Explanations for the Decline in Spending at Older Ages

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Abstract: We use new data from the 2019 wave of the Consumption and Activities Mail Survey to help interpret the observed decline in spending as individuals age. At one extreme, forward looking individuals optimally chose the decline; at the other, myopic individuals overspent and were forced to reduce spending because they had run out of wealth. Which interpretation is correct has important implications for the measurement of economic preparation for retirement. According to respondents' own assessments the fraction feeling financially constrained is lower at advanced ages, while the fraction satisfied with the economic situation is higher at older ages. An important mechanism reconciling the evidence may be that individuals' enjoyment of various spending-related activities declines with worsening health, widowing and increasing age. Individuals' responses provide strong support for this hypothesis. Still, close to 20 percent of those over 80 report not being satisfied with their financial situation, pointing to some heterogeneity.

Keywords: Saving adequacy, household consumption, lifecycle model

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Introduction

In its simplest form the leading economic theory about the trajectory of spending at older ages suggests that the spending (or consumption) trajectory should decline at advanced age (Yaari 1965). The reason for the decline is that in the absence of a bequest motive, wealth held at death is wasted: it should have been consumed earlier. But death is stochastic, so that too much early consumption runs the risk that survival will require later a large drop in consumption. The first-order condition requires, therefore, that consumption is somewhat elevated early in the retirement years, but then it will be reduced on surviving. Because the force of mortality (mortality risk) is approximately exponential, the consumption trajectory will have a negative slope at advanced old age even under more complex situations such as a bequest motive or when rates of return on saving are stochastic. As an empirical matter, and as will be shown later, spending paths do decline with age as would be predicted by this simple model.

In the case of a couple, the determination of the optimal consumption trajectory is considerably more complex because the couple has a "bequest motive," to the surviving spouse: because wealth at the death of one spouse is not wasted, it is less desirable to consume early. But in the absence of a bequest motive by the surviving spouse to someone outside the household, the trajectory of consumption by couples should decline at advanced old age because the marginal utility of wealth of the surviving spouse will become small. Thus, the theory would predict a consumption trajectory with negative slope, although the age at which the slope becomes negative depends on tastes and the environment.

The life-cycle model has been challenged by behavioral explanations: Individuals lack foresight; they spend too much earlier in life and then are forced to reduce spending at older ages. In this framework, the empirically observed decline in spending is interpreted to mean that

economic preparation was inadequate: some individuals ran out of wealth causing a discontinuous decline in their spending and a decline in population spending. If people must reduce spending because they overspent when young — possibly due to a lack of self-control or foresight— the decline in spending is not optimal, but rather signals under-saving. It is difficult to distinguish empirically between these explanations. For example, the greater rate of spending decline by the less educated, explained by higher mortality risk in the life-cycle model, is explained by a reduced ability to use forward-looking behavior.

Some aspects of data, however, suggest an augmented life-cycle model, a model which is in the spirit of the standard life-cycle model, but which permits taste change with age and/or utility production that is health dependent. In the production of utility, some items of spending are complements to health such as travel, and some are substitutes for health such as health care spending. As health declines with age people will shift spending away from complements toward substitutes. The fraction of spending (budget shares) for health care and other substitutes will increase with age and the fraction for complements will decline. If the substitutes are insured such as health care via Medicare, forward looking individuals would want to shift some types of spending (spending that is complementary to health) to earlier ages when health is good, amplifying the decline due to mortality risk. Support for this augmented life-cycle model comes from data on budget shares. Among those 65-69 about 20% of total spending is for private transportation (almost all for automobiles) and trips and vacations; at ages 85-89 such spending is about 10% of the total (Hurd and Rohwedder, 2010). Budget shares for transfers and gifts, which should be independent of health, increase with age, suggesting that the budget constraint is not an explanation for the overall reduction in spending.

Data: The Health and Retirement Study and Its Supplement on Household Spending

We use data from the Consumption and Activities Mail Survey (CAMS), a sub-study of the Health and Retirement Study (HRS), and from the core HRS. In year 2001, 5,000 HRS households were chosen by random assignment to be included in CAMS. In the subsequent odd-numbered years, they were administered a mail-out spending survey, which queried about spending in 35 categories to obtain a complete measure of annual spending. Total spending in CAMS aggregates closely to total spending from the Consumer Expenditure Survey (Hurd and Rohwedder, 2015). For example, among those 65-74, and 75 or older, CAMS spending in 2007 was $40.7 thousand and $29.4 respectively; in the CEX such spending was $39.7 and $29.4 thousand. These cross-section figures do not show the life-cycle variation in spending. But spending paths constructed from two-year panel changes in CAMS do decline with age, as we have shown in prior work and will show in updated results below.

We designed some add-on questions to the 2019 CAMS aimed at finding the reasons for the observed decline in spending. Do the data support what we call a behavioral interpretation: because people overspent/under saved, the decline is forced on people by the budget constraint (Caliendo and Findley, 2013)? Or do the data support an interpretation based on standard economic theory, possibly augmented with health-dependent utility or with taste variation that is related to age?

Appendix 4 shows the survey questions that are at the center of our analyses. One group of questions in CAMS asked about individuals' perceptions of their total spending change over the last 6 years, which can be compared with actual change from the longitudinal CAMS total spending data. The questions included follow-up questions about the reasons for a spending

reduction (or for an increase): changes in the ability to afford as much spending as before, changes in enjoyment from spending, and changes in "forced" spending such as mortgage or health care. We asked about their perception of a typical spending trajectory.

A second group of questions asked about changes over the past six years in enjoyment from spending in seven categories: going out to eat, travelling, leisure activities, having new clothes, having a new car, having new appliances (such as TV, computer, refrigerator, cell phone), and giving financial support to family/friends. The six response categories ranged from much less enjoyment, to about the same, to much more enjoyment.[1] The aim of these questions was to obtain a self-assessment of a change in the marginal utility of spending in categories that might be complementary to health or neutral to health, or in categories that might be dependent on the social context.

We asked directly about their perceptions of the constraint on their spending, of the change in the constraint compared to six years ago, and about their satisfaction with their financial situation and the change in their satisfaction compared with six years ago.

Results

We first update prior results about longitudinal spending trajectories using CAMS waves from 2005 to 2019. For single persons, we use median regression of the two-year change in real spending on indicators for age band, sex and education. For couples we add an indicator when the wife is more than five years younger than the husband. We then graph the spending trajectories obtained from the predicted rates of change of spending.

[1] It also included the option to indicate "Not applicable/don't do." Auxiliary analyses showed that older persons and those in bad health were most likely to check this option. We recoded these to "Much less enjoyment today" in our main analyses.

Figure 1 shows the predicted paths to age 90 normalized to 100 at age 65. Reflecting the two-year changes in the raw data, the paths have negative slopes. The rate of decline varies somewhat with education level. In particular single persons who lack a high school degree have a path with a greater slope: in a Yaari-type model this would be predicted by the greater mortality risk of the less educated. The path declines to about 57% of initial spending by age 85. This is a much-reduced level of spending, but the chances of a single person lacking a high school degree surviving to age 85 are not very great: we have calculated that a 66 year-old male with that education level would survive to age 85 with probability 0.15 and a similar female with probability 0.30.

Among married persons the less educated have somewhat steeper spending trajectories but the main difference is between high school or less, and some college or more. Should the couples survive to advanced old age, predicted spending would be much lower than at age 65, but the chances of that happening are rather low because it requires the survival of both spouses. For example, we have estimated that the probability of both spouses who are both lacking a high school degree (and under the assumption of independent mortality) to survive from age 66 to age 85 to be 0.14.[2]

Figure 2 shows the budget shares (fraction of total spending by category of spending) of six categories (out of 12) which were chosen because of expectations about their different degrees of substitutability with health. We anticipate that health care spending is substitutable for health; gifts and donations are neutral with respect to health: and transportation, clothing, trips and vacations and possibly housing are complementary to health.

[2] This is based on greater survival rates for married persons.

The budget share of health spending does not include spending on insurance, just OOP. It increases with age reaching 15% among those 85 or older. Spending on housing declines among couples almost throughout. Note: the measure is a measure of spending and includes interest, property taxes, repairs etc; it is not a consumption measure. Whether spending on housing is complementary to health (downsizing) or just reductions in mortgages is not discernable. Among singles an increase in budget share begins in the 70s. But the cross-section reflects new widow(er)s being added to existing pool of singles, and the newly widowed have greater wealth than existing single persons. Spending on transportation (mostly private automobiles) declines with age. Trips and vacations are particularly interesting. Couples display an increasing budget share to 65-69. An interpretation would be greater time availability following retirement; then a decline reflecting worsening health of one or both spouses. The budget share of singles peaks at 70-74 but with just 2.6% of the budget compared with couples 4.6%, it likely reflects utility of travelling with someone. The budget shares on gifts and donations increase, which supports the idea that declining economic resources are not the predominant cause for the decline in spending on other items.

Self-perceived changes in spending

We asked

B41. How has your household's spending changed over the past **six** years? Please think of what you typically spend, leaving out any unusual expenses. **(Check one.)**

With answer categories

1. It decreased a lot
2. It decreased a little
3. It stayed about the same
4. It increased a little
5. It increased a lot

We suspect that most people will answer about nominal spending, that is, the actual dollars they spent. Figure 3, Panel A shows the distribution of responses: some 37% reported no change; 34% reported an increase and 29% reported a decrease. Based on CAMS 2013 and 2019, which encompass about the same time interval as queried in recollected spending change, the nominal median change in total reported household spending (based on in over 35 detailed categories) was about -1% which translates to an 11% real decrease or about -1.9% per year. The annual rate of change from 2013 to 2019 was about the same as average annual rate from 2005 to 2019, which underlies the graphs in Figure 1: that rate is about -1.3 %. It should be noted, however, that the 2013-2019 CAMS comparison conditions on six-year survival whereas the Figure 1 figures are conditioned on two-year survival, which makes the rates not exactly comparable.

