Buffering Shocks to Well-Being Late in Life

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Abstract

Consumption provides a comprehensive measurement of economic well-being. This research shows that consumption is well-insured with respect to health status and widowing. Using data from the Health and Retirement Study (HRS) and its CAMS supplement, it shows that consumption responds little to changes in health status even though adverse health generates substantial out-of-pocket medical expenses. Similarly, the effect of widowing on consumption, though substantial, is not strongly driven by changes in economic resources. Men experience little loss of monetary resources when being widowed. Women have the same overall loss in consumption as men when being widowed despite greater declines in economic resources. Hence, despite the adverse consequences for income and wealth for female widows, women experience no greater drop in consumption from losing a spouse than do men.

I.   INTRODUCTION AND OVERVIEW

This report estimates the effect on consumption of health and widowing. Poor health and loss of a spouse are among the most serious shocks that retirees face. How consumption moves in response to adverse shocks is of interest for several reasons. First, consumption is one comprehensive measure of well-being, so its response to health and widowing gives insight into how they affect well-being. Second, consumption is a forward-looking variable. By studying how consumption responds to health and widowing, we can assess how well insured are households. Insurance against shocks can take various forms, e.g., explicit health or life insurance. Alternatively, consumption can be insured by having sufficient precautionary stocks of assets. Third, shocks to health and widowing likely affect consumption choices independently of their effect on the budget constraint. These considerations interact in ways that are difficult to disentangle. This research takes several steps to do so.

This report uses the Health and Retirement Study (HRS) and its Consumption and Activities Study (CAMS) mail-out supplement to study how health and widowing affect consumption. The HRS/CAMS is in many ways ideally-suited to address these questions. The HRS has detailed data on income, wealth, and health. It also has an "exit interview" that provides information about the death of spouses. This report will link these data to the CAMS survey that provides measurement of consumption for a sub-sample of HRS respondents. By combining HRS and CAMS data, the report can provide an estimate of how consumption responds to shocks and also provide evidence about

what drives the response of consumption. Specifically, it will examine changes in income and wealth associated with widowing and what role these have in any changes in consumption. The HRS data allow for separate measurements of the effect of changes in Social Security income, private pensions, other income, and wealth.

The following summarizes the main findings of this research.

1. There is remarkably little response of consumption to health status by respondents to the HRS. Health insurance is nearly universal and there is surprisingly little crowding out of non-health spending by non-insured, out-of-pocket medical expenses. This finding indicates that the constellation of social insurance, private insurance, and the use of assets substantially buffers older Americans against the adverse pecuniary effects of health shocks. Though there are certainly cases where health costs are a burden for seniors, on average they are well-insulated from these costs.[1]

2. Consumption responds significantly to widowing. The consumption of households of surviving spouses falls by about 30 percent beyond the amount accounted for by change in number of individuals in the household. It recovers somewhat in later years, but after several years remains 15 to 20 percent lower.

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[1] This finding is robust to alternative empirical specifications. Note that this project does not address the issue of high nursing-home costs which arise from the combination of persistent poor health and long life. The finding about acute health shocks affected the direction of research described in this project. Given the very low systematic response of consumption to health shocks overall, there is little scope for studying heterogeneity in buffering consumption from acute health shocks based on insurance status.

a. The effect on consumption of losing a spouse is quite similar for men and women.

b. For both men and women, most of the drop in consumption cannot be attributed to changes in income and wealth associated with losing a spouse. For women, about one-quarter in the drop is consumption can be traced to a drop in economic resources after the death of their husband. For men, even less of the drop in consumption can be traced to declines in income and wealth.

II. DATA

This study uses the Health and Retirement Study (HRS) and its CAMS module to examine the response of consumption to health and widowing. This section will discuss the principal measurement issues related to using these studies for this research. The Data Appendix provides further information.

Overview. As discussed in the introduction, the HRS/CAMS has a design that is very well suited for this research.

- The HRS has very high quality data on income and wealth together with a battery of measurements of health status.

- The health status variables contain objective data on the number and nature of specific ailments as well as subjective self-assessments of level of health. This research will use both the objective and subjective measurements.

- The HRS has an "exit interview" where a proxy, typically the surviving spouse for the data used in this study, provides information on death of HRS respondents. This report will use the exit interviews to measure widowing events.

- A fraction of HRS respondents are sent the CAMS mail-out survey. The CAMS has questions about the level of spending in roughly 20 categories of expenditure. These categories provide good coverage of aggregate consumption expenditure, for example, as defined in the National Income and Product Accounts, with some exceptions. The differences between CAMS consumption and the NIPA definition arise mainly because the CAMS measures cash flows (out-of-pocket) expenses rather than the comprehensive value of consumption. For the purposes of this research, the difference between out-of-pocket expense and consumption in health and owner-occupied homes is important and will be addressed below.

Timing. The HRS consists of a representative sample of individuals over the age of 50 and of their spouses. The HRS is a panel study with the survey conducted biennially in even-numbered calendar years. The HRS fields supplemental surveys in the odd-numbered years to subsamples of the main survey. The CAMS has been fielded to such a subsample beginning in 2001. The CAMS respondents have been reinterviewed biennially, so it has a panel design. The most recent CAMS data available currently is the 2007 survey, so this research will make use of four waves of the CAMS—2001, 2003,

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2005, and 2007. These data are supplemented with data from five waves of the HRS—

2000, 2002, 2004, 2006, and 2008.[2]

Health Shocks. This research measures health by both self-reported overall health

and by specific diagnosis. Self-reported health is an index of the respondent's own

assessment of their health. It is measured on a five point scale from excellent (coded as

1) to poor (coded as 5).[3] For objective health, the project uses the number of conditions

the respondent has from the following list: 1) high blood pressure or hypertension, 2)

diabetes or high blood sugar, 3) cancer of a malignant tumor, 4) chronic lung disease

except asthma such as chronic bronchitis or emphysema, 5) heart attack, coronary heart

disease, angina, congestive heart failure, or other heart problems, 6) stroke or transient

ischemic attack, 7) emotional, nervous, or psychiatric problems, and 8) arthritis or

rheumatism. For couples, the health of both the CAMS respondent and the spouse are

included.

The health data are from the HRS. There are inherent difficulties with matching

these data to the CAMS given that they refer to different periods of time. After some

experimentation, a main specification in this report matches subsequent HRS health with

the CAMS. For changes in health, for example, the 2001 CAMS is related to the change

in health in the HRS from 2000 to 2002.

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[2] The 2008 data became available at the late stage of this project. The tabulations in this
report incorporate these data in preliminary release form. All data used in this study are
publicly available and may be downloaded from the HRS WWW site at
http://hrsonline.isr.umich.edu/.
[3] Note that contrary to the usual use of 5 point scales, the larger the scale, the worse the
health state. That makes the sign of self-reported health comparably with the number of
diagnoses.

Widowing. Widowing is measured using the HRS interview. The HRS itself has measures of marital status that could be used using a similar timing scheme as for the health variables. The exit interview, however, provides precise dating of the death of the spouse. Moreover, it reports widowing explicitly rather than having to be inferred from changes in marital status. Consequently, this report uses the exit interview to measure widowing. A widowing that occurs in the first half of the CAMS year or in the prior year is coded as occurring before the CAMS measurement. A widowing that occurs in the second half of the CAMS year or in the subsequent year is coded as occurring after the CAMS measurement. (See the Data Appendix for further discussion.)

