Studying Consumption with the Panel Study of Income Dynamics: Comparisons with the Consumer Expenditure Survey and an Application to the Intergenerational Transmission of Well-being

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Abstract

Beginning in 1999, the Panel Study of Income Dynamics (PSID) added new questions about several categories of consumption expenditure. The PSID now covers items that constitute more than seventy percent of total expenditure measured in the Consumer Expenditure Survey (CE). We show that expenditure for each of the broad categories in the PSID aligns closely with corresponding measures from the CE. Using the new PSID data, we impute total expenditure in the PSID and show that this is also very close to total measured CE expenditure. For several distinct categories and for total consumption, we show that cross-sectional life cycle estimates of household expenditure activity are very similar across the two surveys. Finally, we illustrate the unique research value of the PSID for studying consumption by exploiting the survey's longitudinal design and genealogical structure to estimate the intergenerational elasticity of consumption expenditure, which is found to be in the range of 0.32-0.34.

I.   INTRODUCTION

Consumption is a fundamental concept in economics, figuring prominently in the theoretical literatures of both micro and macroeconomics. Unfortunately, data on consumption have been quite limited. The Consumer Expenditure Survey (CE), which began regular data collection in 1980, is the most widely-used dataset for studying consumption in the U.S. Although many important findings come from analyses of the CE, it was not principally designed for empirical research, but rather as a tool for periodic revision of the Consumer Price Index.

The only other national survey that has consistently collected data on consumption expenditures is the Panel Study of Income Dynamics (PSID).[1]   Historically, this information was limited to reports about food and housing expenditures. Beginning in 1999, however, the PSID added a series of questions about other expenditures, such as spending on transportation, health care, education, utilities, and child care. Indeed, with the expanded consumption questions, the PSID now covers more than seventy percent of total outlays measured in the CE.

Several PSID design features make it a unique resource for studying particular questions about consumption that cannot be addressed with other surveys. The three most important features are its longitudinal design, the inclusion of parents and siblings of sample respondents, and the extensive array of variables including health, wealth, pensions, income, employment, and family structure.

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[1] The 2001 and 2003 Consumption and Activities Mail Surveys, which are supplements to the Health and Retirement Study, consist of comprehensive assessments of expenditures for people 50 and older.

In this paper, we describe the expanded expenditure data collected in the PSID, outline the questions that have been included in each wave, examine item non-response, and then compare estimates of total expenditures based on the PSID and the CE. We conduct a further assessment of the quality of the PSID expenditure data using the CE as a benchmark. Specifically, we present cross-sectional estimates of life-cycle expenditure patterns – a topic of great interest to economists – from the two surveys. Finally, having demonstrated the quality of the new PSID expenditure data, we illustrate their empirical value by addressing an issue that cannot be addressed with any other U.S. national surveys: the intergenerational transmission of consumption expenditures.

II.   THE DATA: PSID AND CE

The Panel Study of Income Dynamics

The PSID began in 1968 with a sample of roughly 5,000 families, including a low-income over-sample. Individuals in these families and their descendants have been followed ever since, with the sample growing to nearly 10,000 by 1997. Then, because of budget constraints, the sample was trimmed to 6,500 families by dropping roughly two-thirds of the low-income over-sample.

The sample has grown since 1997, with 7,822 families completing interviews in the most recent wave, 2003. Because of consistently high response rates of 95-98 percent, and the fact that the sample is replenished through births and marriage, the PSID, when weighted with the family weights, remains representative of the U.S. population (Fitzgerald et al. 1998; Becketti et al. 1988).

Families were interviewed annually from 1968 to 1997, and every other year since 1997. The interview, which averaged 72 minutes in 2003, is completed by telephone for 97 percent of the families and face-to-face for the remaining 3 percent. Expenditures are reported for the family as a whole, where a PSID family is defined as a group of people living together as a family. Family members are generally related by blood, marriage, or adoption, but unrelated persons can be part of the same PSID family unit if they permanently reside together and share both income and expenses.

A unique feature of the PSID is its genealogical design. All family members living in households interviewed in 1968 are followed in future waves. When children left their parents' home or when couples who were married in 1968 separated or divorced, both individuals were followed and continue to be interviewed. In addition, children born to sample members after 1968 inherit the "PSID gene" and are followed as well. As a result, since 1968, interviews have been completed with numerous members of the same extended families, including siblings, parents and adult children, and in some cases grandparents and grandchildren. Therefore, adding questions to even one wave of the PSID allows analyses of the relationship between those variables among various family members.

Table A1 reports the spending questions used in the 2003 wave along with an indication of whether the same or a similar question was asked in earlier waves. As mentioned, the PSID included a few expenditure questions from the start. Most notably, spending on food eaten at home (away from home) has been collected in all but three (four) waves. Housing-related expenditures have been included in many waves, with data on mortgage payments collected in all but six years since 1968. Rental payments for housing and property taxes have been included in most waves as well. Utility payments were collected from 1981 to 1983, dropped for 15

years, and then added back in 1999. Child care spending was asked in each wave since 1988, and in several earlier years.

In 1999, questions on expenditures were expanded. Four questions on out-of-pocket spending for health care were added: hospital and nursing home care, doctor visits, prescription drugs, and insurance premiums.[2] Assessments of educational expenses included payments for tuition, books, supplies, and room and board. Transportation-related expenses included vehicle loan and lease payments, vehicle down payments, vehicle insurance payments, gasoline, repairs and maintenance, parking, bus fares, and taxicabs.

The time period over which PSID expenditure data are reported – i.e., weekly, monthly, yearly – varies across spending categories. Table 1 summarizes the item nonresponse rates and time period of reporting in the PSID 2001 wave. Moreover, even when a preferred time period is stated in the question, respondents are usually allowed to report spending over alternative periods if it facilitates recall. For food at home, respondents are asked to report the amount they currently spend in an average week, although they are allowed to report annual or monthly

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[2] The use of so-called "Unfolding brackets" in the PSID wealth questions has been found to reduce item nonresponse substantially (Juster and Smith, 1997). The health care expenditure questions added in 1999 also offer respondents unfolding brackets. For example, if when asked the amount spent on prescription drugs the respondent says they do not know, they are asked "Would it amount to $5,000 or more?" If they say yes, then they are asked in subsequent questions whether it is more than $10,000, and then more than $20,000. If they say no, then they are asked in subsequent questions whether it was more than $1,000; and if they say no again, they are then asked if the amount was more than $500. If they continue to respond "don't know," the question series is terminated.

amounts. Because the question stem states "average week," 89 percent of respondents report a weekly amount (Table 1). Spending on food delivered and food away from home are asked right after the question about food at home, but the stem does not suggest that the report be for an average week. As a result, a smaller share of families reports these categories in weekly amounts: 49 and 68 percent, respectively.

Education and child care spending are reported on an annual basis for the previous calendar year (i.e., in the 2003 interview, respondents report spending for calendar year 2002), while health care spending is reported for the previous two calendar years combined. Most housing and transportation expenses refer to current spending, and are typically reported for an average month. Home and vehicle insurance and property taxes are the exception, with respondents asked to report annual spending because these payments are not typically made on a monthly basis.

Item non-response is low in the PSID (Table 1). In most categories, less than 2 percent of families did not report a valid response to a given spending question. Non-response was highest for insurance payments – both housing and health – at 7-8 percent. For food, the most extensively studied expenditure item, 1.8 percent had invalid responses for food at home, while 1.2 percent had invalid responses for food eaten away from home.[3]

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[3] Over all three waves for which comprehensive data were collected, fifteen cases had values for expenditures in one category that were several orders of magnitude larger than the average spending across all families for the given category. In these cases, the value was assumed to be invalid and it was imputed using the same approach that was used for item nonresponse described below.

<u>The Consumer Expenditure Survey</u>

The CE consists of two surveys – the quarterly interview survey (IS) and the diary survey (DS) – that provide data on the buying habits of consumers, including expenditures, income, and basic demographic characteristics. (see U.S. Department of Labor, 2003a, for a detailed description.) The DS collects information on all spending in each day for two consecutive one-week periods, focusing on frequently purchased items such as food, tobacco, and personal care products. The IS, conducted in person, consists of five interviews three months apart; the key expenditure data are collected in the last four interviews, covering a 12 month period. In both the DS and IS expenditures are reported for the "consumer unit."[4] The sample frame includes the non-institutionalized population, which is comparable to the PSID.