In Figure 3, Panel B we show the median of the change in observed total household spending, as measured in 2013 and 2019 CAMS, classified by the recollected spending change from Panel A. Among those who said spending remained about the same, the median change was -3.4%. Although the figure exhibits some asymmetry the overall impression is that recollections of spending change map well into measured change.

Conditional on a reported spending reduction we asked respondents about the reasons for the reduction.

B42a. Why does your household (or you) spend less now? (Check all that apply.)

1. We/I cannot afford to spend as much as we used to
2. There are fewer persons in my household than six years ago
3. To increase our savings
4. We/I have reduced spending on some things because we get less enjoyment from them than we used to
5. Some things we spend money on are cheaper now

6. We no longer have to spend money on some things that we did six years ago (or we have less to spend than before)
7. Other reasons: _____

Figure 4 shows the proportion of respondents who reported each of the reasons for the reduction among those who said they had reduced spending (29% of all respondents).[3] Some 40-50% reported they could not afford to spend as much as they used to. The bars "actual" show the frequencies in the actual data and the "regr adj" show the frequencies after a regression adjustment: we estimated a linear probability model for "cannot afford" on age indicators, marital status and change in marital status, education, self-rated health and wealth quartiles. The chart shows the age variation from that regression. There is little variation in "cannot afford" with age. Although it is fairly frequent to reduce spending because of not being able to afford as much as before, the results do not support the idea that spending declines with age because of a greater tendency to spend less because of affordability. The difference between the actual frequencies and the adjusted frequencies is minimal.

The frequencies of reducing spending due to the household having fewer people show a clear U-shaped pattern associated with people leaving the household: adult children at younger ages and widowing at older ages. The regression adjusted frequencies have a shallower increase because the marital status indicators are included in the regression, and they are correlated with advanced age.

In order to increase saving, households need either to earn more or to spend less. Among households in their late 50s who did reduce spending, about 20% attributed the reduction to the desire to increase saving. That attribution declines with age. There are only small differences between the raw frequencies and the regression-adjusted frequencies.

[3] Respondents were permitted to check more than one reason.

At younger ages, few attribute a reduction in spending to a reduction in the enjoyment they get (or would get) from spending on "some things." But the frequency sharply increases with age reaching about 40% among those 80-84. If we interpret these responses to signal a reduction in the marginal utility from the underlying activities the increasing frequency would help explain the decline in spending in some categories that *a priori* would seem to depend on health or on having a spouse or partner.

Less than 10% reported spending less because things have become less expensive, and there is no clear age pattern.

A large fraction of persons attributed a reduction to having to spend less on some categories. We had in mind "required" spending such as on mortgages or education of children.

Among households that reported an increase in spending we asked similar types of questions.

B42b. Why does your household (or you) spend more now? (Check all that apply.

1. We/I can afford to spend more now.
2. There are more persons in my household than six years ago.
3. We/I are not saving as much.
4. We/I have increased spending on some things because we get more enjoyment from them than we used to..
5. Some things we spend money on are more expensive now
6. We have to spend money on some things that we didn't six years ago (or we have to spend more than before).
7. Other reasons.

Rather than reporting the conditional frequencies (the frequencies among those who increased spending) we report in Figure 5 the unconditional frequencies, that is the frequencies in the entire population. We do this both for the reasons for reducing spending (Figure 4 renormalized in each age band to be the entire population) and for increased spending. For example, in the age band

55-59, 18% of the population attributed reduced spending to not being able to afford prior levels, whereas 8% attributed increased spending to being able to afford higher levels. Although there is some variation, broadly being able to afford less declines with age; being able to afford more reaches a peak at ages 70-74 and then modestly declines.

The effect of a reduction in the number of persons in the household is mostly flat in age at about 8% of households, but with some elevation at both the youngest and oldest ages. The effect of an increase in number of persons is approximately flat in age, and the level about half of the effect of a decrease, resulting in a net reduction of spending due to changes in household composition.

At advanced old age, almost no one reduced spending so as to save more. About 7% reduced their saving rate so as to spend more. Qualitatively this difference accords with observed dissaving at older ages.

We observe a steady increase with age in the attribution of reduced spending to having less enjoyment, reaching 8% of the population ages 85+. Yet, some 8% of those 75-79 attribute increased spending to getting more enjoyment from such spending. The overall impression is of substantial heterogeneity.

Some 20-25% of the population asserted an increase in spending because things are "more expensive." There is perhaps a small increase with age. Almost no one reduced spending because things became cheaper.

At the youngest age band, 18% reduced spending because they needed less, possibly connected to a reduced need to spend for older children's education or work-related expenses connected with early retirement. Just 13% increased spending because of greater needs. The trend with age exhibits a gradual shift from reducing spending because of less need to increasing spending because of greater need. From the budget shares in Figure 2 these trends would appear to be connected with health care spending.

Next we examine self-assessed satisfaction with the financial situation as reported on a five-point scale:

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B45. Overall, how satisfied are you with your present
financial situation? (Check one.)
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a. Completely satisfied
b. Very satisfied
c. Somewhat satisfied
d. Not very satisfied
e. Not at all satisfied

To show the overall pattern by age in Figure 6 we have combined the first two categories (a and b) and the last two categories (d and e). Although the middle category shows little variation with age, the overall patterns is towards a larger fraction being satisfied at older ages: just 18% were completely or very satisfied in the lowest age band but about 43% were in the two upper age bands. In a mirror image the percentages not very satisfied or not at all satisfied decline sharply.

The second part of the figure shows the self-assessment of being financially constrained. It is elicited on a four-point scale:

B47. To what extent would you say is your household constrained in its spending? (Check one.)

a. Very constrained (often we cannot afford to buy things we need)
b. Somewhat constrained (we have to watch our spending, but can cover all basic needs)
c. Hardly at all constrained (we can largely buy what we want)
d. Not constrained (we do not have to worry about finances)

We combined the last two categories (c and d) for clarity. The percent reporting "somewhat constrained" is approximately constant by age; the percentage reporting "hardly at all" or "not constrained" increases by about 20 percentage points, and the percentage reporting "very" declines by 10 percentage points. Overall Figure 6 gives the impression that the population at advanced old age self-assesses its financial situation to be better than the assessment by those near retirement age.

We cannot separate cohort effects from age effects in this cross-section comparison. To study the dynamics of self-assessed economic situation we asked respondents to compare their economic situation today with their situation six years ago, both with respect to satisfaction and with respect to financial constraints:

B46. And compared to six years ago how satisfied are you with your present financial situation? (Check one.)

a. Much more satisfied today than six years ago
b. A little more satisfied
c. About the same
d. A little less satisfied
e. Much less satisfied

B47. To what extent would you say is your household constrained in its spending? (Check one.)

a. A lot more constrained today
b. Somewhat more constrained today
c. Constrained about the same
d. Somewhat less constrained today
e. A lot less constrained today

For both the change in satisfaction with economic situation and change in constraints we combined the first two categories and the last two categories. We show the age patterns in Figure 7. Among those in the youngest age band just 26% report no change in their financial situation while 37% report a worsening and 37% report an improvement. This is in sharp contrast with those in the highest age band where the majority report no change in financial situation over six years. Approximately equal percentages report an improvement or a worsening.

As for the perceived constraints on finances the pattern with respect to age is about the same as the pattern on economic situation. Some 20% age 55-59 report the constraint is unchanged from six years age, and that percentage increases to more than 40% at 85 or older. But at all ages about 20 percentage points more report an increase in the constraint than a decrease.

The overall impression from Figure 7 is that the older population compared with the younger population is more satisfied with their economic situation and has greater stability in satisfaction. But there is considerable heterogeneity: about half reported a change in their level of economic satisfaction over six years (25% better, 25% worse). That heterogeneity continues into advanced age, although at a lesser rate. A second impression is that being somewhat constrained is "normal," as would be expected in a world of scarce resources.

We saw declining budget shares in some activities that would seem to be complementary to health or to the social situation, in particular to marital status. We asked respondents about the enjoyment they would get from some of those categories of spending in the following manner:

> B43. Compared to six years ago, how much enjoyment do you (or would you) get today from... (For the items below, check one box for each activity.)
>
> a. Going out to eat
> b. Traveling
> c. Leisure activities
> d. Having new clothes
> e. Having a new car
> f. Having new appliances (such as TV, computer, refrigerator, cell phone)
> g. Giving financial support to family/friends

The response categories were the following:

a. Much less enjoyment today
b. A little less enjoyment today
c. About the same enjoyment
d. A little more enjoyment today
e. Much more enjoyment today
f. Not applicable/don't do

The aim was to find whether the marginal utility of spending on these categories had changed as an explanation for changes in spending rather than an explanation based on the Engel curve. For display in Figures 8a – 8g, we combined the first two responses and the last two responses. The grey dashed lines always show the percentage saying "about the same enjoyment," the orange lines less enjoyment and the blue lines more enjoyment. Spending on categories a – f show a remarkably consistent patten: the percentage responding "same" is approximately constant across age groups (although with a small decline in the oldest groups), but the percentage responding "less" increases and increases particularly strongly at the oldest ages and the percentage responding "more" shows a corresponding decrease. These patterns would seem to suggest that the declining budget shares shown in Figure 2 are induced by declining marginal utility from these types of spending. The only possible anomalous result is "Giving financial support," which seems to produce smaller marginal utility with age even though it would seem to be neutral with respect to health. An explanation would require a

detailed investigation into the types and uses of financial support. For example, among those in their 50s the support may be for education of their children whereas the support at advanced old age may be for their grandchildren who are already well-supported by their parents.