Measuring consumption. Consumption is measured as total spending in the CAMS with two exceptions. First, to measure housing, the measure of consumption includes the rent and other out-of-pocket expenses such as utilities and insurance of renters. The CAMS collects mortgage payments and other out-of-pocket expenses of homeowners. Mortgage payments do not capture the full cost of housing for owners and will differ for households in the identical houses, but who owe different amounts on their mortgages. One approach would be to construct a rental-equivalence for owner-occupied housing. There is, however, insufficient information to do so. Accordingly, this research uses the user-cost approach. The house value is taken from the previous HRS (unless the subsequent HRS indicated a move before the CAMS). A uniform user cost of 4 percent is applied to this value. This figure is a rough and ready estimate, meant to capture the after-tax nominal interest payments plus depreciation minus expected capital gains. Other out-of-pocket costs—utilities, property tax, and insurance—are added to the annual user cost of housing. (Note that mortgage payments are not added.)

Second, health care consumption is not reflected fully in the CAMS data.

Specifically, the bulk of health care expenditures that are paid on behalf of households by public and private insurance are not reflected in the CAMS out-of-pocket measures. The main aggregate for the results is consumption excluding out-of-pocket medical spending. In separate analyses, the report examines how the out-of-pocket medical spending responds to health.

III.   RESULTS

A.   Summary Statistics

Before turning to the regression analysis that conveys the main results, this section of this report presents some summary statistics. They are important for understanding the characteristics of the sample and also provide some findings of independent interest. The data combine observations as described from the four existing waves of the CAMS (odd years from 2001 to 2007) and the adjacent HRS (even years from 2000 to 2008). The summary statistics are tabulated separately for new widows,[4] couples, and other singles (i.e., singles excluding new widows). To be in the main sample used in the regression analysis presented later in this section, the respondent needed to supply key HRS income, wealth, and demographic responses and to have completed the CAMS. Item non-response in the CAMS is treated as a zero. To account for sample selection in completing the CAMS, data on HRS respondents who were solicited for the CAMS, but did not complete it, are also included in the dataset for this research (see below,

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[4] New widows are the surviving spouse of a married couple from the previous wave of the survey. They are either men or women. Lacking a gender-neutral term, this paper reviewed to both female widows and male widowers as "widows."

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discussion of econometric issues). These HRS respondents who completed did not

complete the CAMS are not included in the tables of summary statistics. The "regression

sample" referred to in the tables are the CAMS respondents with valid data for the

variables required for the regression analysis.

Table 1 reports the statistics for the levels of income, wealth, and expenditure

from the CAMS and the HRS for the regression sample. The values are expressed in

2000 dollars using the personal consumption expenditure price index from the National

Income and Product Accounts as a deflator. (The data are deflated in the tables to allow

for pooling of the summary statistics across years. All the regressions include year

dummies, so the choice of deflator does not affect those results.) A clear hierarchy of

well-being is apparent in the tables. Couples have the highest income, wealth, and

spending, new widows lower levels of each, and other singles the lowest levels.[5] Given

the differences in household composition, the interpretation of this hierarchy is not

obvious. The regressions will control for household structure.

Table 1 also gives a breakdown of income by type of income—private pensions,

Social Security, and other income. Couples are the least reliant on Social Security, new

widows somewhat more reliant on Social Security, and other singles most reliant.

Finally, Table 1 shows out-of-pocket medical spending versus other spending.

The ratio of out-of-pocket medical spending (excluding insurance) to overall spending on

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[5] Other singles include both the never married, divorced, and those widowed prior to the
start of the sample.

non-medical goods (including insurance) is about 6 percent for couples and new widows and 8 percent for other singles.[6]

Table 2 reports summary statistics relating to health status for the regression sample. For each of the groups, the fraction with health insurance is very high—96 or 97 percent. A household is coded as being insured if it has private or public health insurance. Many of the households have both, e.g., Medicare supplemented with private insurance. In the early stages of this research, specifications that attempted to differentiate among households by the quality of their insurance were examined. These differences had little effect on consumption outcomes, so are not pursued in this report. The high level of health insurance in the sample is important on several counts. First, it has a major role in explaining why health shocks have so little effect on consumption on average. Second, it means that there is not a sufficiently large non-insured group to provide a meaningful control interaction of having health insurances with other covariates.

The remainder of Table 2 shows the summary statistics for health measured by number of chronic conditions and by self-reported health (5=excellent to 1=poor). The sample has close to three chronic conditions on average and self-reported health on average in the middle of the 5-point scale. Couples are marginally more healthy than non-couples. The deterioration of the health of spouses of new widows reflects the effects of terminal illnesses.

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[6] Note that health insurance premia are included in the non-medical spending. This partition is adopted in the interested of highlighting the response of spending to changes in health shocks.

Table 3 shows demographic covariates for the regression sample. They reflect the age composition of the HRS sample. About half the households are retired (both retired if a couple). About half are members of couples. About 30 percent are younger than 65 years. Table 3 also shows the number of members of households in addition to the single head of household or the two members of a couple. A significant number of the HRS households have members in addition to the respondent and spouse. Overall, these household demographics are important control for the regressions.

B.   Selectivity

This project reports the response of consumption spending to adverse shocks. The measure of the consumption spending comes from a supplemental survey to the HRS that has a lower response rate than the main HRS. More importantly, there is the likelihood that non-response is related to the shocks being studied. That is, those in poor health and recently widowed might be less likely to respond to the CAMS. To address this possibility, the regressions in this report are corrected for selectivity using a two-step, Heckit procedure. In the first stage, a probit is estimated where the dependent variable is whether or not the household responded to the request to complete the CAMS survey. In the second state, the Mills ratio from the first stage is included to correct for selectivity.

The first-stage regression, estimated separately for each second-stage specification, includes all the variables in the second stage. The first stage regression also includes the following additional variables: (1) dummies for whether the individual answered the HRS very slowly or very quickly and (2) dummies for the interviewer's assessment of the cooperation on the main HRS. These additional variables refer to the

2000 HRS, so they are predetermined with respect to all the observations in the CAMS.

These variables are included to assure that the identification does not rest solely on the

non-linearity of the Heckit.

Table 4 reports a representative example of the first-stage regression. (This

regression does not include the health variables, so it has more observations than the

regressions including those covariates.) Perhaps surprisingly, being newly widowed does

not affect responses much nor is it statistically significant. Indeed, it turns out that the

selectivity correction is not that important for the estimates. Nonetheless, it is interesting

to note that the variables relating to compliance with the HRS are strongly predictive of

responding to the CAMS. Those who took a moderate amount of time on the HRS (the

excluded category) are more likely to respond to the CAMS than those who hurried

through it or took a long time. Similarly, the cooperativeness of the respondent in the

HRS is strongly related to responding to the CAMS.

C.   Health and Spending

Tables 5 and 6 report that relationship between consumption and health status. Table 5

reports the specification in log levels with lagged income and wealth and current changes

in income and wealth (all in logs) as explanatory variables. Table 6 reports the

relationship in changes without wealth and income covariates. As discussed in the

previous section, the regressions include a term to account for selectivity in responding to

the CAMS survey. The observations in the regression reflect cases dropped for missing

observations. (Health is sometimes missing from the HRS, so these regressions have

fewer observations than the widowing ones considered in the next section.) The

regression in levels includes controls for being retired (both members retired in the case of couples), for being a single female, for being part of a couple, for the number of additional household respondents (zero for households with only the respondent or respondent and spouse), and categorical variables for age groups. For consistency with the results in the next section, at newly widowed dummy is also included. The specifications also include year dummies.

Table 5, Column (1), reports the effect of health on overall consumption (excluding out-of-pocket medical expenses). The equation includes measures of health— both self-reported health and number of chronic conditions—for the respondent and, if appropriate, the spouse. Poor self-reported health has a noticeable effect on overall consumption. A decrease in the self-reported health of one point on the health scale (an increase in the scale) reduces consumption by about 4 percent. This one-point change corresponds to about a one standard deviation change in self-reported health (see Table 2). The effects of respondents' health and spouses' health are about the same. In contrast, the number of chronic conditions is not strongly related to spending.