In this paper, we compare the PSID with the IS. Since the first quarter of 1999, the IS has interviewed 7,000 to 8,000 households each quarter, with respondents reporting spending during the previous 3 months. The IS measures 578 separate categories at the Universal Classification Code (UCC) level, covering an estimated 95 percent of total spending, with spending on nonprescription drugs, household supplies, and personal care items excluded (U.S.

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[4] A consumer unit is defined as: (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who use their income to make joint expenditure decisions. Financial independence is determined by three major expense categories: housing, food, and other living expenses. To be considered financially independent, at least two of the three major expense categories have to be provided entirely, or in part, by the respondent.

Department of Labor, 2003b). The response (CU cooperation) rate in the CE was 80 percent in 2000 (U.S. Department of Labor, 2003b, page 247).

The focus of this paper is on comparing expenditures, not consumption. Therefore, expenditures on durables are not converted into flows of services received. Note, however, that the conventional method for imputing consumption is to apply a linear transformation to the stock of durable goods. Although durable good stocks are not the focus of either the PSID or CE, if expenditure outlays on durables are similar across the two surveys, it is likely that the stock of durables and the flows of services would be similar across surveys as well, were those stocks measured.

III.   A COMPARISON OF EXPENDITURES IN THE PSID AND CE

To conduct our comparison, we annualized all reported consumption expenditures in both the PSID and the CE. For the PSID, if an amount is reported for a time period of less than one year, we inflate it by the inverse of the fraction of the year for which the report covers. If the report is for more than one year, we deflate the amount assuming that spending was uniform across the period. For the CE, we follow the procedures provided by the BLS to calculate the weighted mean across interviews.[5]

There are many reasonable alternative approaches for imputing values for families with item non-response. However, given the PSID's low rate of non-response, estimates of spending are relatively insensitive to the imputation strategy. Table 2 reports average PSID spending for

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[5] Due to the evolving structure of the CE sample design, the weight assigned to each consumer unit changes over quarters. Therefore, the annual weighted mean is computed by adding four quarterly weighted means together. For details, see U.S. Department of Labor, 2003b.

each category when the missing data are dropped (implicitly assuming that spending for families with item non-response is equal to the average among families who responded), and when the missing data are imputed using a model that includes a third-order polynomial in age, and an unrestricted spline for family size. The imputation models were fit separately for each expenditure category listed in Table 2 using ordinary least squares.

Because the CE measures far more detailed spending categories than the PSID, the CE categories, i.e., UCC codes, were mapped into the PSID categories. The mapping is provided in Table A2. The cross-walk was determined by having two coders independently map the UCC codes into the PSID categories. Differences were reconciled through close inspection of each UCC.

Average spending for the PSID and the CE in 2001 – for each PSID category – is reported in the first columns of Table 3; subsequent columns report comparisons for 1999 and 2003. Estimates for specific subcategories disagree significantly in some cases, most likely due in part to respondent misallocation of spending into narrowly-defined categories. These discrepancies aside, total spending in each major category aligns fairly closely across the two surveys, especially considering differences in survey design. For example in 2001 (column 5, Table 3) comparing the PSID to the CE, total spending on food is 8 percent higher, total housing aligns exactly, and total transportation spending is 6 percent lower. These three categories account for 86 percent of spending measured in the PSID. The gap is larger for health care spending, education, and child care, with the PSID finding higher amounts in each case. Combining all PSID categories, annual spending totals $25,961, 2 percent greater than CE spending for these categories. Estimates for 1999 and 2003 are fairly similar, with the PSID 4 percent lower in 1999 and 1 percent higher in 2003.

The PSID spending categories total $25,375 as measured by the CE, which accounts for 72 percent of total spending measured across all CE categories, including those not collected in the PSID (not shown in tables). This 28 percent spending gap falls largely into five categories: home repairs and maintenance ($1,200 in the 2001 CE), household furnishing and equipment ($1,400), clothing and apparel ($1,300), trips and vacations ($1,300), and recreation and entertainment ($1,200). To capture spending on these items, questions were added to the 2005 wave of the PSID, with the goal of having the PSID obtain a nearly comprehensive measurement of expenditures from 2005 onwards.

Life-Cycle Expenditure Profiles

Figures 1 through 8 display the cross sectional life-cycle expenditure profiles from the two surveys. The figures plot, for each data source, expenditures for each major category and for overall total expenditures by the age of the family head. The three-age-group moving average for each single year of age (e.g., 25-27 years old, 26-28 years old, 27-29 years old, etc.) is calculated for each year (1999, 2001, and 2003), and then averaged across the years. We do not control here for any household characteristics (e.g. gender of head, family size, etc.), so the profiles represent how, at a point in time, consumption differs at different points in the life cycle, and thus reflect changes over the lifecycle in household size, composition, and all other factors. Sample weights are used in these figures.

The profiles from the PSID and CE are quite similar across most categories. Food spending is about $5,000 per year in the late twenties, increases through the late 40s, and then falls throughout the rest of the life-course. These cross-sectional patterns for food consumption

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are comparable to the longitudinal results of Fisher and Johnson (2006), who use the panel design of the PSID to follow the same cohorts over a five-year period.

The life-cycle profiles for rent are nearly identical in the PSID and CE. Mortgage payments and home insurance are higher in the PSID, while utilities and property taxes are somewhat higher in the CE. Altogether, housing expenditures increase through the late thirties or early forties, and then begin a rapid decline after the mid-fifties, with consistent patterns in the two surveys.

Transportation expenditures are higher in the CE than the PSID for persons in their thirties and forties. However, both data sets show increases through the late forties or early fifties, followed by significant reductions that are likely due to retirement. Gasoline and car lease payments are quite similar in the two surveys; the gap in the younger age range is due to the somewhat higher estimates in the CE of loan and down payments. Despite the differences across surveys in spending levels, the life-cycle paths are similar.

Child care expenditures are the highest in the late twenties and early thirties, the peak childbearing years, and this is reflected in both data sets. Out-of-pocket health care spending follows the expected pattern of ever-increasing outlays, with very similar levels and profiles in the two surveys. Families headed by people in their seventies have roughly three times the amount of out of-pocket medical spending as families headed by people in their twenties.

Both surveys display a bi-modal pattern of educational expenditures, peaking in the mid-twenties – presumably due to spending on one's own education – and again in the late forties and early fifties – presumably due to spending on the higher education of one's children. However, PSID spending at older ages is roughly twice as large as in the CE, representing as much as a $1,000 difference. This divergence is smaller in 1999 and 2003 than 2001 but is still substantial.

In the CE, children living away at school are not considered part of the household's consumer unit (CU). We explored how the difference across the surveys is affected by coding reported cash sent to these children as educational expenditure, and find that the gap across the surveys is essentially unaffected. This is not too surprising as payments made directly to educational institutions by parents are included in the CE as educational spending.

Comparing total spending on all categories measured in the PSID, the life-cycle expenditure profiles in the two data sets are quite similar (Figure 8). The lower profiles show spending in the categories measured in PSID rising through the late forties or early fifties and then falling almost monotonically throughout the rest of the life-cycle. The one period where the patterns for the two data sources diverge somewhat is in the early fifties, and this is almost entirely due to the gap in education expenditures at these ages.

The upper profiles display total spending measured in the CE, including categories not measured in the PSID. Similar to the approach used by Fisher and Johnson (2006) and Skinner (1987) to impute consumption, we impute total PSID expenditure from a regression model estimated with CE data where explanatory variables include expenditures in each category measured in the PSID. The R-squared from the imputation model was 0.88. The estimates from the model are reported in Table A3.