Figure 8h shows the numerical average of the responses in each category with the scaling from 1 (much less enjoyment) to 5 (much more enjoyment) with 3 being about the same enjoyment. All the scores average to less than three, indicating that overall respondents say they get less enjoyment in each of the categories than six years ago. The categories with the smallest decline are eating out and leisure, and the category with the greatest decline is new cars. Figure 8i shows the age pattern when averaging the numerical scores across all the seven activities. The maximum value of 2.78 is at 60-64 and then the average score declines to 2.15 at 85+. Thus the change across age bands is about 2/3 of the way between response categories: for example about 2/3 of the way from "about the same enjoyment" to "a little less enjoyment today."

From the perspective of understanding economic preparation for retirement the raw variation with age in enjoyment from various activities is preferable to the variation that remains after accounting for explanatory variables because the raw variation incorporates normal changes with age that should be anticipated by someone approaching retirement. For example, it is not of much relevance to note that enjoyment from travel will remain at a high level into advanced old age if the person remains married, continues in excellent health, has no episodes of out-of-pocket spending for health care, and so forth because these conditions are not relevant for (almost) anyone. Nonetheless it is of interest to identify characteristics and changes in situation that are associated and perhaps causal for changes in enjoyment. We show in Table 1, the regression of the change in enjoyment of each of the seven activities on a number of indicator variables. For simplicity of interpretation, we have linearized the left-hand variable to take the values 1-5 with "Much less enjoyment today" and "Not applicable/don't do" taking the value 1 and "Much more enjoyment today" taking the value 5.

A general summary is that health is an important explanatory variable (and likely causal) for change in enjoyment, especially of "travel" and "leisure": the difference between those in poor health and those in excellent is about a full point. With respect to the other types the main

difference is between those in bad health (fair or poor) and everyone else. There is little variation by present financial constraints except for those who are very constrained. If people became a lot more constrained, they expressed less enjoyment. The demographic variables (education, marital status and change in marital status) have some explanatory power. In particular the transition from married to single results in a drop. We note that the R-squared of the regression for travel and for leisure are about 0.20, about twice the R-squared of eating out, new cars, and giving financial support, three times the R-squared of new clothes and appliance. The higher R-squared are the result of the strong effects of health and age on travel and leisure.

To summarize the effect of age on enjoyment we take the average of the coefficients on age across the seven categories of activities. As shown in Figure 9, the average declines monotonically with age. The difference between the youngest and oldest age bands is 0.61, which is almost exactly the same as the unadjusted difference (0.60) from Figure 8i.

We noted in Table 1 that being very financially constrained and transitioning into being a lot more financially constrained is associated with the change in enjoyment from all seven activities. One possible interpretation is that through a shock economic resources were depleted, leading a reduction in spending for superior goods. We have interpreted a change in enjoyment from spending on eating out or on travel to be a statement about the utility from the consumption of a unit of eating out or a unit of travel. Said differently, holding constant amounts, the utility from consuming those goods has declined.

A different interpretation would be that enjoyment has declined because total consumption has declined. This is difficult to address. We would like to find whether spending reacts to reductions in enjoyment, holding constant total spending. In this spirit, we examine the regression of the change in budget shares (e.g. of eating out) on change in enjoyment (of eating out), controlling for the change in total spending and demographics. The results are shown in Table 2, a separate column for each of the seven spending categories. The left-hand variables are scaled from -1 to +1 (although the extremes are not populated). The coefficients of main interest, on change in enjoyment (scaled 1-5), are in the top panel. Qualitatively, the estimates indicate statistically significant relationships for all spending categories: an increase in enjoyment is associated with an increase in the respective budget share. Or maybe more reflective of the

dynamics observed in the older population: a reduction in enjoyment is associated with a reduction in the corresponding budget share. For example, an increase of one unit in enjoyment of eating out increases the budge share eating out by 0.00398 on a base of 0.04.

Summary and conclusions

Spending at older ages declines and an important question is—both for economic theory and for economic policy—whether the observed decline is in accordance with individuals' choices or whether the spending decline is a sign financial distress, of being forced to reduce spending due to lack of resources, signaling suboptimal outcomes. We presented new evidence on this issue from a recent module in the HRS Consumption and Activities Mail Survey, where we asked respondents how their spending changed over the past 6 years and about reasons for the changes; we also queried them how their enjoyment of spending-related activities has evolved over the same time period, and about economic satisfaction and financial constraints – both present and changes therein.

Interestingly, the level of being satisfied with the present financial situation increases with age in cross-section, reaching almost 45 percent among those over age 80. The fraction dissatisfied declines from almost 45 percent among 55-59 year-olds to under 20 percent for ages 80+. These patterns could be due to differential mortality or cohort effects. While differential mortality likely plays an important role, we note the strong increase by age in the stability of individuals' financial situation over six years, and the about equal frequencies at older ages of being less or more satisfied than compared with six years previously. Similarly, the fraction reporting being more financially constrained compared to six years ago is lower at advanced ages, while the fraction recording "same" increases substantially with age.

A potentially important mechanism could be that households reduce spending with age, at least in part, because they get less enjoyment from various spending-related activities. As health and energy levels decline, traveling and certain leisure activities may no longer give as much pleasure. For some this may be further exacerbated by widowing, for lack of a companion to share the activities with. We found a large gradient in the reported *change* of enjoyment with age for most activities we queried, consistent with this hypothesis. If productivity of spending on

those items declines, spending could be reduced with minimal impact on constraints to financial situation and with satisfaction in financial situation. The data represent within-person changes, rather than just cross-sectional age patterns. These changes were *recollected* changes, however, which may be affected by recall error.

Returning to the question whether the decline in spending was chosen or forced, possibly because of lack of forward-looking behavior, some evidence that it was chosen by many is that otherwise we would expect greater dissatisfaction with the economic situation and greater transitions into being financially constrained.

Still, the results also point to heterogeneity: even as many persons in their 80s reported no change in satisfaction about 30% reported a reduction.

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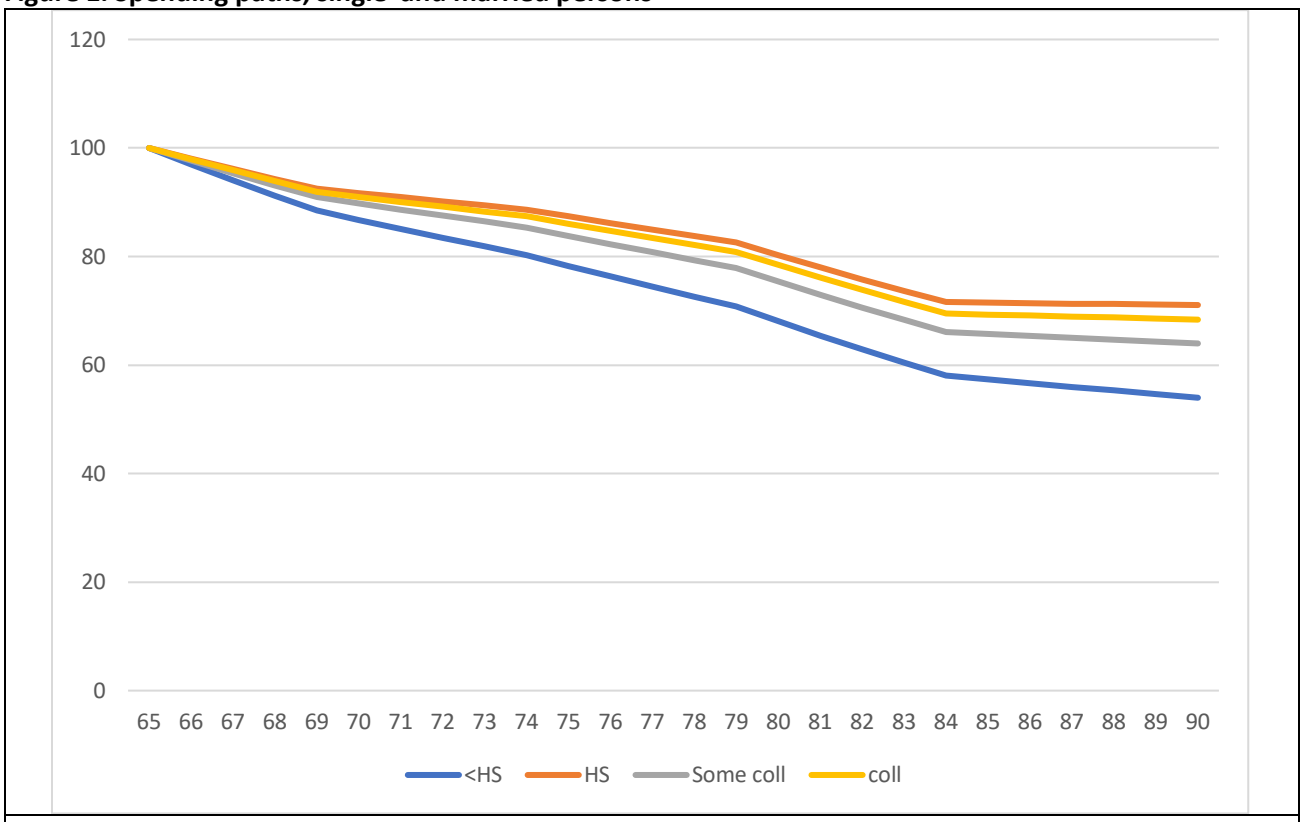
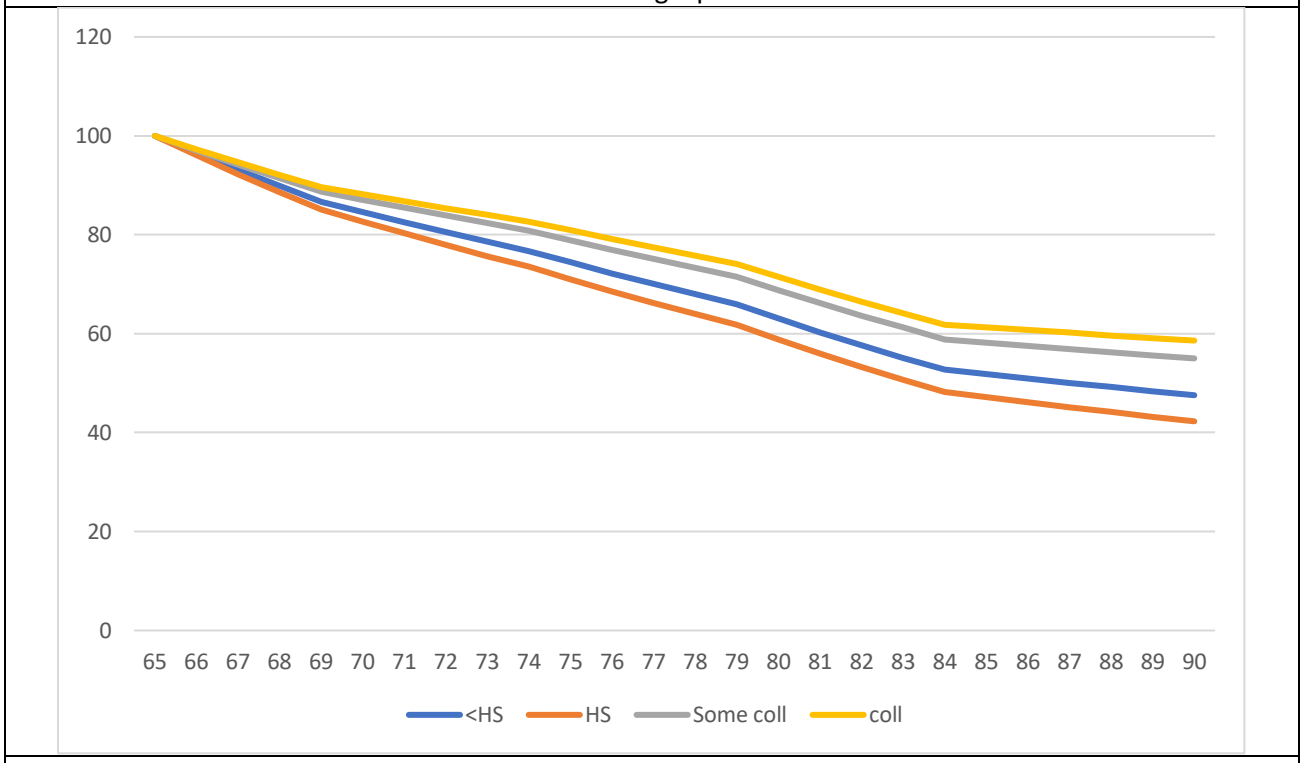
Figure 1. Spending paths, single and married persons