Column (2) of Table 5 interacts these health variables with insurance status. This interaction is not very revealing, mainly because almost all the respondents are insured (see Table 2).

Columns (3) and (4) of Table 5 attempts to get at the question of whether the reduction of spending from bad self-reported health operates through the budget constraint by absorbing resources or through the utility function by effecting the desire to consume given resources. The specification already includes income and wealth in levels and changes separately, so any effect of health on earnings or wealth is already accounted

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for. Columns (3) and (4) show that overall spending *increases* with out-of-pocket medical spending. For each dollar of out-of-pocket medical spending, overall spending (excluding out-of-pocket medical spending) is 8 to 9 percent higher. The direct effect of poor self-reported health remains about the same when out-of-pocket medical spending is included in the regression (compare columns (1) and (4)).

This finding is striking and important evidence. Feeling in poor health reduces overall consumption, but not through the burden of health expenditure. Indeed, out-of-pocket medical expenditure raises overall consumption spending on non-health items. True, some of this may be to finance spending made necessary by poor health (e.g., more prepared meals, more home help costs). Yet, these results suggest that these costs are affordable.

Table 6 performs the analysis in differences. Differencing removes unobserved fixed heterogeneity across households. Importantly, households may differ in the level of economic well-being in ways not adequately controlled for by the wealth and income data. This observed heterogeneity in wealth could account for the positive correlation of out-of-pocket medical spending and overall spending given that out-of-pocket medical spending is likely to be a superior good. Comparing Columns (4) of Tables 5 and 6 shows that though the effect is somewhat attenuated by differencing, there remains a strong and statistically significant positive relationship between out-of-pocket medical spending and overall spending in the differenced specification. In the differenced specification, change in sell-reported health, however, has a much weakened relationship to overall spending. Hence, the finding of negative relationship of spending to self-reported health is a cross-sectional, but not a time-series finding.

Table 7 checks the extent to which out-of-pocket medical spending is related to the health measures. Own self-reported health is related to out-of-pocket medical spending, but spouse's health is not. Interestingly, there is a strong and significant relationship to out-of-pocket medical spending with chronic conditions. Table 7 thus shows that the health variables are related to out-of-pocket medical spending as one would expect. The bottom line is that chronic conditions increase out-of-pocket medical spending, but do not squeeze other consumption. Poor self-reported health, to a lesser degree, increases out-of-pocket medical spending.[7]

Taken together, these finding suggest that the effect of health on overall consumption is largely non-pecuniary:

- There is no direct effect of chronic conditions on overall spending despite their strong effect on out-of-pocket medical expenses.

- The negative effect of self-reported poor health on overall consumption remains the same whether or not out-of-pocket medical spending is controlled for.

D.   Widowing and Spending

Table 8 and 9 report the effect of widowing on income and wealth. The first columns of Table 8 report the level of the share of income for widows, couples, and other singles. The lagged widows are tabulated for use in studying the dynamics of widowing. (Recall that the term "widows" refers to both men and women.) The next columns report the

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[7] Note the significant decline in out-of-pocket medical spending in 2005 and 2007. The 2007 decline is probably largely due to the Medicare Part D, which went into effect in January 2006. The decline in 2005 is a mystery.

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two-year percent change in income for each group. The final column gives the share-weighted change in income for use in decompositions reported below. Table 9 gives figures analogous by gender and time since widowing. These will be used for studying the dynamic effect of widowing.

The findings in Table 8 and 9, though mainly produced to inform the regression estimates, are of independent interest. Both men and women experience a loss in income upon widowing. Women also experience a loss in wealth. (Men experience a gain in wealth. This might be an anomalous result. It needs further exploration.) The decompositions by type of income are revealing. Men and women experience similar loss in Social Security income owing to a loss of a spouse. Given that surviving spouses get the greater of their own benefit and the surviving spouse benefit, this finding is not that surprising. The biggest difference across men and women is that women lose more from private pensions. This outcome reflects the fact that men have greater pensions than women in the HRS cohorts, and that surviving spousal benefits of private pensions are on average less generous than those of Social Security.

Table 10A reports regressions of log consumption (excluding out-of-pocket medical spending) from the CAMS on covariates analogous to those with the health shocks in Table 5. Again, the regressions included a term for sample selection. Column (1) presents the estimates in a specification that excludes the contemporaneous change in income and wealth. The effect of being newly widowed is the sum of the newly widowed coefficient minus the part of couple coefficient plus the single female coefficient (for female widows). (Recall that the number of household (*hh*) members counts members of the household excluding the respondent and spouse, so it is not

directly changed by widowing.) These estimates are summarized in Table 10B. For both men and women, household consumption falls by about 25 percent in response to widowing.

Column (2) of Table 10 adds the log change in income and wealth to the estimation equation as a step toward decomposing the change in consumption owing to widowing into the part due to current changes in economic resources and the part due to non-monetary factors. Note that these coefficients are estimated using the whole sample, so they are identified almost exclusively from the change in income and wealth of singles and couples. Table 10B uses these estimates to parse the change in consumption into monetary and non-monetary components. An interesting finding appears. Though women and men experience similar declines in total spending following widowing, the source of the decline is different. For men, who experience less of decline in income, almost all the decline in consumption comes from the non-monetary factors. In contrast, for women, a significant fraction of the decline in consumption is related to a drop in economic resources. For women, monetary resources account for about a 9 percentage point decline in spending; for men, monetary resources account for less than 4 percentage points of the decline.

The final column of Table 10 further decomposes the change in income into private pensions, Social Security, and other income. Women experience an across the board decline in economic resources. As noted above, men experience a small decrease in private pension income and an increase in wealth.

Table 11 examines the effect of widowing using the specification based on the change in consumption analogous to Table 6. The effects of widowing are dramatically

attenuated using the change specification. Under this specification, the estimates

unconditional on the change in income and wealth (column 1) show a smaller effect for

women than men, though the differences are not statistically significant. Conditional on

income and wealth changes, the estimates are not much changed and attribute all the

effect to non-monetary factors.

Whether to give greater credence to the levels or changes results is an open

question. As discussed in the section on health shocks, the change specification has the

advantage of abstracting from individual effects. On the other hand, changes likely have

a lower signal-to-noise ratio than the levels.

Table 12 extends the results of the Table 10 to allow for lags of the effect of

widowing. Table 12A presents the regression estimates including dummy variables for

two lags of being newly widowed. Given the structure of the HRS, these lags refer to

two and four years since the widowing. Table 12B gives the effects—monetary and non-

monetary analogous to those in Table 10B. With the many estimates resulting from the

lags and decompositions by gender and type of income, these results are better viewed

graphically.

Figure 1 shows the dynamic effects of widowing on consumption. The top panel

is for men and the bottom panel is for women. The non-shaded area (yellow in the color

graph) is the non-monetary effects. The balance of the bars in the graphs is the effects

related to monetary changes. Again, the impact effects of widowing are similar for men

and women overall. And again, the effect is largely non-monetary for men and partially

monetary for women.

The dynamic effects show interesting differences between men and women. Both recover somewhat in second and third periods after widowing (corresponding to 2 and 4 years since widowing). For women, the recover is quicker and larger. For women, the consumption recovers by about 13 percentage points after 2 years and then stays flat. For men, the recovery after two years is about 7 percent points and continues to recover modestly after 4 years.

In summary, widowing leads overall consumption to fall by about one quarter. This drop is very close to the point estimate of the couple covariate in the consumption regressions. Accordingly, there is not much more of a drop in consumption from widowing than the household equivalence-scale would predict. The results show that the drop in male widow's consumption is largely autonomous, while the drop in female's consumption is somewhat mediated by a decline in income and wealth. Nonetheless, the drop for new male widows and new female widows is about the same.