The profiles imply spending of roughly $30,000 per year in the late twenties, increasing to $42,000-45,000 in the mid-forties. Other than the increase in the early fifties in the PSID, spending falls thereafter, so that by the early seventies spending is equal to the level experienced by families headed by people in their late twenties. In general, the profiles are similar in the PSID and CE, with somewhat higher estimates for PSID. This result is consistent with that of

Fisher and Johnson (2006) who use a different imputation strategy and examine consumption and not expenditures.

IV. INTERGENERATIONAL TRANSMISSION OF EXPENDITURES

Our results suggest that, with the addition of the new questions in 1999, the PSID does a very reasonable job of measuring household expenditure, when assessed against the standard of the CE. In this section, we illustrate the value of the PSID by providing estimates for a substantive question that cannot be addressed using the CE or any other national survey.

Researchers have used the PSID's genealogical design to examine the intergenerational transmission of economic status. For both income (Solon, 1992; Zimmerman, 1992) and wealth (Charles and Hurst, 2003), intergenerational correlations are roughly 0.35 to 0.40. Here we exploit the design to estimate the intergenerational correlation in expenditure. Expenditures are arguably a better indicator than income of permanent well-being, and therefore, one may expect the correlation to be higher than the income correlation. Spending choices are also useful to examine in their own right, as they are likely to be determined by the transmission of income as well as preferences, from parents to children.

Following the approach used in the literature on income and wealth, we estimate a model with the log of adult children's consumption expenditure (C_k) as the dependent variable, and the log of parental consumption expenditure (C_p) as the key covariate. The regression includes controls for the age and marital status of the parent and age and marital status of the child, the number of co-resident family members for the child's household and for the parent's household (specified as dummy variables for 1, 2, 3, 4, and 5 or more family members, respectively), and the gender of child. For children whose parents are both alive and divorced, we used the father's

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data, but controlled for whether the parents are alive and divorced in the model. The estimating regression is thus:

$$C_k = \alpha + \delta \, C_p + X'_k \alpha_k + X'_p \alpha_p + \varepsilon_k \quad (1)$$

where δ is the estimate of the intergenerational elasticity of expenditures, and X_k and X_p are controls variables for the child and parent, respectively.

Estimates are calculated for two measures: total spending measured in the 1999, 2001, and 2003 PSID (C_{PSID}), and total spending that includes the amount imputed because it is not assessed in the PSID (C_{Total}). Table 4 reports estimates for the former, but estimates of the latter are very similar (available on request).

The literature on the estimation of intergenerational correlations suggests that estimates of the relevant parameter, δ, might be biased downwards because of measurement error and transitory factors (Solon, 1992). To address that concern, we also estimate regressions in which parental expenditure, C_p, is measured as the average over three waves (1999, 2001, and 2003).

The intergenerational elasticity in C_{PSID} for a single year ranges from 0.25 to 0.27, which is similar to the single-year elasticity in earnings (Solon, 1992). Averaging over multiple years increases the correlation to 0.32 to 0.34, or as much as nine percentage points, which is similar in magnitude to the increase in intergenerational correlation in earnings when averaging is used (Solon, 1992).[6,7]

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[6] Solon (1992) uses different years of data and analyzes information from adult children and their parents when they are at similar life stages. Because the broad set of expenditure data has only been available since 1999, our estimates are based on expenditures of adult children and parents at the same point in time and, therefore, quite different life stages, although we adjust for life

An alternative approach is to estimate the probability that adult children fall into various percentiles in the expenditure distribution among adult children given one's parent's place in the parental consumption distribution. For the sample of children and parents in each year, spending is regressed on age (specified as a cubic) and family size (specified as dummy variables as in equation 1). The residuals from this regression are ranked and children are identified as falling into one of the age- and family-size adjusted spending quartiles among adult children. The same procedure is conducted to find the parent's place within the parental spending distribution. A cross-tabulation of the quartiles in which children belong and the quartile in which the parent belongs provides estimates of quartile-specific mobility.

Results are presented in Table 5, where the residuals for the three years are first averaged for each family and then ranked. Among children whose parents are in the top quartile, 42.6

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stage by controlling for age. We estimated models identical to (1) but examined total family income instead of expenditures to determine if the sample and years we used led to different estimates of intergenerational transmission. A pattern similar to Solon's emerges: single year correlations are lower than correlations using multi-year average of parental income. And for 1999, 2001, and 2003, the intergenerational income elasticity using three-year average of parental income are 0.30, 0.33, and 0.35, slightly lower than Solon's estimates.

[7] Aughinbaugh (2000), using the data on food and housing expenditures available in the PSID prior to 1999, has reported correlations larger than those reported here or in other intergenerational papers. When we restrict our intergenerational models to expenditures on food and housing, our correlations are quite close to the estimates of all expenditures reported in Table 4.

percent are themselves in the top quartile. At the other end of the distribution, among children whose parents are in the lowest quartile, 36.3 percent are themselves in the lowest quartile. Furthermore, the degree of upward and downward mobility is similar; while 15.4 percent of children with the lowest-spending parents are in the highest quartile, 10.7 percent of the children with the highest-spending parents are in the lowest quartile. In sum, it is unlikely that the position in the consumption distribution of a family in one generation will depart dramatically from what prevailed for that family in the preceding generation. The likelihood that families move across generations from the highest to the lowest levels of consumption is especially low.

V. SUMMARY AND DISCUSSION

We have demonstrated that estimates of expenditures in most broad categories align closely in the PSID and CE despite substantial differences in their instruments and design features. We also found that cross-sectional life-cycle consumption profiles are similar in the two surveys, both for total consumption and most of its major components. Because the PSID expanded the set of consumption expenditure questions in 1999, it now provides a fairly accurate picture of most household consumption expenditure and is thus an even more useful resource for studying consumption. For example, combined with the PSID's detailed income data, estimates of the effect of income on expenditures can now be derived for a variety of expenditure categories. If the additional questions introduced in the 2005 wave are as successful, future waves will contain a nearly complete assessment of total expenditures. Given the PSID's unique design features, several new areas of scientific exploration can be addressed using these data.

Although the PSID can be used to study questions that cannot be addressed with other data sources, such as intergenerational consumption patterns, the PSID cannot replace the CE,

which has far greater detail on expenditures. Moreover, the CE collects data on a continuous

quarterly basis, allowing more accurate assessment of year-to-year changes in expenditures.

Finally, because the CE has collected comprehensive expenditure data for over two decades,

long-term trends can only be analyzed with the CE.

To illustrate the unique promise of the new PSID expenditure data, we estimate the

magnitude of the intergenerational elasticity in consumption expenditure and find it to be 0.32-

0.34. This estimate is of comparable magnitude to estimates for intergenerational elasticities in

wealth of 0.37 (Charles and Hurst, 2003) and income of 0.40 (Solon, 1992). With the richer set

of expenditure data, analyses such as Mulligan (1997), which attempt to understand the

relationship between the intergenerational transmission in earnings, income, wealth,

consumption, and even health can be more fully explored.