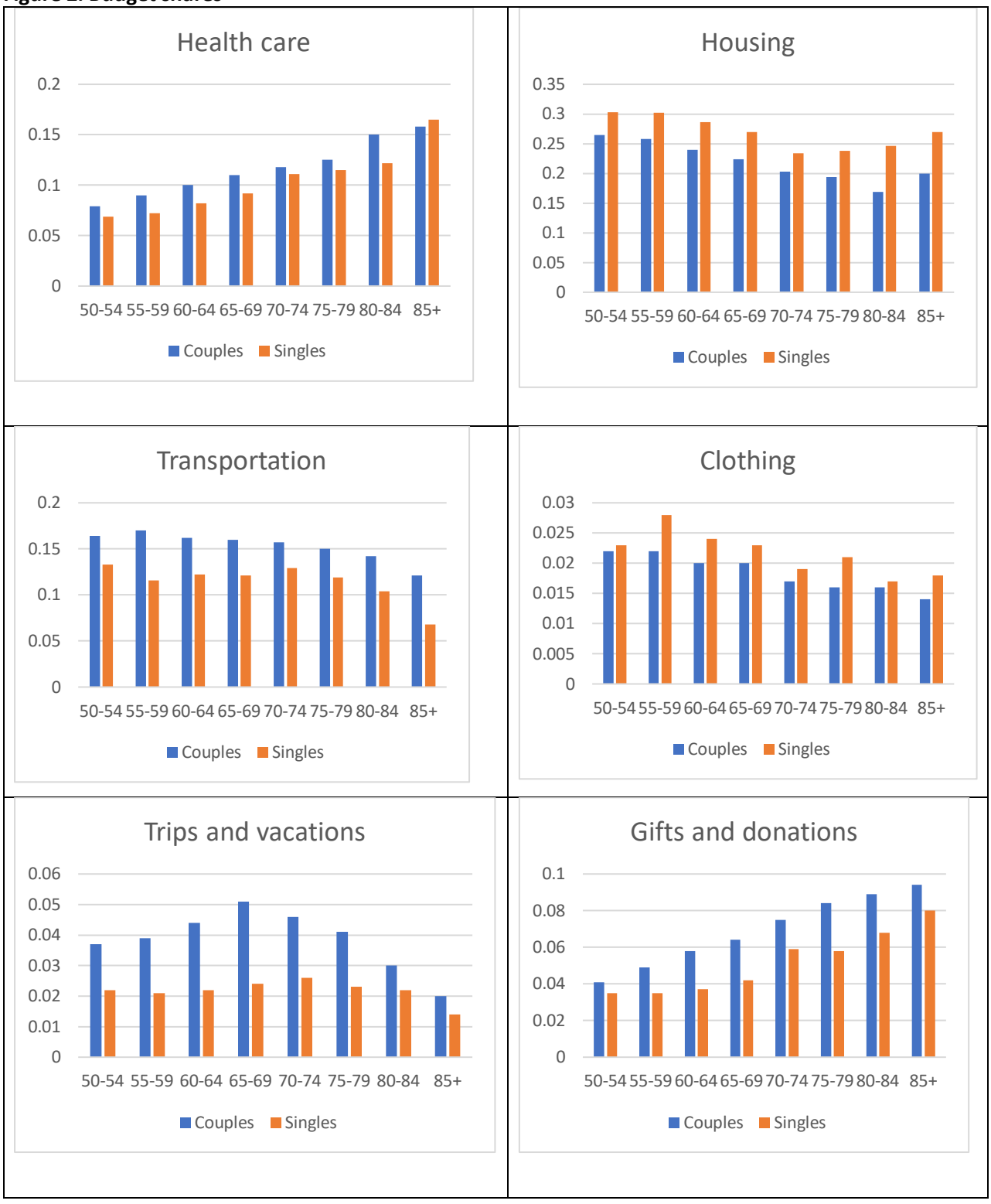


Panel A: Single persons



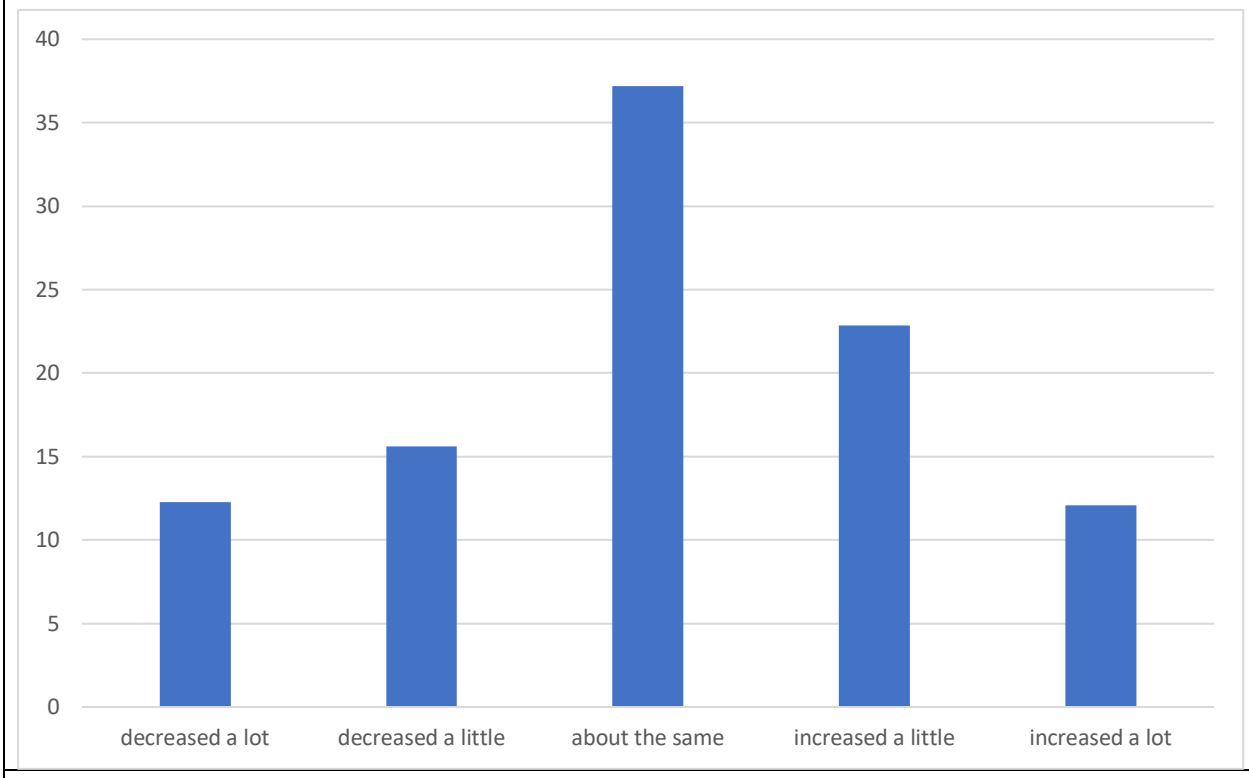
Panel B: Married persons

Figure 2. Budget shares

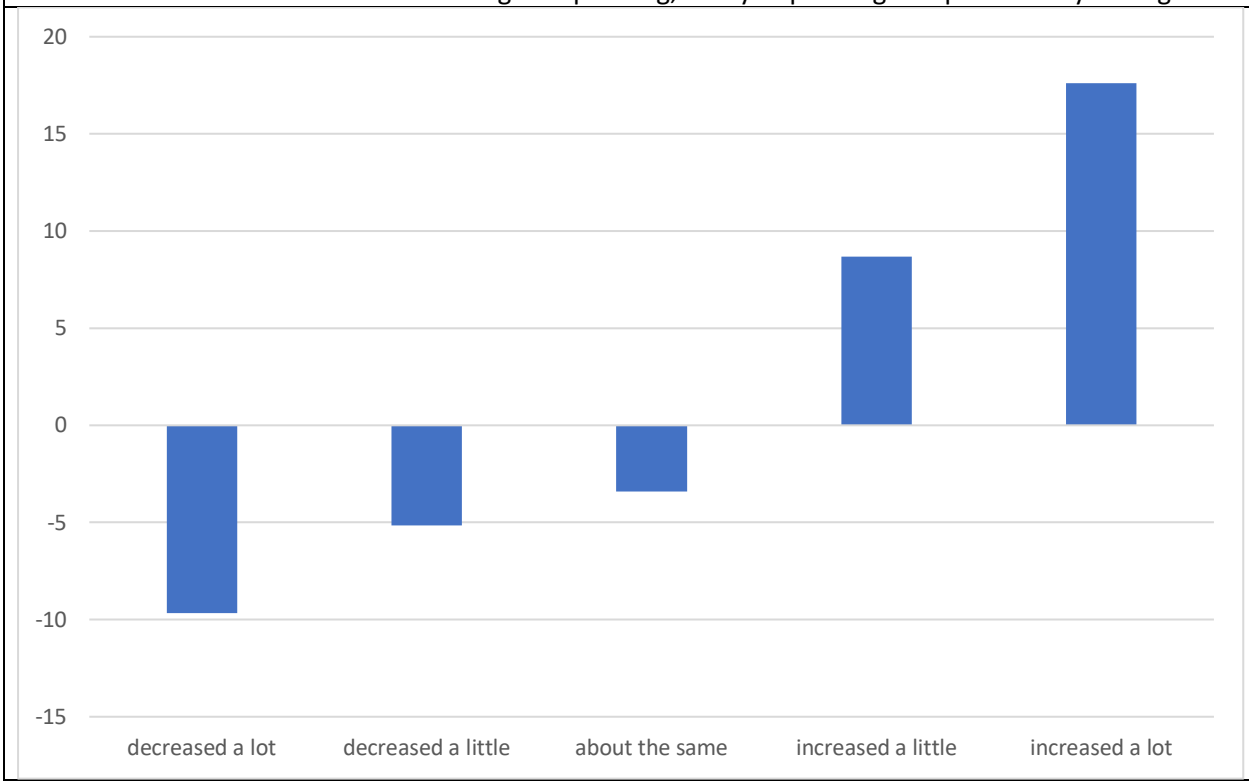


Notes: CAMS 2011 – 2019, pooled. Observations with highly incomplete data dropped (i.e., those who reported fewer than 10 out of about 38 spending categories, about 1.5% of the sample).

Figure 3. Six-year spending change: recollected and observed



Panel A: Distribution of recollected change in spending, today's spending compared to 6 years ago



Panel B: Observed change in spending from CAMS 2013 to CAMS 2019, by recollected spending change