IV.   Discussion

This research addresses the fundamental question, how insured are older Americans against changes in health and the death of the spouse? These are among the dominant shocks faced by aging households, so understanding how they affect them is of paramount importance for assessing their well-being and for designing policies that bear on their well-being. The measure of the extent of insurance taken in this research is a very general one. Instead of focusing on payments arising from private or public insurance, it examines how consumption responds to health and widowing. Since consumption is a measure of ultimate economic well-being, this approach provides a

direct measure of the extent to which households are buffered against adverse health and widowing.

This research finds that using this consumption metric, households are substantially buffered against health and widowing. For health, having an additional chronic diagnosis has no direct effect on the level of non-medical consumption even though it leads to a substantial increase in out-of-pocket medical expenses. Self-reported poor health does depress non-medical consumption noticeably. This effect, however, appears to be mainly related to the desire to consume rather than the ability to finance consumption expenditure. Consequently, the resources available to aging Americans, including private and public health insurance and their financial resources, allow them to sustain consumption despite poor health.

Economic well-being, as measured by consumption, should not be confused with overall well-being. Overall well-being likely will fall as a consequence of poor health even if consumption of goods and services is maintained. Indeed, the finding of this research that self-reported health depresses consumption even after controlling for the out-of-pocket medical expenses implies that poor health adversely shifts utility.

The findings for widowing parallel those for health. Men and women experience a 25 to 30 percent decline in household consumption upon being widowed. The decline is about the same for men and women. The decline is very similar to the amount by which single households' consumption differs from married households' on average. Women experience a bigger drop in economic resources than do men after being widowed. That consumption falls equally for both men and women means that households have made arrangements to sustain women's consumption despite their loss

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of economic resources. These arrangements include the drawdown of wealth. They are abetted by Social Security survivorship rules, that unlike private pensions, treat men and women symmetrically. Women's consumption recovers somewhat faster from widowing and by a greater extent than does men's.

In summary, using the consumption metric, older Americans appear to be well-buffered against poor health and loss of a spouse. This buffering is provided both by their private assets and private insurance and by social insurance through the Medicare and Social Security programs.

DATA APPENDIX

Sample. The sample is the subset of Health and Retirement Survey (HRS) respondents who were asked to complete the Consumption and Activities Mail Survey (CAMS) and answered the questions about consumption. In 2001, CAMS questionnaires were mailed to 5,000 individuals randomly chosen from the respondents who participated in the 2000 wave of the HRS. Additional waves of the CAMS questionnaire were mailed to the same 5,000 individuals, with some additions, in 2003, 2005, and 2007. Between 65% and 75% of respondents completed the consumption questions in each wave, for a total of 14,616 consumption observations over 5,181 households. 43% of participating households replied to all four waves of the CAMS questionnaire, the modal number of questionnaires completed.

In coupled households where both members are HRS respondents only one member was sent the CAMS supplement. The spouse chosen as a CAMS participant was not necessarily the financial respondent for HRS, so the income, wealth, and housing questions asked in HRS years may be answered by a different household member than the one who answers consumption questions in CAMS years. However, both consumption and wealth and income questions ask for total amounts for the full household.

Income and Wealth Variables: The income and wealth variables used are total household income, subsets of household income, and total non-housing wealth, all constructed by RAND from responses to the HRS. Dollar amounts are deflated to 2000 dollars using the CPI. Social security income includes both retirement and disability SS income, from both spouses in the case of couples. Pension income includes all pension and annuity income from past employers, from both spouses in the case of couples. Other income is total income less pension and social security income. Wealth and income variables enter the regressions as log levels and percent changes.

Because wealth and income are reported in even years in the HRS and consumption is reported in the odd years in CAMS, the changes in income are calculated as the change from the year prior to the CAMS survey to the year following the CAMS survey. For example, consumption in 2003 is compared to the changes in income and wealth from 2002 to 2004. Percent changes are calculated relative to the average level over the two periods, for example, $\Delta Income_{2003} = \frac{Inc_{2004} - Inc_{2002}}{.5(Inc_{2004} + Inc_{2002})}$. When considering the change in consumption, the two-year change in consumption, for example from 2001 to 2003, is compared with the one year ahead two-year changes in income and wealth, for example between 2002 and 2004. In the models that allow for separate effects on consumption of changes in different types of income, the changes in each type of income are weighted by the average share of that type of income in total income.

Consumption: CAMS respondents report expenditure on many types of goods and services, but do not report total consumption. Total consumption is calculated as the sum

of all categories of consumption except medical expenses (health insurance premiums are included), mortgage payments, and vehicle finance charges. For homeowners consumption also includes a user cost of housing defined as 4% of the gross value of home(s) reported in the previous year's HRS. Other housing costs such as rent, utilities, and repairs are included as part of the CAMS consumption categories. The value of consumption is reported in 2000 dollars, deflated using the CPI. Changes in consumption from the previous CAMS survey are calculated as percent changes using the same formula described above for wealth and income.

Health Variables: Self-reported health is an index of the respondent's own assessment of their health and runs from 1, meaning excellent, to 5, meaning poor. I also include the number of chronic conditions the respondent has, which include 1) high blood pressure or hypertension, 2) diabetes or high blood sugar, 3) cancer of a malignant tumor, 4) chronic lung disease except asthma such as chronic bronchitis or emphysema, 5) heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems, 6) stroke or transient ischemic attack, 7) emotional, nervous, or psychiatric problems, and 8) arthritis or rheumatism. For couples, the health of both the CAMS respondent and the spouse are included. Spousal health variables are all equal to zero for single households. HRS asks about health over the past two years, so the 2002 HRS wave would cover health over the period when the respondent filled out the 2001 CAMS survey. Consumption in each CAMS wave is compared to health reporting in the following HRS wave, for example the 2004 HRS health variables are compared to 2003 consumption. For changes in consumption and health, the change in consumption from 2001 to 2003 is compared with changes in health from 2002 to 2004.

Other Variables: Household retired is an indicator of whether the respondent, in single households, or the husband, in coupled households, is retired. Age always refers to the respondent, whether the respondent is part of a couple or not.

Timing of Widowing: One difficulty in identifying people who have been recently widowed as of the period covered in the CAMS is that we have inexact information about when over the CAMS reference year respondents filled in or sent in their surveys. The surveys were fielded from September to December of the reference year, except the 2005 survey which was fielded between October 2005 and January 2006. However, CAMS is a mail-in survey and we do not know when the surveys were returned. In general, I assume that a respondent are newly widowed as of the CAMS if her (or his) spouse died in the CAMS reference year or the year before. For example, respondents are newly widowed as of the 2003 CAMS if their spouse died any time in 2002 or 2003. This assumption is certainly true for widowing events that took place in the year before the CAMS or early in the CAMS reference year, but spouses who died later in the CAMS reference year may have passed away after their spouse answered the survey, or the survey may have been answered in reference to consumption while the spouse was still alive.

To test the accuracy of the assumption that respondents whose spouse died over the CAMS reference period are filling out the survey as widows I looked at their reported

marital status on the CAMS. We established that there seems to be a fair amount of measurement error in reported marital status, so I was reluctant to rely on it entirely, but it is a useful check for this ambiguous period at the end of the CAMS years. 93% of respondents whose spouse died in the year before or the first half of the CAMS year reported their marital status as widowed on that CAMS. However, only 53% of respondents whose spouse died in the second half of the CAMS year identified themselves as widows on that survey. The rest identified themselves as married. For the 22 respondents who had a spouse die in the 2nd half of a CAMS year but identified themselves as married on that survey I identified them as still married in that survey and newly widowed as of the following CAMS.