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Figure 1. Life-Cycle Expenditure Profiles for
PSID (solid line) and CE (dashed line) in 2001: Food
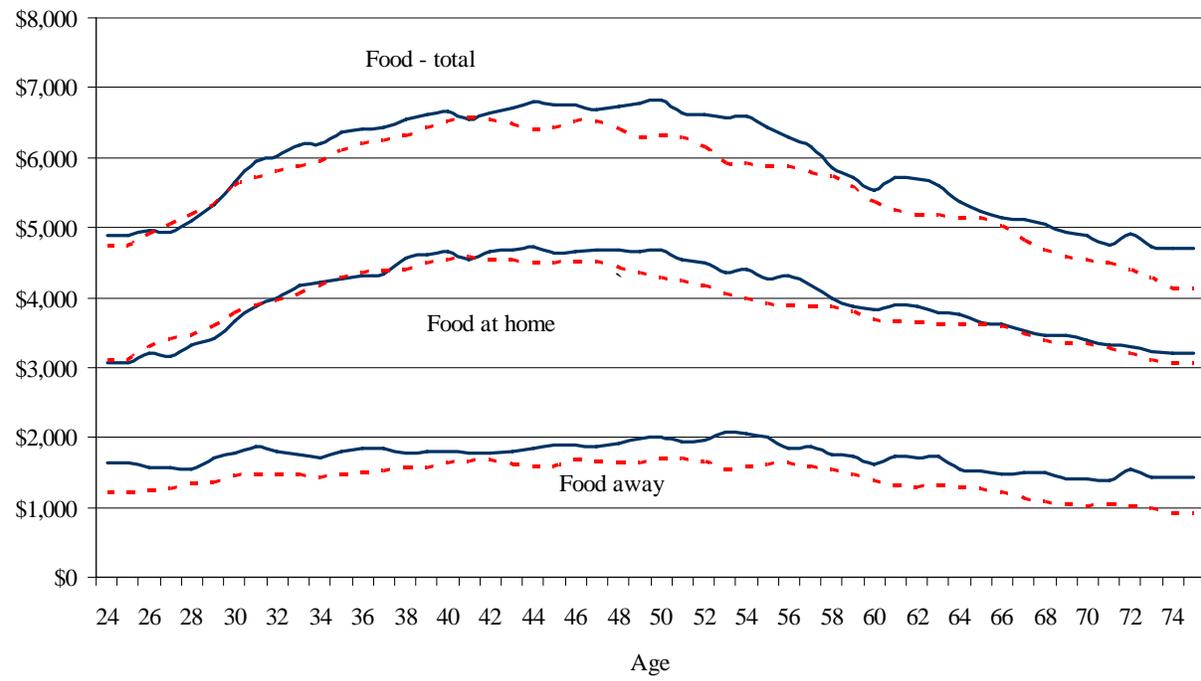
Figure 2. Life-Cycle Expenditure Profiles for PSID (solid line) and CE (dashed line): Average for 1999, 2001, and 2003 Combined, Housing
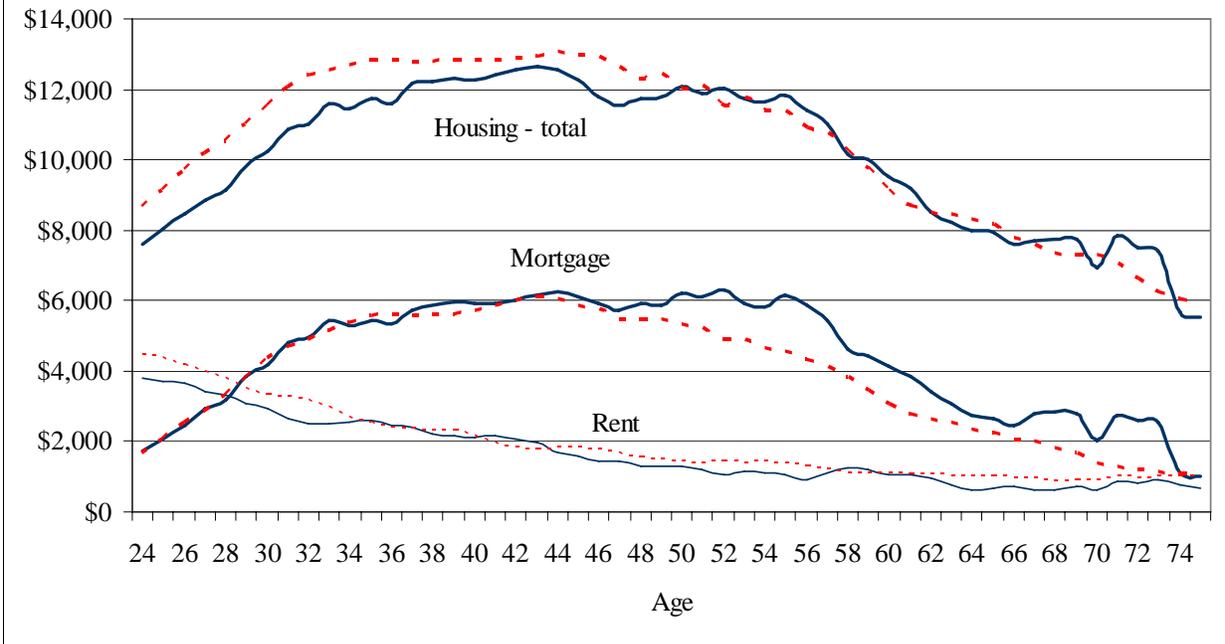
Figure 3. Life-Cycle Expenditure Profiles for PSID (solid line) and CE (dashed line):
Average for 1999, 2001, and 2003 Combined, Housing (Continued)
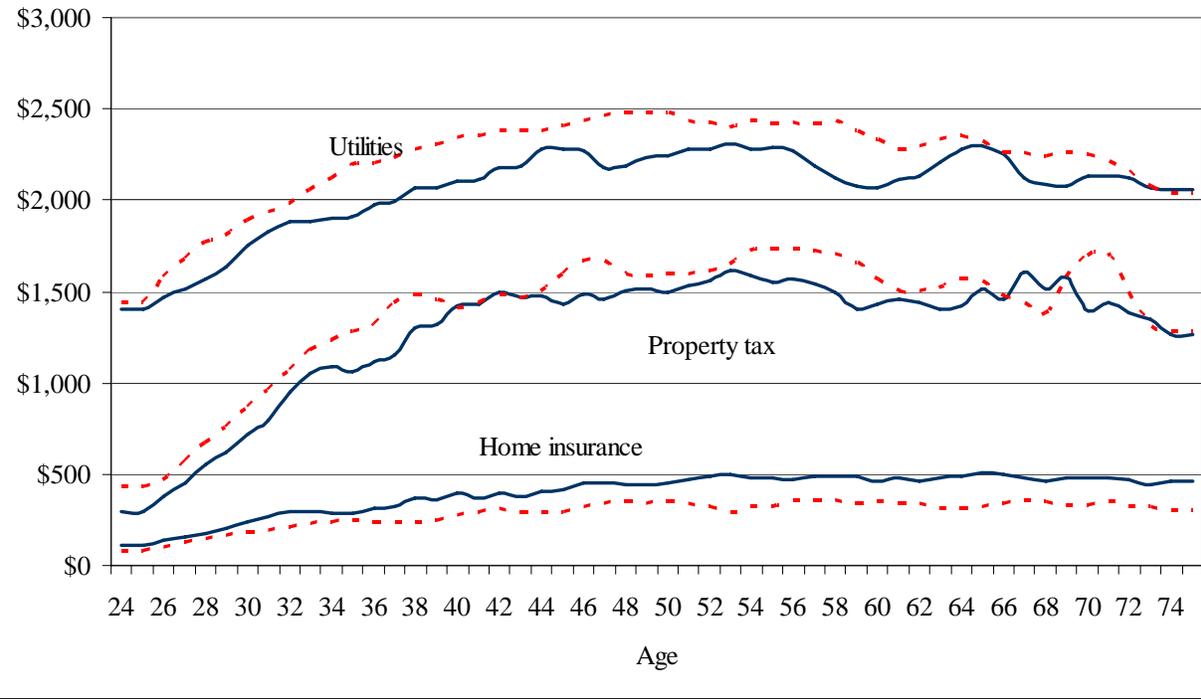
Figure 4. Life-Cycle Expenditure Profiles for PSID (solid line) and CE (dashed line): Average for 1999, 2001, and 2003 Combined, Transportation