Median of actual six-year spending change (% nominal) and self-perceived spending change

Figure 4. Reasons for reduced spending among those who reduced spending from six years ago as self-assessed, actual and regression adjusted distributions

Figure 5. Combining reasons for increase and decrease in spending
Percent of population that attributed a reduction or increase in spending to change in affordability, change in number of persons, change in enjoyment, change in saving, change prices or change in need

Figure 6. Present Financial Situation by Age

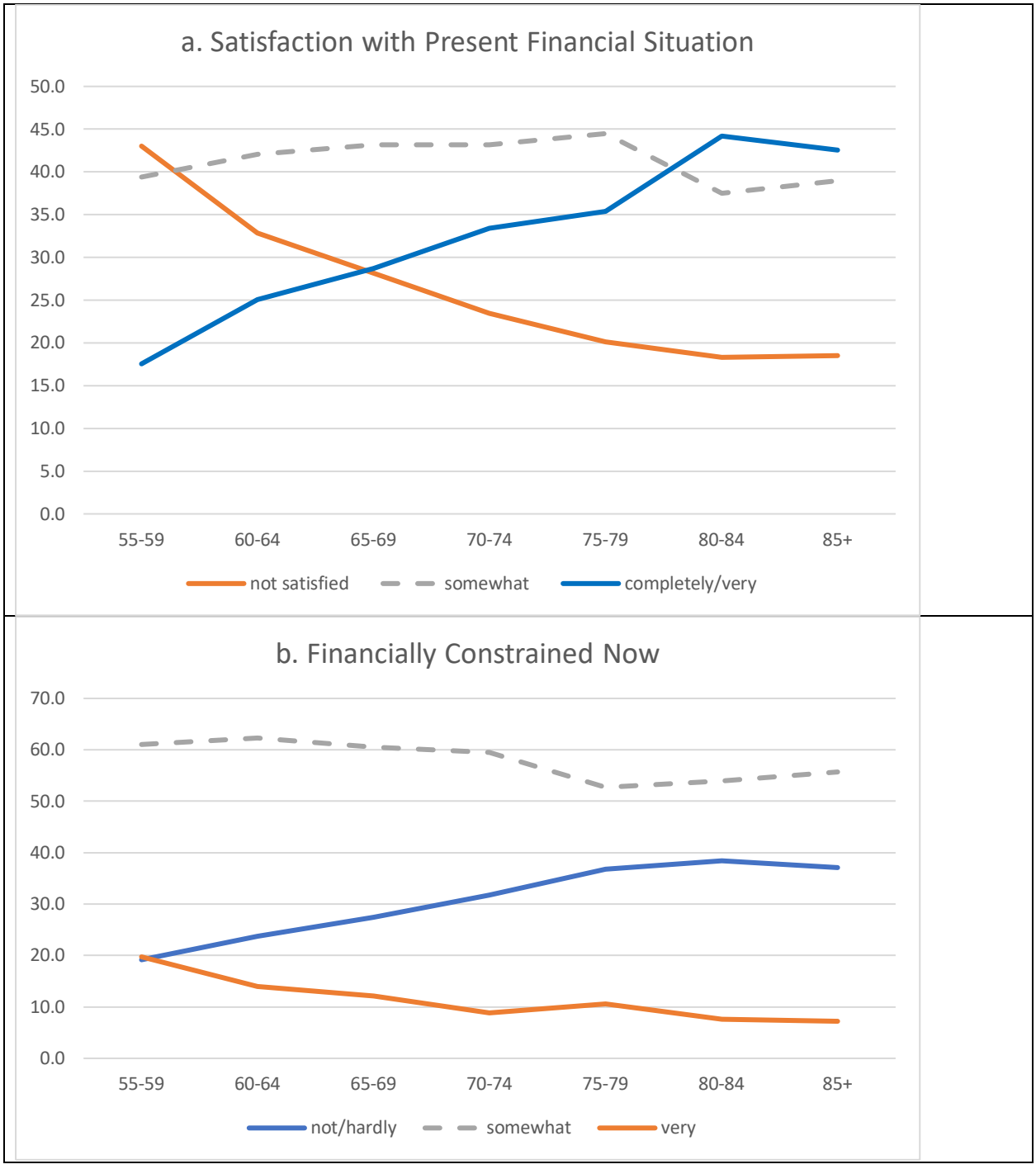
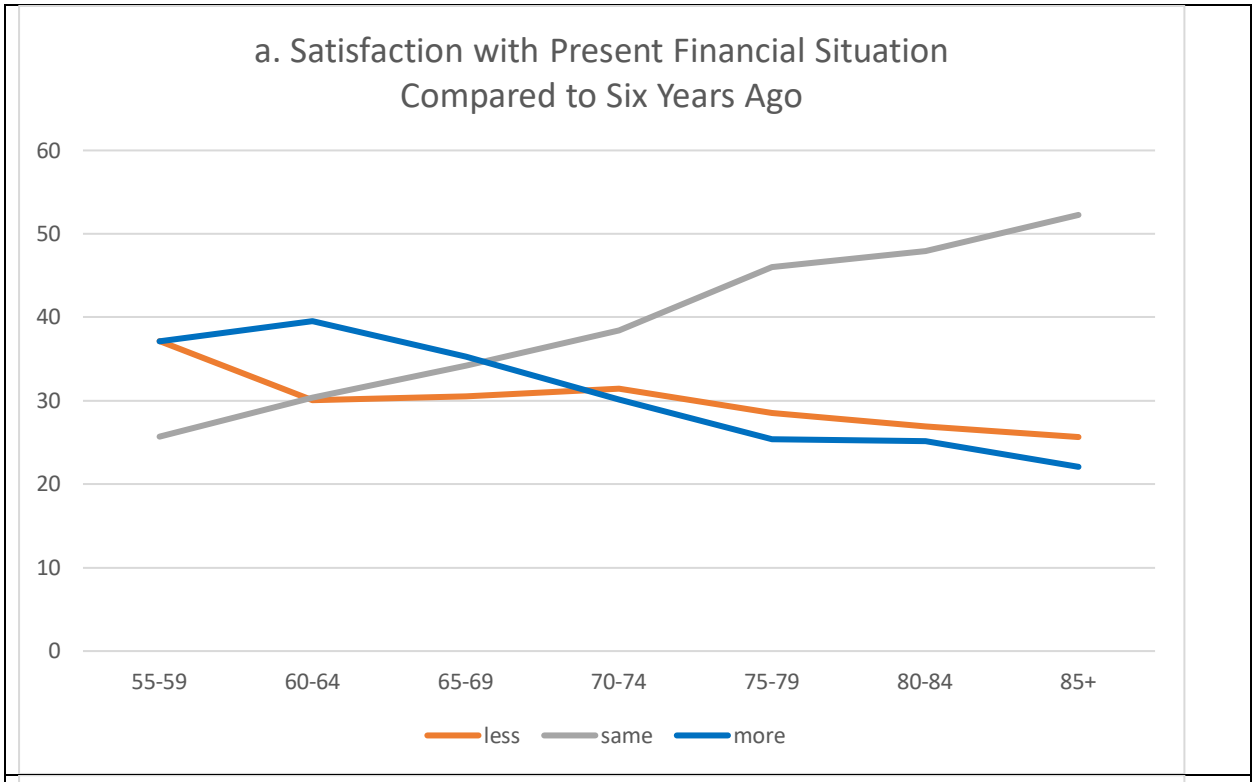