Table 1. Income, Wealth, and Expenditure

	Observations	Mean	Standard dev.	Median
New widows				
Non-medical consumption	213	$17,377	$15,688	$12,430
Medical expenditures*	213	$1,057	$2,018	$530
Total Wealth	288	$136,332	$391,208	$39,824
Total income	288	$22,643	$17,967	$17,845
Pension income	288	$4,723	$7,020	$807
Social Security income	288	$7,813	$4,532	$8,350
Other income	288	$10,107	$17,118	$3,677
Widowed last wave				
Non-medical consumption	380	$18,529	$18,575	$14,124
Medical expenditures*	380	$1,307	$3,947	$496
Total Wealth	508	$106,865	$201,842	$30,805
Total income	508	$22,054	$41,450	$12,191
Pension income	508	$3,190	$5,806	$203
Social Security income	508	$5,008	$3,031	$5,575
Other income	508	$13,856	$41,133	$2,407
Widowed two periods ago				
Non-medical consumption	365	$17,614	$20,971	$13,591
Medical expenditures*	365	$1,154	$2,492	$461
Total Wealth	501	$137,681	$640,035	$31,940
Total income	501	$18,385	$23,940	$11,394
Pension income	501	$3,897	$8,970	$654
Social Security income	501	$5,504	$3,410	$5,768
Other income	501	$8,984	$22,472	$1,512
Couples				
Non-medical consumption	6,619	$26,534	$26,171	$20,604
Medical expenditures*	6,619	$1,528	$3,552	$783
Total Wealth	8,199	$218,191	$898,485	$63,298
Total income	8,199	$39,114	$59,312	$26,083
Pension income	8,199	$5,318	$18,729	$0
Social Security income	8,199	$6,357	$5,225	$6,969
Other income	8,199	$27,439	$57,703	$12,242
Other Singles				
Non-medical consumption	4,370	$14,531	$15,262	$10,957
Medical expenditures*	4,370	$1,167	$4,168	$413
Total Wealth	6,033	$89,112	$538,855	$15,564
Total income	6,033	$17,790	$77,431	$10,449
Pension income	6,033	$2,741	$7,322	$0
Social Security income	6,033	$4,447	$3,154	$4,774
Other income	6,033	$10,603	$77,323	$1,474

The table shows income and wealth from the HRS and expenditure from the CAMS. The sample are CAMS responses used in the regressions.   Observations are household-years. All values are in PCE-deflated 2000 dollars.

* Medical expenditures include doctor's visits, procedures, prescription drugs, and all other health-related expenses *except* health insurance premiums, which are included as part of the rest of consumption.

Table 2. HRS Health Measurements (CAMS Sample)

	Health Level			Change in Health		
	Obs	Mean	Std Dev	Obs	Mean	Std Dev
New Widows						
Share insured	248	96.0%	--	--	--	--
Reported health	248	2.94	1.07	184	-0.01	0.92
Spouse reported health	--	--	--	92	-3.73	1.21
Chronic conditions	248	2.40	1.47	184	0.26	0.74
Spouse chronic conditions	--	--	--	92	-2.92	1.57
Couples						
Share insured	7,092	96.6%	--	--	--	--
Share spouse insured	7,092	96.7%	--	--	--	--
Reported health	7,092	2.73	1.07	5,040	0.10	0.84
Spouse reported health	7,092	2.76	1.07	5,002	0.14	0.94
Chronic conditions	7,092	2.00	1.34	5,044	0.18	0.60
Spouse chronic conditions	7,092	1.98	1.38	5,004	0.21	0.69
Other Singles						
Share insured	5,274	96.9%	--	--	--	--
Reported health	5,274	3.00	1.12	3,842	0.12	0.91
Spouse reported health	--	--	--	3,743	-0.06	0.49
Chronic conditions	5,274	2.33	1.46	3,843	0.18	0.67
Spouse chronic conditions	--	--	--	3,743	-0.05	0.42

Data are health measurements from the HRS for the CAMS respondents (regression sample).

Table 3. Demographic Covariates.

Share of households that are retired	49.3%
Share of households that are couples	53.4%
Share of households that are single women	35.7%
Share of households that are single men	10.9%
Number of household residents besides respondent and spouse	0.44
Share of respondents less than 60 years old	13.8%
Share of respondents 61-65 years old	16.8%
Share of respondents 66-70 years old	19.8%
Share of respondents 71-75 years old	16.2%
Share of respondents over 75 years old	33.4%

Regression sample (CAMS).

Table 4. Response to CAMS Survey (First-stage sample section estimates).

Log(wealth)	0.048** (0.006)	0.052** (0.008)	0.052** (0.008)
Log(total income)	-0.000 (0.015)	-0.019 (0.020)	-0.019 (0.020)
Retired	0.162** (0.026)	0.210** (0.030)	0.210** (0.030)
Single female	0.263** (0.037)	0.189** (0.044)	0.189** (0.044)
Part of a couple	0.370** (0.037)	0.313** (0.044)	0.313** (0.044)
Number of hh members	-0.064** (0.011)	-0.060** (0.013)	-0.060** (0.013)
Under 60 years old	-0.194** (0.042)	-0.202** (0.046)	-0.203** (0.046)
60-65 years old	-0.100* (0.039)	-0.104* (0.043)	-0.102* (0.043)
70-75 years old	-0.018 (0.040)	0.020 (0.045)	0.019 (0.045)
Over 75 years old	-0.254** (0.034)	-0.103** (0.039)	-0.106** (0.040)
Year 2003 dummy	-0.133** (0.031)	-0.175** (0.034)	-0.176** (0.034)
Year 2005 dummy	-0.068* (0.032)	-0.104** (0.036)	-0.105** (0.036)
Year 2007 dummy	-0.037 (0.033)	0.032 (0.040)	0.032 (0.040)
Newly widowed	-0.032 (0.082)	-0.016 (0.094)	-0.020 (0.094)
Change in wealth		0.047** (0.012)	0.047** (0.012)
Change in income		0.023 (0.025)	
Change in pension income			-0.017 (0.050)
Change in SS income			0.015 (0.054)
Change in other income			0.036 (0.028)
Answered 2000 HRS very quickly	-0.037 (0.029)	-0.028 (0.034)	-0.028 (0.034)
Answered 2000 HRS very slowly	-0.118** (0.027)	-0.152** (0.030)	-0.152** (0.030)
Was rated most cooperative in 2000 HRS	0.239** (0.027)	0.240** (0.031)	0.240** (0.031)
Was rated very cooperative in 2000 HRS	-0.270** (0.065)	-0.291** (0.075)	-0.291** (0.075)
Was rated uncooperative in 2000 HRS	-0.747** (0.154)	-0.906** (0.177)	-0.906** (0.177)
Total observations	15,529	13,455	13,455
Lambda	-0.119 (0.091)	0.073 (0.095)	0.068 (0.095)

* indicates significance at 5%, ** at 1%. Standard errors in parentheses.

Table 5.   Effect of Health on Log Level of Consumption.
(Regression with sample-selection correction.)