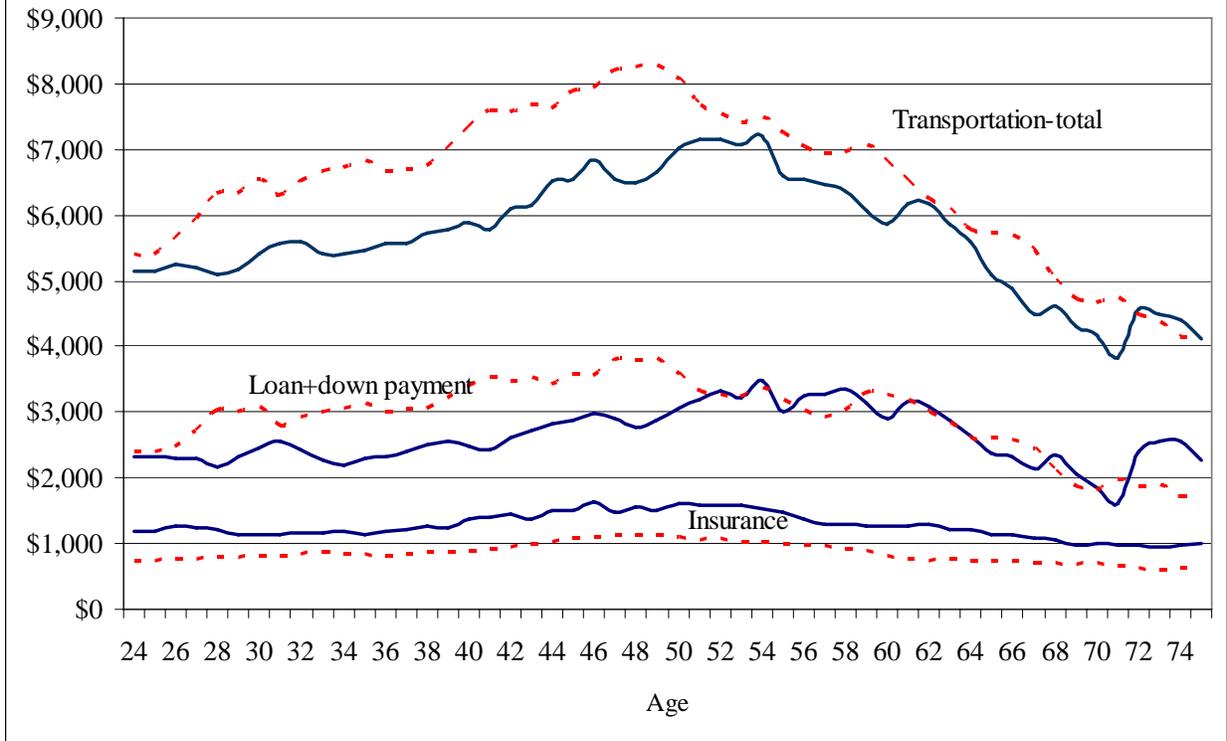
Figure 5. Life-Cycle Expenditure Profiles for PSID (solid line) and CE (dashed line): Average for 1999, 2001, and 2003 Combined, Transportation (Continued)
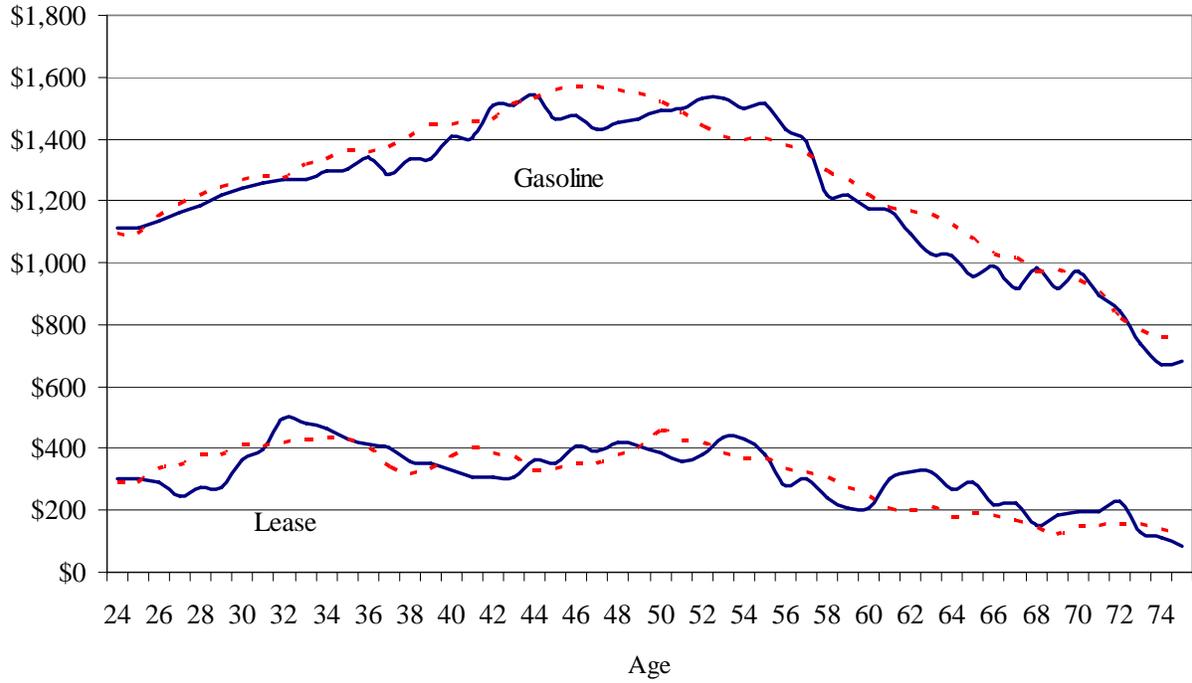
Figure 6. Life-Cycle Expenditure Profiles for PSID (solid line) and CE (dashed line): Average for 1999, 2001, and 2003 Combined, Education and Child Care
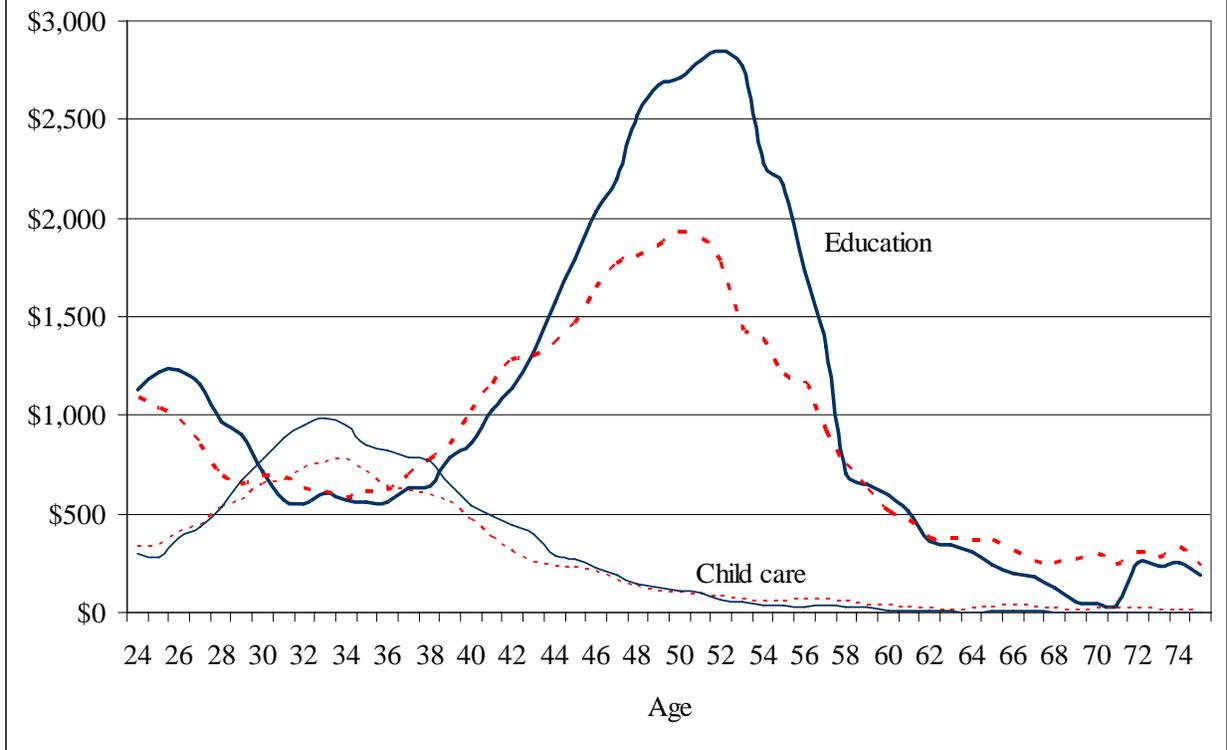
Figure 7. Life-Cycle Expenditure Profiles for PSID (solid line) and CE (dashed line):
Average for 1999, 2001, and 2003 Combined, Health Care