Figure 7. Present Financial Situation Compared to Six Years Ago, by Age



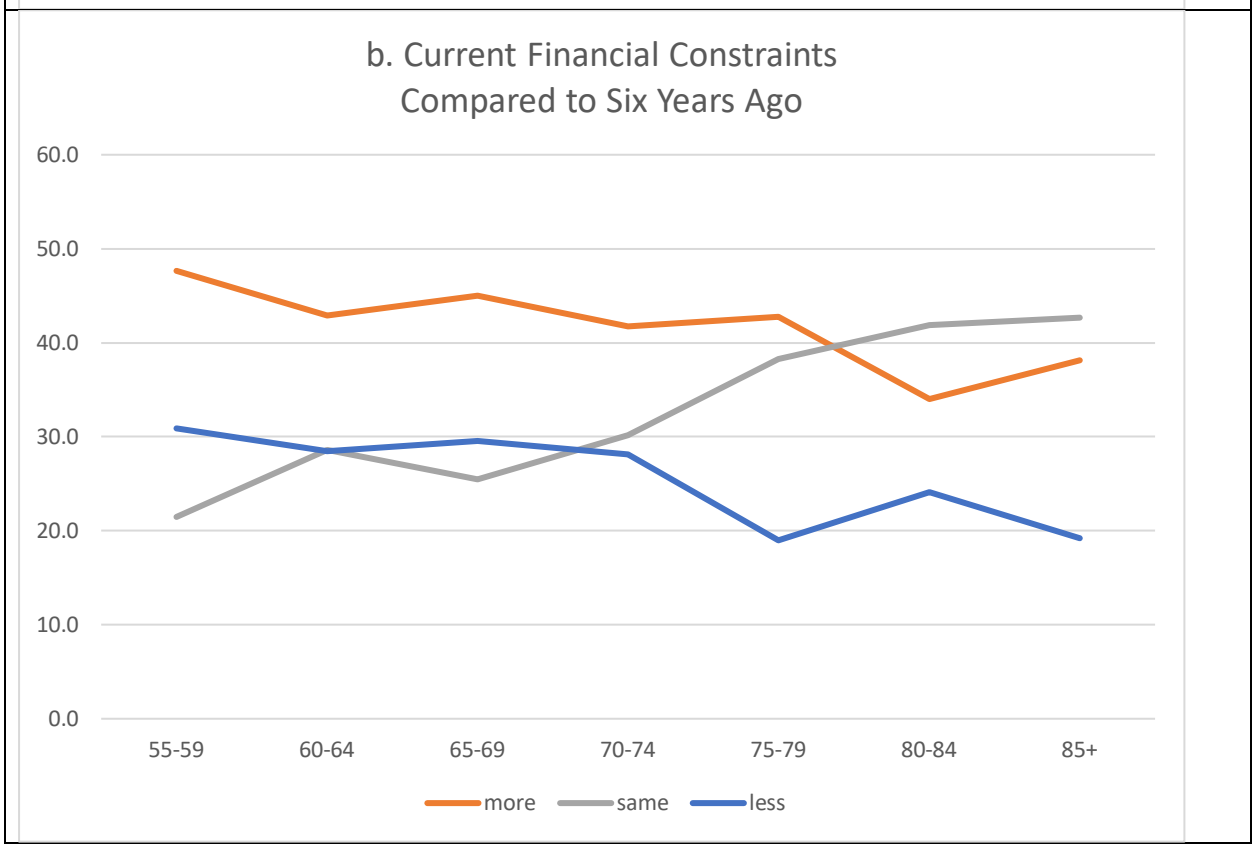


Figure 8. Enjoyment from various activities associated with spending, compared to six years ago
Percent of persons

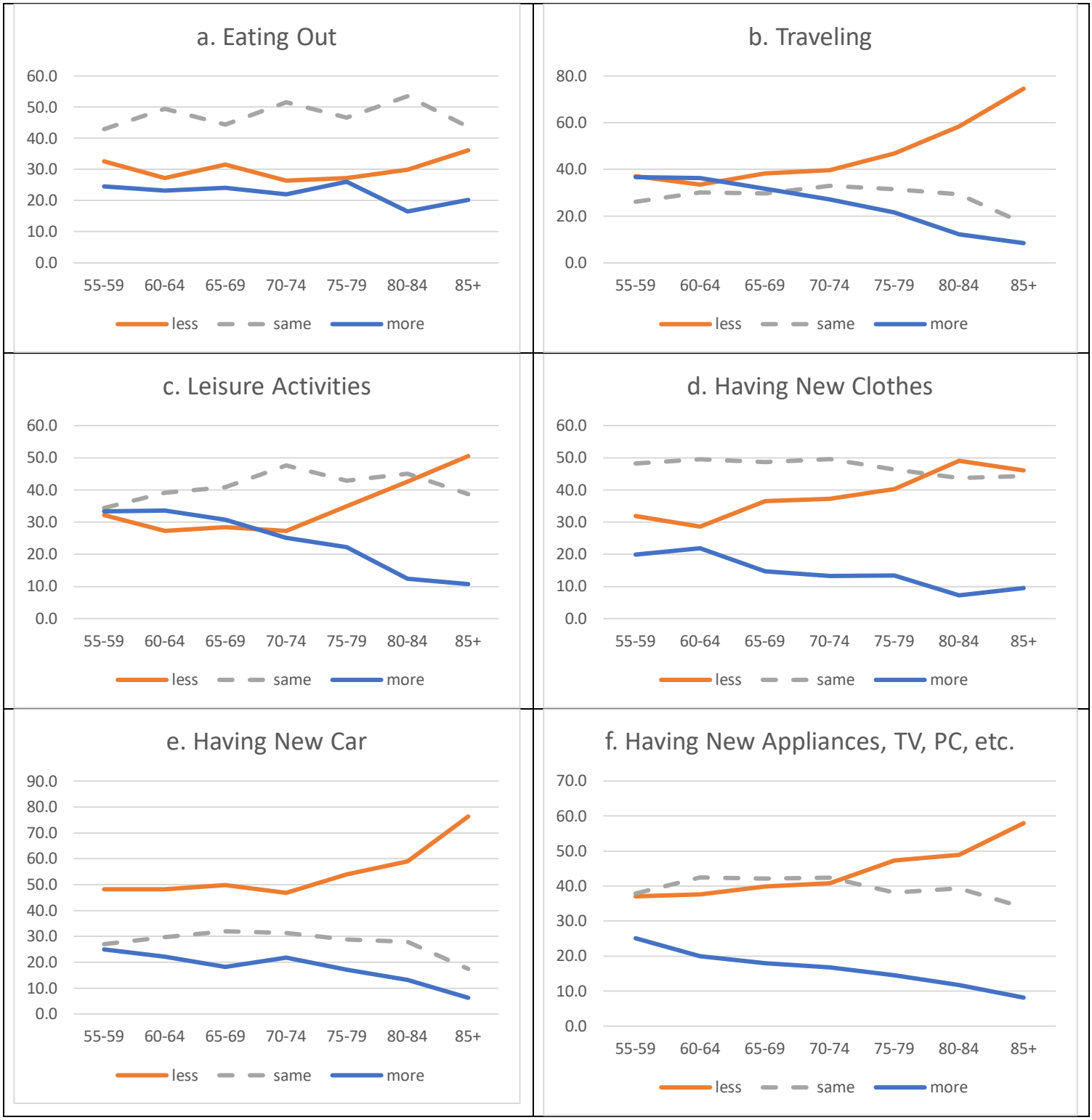
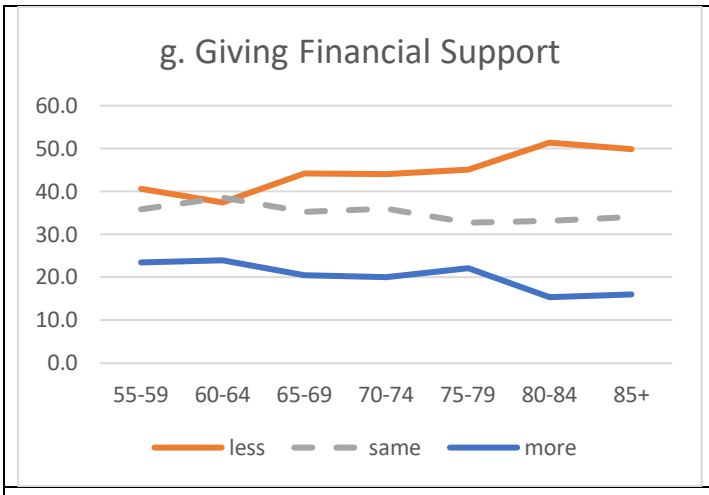


