HHS Public Access

Author manuscript

Rev Econ Stat. Author manuscript; available in PMC 2017 February 06.

Published in final edited form as:

Rev Econ Stat. 2011 August ; 93(3): 1094–1099. doi:10.1162/REST_a_00140.

Changes in Consumption at Retirement: Evidence from Panel Data

Emma Aguila,
RAND

Orazio Attanasio, and
University College London and Institute for Fiscal Studies, London

Costas Meghir
Yale University, University College London, and Institute for Fiscal Studies, London

Abstract

Previous empirical literature has found a sharp decline in consumption during the first years of retirement, implying that individuals do not save enough for their retirement. This phenomenon is called the *retirement consumption puzzle*. We find no evidence of the retirement consumption puzzle using panel data from 1980 to 2000. Consumption is defined as nondurable expenditure, a more comprehensive measure than only food used in many of the previous studies. We find that food expenditure declines at retirement, which is consistent with previous studies.

I. Introduction

A central implication of the life cycle model is that individuals and households smooth their consumption over the life cycle to avoid fluctuations induced by predictable changes to income. Out of all life events, retirement is probably the most important predictable change in one's income. Banks, Blundell, and Tanner's (1998) study was the first to find a sharp decline in consumption at retirement. While their work concentrated on consumption in the Untied Kingdom, Bernheim, Skinner, and Weinberg (2001), using longitudinal data from the Panel Study of Income Dynamics (PSID), also found a drop in consumption at retirement—evidence potentially damaging for the life cycle model. This conundrum is referred as the *retirement consumption puzzle*. More recent evidence, however, has questioned the existence of such a puzzle, prompting Hurst (2008), who surveyed it, to declare the "retirement of the consumption puzzle."

In this paper, we investigate the existence of the retirement consumption puzzle using data on several consumption categories using panel data. We use the longitudinal component of the Consumer Expenditure Survey (CEX) from 1980 to 2000 to examine households' consumption patterns when the head of household retires. The CEX is the most

Correspondence to: Costas Meghir.

The Web appendix referred to throughout the article is available online at http://www.mitpressjournals.org/doi/suppl/10.1162/REST_a_00140.

comprehensive survey in the United States for expenditure of nondurable and durable goods and allows us to follow households' consumption and labor transitions for four quarters.

We find no evidence of the retirement consumption puzzle. Nondurable expenditure does not change at retirement, suggesting that individuals smooth consumption during the first year of retirement. Moreover, when we focus on food expenditure, as some other studies have done, we do observe a decline in expenditure associated with retirement.

Our contribution to the existing literature is the use of a data set that has a longitudinal dimension and a comprehensive measure of consumption expenditure.[1] The CEX allows us to construct a measure of expenditure more accurate and comprehensive than that used by many of the previous studies, which basically analyze food expenditure. Moreover, our sample period includes a large number of households retiring between 1980 and 2000, making this study more robust to specific year economic conditions than the previous literature that used data sets covering shorter periods.

The rest of the paper is organized as follows. In section II, we present a simple empirical framework to study the relationship between changes in retirement status and changes in consumption given the structure of the CEX sample. Here, we also present the results obtained applying this approach. Finally, section III offers a short discussion of how our results relate to the existing literature.

II. Empirical Evidence Using Longitudinal Data

The data source we use is the Bureau of Labor Statistics (BLS) CEX from 1980 to 2000. While the CEX has a long history, going back to the beginning of the twentieth century, it was only in the 1980s that the BLS started to collect this information, with the main purpose of computing the weights for the Consumer Price Index (CPI), in a continuous and consistent fashion.

The CEX is made up of two different and independent samples: the Quarterly Interview Survey and the Diary Survey. The Interview Survey is a rotating panel, with households interviewed every quarter over a period of one year and then dropped out of the sample. In each interview, they answer detailed and retrospective questions about expenditure on a variety of commodities during each of the three months preceding the interview. The information collected in the interview is almost exhaustive of personal consumption expenditure. However, for some items, notably food, the information is mainly useful to build aggregated categories.

The diary sample is made of a series of repeated cross-sections with no longitudinal dimension. Each household is on the survey for a two-week period. During these two weeks, each household fills in a diary entry that reports the details of their expenditures. The BLS uses the Diary Survey to gather high-quality information on frequently purchased items, while the Interview Survey is used to get information on items that are purchased less often.

[1]Other studies that have looked at the retirement consumption puzzle using different approaches include Hurd and Rohwedder (2005, 2006, 2008), Aguiar and Hurst (2005, 2007), and Fisher et al. (2008). We return to this literature in section III.