Health care

Age
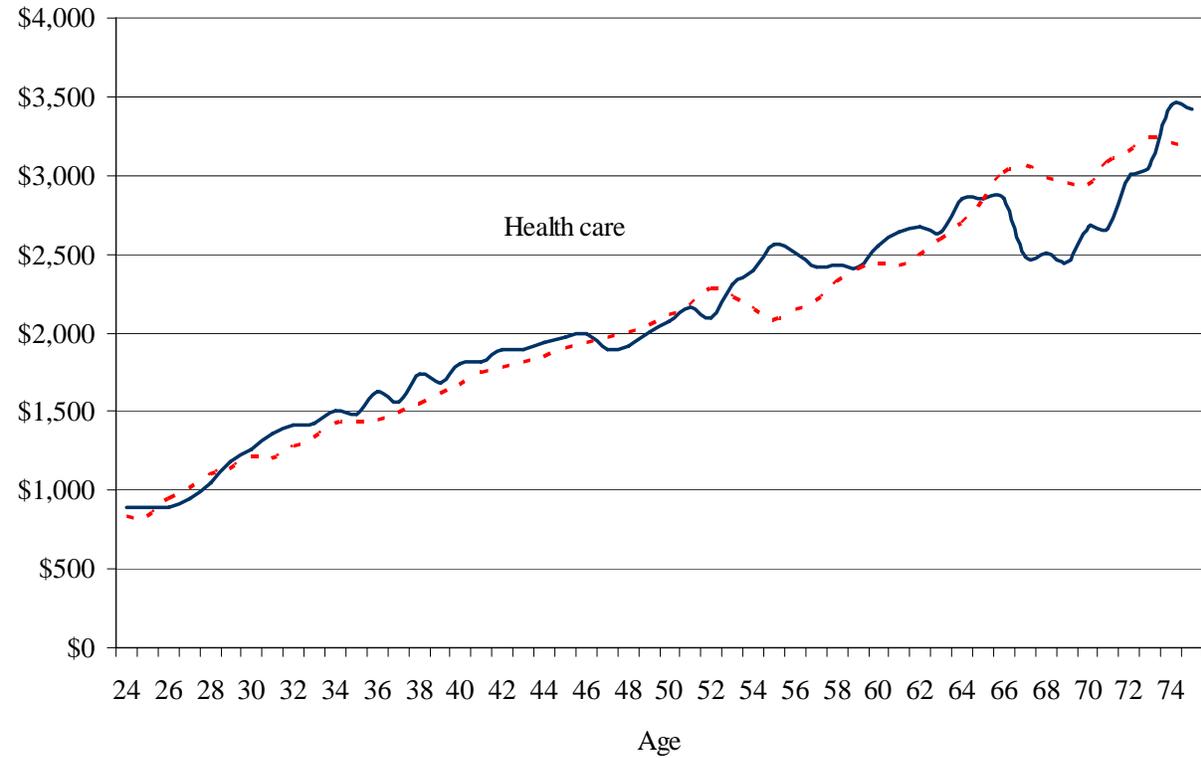
Figure 8. Life-Cycle Expenditure Profiles for PSID (solid line) and CE (dashed line):
Average for 1999, 2001, and 2003 Combined, Total Expenditures

Total, including imputed components
for PSID

Total of PSID-measured components

Age

27
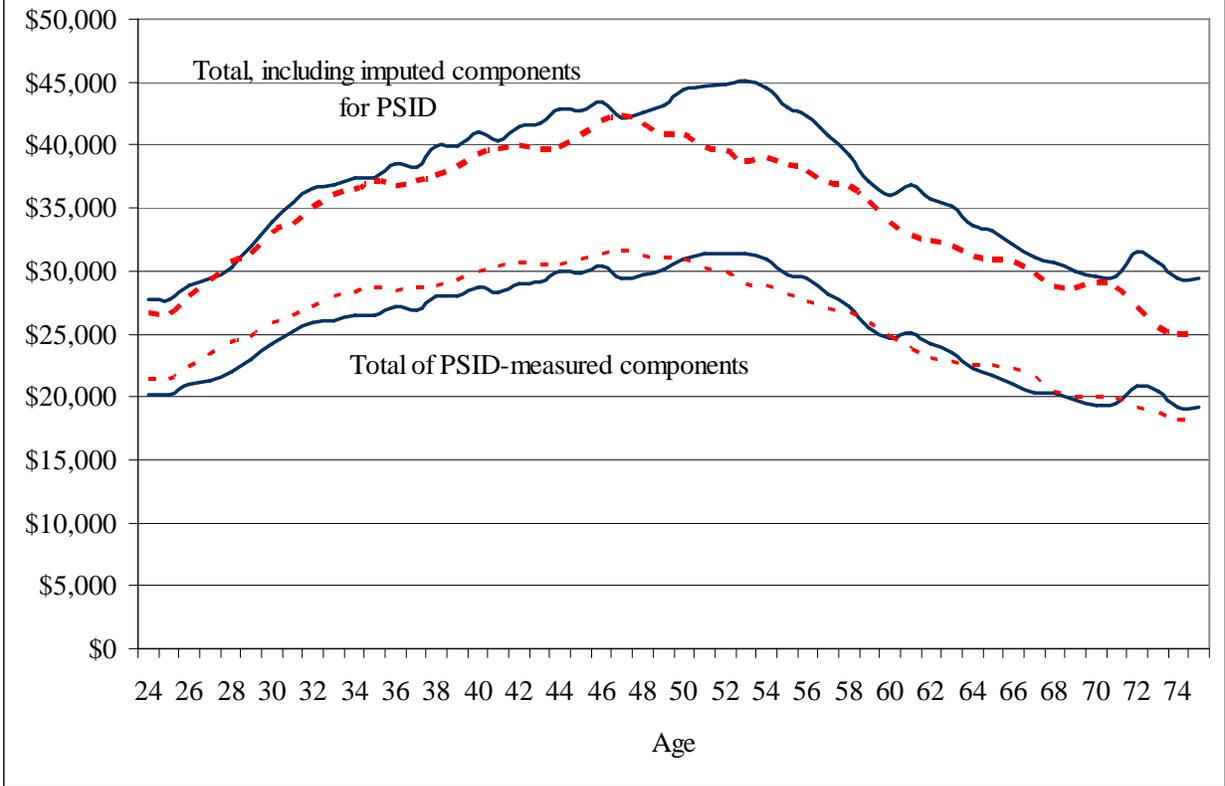
Table 1. Item Nonresponse and Time Period of Reporting in the PSID: 2001

Expenditure category	Percent of families with valid response	Are unfolding brackets used?	Time period of reported spending				
			Weekly	Biweekly	Monthly	Annually	Other
Food							
At home	98.24	No	88.55	2.55	8.69	0.21	0.00
Away from home	98.81	No	68.09	2.51	27.85	1.55	0.00
Delivered	99.88	No	49.38	6.69	40.43	3.50	0.00
Housing							
Mortgage	99.27	No			*Monthly payment*		
Rent	99.07	No	0.28	0.12	99.47	0.12	0.00
Insurance	92.11	No			*Total yearly payment*		
Property tax	94.22	No			*Total yearly payment*		
Electricity	96.31	No	0.00	0.00	99.40	0.55	0.05
Heat	95.36	No	0.00	0.00	91.88	8.03	0.07
Water	95.68	No	0.00	0.00	87.42	12.36	0.21
Other utility	99.83	No	0.00	0.00	96.35	3.36	0.12
Transportation							
Loan payment	97.84	No	0.05	0.11	96.88	0.32	2.64
Down payment	97.07	No		*Previous calendar year**			
Lease payment	99.82	No	0.00	0.00	98.75	0.00	1.25
Insurance	92.78	No	0.00	0.00	22.46	73.41	4.13
Gasoline	98.08	No			*Last month*		
Repairs	99.00	No			*Last month*		
Other vehicle expenses	99.08	No			*Last month*		
Parking	99.57	No			*Last month*		
Bus & train	99.69	No			*Last month*		
Taxicab	99.69	No			*Last month*		
Other transportation	99.74	No			*Last month*		
Education	99.41	No		*Previous calendar year*			
Child care	99.64	No		*Previous calendar year*			
Health Care							
Hospital and nursing home	99.69	Yes		*Previous two calendar years combined*			
Doctor	99.46	Yes		*Previous two calendar years combined*			
Rx, in-home med. care, special facilities	99.51	Yes		*Previous two calendar years combined*			
Insurance	91.41	Yes		*Previous two calendar years combined*			

Weights are not used to calculate values in this table.

