely to be especially error-ridden in
time diaries. While it would be desirable to survey all household members (ages 12+), spending a fixed
budget on obtaining time-diary data from more households rather than additional members (beyond two) of
a smaller number of households seems preferable. If two people in a family are surveyed it should be the
husband and wife, especially given the role of a PSID-based time-diary supplement in studies of marriage
and women’s roles in the household.

With a large enough sample concerns about low-frequency events should not be too great—even
these will be observed often enough that the numbers of diarists recording these will suffice to inform
research and policy. If we are really concerned about them, a few interview questions would suffice to
elicit information on their recent occurrence (in the period before the diary-day).

Like any researcher I would like to see a time-diary survey fielded as frequently and for as many
years as possible. Given the PSID’s current two-year cycle, this means obtaining time-diary data
biennially. While annual data would be preferable, the loss to having biennial PSID time-diary data seems
small. If the hiatus between waves of time-diary data is larger, more marital splits and marriages will
provide more within-person information on time use. On the other hand, a longer hiatus gives problems of
sample attrition and, more important, potential difficulties in assessing whether unobservable changes might
be causing within-person changes in time use. I cannot stress strongly enough, however, the importance of
having longitudinal time-diary data. It would be desirable to have time-diary data in each PSID wave; but it
is essential to have them in at least two consecutive waves. Indeed, while I cannot know the opportunity
cost of the funds, the total benefit of financing only a one-wave time-diary supplement would be far less
than half the benefit of financing a time-diary in two waves.