Figure 8. Enjoyment from various activities associated with spending, compared to six years ago (continued) Percent of persons



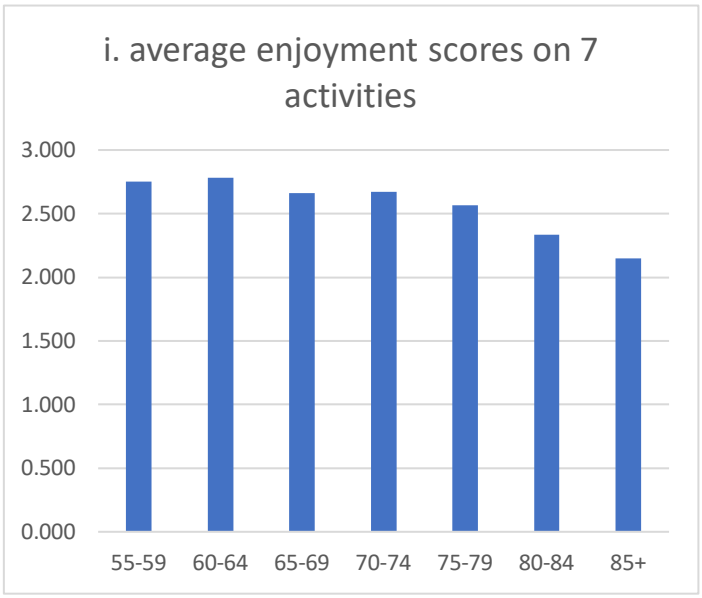


Figure 9. Average regression-adjusted enjoyment scores

Table 1. Regression of Change in Enjoyment of Various Activities on Characteristics

	Change in Enjoyment of Various Spending-related Activities Compared to Six Years Ago						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Eating out	Traveling	Leisure	New clothes	New car	New appliances	Giving financial support
self-assessed health: poor	-0.4619***	-0.6389***	-0.5199***	-0.4649***	-0.3426***	-0.3928***	-0.4835***
	[0.093]	[0.107]	[0.096]	[0.090]	[0.111]	[0.103]	[0.108]
fair	-0.1870***	-0.2917***	-0.2594***	-0.1694***	-0.2229***	-0.1662**	-0.2663***
	[0.061]	[0.070]	[0.062]	[0.059]	[0.073]	[0.067]	[0.069]
good (reference)	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
very good	0.08782*	0.2392***	0.1661***	0.05371	0.06369	0.01981	-0.01237
	[0.053]	[0.061]	[0.054]	[0.051]	[0.063]	[0.059]	[0.061]
excellent	0.1141	0.3291***	0.3326***	-0.0008162	-0.07010	-0.08905	0.2368**
	[0.087]	[0.099]	[0.088]	[0.084]	[0.103]	[0.096]	[0.099]
Missing	-0.06805	-0.1418	-0.07290	-0.1178	0.01214	0.03236	-0.03817
	[0.089]	[0.101]	[0.090]	[0.084]	[0.104]	[0.097]	[0.100]
Fin. constraint now: not	0.04751	-0.06949	0.1493	-0.009882	-0.09003	-0.05790	0.2291**
	[0.091]	[0.104]	[0.094]	[0.088]	[0.109]	[0.100]	[0.104]
hardly	0.07100	0.08935	0.1414**	0.07199	0.2575***	0.06373	0.2741***
	[0.056]	[0.063]	[0.057]	[0.054]	[0.066]	[0.061]	[0.063]
somewhat (reference)	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
very constrained	-0.2683***	-0.2938***	-0.2250***	-0.03616	-0.2131**	-0.1324	-0.2085**
	[0.075]	[0.086]	[0.077]	[0.072]	[0.090]	[0.082]	[0.085]
Missing	-0.3828	-0.3015	-0.3451	-0.4823*	-0.1655	-0.4092	0.1934
	[0.241]	[0.299]	[0.262]	[0.247]	[0.313]	[0.295]	[0.295]
Fin. constr. change: a lot less	0.1437*	0.1313	0.1284	0.09263	0.1469	0.06332	0.01202
	[0.079]	[0.091]	[0.081]	[0.076]	[0.094]	[0.087]	[0.090]
somewhat less	0.1572**	0.1194*	0.1029	0.05116	0.06305	0.04056	0.2399***
	[0.064]	[0.072]	[0.064]	[0.061]	[0.075]	[0.070]	[0.072]
Same	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
somewhat more	-0.01013	0.008810	-0.06137	-0.05172	-0.01485	-0.02701	-0.1220*
	[0.058]	[0.066]	[0.059]	[0.055]	[0.068]	[0.064]	[0.066]
a lot more	-0.3134***	-0.1923**	-0.2681***	-0.2495***	-0.05007	-0.1684**	-0.2858***
	[0.069]	[0.079]	[0.070]	[0.066]	[0.082]	[0.076]	[0.078]
missing	0.1806	-0.1644	-0.4282	0.1871	-0.3408	-0.1238	-0.4022
	[0.268]	[0.322]	[0.302]	[0.278]	[0.351]	[0.310]	[0.308]
Education: less than HS	-0.2767***	-0.2308***	-0.3774***	-0.09905	-0.06039	-0.05173	-0.1584**
	[0.069]	[0.080]	[0.072]	[0.068]	[0.084]	[0.077]	[0.080]

HS or GED	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
some college	0.04632	0.1705***	0.1842***	-0.02460	0.2225***	0.1216**	0.2394***
	[0.053]	[0.061]	[0.054]	[0.051]	[0.063]	[0.058]	[0.060]
college or more	0.05411	0.3801***	0.3789***	-0.08272	0.1271*	0.1188*	0.3527***
	[0.056]	[0.064]	[0.057]	[0.054]	[0.066]	[0.062]	[0.064]
nonwhite	-0.1773***	-0.09168*	-0.2408***	0.01318	-0.2043***	-0.08844*	-0.07555
	[0.048]	[0.055]	[0.049]	[0.046]	[0.057]	[0.053]	[0.055]
Missing race	-0.2769	-0.1271	-0.3557	-0.3511	-0.4568	0.04089	0.2060
	[0.286]	[0.335]	[0.319]	[0.282]	[0.335]	[0.313]	[0.334]
55-59	0.05352	0.2398***	0.1424*	0.1770**	0.1546*	0.2622***	0.2089**
	[0.076]	[0.087]	[0.077]	[0.073]	[0.090]	[0.084]	[0.087]
60-64	0.06024	0.2489***	0.2143***	0.2349***	0.04430	0.1525*	0.2462***
	[0.074]	[0.085]	[0.076]	[0.072]	[0.088]	[0.082]	[0.085]
65-69	-0.04188	0.05537	0.09782	0.01118	-0.07397	0.05260	0.04464
	[0.075]	[0.086]	[0.076]	[0.072]	[0.089]	[0.083]	[0.085]
70-74	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
75-79	0.05188	-0.1589*	-0.1308	-0.05329	-0.1706*	-0.1243	0.01396
	[0.083]	[0.095]	[0.084]	[0.080]	[0.099]	[0.092]	[0.095]
80-84	-0.1552*	-0.5269***	-0.4492***	-0.2816***	-0.3521***	-0.2129**	-0.2268**
	[0.084]	[0.096]	[0.086]	[0.081]	[0.100]	[0.092]	[0.095]
85+	-0.1864**	-0.8279***	-0.5217***	-0.2756***	-0.7703***	-0.4372***	-0.1382
	[0.087]	[0.100]	[0.089]	[0.084]	[0.104]	[0.096]	[0.099]
Married	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
Single	-0.1671***	-0.2395***	-0.1028**	-0.0001771	-0.1214**	-0.1451***	-0.1462***
	[0.048]	[0.055]	[0.049]	[0.046]	[0.057]	[0.053]	[0.055]
Single to married	0.1105	0.1413	0.2291*	0.1640	0.05012	0.1041	-0.3020**
	[0.120]	[0.137]	[0.122]	[0.116]	[0.143]	[0.132]	[0.138]
Married to single	-0.1711**	-0.2525***	-0.2081***	-0.07982	-0.2625***	-0.3638***	-0.1616**
	[0.072]	[0.082]	[0.073]	[0.069]	[0.085]	[0.079]	[0.082]
Missing	0.3750	-0.1814	0.2114	0.5417*	-0.03445	-0.2717	-0.6926*
	[0.326]	[0.371]	[0.333]	[0.313]	[0.383]	[0.357]	[0.371]
female	0.08539*	-0.03516	-0.02306	0.09523**	-0.2315***	-0.03463	0.04759
	[0.044]	[0.050]	[0.045]	[0.042]	[0.052]	[0.049]	[0.050]
_cons	3.0147***	2.8090***	2.9360***	2.6814***	2.6342***	2.6693***	2.4519***
	[0.085]	[0.097]	[0.087]	[0.082]	[0.102]	[0.094]	[0.097]
r2	0.1148	0.1985	0.2132	0.06415	0.1052	0.07175	0.1255
N	2914	2874	2839	2874	2853	2889	2883

Standard errors in parentheses

* p<0.1, ** p<0.05, *** p<0.01

Table 2. Regression of change in budget share on change in enjoyment plus controls