*Survey asks about down payments in the previous two calendar years, but one can identify the

date of each down payment to determine the amount in the previous calendar year.

Table 2. Average Spending Before and After Imputation for Item Non-response

	Before Imputation			After Imputation	
	Number of families with valid responses	Percent of families with spending>0	Unconditional mean	Number of families	Unconditional mean
Food - total	7228	98.8	5936	7406	5899
At home	7276	97.1	3990	7406	3969
Away from home	7318	89.9	1829	7406	1825
Delivered	7397	13.1	105	7406	105
Housing - total	5841	100.0	10783	7406	10471
Mortgage	6543	42.2	4493	7406	4737
Rent	7337	33.9	2006	7406	2014
Insurance	6822	54.5	363	7406	376
Property tax	6977	56.1	1210	7406	1224
Utilities*	6867	92.8	2128	7406	2120
Transportation - total	6496	84.0	5892	7406	5921
Loan payment	7246	27.7	1188	7406	1192
Down payment*	7219	19.8	1363	7406	1367
Lease payment*	7365	5.4	393	7406	392
Insurance	6871	83.5	1163	7406	1158
Gasoline	7264	84.6	1343	7406	1342
Repairs	7332	40.5	110	7406	110
Other vehicle expenses	7338	24.1	97	7406	97
Parking	7374	6.2	46	7406	46
Bus & train	7383	4.7	42	7406	42
Taxicab	7383	2.4	15	7406	15
Other transportation	7387	3.1	160	7406	160
Education	7362	32.9	1199	7406	1199
Child care	7379	14.9	341	7406	342
Health care - total	6746	88.4	2100	7406	2129
Hospital and nursing home	7383	27.2	310	7406	311
Doctor	7366	68.7	427	7406	426
Prescriptions, in-home med. care, special facilities	7370	74.2	338	7406	339
Insurance	6770	63.6	1056	7406	1052

PSID family weights are used to calculate means and percents.

*For utilities, vehicle down payments, and lease, the proportion with valid responses reported in Table 1 multipled by the
  sample size (7406) does not equal the number of families with valid responses reported above. For utilities, if any individual
  component does not have a valid response, total utilities is counted as not having a valid response. For vehicles,
  some households can have multiple cars. In Table 1, if the family reports one valid car downpay, it is counted as valid.
  In Table 2, the sum of all car downpays is reported, and if any car downpay is invalid, the sum is invalid.
  The same is true of lease payments.

Table 3. Estimated Expenditures in the PSID and CE

	2001 PSID		2001 CE			1999		2003	
	Unconditional mean	Percent of total expenditures	Unconditional mean	Percent of total expenditures	Ratio of means: PSID/CE	Unconditional Mean: PSID	Ratio of means: PSID/CE	Unconditional Mean: PSID	Ratio of means: PSID/CE
Food									
At home	3969	15.3%	3817	15.0%	1.04	3735	1.04	4070	1.06
Away from home	1825	7.0%	1339	5.3%	1.36	1575	1.16	1858	1.35
Delivered	105	0.4%	---------------- NA ----------------		NA	87	NA	130	NA
Alcohol	---------------- NA ----------------		326	1.3%	NA	-------------------------------- NA ------------------------------------			
Total food	5899	22.7%	5482	21.6%	1.08	5397	1.03	6058	1.10
Housing									
Mortgage	4737	18.2%	3737	14.7%	1.27	3773	1.10	4762	1.17
Rent	2014	7.8%	2096	8.3%	0.96	1918	0.96	2053	0.96
Insurance	376	1.4%	256	1.0%	1.47	334	1.40	447	1.51
Property tax	1224	4.7%	1291	5.1%	0.95	1046	0.87	1331	0.95
Utility	2120	8.2%	2206	8.7%	0.96	1860	1.02	2171	0.95
Telephone	---------------- NA ----------------		896	3.5%	NA	-------------------------------- NA ------------------------------------			
Total housing	10471	40.3%	10482	41.3%	1.00	8931	0.94	10764	0.97
Transportation									
Loan payment	1192	4.6%	1533	6.0%	0.78	1071	0.76	1403	0.79
Down payment	1367	5.3%	1230	4.8%	1.11	1186	0.98	1237	0.94
Lease payment	392	1.5%	340	1.3%	1.15	291	0.96	227	0.96
Insurance	1158	4.5%	819	3.2%	1.41	1085	1.13	1475	1.63
Gasoline	1342	5.2%	1268	5.0%	1.06	979	0.94	1315	1.00
Repairs	110	0.4%	631	2.5%	0.17	89	0.14	100	0.17
Other vehicle expenses	97	0.4%	---------------- NA ----------------		NA	95	NA	103	NA
Parking	46	0.2%	28	0.1%	1.64	34	1.36	43	1.54
Bus & train	42	0.2%	98	0.4%	0.43	35	0.38	58	0.70
Taxicab	15	0.1%	17	0.1%	0.88	11	0.65	24	1.50
Other transportation	160	0.6%	---------------- NA ----------------		NA	118	NA	163	NA
Public transportation	---------------- NA ----------------		322	1.3%		-------------------------------- NA ------------------------------------			
Total transportation	5921	22.8%	6286	24.8%	0.94	4994	0.86	6148	0.93
Education	1199	4.6%	914	3.6%	1.31	1030	1.16	1217	1.13
Child Care	342	1.3%	273	1.1%	1.25	274	1.21	346	1.26
Health care									
Hospital and nursing home	311	1.2%	109	0.4%	2.85	315	3.08	354	3.03
Doctor	426	1.6%	455	1.8%	0.94	368	0.85	480	1.04
Prescriptions, in-home med. care, special facilities	339	1.3%	364	1.4%	0.93	272	0.83	412	0.87
Insurance	1052	4.1%	952	3.8%	1.11	868	0.97	1215	1.09
Total health care	2129	8.2%	1938	7.6%	1.10	1823	1.04	2461	1.14
Total	25961	100.0%	25375	100.0%	1.02	22449	0.96	26994	1.01

NA=Not applicable. Weights are used to calculate all estimates.

Table 4. Intergenerational Expenditure Regressions
Dependent variable: Log Adult Children's Expenditures

	Single-year measure of parental expenditures						Three-year average of parental expenditures				
	1999 (N=3295)		2001 (N=3569)		2003 (N=3813)		1999 (N=2735)		2001 (N=2741)		2003 (N
	Ceoff.	Std Err	Ceoff.	Std Err	Ceoff.	Std Err	Ceoff.	Std Err	Coeff.	Std Err	Coeff.
Log parental expenditures	0.249	0.017	0.252	0.015	0.274	0.017	0.318	0.021	0.320	0.020	0.335
Adult child's characteristics											
Age*	3.899	0.787	3.543	0.733	3.662	0.762	5.906	1.012	4.745	1.000	2.369
Age squared*	0.038	0.010	-0.350	0.009	-0.037	0.009	-0.057	0.012	-0.050	0.012	-0.025
Male	0.064	0.021	0.049	0.020	0.065	0.021	0.075	0.022	0.041	0.022	0.048
Married	0.381	0.029	0.414	0.027	0.433	0.027	0.367	0.030	0.421	0.029	0.419
Family size											
One (reference)											
Two	0.287	0.036	0.296	0.033	0.318	0.034	0.227	0.039	0.338	0.039	0.190
Three	0.380	0.038	0.349	0.036	0.391	0.037	0.375	0.042	0.439	0.042	0.361
Four	0.460	0.040	0.466	0.037	0.481	0.039	0.426	0.044	0.507	0.044	0.390
Five or more	0.470	0.044	0.446	0.041	0.499	0.043	0.421	0.049	0.511	0.047	0.433

All models also control for parent's age, parent's age squared, parent household head gender, parent marital
  status and parents' family size dummies.