	(1)	(2)	(3)	(4)
Log(wealth)	0.132** (0.004)	0.132** (0.004)	0.111** (0.004)	0.116** (0.004)
Log(total income)	0.273** (0.010)	0.273** (0.010)	0.281** (0.010)	0.262** (0.010)
Retired	0.038* (0.016)	0.037* (0.016)	0.024 (0.015)	0.057** (0.015)
Single female	0.054* (0.023)	0.053* (0.023)	-0.023 (0.023)	0.009 (0.023)
Part of a couple	0.250** (0.058)	0.337** (0.127)	0.133* (0.054)	0.261** (0.057)
Num. of hh members	0.044** (0.007)	0.044** (0.007)	0.058** (0.007)	0.047** (0.007)
Under 60 years old	0.038 (0.023)	0.037 (0.023)	0.088** (0.022)	0.050* (0.022)
60-65 years old	-0.008 (0.020)	-0.008 (0.020)	0.020 (0.020)	0.002 (0.019)
70-75 years old	-0.045* (0.019)	-0.045* (0.019)	-0.052** (0.019)	-0.044* (0.018)
Over 75 years old	-0.123** (0.018)	-0.123** (0.018)	-0.121** (0.017)	-0.126** (0.017)
Year 2003 dummy	0.056** (0.017)	0.056** (0.017)	0.080** (0.016)	0.052** (0.016)
Year 2005 dummy	-0.002 (0.017)	-0.002 (0.017)	0.026 (0.016)	0.012 (0.016)
Year 2007 dummy	0.088** (0.018)	0.088** (0.018)	0.096** (0.017)	0.114** (0.017)
Newly widowed	-0.013 (0.045)	-0.014 (0.045)	-0.050 (0.044)	-0.044 (0.043)
Own reported health	-0.038** (0.008)	0.011 (0.036)		-0.049** (0.007)
Spouse's reported health	-0.044** (0.009)	-0.086 (0.046)		-0.040** (0.009)
Own chronic conditions	0.012* (0.005)	-0.008 (0.029)		-0.000 (0.005)
Spouse's chronic conditions	0.004 (0.007)	0.021 (0.032)		0.001 (0.006)
Has health insurance	-0.020 (0.039)	0.083 (0.101)	-0.020 (0.040)	0.024 (0.040)
Spouse has health insurance	0.097 (0.052)	0.007 (0.127)	-0.025 (0.052)	0.030 (0.051)
Own rep. health*insured		-0.050 (0.036)		
Spouse's rep. health*insured		0.044 (0.046)		
Own chronic*insured		0.020 (0.030)		
Spouse's chronic*insured		-0.017 (0.033)		
Change in wealth	0.071** (0.006)	0.071** (0.006)	0.058** (0.006)	0.064** (0.006)
Change in income	0.170** (0.012)	0.169** (0.012)	0.169** (0.012)	0.160** (0.012)
Log(med.expend.)			0.083** (0.005)	0.089** (0.005)
Rep. health total effect for insured		-0.035** (0.008)		
Spouse's health total effect for insured		-0.039** (0.01)		
Own chronic total effect for insured		0.012 (0.006)		
Spouse's chronic total effect, insured		0.002 (0.008)		
Uncensored obs.	10,725	10,725	9,835	9,835
Censored obs.	2,249	2,249	2,249	2,249
Lambda	0.137 (0.104)	0.133 (0.104)	-0.276** (0.077)	0.167 (0.095)

The dependent variable is the log of consumption from the CAMS excluding out-of-pocket health spending and including health insurance premiums. See text for discussion.
* indicates significance at 5%, ** at 1%. Standard errors in parentheses.

Table 6.　　**Effect of Health on Log Change of Consumption.**
(Regression with sample-selection correction.)

	(1)	(2)	(3)	(4)
Newly Retired	0.011 (0.020)	0.011 (0.020)	0.011 (0.021)	0.002 (0.021)
Newly single female	0.109 (0.085)	0.108 (0.086)	0.112 (0.086)	0.138 (0.087)
Change in couple status	0.211** (0.081)	0.289** (0.089)	0.209* (0.082)	0.265** (0.083)
Ch. in hh members	0.006 (0.010)	0.005 (0.010)	0.008 (0.010)	0.004 (0.010)
Under 60 years old	-0.014 (0.025)	-0.013 (0.025)	-0.004 (0.025)	-0.007 (0.025)
60-65 years old	0.028 (0.022)	0.029 (0.022)	0.030 (0.023)	0.027 (0.023)
70-75 years old	-0.025 (0.020)	-0.025 (0.020)	-0.014 (0.021)	-0.011 (0.021)
Over 75 years old	-0.030 (0.018)	-0.030 (0.018)	-0.024 (0.018)	-0.026 (0.018)
Year 2003 dummy	0.033 (0.017)	0.035* (0.017)	0.032 (0.021)	0.029 (0.021)
Year 2005 dummy	-0.070** (0.017)	-0.068** (0.017)	-0.071** (0.019)	-0.069** (0.019)
Newly widowed	0.005 (0.093)	-0.073 (0.104)	0.024 (0.094)	0.072 (0.093)
Change in own rep. health	-0.006 (0.008)	0.004 (0.040)	-0.004 (0.008)	-0.005 (0.008)
Ch. spouse's reported health	-0.016 (0.010)	-0.067* (0.029)	-0.013 (0.010)	-0.018 (0.010)
Ch. own chronic conditions	0.004 (0.011)	0.004 (0.072)	0.005 (0.011)	0.004 (0.011)
Ch. spouse's chronic cond.	-0.016 (0.013)	-0.004 (0.031)	-0.014 (0.013)	-0.011 (0.013)
Has health insurance	0.040 (0.044)	0.042 (0.046)	0.013 (0.044)	-0.003 (0.045)
Spouse has health insurance	0.019 (0.021)	0.016 (0.020)	0.017 (0.021)	0.006 (0.021)
Change in wealth			0.008 (0.006)	0.011 (0.006)
Change in income			0.009 (0.012)	0.006 (0.012)
Change in med. expenditure				0.067** (0.006)
Change rep. health*insured		-0.010 (0.041)		
Ch. spouse's health*insured		0.056 (0.030)		
Ch. conditions*insured		-0.001 (0.073)		
Ch. spouse's cond.*insured		-0.010 (0.033)		
Ch. rep. health total effect for insured people		-0.007 (0.008)		
Ch. spouse's rep. health total effect for insured		-0.01 (0.011)		
Ch. chronic total effect for insured people		0.003 (0.011)		
Ch. spouse's chronic total effect for insured		-0.014 (0.014)		
Uncensored obs.	7,639	7,639	7,242	7,000
Censored obs.	2,008	2,008	1,816	1,816
Lambda	-0.042 (0.092)	-0.054 (0.091)	-0.054 (0.097)	-0.087 (0.095)

The dependent variable is the log change in consumption from the CAMS (see note to previous table).
* indicates significance at 5%, ** at 1%. Standard errors in parentheses.

Table 7.   Effect of Health Status on CAMS Out-of-Pocket Health Expenditure.

	(1)	(2)	(3)
Own reported health	0.038** (0.012)	0.057 (0.061)	0.097** (0.013)
Spouse's reported health	-0.028 (0.017)	-0.027 (0.084)	0.010 (0.017)
Own chronic conditions	0.099** (0.010)	0.174** (0.048)	0.126** (0.010)
Spouse's chronic conditions	0.059** (0.013)	0.072 (0.064)	0.072** (0.013)
Has health insurance	0.064 (0.067)	0.266 (0.176)	-0.030 (0.073)
Spouse has health insurance	0.398** (0.092)	0.409 (0.242)	0.325** (0.095)
Single female	0.105* (0.042)	0.103* (0.042)	0.249** (0.043)
Part of a couple	0.264* (0.106)	0.251 (0.241)	0.093 (0.110)
Number of hh members	-0.037** (0.012)	-0.037** (0.012)	-0.005 (0.013)
Under 60 years old	0.037 (0.038)	0.036 (0.038)	0.053 (0.039)
60-65 years old	0.026 (0.040)	0.024 (0.040)	0.012 (0.040)
70-75 years old	-0.014 (0.039)	-0.014 (0.039)	-0.047 (0.039)
Over 75 years old	0.166** (0.035)	0.168** (0.035)	0.143** (0.035)
Year 2003 dummy	-0.020 (0.033)	-0.020 (0.033)	0.004 (0.033)
Year 2005 dummy	-0.147** (0.032)	-0.147** (0.032)	-0.132** (0.032)
Year 2007 dummy	-0.270** (0.032)	-0.270** (0.032)	-0.268** (0.033)
Log(wealth)			0.099** (0.007)
Log(total income)			0.097** (0.016)
Own rep. health*insured		-0.020 (0.062)	
Spouse's rep. health*insured		0.000 (0.086)	
Own chronic*insured		-0.078 (0.049)	
Spouse's chronic*insured		-0.014 (0.065)	
Observations	12,102	12,102	10,969
R-squared	0.073	0.073	0.106

Dependent variable is the log of CAMS out-of-pocket health expenditure.