Indeed, when publishing summary statistics and for the computations of the CPI weights, the two different surveys are used for different items. As the main purpose of this study is to look at changes in consumption around retirement, we crucially use the longitudinal dimension of the Interview Survey.[2]

Consumption is approximated with nondurable expenditure including food, alcohol, tobacco, clothing, footwear, personal care products, public and private transport, utilities, and services.[3] In addition to durable expenditure, which clearly differs from the consumption of durables, we also exclude expenditure on education and health. Both of these items can be seen as investment rather than consumption. Moreover, in the case of health, the CEX records out-of-pocket expenditure and does not report consumption of health services covered by insurance. Total food includes food consumed at home and away from home. All expenditure variables are deflated with the CPI. The data are described in more detail in the Web appendix.

In the sample, we first observe an individual (and his or her retirement status) in the first of the four available interviews. The retirement status is observed again nine months later. We have similar observations for all the adults in the households, including the household head's spouse. We can therefore observe the transition into retirement.

Individuals in the sample are classified according to their labor status given their number of working hours in full-time or part-time work and retired. We define full-time work for those with more than 1,500 hours per year and 52 weeks. Part-time work is defined as those working between 500 and 1,500 hours per year and 52 weeks.[4]

Several different definitions of retirement are possible. We could define as retired an individual who works fewer than 500 hours per year or an individual who receives a pension or an individual who declares himself or herself retired. We chose the first definition, as used by Bernheim et al. (2001).

Heads of households who transition from full-time work to retirement represent 89% of the sample. This is consistent with previous empirical evidence that most workers transition from full-time jobs to retirement as a result of labor market rigidities (Rust & Phelan, 1997). It is easier to change jobs than to reduce the number of working hours in the current work before retirement.[5] Also, workers have incentives to continue with the same number of working hours because many defined-benefit occupational pension schemes are final salary. However, we also check the robustness of our results when we use an alternative definition.

[2]In order to check the accuracy of the food data in the interview sample, we compared synthetic cohorts' food consumption profiles over the life cycle from the Diary and Interview surveys. We found similar patterns in total food, food at home, and food consumed out of home. These results do not change after correcting for family composition using equivalence scales.

[3]The interview recall questions of the CEX for food are comparable to the food questions in the Health and Retirement Study (HRS) and the Panel Study of Income Dynamics (PSID) panel data sets used in previous studies.

[4]We use the same definitions as in Bernheim et al. (2001). Labor status questions are included only in the first and last interviews. The response in the last interview has an overlapping period that corresponds to the last quarter of the first interview response. Unemployment spells do not affect our classifications because we include only individuals working full time or part time or retired in the first period and last period. Individuals who transition from employment to retirement who report in the last interview up to the equivalent of nine months working are included. A detailed description of this classification is presented in the Web appendix.

[5]An issue that cannot be addressed with this data set is whether the newly retired move to another city or town where they can afford a higher living standard while spending less of their budget. The CEX does not follow individuals when they move.

In our sample are 750 households that transition from working to retirement between 50 and 74 years old. It is worth stressing that retirement is far from being a final state: we also observe individuals transitioning from retirement to work. In the sample, 232 heads of household reentered the labor market.

Figure 1 shows the average household expenditure two quarters before and two quarters after the head of family retires. Figure 1a shows average nondurable expenditure, and figure 1b presents average total food expenses. As individual households are followed for only four quarters, we cannot observe any households two quarters before and two quarters after retirement. In figure 1, we plot average consumption for two different groups: those who were working at the date of the first two interviews, retire in the third, and are observed for one quarter after retirement (w/w/nw/nw) and those who retire after being observed for one quarter and we observe for two quarters after retirement (w/nw/nw/nw). We plot these averages separately.

Nondurable expenditure drops on average by 4% between quarter −1 and quarter 1. Total food declines by 5.3% on average between quarter −1 and quarter 1. The significance *F*-tests where the null hypothesis is that quarter −1 is equal to quarter 1 for nondurable expenditure is not rejected. This suggests no change in nondurable consumption when the head of household transitions from working to retirement. In contrast, the significance *F*-test's null hypothesis is rejected for total food expenses. This may indicate a change in food expenditure around retirement.

Figure 2 shows the hazard or exit rate for heads of households. We can observe a peak at age 62. The latter coincides with eligibility for early retirement. There is also a higher peak around age 65 which coincides with normal retirement. The hazard rate is consistent with previous findings using the Current Population Survey (CPS) reported in Diamond and Gruber (1999). The following section presents a simple empirical method to analyze consumption patterns for different labor market transitions around retirement age.