Family size dummies refer to families with average size 1999 to 2003 of (+/- 0.5) the given value, e.g., 1.5 to 2.5 for size 2.

*Parameter estimates on age and age squared are multiplied by 100.

For the three-year averages, all dollars are expressed in 2003 dollars using the CPI-U.

Table 5. Intergenerational Transition Matrix of Age- and Family Size-Adjusted Log Expenditures

Child Age- and Family Size-Adjusted Consumption Quartile (1999-2003)	Parental Age- and Family Size-Adjusted Consumption Quartile (1999-2003)			
	1 (lowest)	2	3	4 (highest)
1 (lowest)	36.3	29.7	21.6	10.7
2	27.2	24.3	26.8	20.7
3	21.1	26.2	27.0	26.0
4(highest)	15.4	19.8	24.7	42.6

Estimate indicates the probability of belonging to a given expenditure quintile among children given one's parent's position in the parental expenditure distribution.

Table A1. Expenditures Data Collected in the PSID: 1968-2003

Domain	Question in 2003	Waves Available
Food		
At home	F17 & F18: In addition to what you buy with food stamps, do [you and anyone else in your family/you] spend any money on food that you use at home? How much do you spend on that food in an average week?	1968-2003, except '73, '88, '89
Delivered	F19 & F20: Do you have any food delivered to the door which isn't included in that? How much do you spend on that food?	1968, 1994 - 2003
Away from home	F21: About how much do [you and everyone else in your family/you] spend eating out?	1969 - 2003, except '73, '88, '89
Health care		
Hospital & nursing home	H64: About how much did you pay out-of-pocket for nursing home and hospital bills in 2001 and 2002 combined? UNFOLDING BRACKETS	1999-2003
Doctor	H70: About how much did you pay out-of-pocket for doctor, outpatient surgery, dental bills in 2001 and 2002 combined? UNFOLDING BRACKETS	1999-2003
Prescription drugs	H76: About how much did you pay out-of-pocket for prescriptions, in-home medical care, special facilities, and other services in 2001 and 2002 combined? UNFOLDING BRACKETS	1999-2003
Insurance	H63: Altogether, how much did [you/your family] pay for health insurance premiums, in 2001 and 2002 combined, for (all of) the health insurance or health care coverage(s) you just mentioned? Please include amounts that you had automatically deducted from your pay, as well as amounts you paid directly.	1999-2003
Housing		
Mortgage	A25: How much are your monthly mortgage payments? A30: Do your payments include insurance premiums? A29: Do your payments include property tax?	1968 - 2003, except '73, '74, '75, '82, '88, '89
Rent	A31: About how much rent do you pay a month?	1968 - 2003, except '88, '89
Insurance	A22: How much is your total yearly homeowner's insurance premium?	1991 - 2003
Property tax	A21: About how much are your total yearly property taxes, including city, county, and school taxes?	1968-2003, except '78, '88, '89
Electricity	A48: The next few questions are about amounts paid for utilities, such as electricity and water. How much [do you/does your family] usually pay for electricity per month on average?	1981 - 1983, 1999-2003
Heat	A49: How much for gas or other types of heating fuel per month	1981 - 1983, 1999-2003
Water and sewer	A50: How much [do you/does your family] usually pay) for water and sewer per month	1981 - 1983, 1999-2003
Other utilities	A51, A52, & A53: And do you have any other utility expenses? What were those other utilities expenses? On average, how much are these other utility expenses per month? Cable, garbage, phone, sewer	1981 - 1983, 1999-2003
Transportation		
Vehicle loan payment	V20: How much are your payments and how often are they made?	1968, 1999-2003
Down payment	V17: How much did you put down in cash?	1999-2003
Vehicle lease payment	V24: How much was your initial outlay for that lease -- including your down payment and any fees? V25: How much are your payments and how often are they made?	1999-2003
Insurance	X1: How much do [you/you and your family living there] pay for car insurance [per year/for all your vehicles per year]?	1968, 1999-2003
Gasoline	X4: In 2002 how much did [you/you and your family living there] pay for each of these transportation related expenses...	1999-2003
Repairs and maintenance	X4:	1999-2003
Parking and carpool	X4:	1999-2003
Bus fares and train fares	X4:	1999-2003
Taxicabs	X4:	1999-2003
Other transportation	X4:	1999-2003
Other vehicle expenditures	X3(Other than the car payments you already told me about,) how much did you pay in car payments?	1999-2003
Education	X6 & X7: In 2002, did [you/you and your family living there] have any school-related expenses such as: - Purchase or rental of books, supplies, uniforms, or equipment including computers and software; - Tuition or tutoring not including any amounts for day care or nursery school. I will ask you about those later; - Room and board for a family member who is away at school? How much in total were these expenses? X8, X9, & X10: In 2002, were there any other school-related expenses not already covered in the previous question? What other types of school-related expenses did you have? Altogether, how much were these other expenses?	1999-2003
Child Care	F7: How much did [you and your family living there/you] pay for child care in 2002?	1970, '71, '72, '76, '77, '79, '85, 1988-2003

Table A2. Mapping of CE UCC codes Into PSID Categories

PSID Consumption Category	CE UCC Code	Notes
Food		200900, 790310,
At home	190904, 790220, 790230	790320, and 790410 (alcohol)
Delivered		are included for the total
Away from home	190902, 190903, 790410, 790420, 800700	of all food expenditures.
Health care		
Hospital & nursing home	570110, 570210, 570220, 570230	
Doctor	560110, 560210, 560310, 560330, 560400	
Prescription drugs	340906, 540000, 550110, 550320, 550330, 550340, 570901, 570903, 570240	
Insurance	580111, 580112, 580113, 580114, 580311, 580312, 580901, 580903, 580904, 580905, 580906	
Housing		
Mortgage	220311, 220312, 220321, 220322, 830201, 830202	
Rent	210110, 800710	
Insurance	220121, 220122	
Property tax	220211, 220212	
Utility	250111, 250112, 250113, 250114, 250211, 250212, 250213, 250214, 250221, 250222, 250223, 250224, 250901, 250902, 250903, 250904, 260111, 260112, 260113, 260114, 260211, 260212, 260213, 260214, 270211, 270212, 270213, 270214, 270310, 270411, 270412, 270413, 270414, 270901, 270902, 270903, 270904	270101, 270102 (telephone) are included for total housing expenses.
Transportation		
Vehicle loan payment	870103, 870104, 870203, 870204, 850300	
Down payment	870101, 870102, 870201, 870202, 870801	
Vehicle lease payment	450310, 450313, 450314, 450410, 450413, 450414	
Insurance	450311, 450411, 500110	
Gasoline	470111, 470112, 470113	
Repairs	470220, 470211, 470212, 480110, 480213, 480214, 490110, 490211, 490212, 490221, 490231, 490232, 490311, 490312, 490313, 490314, 490318, 490319, 490411, 490412, 490413, 490501, 490502, 490900, 520410	
Other vehicle payments		
Parking	520531, 520532	
Bus	530311, 530312, 530501, 530902, 530210	
Taxicab	530411, 530412	
Other transportation	520511, 520512, 520521, 520522, 520542, 520902, 520903, 520904, 520905, 520906, 520907, 530110, 530901	
Education		
Schooling	190901, 210310, 370903, 390901, 660110, 660210, 660310, 660900, 670110, 670210, 670901, 670902, 800802, 800804	
Other school-related	690111, 690112	
Child care	340211, 340212, 670310	

Table A3. OLS Model of Total CE Expenditures
Used to Impute Total Expenditures in the PSID

	Coefficient
Spending on:	
Food at home	1.32
Food away	2.50
Mortgage	1.03
Rent	1.29
Home insurance	2.27
Property Tax	2.67
Utilities	2.70
Transportation	1.28
Education	1.20
Child care	1.58
Health care	1.33
Constant	-2286
R-squared	0.88

All coefficients are significant at the 0.01 level.