	Eat out	Travel	Leisure	Clothes	New car	New appl etc	Fin. Support
Change in Enjoyment							
Eating out	0.00398***						
	[0.001]						
missing	-0.000492						
	[0.007]						
Traveling		0.00516***					
		[0.001]					
missing		0.00681					
		[0.005]					
Leisure			0.00565***				
			[0.001]				
missing			0.00271				
			[0.007]				
New clothes				0.00186**			
				[0.001]			
missing				0.00856**			
				[0.004]			
New car					0.0106***		
					[0.003]		
missing					0.0240*		
					[0.014]		
New appliances						0.00234***	
						[0.001]	
missing						0.00918**	
						[0.004]	
Giving fin. Support							0.00573***
							[0.001]
missing							0.0142*
							[0.008]
Spending Change	-0.0000002***	-0.0000002***	-0.0000003***	-5.41e-08*	0.0000031***	-1.58E-08	0.00000042***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Age							
55-59	-0.00353	0.00656	-0.0107	0.00297	0.0286	-0.005	-0.0028
	[0.008]	[0.007]	[0.010]	[0.005]	[0.021]	[0.005]	[0.010]
60-64	-0.00192	-0.00098	-0.00873*	-0.00293	0.0123	-0.00467*	-0.0077
	[0.004]	[0.004]	[0.005]	[0.003]	[0.010]	[0.003]	[0.005]
65-69 (Ref.)	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
70-74	0.00173	-0.0048	-0.0142***	-0.00309	-0.00352	-0.00653**	0.00252
	[0.004]	[0.004]	[0.005]	[0.003]	[0.011]	[0.003]	[0.006]
75-79	-0.00133	-0.00698*	-0.0167***	-0.00121	0.00978	-0.00351	-0.00633

	[0.005]	[0.004]	[0.005]	[0.003]	[0.011]	[0.003]	[0.006]
80-84	-0.00928**	-0.00773*	-0.0148***	-0.00419	0.0119	-0.00634**	-0.00325
	[0.005]	[0.004]	[0.005]	[0.003]	[0.011]	[0.003]	[0.006]
85-89	-0.00455	-0.0135***	-0.0199***	0.00031	0.00267	-0.00496	-0.0158**
	[0.005]	[0.004]	[0.006]	[0.003]	[0.012]	[0.003]	[0.006]
Education							
Less than HS	0.00688	0.00484	0.0113**	-0.00356	0.0062	0.00089	0.00198
	[0.004]	[0.004]	[0.005]	[0.003]	[0.011]	[0.003]	[0.005]
HS grad & GED	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
Some college	-0.00253	0.00121	-0.000235	0.00226	0.00742	-0.000584	-0.00406
	[0.003]	[0.003]	[0.004]	[0.002]	[0.008]	[0.002]	[0.004]
College or more	-0.00062	0.00167	-0.000689	0.000613	0.00754	0.00233	-0.00272
	[0.004]	[0.003]	[0.004]	[0.002]	[0.009]	[0.002]	[0.004]
Female	0.000334	-0.000833	0.00127	0.000867	-0.0124*	-0.00116	0.000289
	[0.003]	[0.003]	[0.003]	[0.002]	[0.007]	[0.002]	[0.004]
Marital status							
Marr/partnered	0	0	0	0	0	0	0
	[.]	[.]	[.]	[.]	[.]	[.]	[.]
Single	-0.00435	0.00402	0.0018	-0.00288	0.0190**	-0.000342	-0.00228
	[0.003]	[0.003]	[0.004]	[0.002]	[0.007]	[0.002]	[0.004]
Single to couple	-0.0045	0.0119*	0.00854	-0.00601	0.0392*	0.0113**	-0.0046
	[0.008]	[0.007]	[0.010]	[0.005]	[0.020]	[0.005]	[0.010]
Couple to single	0.00478	0.00354	0.00453	-0.00146	0.0261**	-0.00172	0.0091
	[0.005]	[0.005]	[0.006]	[0.003]	[0.013]	[0.003]	[0.007]
Missing	0.0758**	-0.0043	0.0499	-0.0294	0.00837	-0.00304	0.0027
	[0.035]	[0.031]	[0.041]	[0.023]	[0.087]	[0.022]	[0.044]
Non-white	0.00707**	-0.000764	0.00125	-0.00007	0.00209	0.000932	0.00153
	[0.003]	[0.003]	[0.004]	[0.002]	[0.008]	[0.002]	[0.004]
Race - missing	-0.0562***	0.00601	-0.0375	-0.00843	0.0158	-0.000559	0.0102
	[0.019]	[0.017]	[0.023]	[0.013]	[0.048]	[0.012]	[0.024]
_cons	-0.00754	-0.0113*	-0.0105	-0.00578	-0.0304*	-0.00197	-0.00889
	[0.007]	[0.006]	[0.008]	[0.004]	[0.016]	[0.004]	[0.008]
R-squared	0.0256	0.039	0.0345	0.0108	0.247	0.0156	0.0387
N	2,117	2,117	2,117	2,117	2,117	2,117	2,117

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01

APPENDIX

Table A1. Sample Derivation

Selection criteria, sequentially applied	N
a. Main CAMS respondent in 2019	3,319
b. Answered at least 10 spending questions in CAMS 2019	3,261
c. Answered at least one question in b41-b48	3,235
d. Age 55+	**3,083**
e. Panel sample: responded CAMS 2013 & at least 10 spending question	**2,127**

Table A2: Descriptive Statistics of main analytic sample

	N	Col Pct
TOTAL	3,083	100.0
AGEBINS		
55-59	538	17.5
60-64	574	18.6
65-69	551	17.9
70-74	403	13.1
75-79	355	11.5
80-84	350	11.4
85+	312	10.1
W14 CAMS Marital Status		
1. married	1,212	39.3
2. living with partner	154	5.0
3. separated	73	2.4
4. divorced	532	17.3
5. widowed	737	23.9
6. never married	253	8.2
7. other	29	0.9
9. missing	93	3.0
W14 CAMS Couple Status		
0. Single	1,624	52.7
1. Coupled	1,366	44.3
9. Missing	93	3.0
Education Level		
1. LT High-school	449	14.6
2.High-school graduate or GED	993	32.2
3. Some college	860	27.9
4. College and more	781	25.3
W14 Self-reported health		
1.poor	189	6.1
2.fair	580	18.8
3.good	1,007	32.7
4.very good	883	28.6
5.excellent	217	7.0
9.missing	207	6.7
	Mean	**Median**
Total Household Spending: 2019	44,045	33,854

Table A3: Additional Descriptive Statistics of Panel Sample

	N	Col Pct
TOTAL	2,127	100.0
Change in Couple Status		
Coupled	946	44.5
Single	956	45.0
Single to Coupled	61	2.9
Coupled to Single	160	7.5
Missing	4	0.2
Change in Health		
1.health deteriorated	666	31.3
2.health same	1,067	50.2
3.health increased	352	16.6
9.missing	42	2.0
Total Household Spending	**Mean**	**Median**
2019	43,536	33,710
2013 (CPI-Adjusted to 2019)	46,243	37,021

Appendix 4. CAMS 2019 add-on module

B41. How has your household's spending changed over the past **six** years? Please think of what you typically spend, leaving out any unusual expenses. **(Check one.)**

☐ It decreased a lot.	☐ It decreased a little.	☐ It stayed about the same.	☐ It increased a little.	☐ It increased a lot.
Go to B42a	**Go to B42a**	**Go to B43 on p. 19**	**Go to B42b**	**Go to B42b**

B42a. Why does your household (or you) spend less now? **(Check all that apply.)**

- ☐ We/I cannot afford to spend as much as we used to
- ☐ There are fewer persons in my household than six years ago
- ☐ To increase our savings
- ☐ We/I have reduced spending on some things because we get less enjoyment from them than we used to
- ☐ Some things we spend money on are cheaper now
- ☐ We no longer have to spend money on some things that we did six years ago (or we have less to spend than before)
- ☐ Other reasons: _____ _____

B42b. Why does your household (or you) spend more now? **(Check all that apply.)**

- ☐ We/I can afford to spend more now
- ☐ There are more persons in my household than six years ago
- ☐ We/I are not saving as much
- ☐ We/I have increased spending on some things because we get more enjoyment from them than we used to
- ☐ Some things we spend money on are more expensive now
- ☐ We have to spend money on some things that we didn't six years ago (or we have to spend more than before)
- ☐ Other reasons: _____ _____

B43. Compared to **six** years ago, how much enjoyment do you (or would you) get today from...**(For the items below, check (✓) one box for each activity.)**

	Much less enjoyment today	A little less enjoyment today	About the same enjoyment	A little more enjoyment today	Much more enjoyment today	Not applicable/ don't do
a. Going out to eat						
b. Traveling						
c. Leisure activities						
d. Having new clothes						
e. Having a new car						
f. Having new appliances (such as TV, computer, refrigerator, cell phone)						
g. Giving financial support to family/friends						

B44. We would like your opinion about how other people's spending changes as they age. Thinking of a typical single person who is about your age, how do you think this person's spending would change over a **six-year** time period? (If you are unsure, please make your best guess.) **(Check one.)**

- □ a. It would decrease a lot
- □ b. It would decrease a little
- □ c. It would stay about the same
- □ d. It would increase a little
- □ e. It would increase a lot

B45. Overall, how satisfied are you with your present financial situation? **(Check one.)**

- □ a. Completely satisfied
- □ b. Very satisfied
- □ c. Somewhat satisfied
- □ d. Not very satisfied
- □ e. Not at all satisfied

B46. And compared to **six** years ago how satisfied are you with your present financial situation? **(Check one.)**

- □ a. Much more satisfied today than six years ago
- □ b. A little more satisfied
- □ c. About the same
- □ d. A little less satisfied
- □ e. Much less satisfied

B47. To what extent would you say is your household constrained in its spending? **(Check one.)**

- □ a. Very constrained (often we cannot afford to buy things we need)
- □ b. Somewhat constrained (we have to watch our spending, but can cover all basic needs)
- □ c. Hardly at all constrained (we can largely buy what we want)
- □ d. Not constrained (we do not have to worry about finances)

B48. Do you feel more financially constrained today than you did **six** years ago? **(Check one.)**

- □ a. A lot more constrained today
- □ b. Somewhat more constrained today
- □ c. Constrained about the same
- □ d. Somewhat less constrained today
- □ e. A lot less constrained today