Table 8. Income and Wealth: Shares and Percent Change by group

	Mean Share in Total Income			2-year Percent Change			Share*
	25th ptl	Median	75th ptl	Obs	Mean	Std Dev	Change
New Widows							
Total Income				253	-35.3%	67.9%	-35.3%
Pension Inc.	0.0%	11.9%	30.3%	253	-25.9%	106.2%	-7.0%
SS Inc.	21.2%	44.0%	65.8%	253	-45.9%	81.2%	-19.0%
Other Inc.	5.7%	28.6%	57.2%	253	-37.2%	139.6%	-9.3%
Wealth				253	-23.4%	125.7%	
Widowed last wave							
Total Income				449	-8.9%	66.7%	-8.9%
Pension Inc.	0.0%	6.9%	29.4%	449	9.4%	92.8%	2.9%
SS Inc.	20.0%	43.7%	74.8%	449	9.6%	69.1%	1.4%
Other Inc.	2.8%	23.7%	64.1%	449	-30.2%	135.0%	-13.1%
Wealth				449	-16.9%	106.5%	
Widowed two waves ago							
Total Income				431	-7.6%	59.8%	-7.6%
Pension Inc.	0.0%	9.4%	34.6%	431	-6.3%	95.6%	-1.7%
SS Inc.	22.3%	48.3%	77.1%	431	6.5%	59.1%	0.6%
Other Inc.	1.5%	17.5%	53.7%	431	-25.6%	134.0%	-6.5%
Wealth				431	-22.7%	110.1%	
Couples							
Total Income				7,430	-7.4%	58.2%	-7.4%
Pension Inc.	0.0%	4.3%	27.1%	7,430	4.2%	91.1%	-0.2%
SS Inc.	5.5%	27.0%	54.1%	7,430	21.3%	69.2%	3.0%
Other Inc.	14.1%	52.5%	85.9%	7,430	-23.3%	109.2%	-10.3%
Wealth				7,430	-10.9%	100.0%	
Other Singles							
Total Income				5,148	-4.9%	60.3%	-4.9%
Pension Inc.	0.0%	0.0%	28.3%	5,148	0.3%	84.0%	-0.1%
SS Inc.	17.4%	47.8%	81.5%	5,148	11.7%	63.4%	2.7%
Other Inc.	1.5%	20.2%	65.8%	5,148	-24.3%	124.9%	-7.5%
Wealth				5,148	-17.4%	122.3%	

Note: The percent change in wealth can fall outside the [-2,2] range if wealth is negative in one year and positive in the other, in which case the sum of wealth in the two years is smaller than the difference. To prevent the estimates from being skewed by these rare (about 6%) cases I have top and bottom-coded the change in wealth between [-3,3].

Table 9. Changes in Wealth and Income of New Widows, by Gender and Time from Widowing

	Widowed this period		Widowed last period		Widowed two periods ago	
	Men	Women	Men	Women	Men	Women
Total Income	-28%	-37.8%	-9.9%	-8.6%	-0.2%	-9.8%
	(68.5)	(67.7)	(60.4)	(68.6)	(58.8)	(60.1)
Pension Inc.	*2.3%*	*-10.2%*	*3.2%*	*2.8%*	*1.9%*	*-2.8%*
(change*share)	*(28.9)*	*(30.9)*	*(29.2)*	*(25.2)*	*(30.7)*	*(30.1)*
SS Inc.	*-18.6%*	*-19.2%*	*4.4%*	*0.4%*	*2.1%*	*0.2%*
(change*share)	*(32.1)*	*(30.4)*	*(26.5)*	*(30.4)*	*(19.7)*	*(29.3)*
Other Inc.	*-11.8%*	*-8.4%*	*-17.5%*	*-11.8%*	*-4.2%*	*-7.2%*
(change*share)	*(54.2)*	*(57.6)*	*(56.3)*	*(57.5)*	*(46)*	*(46)*
Wealth	13%	-36.1%	-16.3%	-17%	-9.2%	-26.9%
	(130.6)	(121.7)	(99.7)	(108.6)	(96.6)	(113.8)

Note: See Table 8.

Table 10A. Effects of Widowing on Consumption, Log Level. Regression estimates.

	(1)	(2)	(3)
Log(wealth)	0.133** (0.004)	0.136** (0.004)	0.136** (0.004)
Log(total income)	0.227** (0.008)	0.282** (0.009)	0.281** (0.009)
Retired	0.002 (0.015)	0.033* (0.015)	0.033* (0.015)
Single female	0.014 (0.024)	0.058* (0.023)	0.058* (0.023)
Part of a couple	0.211** (0.026)	0.222** (0.024)	0.222** (0.024)
Number of hh members	0.047** (0.007)	0.044** (0.007)	0.044** (0.007)
Under 60 years old	0.067** (0.023)	0.051* (0.023)	0.051* (0.023)
60-65 years old	-0.001 (0.020)	-0.007 (0.019)	-0.004 (0.020)
70-75 years old	-0.053** (0.019)	-0.042* (0.019)	-0.044* (0.019)
Over 75 years old	-0.138** (0.020)	-0.124** (0.017)	-0.126** (0.017)
Year 2003 dummy	0.074** (0.017)	0.059** (0.017)	0.058** (0.017)
Year 2005 dummy	0.010 (0.016)	-0.000 (0.016)	-0.001 (0.016)
Year 2007 dummy	0.036* (0.017)	0.081** (0.017)	0.079** (0.017)
Newly widowed	-0.049 (0.045)	-0.022 (0.044)	-0.028 (0.044)
Change in wealth		0.073** (0.006)	0.073** (0.006)
Change in income		0.172** (0.012)	
Change in pension income			0.181** (0.023)
Change in SS income			0.139** (0.027)
Change in other income			0.174** (0.013)
Uncensored obs.	11,934	11,074	11,074
Censored obs.	3,595	2,381	2,381
Lambda	-0.119 (0.091)	0.073 (0.095)	0.068 (0.095)

* indicates significance at 5%, ** at 1%. Standard errors in parenthesis.
Dependent variable is the log level of consumption. Changes in pension, social security, and other income are weighted by the share of that type of income in total income.

Table 10B. Effects of Widowing on Consumption, Log Level. Summary of Effects

	(1)	(2)	(3)
Total, men	-0.260** (0.050)	-0.283** (0.048)	-0.283** (0.048)
Non-money, men		-0.245** (0.048)	-0.250** (0.049)
Money, men		-0.038** (0.003)	-0.033** (0.006)
From change in income, men		-0.048** (0.003)	
From pension income, men			0.004** (0.001)
From SS income, men			-0.026** (0.005)
From other income, men			-0.021** (0.002)
From change in wealth, men		0.010** (0.001)	0.010** (0.001)
Total, women	-0.246** (0.045)	-0.278** (0.045)	-0.279** (0.045)
Non-money, women		-0.186** (0.045)	-0.193** (0.045)
Money, women		-0.091** (0.005)	-0.086** (0.006)
From change in income, women		-0.065** (0.004)	
From pension income, women			-0.018** (0.002)
From SS income, women			-0.027** (0.005)
From other income, women			-0.015** (0.001)
From change in wealth, women		-0.026** (0.002)	-0.026** (0.002)

Estimates based on regression estimates in Table 10-A and changes in income and wealth summarized in Table 9.

Table 11. Effects of Widowing on Consumption, Log Difference. Regression estimates.

	(1)	(2)	(3)
Newly Retired	0.009 (0.019)	0.004 (0.020)	0.010 (0.020)
Newly single female	0.057 (0.063)	0.076 (0.066)	0.074 (0.066)
Change in couple status	0.159** (0.052)	0.178** (0.056)	0.184** (0.056)
Ch. in hh members	0.008 (0.010)	0.007 (0.010)	0.008 (0.010)
Under 60 years old	-0.024 (0.024)	-0.012 (0.024)	-0.013 (0.024)
60-65 years old	0.021 (0.021)	0.019 (0.022)	0.025 (0.022)
70-75 years old	-0.025 (0.020)	-0.015 (0.020)	-0.019 (0.020)
Over 75 years old	-0.031 (0.019)	-0.030 (0.018)	-0.036* (0.018)
Year 2005 dummy	-0.104** (0.015)	-0.100** (0.016)	-0.100** (0.016)
Year 2007 dummy	-0.042** (0.016)	-0.033 (0.019)	-0.034 (0.019)
Newly widowed	0.063 (0.061)	0.070 (0.063)	0.059 (0.063)
Change in wealth		0.011 (0.006)	0.010 (0.006)
Change in income		0.004 (0.011)	
Change in pension income			0.005 (0.024)
Change in SS income			-0.069** (0.026)
Change in other income			0.025 (0.014)
Total, men	-0.096 (0.070)	-0.108 (0.073)	-0.113 (0.073)
Non-money, men		-0.108 (0.073)	-0.125 (0.073)
Money, men		0.000 (0.003)	0.011* (0.005)
Total, women	-0.038 (0.052)	-0.038 (0.054)	-0.044 (0.054)
Non-money, women		-0.032 (0.054)	-0.051 (0.054)
Money, women		-0.006 (0.005)	0.007 (0.006)
Uncensored obs.	8,310	7,612	7,612
Censored obs.	3,107	1,994	1,987
Lambda	-0.063 (0.074)	-0.024 (0.084)	-0.021 (0.084)

* indicates significance at 5%, ** at 1%. Standard errors in parentheses.
Dependent variable is the log difference in consumption.

Table 12A. Effects of Widowing on Consumption, Log Level with lagged effects. Regression estimates.

	(1)	(2)	(3)
Log(wealth)	0.132** (0.004)	0.136** (0.004)	0.136** (0.004)
Log(total income)	0.227** (0.008)	0.281** (0.009)	0.281** (0.009)
Retired	0.002 (0.015)	0.033* (0.015)	0.033* (0.015)
Single female	0.014 (0.024)	0.058* (0.023)	0.057* (0.023)
Part of a couple	0.221** (0.026)	0.230** (0.024)	0.230** (0.024)
Number of hh members	0.046** (0.007)	0.044** (0.007)	0.044** (0.007)
Under 60 years old	0.067** (0.023)	0.051* (0.023)	0.051* (0.023)
60-65 years old	-0.001 (0.020)	-0.006 (0.020)	-0.004 (0.020)
70-75 years old	-0.052** (0.019)	-0.042* (0.019)	-0.043* (0.019)
Over 75 years old	-0.139** (0.020)	-0.125** (0.017)	-0.127** (0.017)
Year 2003 dummy	0.075** (0.017)	0.059** (0.017)	0.058** (0.017)
Year 2005 dummy	0.010 (0.016)	0.000 (0.016)	-0.001 (0.016)
Year 2007 dummy	0.037* (0.017)	0.081** (0.017)	0.080** (0.017)
Newly widowed	-0.039 (0.045)	-0.015 (0.044)	-0.021 (0.045)
Widowed last period	0.076* (0.034)	0.049 (0.035)	0.050 (0.035)
Widowed two periods ago	0.061 (0.035)	0.059 (0.035)	0.059 (0.035)
Change in wealth		0.073** (0.006)	0.073** (0.006)
Change in income		0.172** (0.012)	
Change in pension income			0.180** (0.023)
Change in SS income			0.139** (0.027)
Change in other income			0.174** (0.013)
Uncensored obs.	11,934	11,074	11,074
Censored obs.	3,595	2,381	2,381
Lambda	-0.114 (0.091)	0.077 (0.095)	0.073 (0.095)

* indicates significance at 5%, ** at 1%. Standard errors in parentheses.
Dependent variable is the log level of consumption. Changes in pension, social security, and other income are weighted by the share of that type of income in total income.

Table 12B. Dynamic Effects of Widowing on Consumption.

New Widows			
Total, men	-0.260** (0.050)	-0.283** (0.048)	-0.284** (0.048)
Non-money, men		-0.244** (0.048)	-0.250** (0.049)
Money, men		-0.038** (0.003)	-0.034** (0.006)
From change in income, men		-0.049** (-0.003)	
From pension income, men			0.004** (0)
From SS income, men			-0.026** (-0.005)
From other income, men			-0.021** (-0.002)
From change in wealth, men		0.009** (0.001)	0.009** (0.001)
Total, women	-0.246** (0.045)	-0.278** (0.045)	-0.281** (0.045)
Non-money, women		-0.187** (0.045)	-0.193** (0.045)
Money, women		-0.091** (0.005)	-0.088** (0.006)
From change in income, women		-0.066** (-0.004)	
From pension income, women			-0.019** (-0.002)
From SS income, women			-0.027** (-0.005)
From other income, women			-0.015** (-0.001)
From change in wealth, women		-0.027** (-0.002)	-0.027** (-0.002)
Widowed last period			
Total, men	-0.145** (0.041)	-0.209** (0.041)	-0.212** (0.041)
Non-money, men		-0.180** (0.041)	-0.180** (0.041)
Money, men		-0.029** (0.001)	-0.032** (0.003)
From change in income, men		-0.018** (-0.001)	
From pension income, men			0.005** (0.001)
From SS income, men			0.006** (0.001)
From other income, men			-0.031** (-0.002)
From change in wealth, men		-0.012** (-0.001)	-0.012** (-0.001)
Total, women	-0.131** (0.035)	-0.150** (0.036)	-0.153** (0.036)
Non-money, women		-0.123** (0.036)	-0.122** (0.036)
Money, women		-0.027** (0.001)	-0.030** (0.002)
From change in income, women		-0.016** (-0.001)	
From pension income, women			0.005** (0.001)
From SS income, women			0** (0)
From other income, women			-0.021** (-0.002)
From change in wealth, women		-0.014** (-0.001)	-0.014** (-0.001)
Widowed two periods ago			
Total, men	-0.160** (0.042)	-0.178** (0.041)	-0.180** (0.041)
Non-money, men		-0.171** (0.041)	-0.171** (0.041)
Money, men		-0.007** (0.001)	-0.009** (0.001)
From change in income, men		-0.001** (0)	
From pension income, men			0.003** (0)
From SS income, men			0.002** (0)
From other income, men			-0.008** (-0.001)
From change in wealth, men		-0.007** (-0.001)	-0.007** (-0.001)
Total, women	-0.147** (0.036)	-0.149** (0.036)	-0.152** (0.036)
Non-money, women		-0.113** (0.036)	-0.113** (0.036)
Money, women		-0.037** (0.002)	-0.038** (0.002)
From change in income, women		-0.018** (-0.001)	
From pension income, women			0** (0)
From SS income, women			-0.013** (-0.001)
From other income, women			-0.02** (-0.002)
From change in wealth, women		-0.02** (-0.002)	-0.005** (-0.001)

Estimates based on regression estimates in Table 12A and changes in income and wealth summarized in Table 9.

Figure 1. Effect of Widowing.

Effect of Widowing on Log(Consumption) Over Time, Men

Effect of Widowing on Log(Consumption) Over Time, Women