A. Simple Empirical Framework

We use a simple regression method to capture the change in household consumption around retirement age. The model is estimated within a linear difference-in-differences approach:

$$\ln C = I\alpha + G\gamma + T\beta + X\delta + u. \quad (1)$$

G is a stacked matrix $NT \times k$, and k is the total number of variables. The matrix G includes dummy variables for each group j of households, defined according to their labor status in the first and last interview. Labor status questions are applied only in the first and last interviews of the panel span; thus, we include only households that completed at least the first and last interviews. The group indicator j can take four possible values depending on the labor status of the household head: 11 corresponds to heads working in both interviews, 00 to heads not working in both interviews, 01 to those not working in the first interview and working in the last interview, and 10 are households heads who transition from working to

retirement. Households in the 10 category exit the labor market during either the second or the third interview. Household consumption is analyzed just before retirement, which corresponds to the first interview, and after retirement, which is the last interview. Group 11 is the reference group in the regression.

I is a dummy variable that indicates the interview period, the first or last interview of household i. In this case, the last interview has value 1 and the first interview value 0. The matrix T includes the interaction terms ($I \times G$) and shows the marginal effect on consumption for each group j with respect to the households whose head worked during the entire panel span ($j = 11$). In particular, the estimate for group $j = 10$ is the parameter of interest for analyzing changes in consumption for households whose head transitions from employment to retirement. The model includes a matrix X of household demographic characteristics and time dummies. The demographic characteristics are head of household age, age squared, family size, number of children under 18 years old, and a dummy indicating couples households.

A limitation of this approach is that it does not distinguish between unexpected shocks and expected changes. Unexpected events such as health shocks could affect labor supply decisions and consumption patterns. Unfortunately, health status is not reported in the CEX, and health expenditure might not be an accurate measure because of differences in health care insurance coverage. The alternative of using IV methods to estimate the impact on consumption around retirement age (using lagged participation as an instrument) is not viable in our context because of the length of our panel ($T = 2$).

While we recognize the problem, we do not think it is a serious one for our approach. Previous studies have found that health problems account for a small proportion of individuals' retirement decisions. French (2005) finds that health has a small effect in explaining the decline of labor force participation around retirement age. Using the PSID, labor force participation decreases by 71% between age 55 and 70; bad health explains only 7% of this decline. Hurd and Rohwedder (2006), using the HRS, find that for 66% of individuals, health was not a factor that influenced their retirement decision. The PSID and HRS, the main panel surveys to analyze retirement behavior, indicate that a small proportion of individuals retire due to health problems.

B. Results

This section presents the results we obtain by estimating the simple regression discussed above. In table 1, we report the coefficients that measure the impact of retirement status on consumption changes (the coefficients on the interactions $I \times G$). The sample used to estimate the coefficients reported in table 1 includes singles and couples households. The reference group is formed by households whose head was working in both the first and last interviews (G_{11}). The regressions also include household demographic characteristics, age and age squared of the head of household, a dummy to indicate a couples or single household, and time dummies. The complete set of results for this (and subsequent table) can be found in the Web appendix.

Each column of the table corresponds to a different definition of consumption. Column 1 uses total expenditure on nondurables and services. Column 2 restricts the attention to the food component of consumption, for comparison with studies that have used food, such as Bernheim et al. (2001). While column 2 includes total food, column 3 focuses on food at home. Finally, column 4 reports the estimate obtained with a definition of consumption that includes only nonfood nondurable consumption.

The main coefficient of interest in this table is G_{10}, which measures how consumption changes for the group of household heads who experienced retirement relative to the household whose head stayed in work. For total nondurable consumption, we find no evidence of a significant drop in consumption at retirement. However, when we restrict our attention to food, as in column 2, or to food at home, as in column 3, we find evidence of declines of 6% and 4%, respectively. Finally, for nonfood consumption, we find an increase (although our estimates are not significantly different from 0). The drop in food expenditure we find is consistent with the findings of previous studies for the United States that have documented the retirement consumption puzzle. Our broader measure of nondurables expenditure, however, indicates no significant change in consumption at retirement, consistent with the life cycle model predictions.

The drop in food consumption could be explained by a reallocation of expenses within the household budget due to the decline in work-related expenses and more time available for home production. Food is a relatively small component of total nondurable consumption, accounting for 32% of the total. The increase in other components of nondurable expenditure offsets the drop in food expenses. We conclude from these results that there is no retirement consumption puzzle.

It is beyond the scope of this study to provide an explanation for the decline in food expenditure in its various components. Previous evidence suggests that individuals spend more time on home production during retirement (Hurd & Rohwedder, 2005). Aguiar and Hurst (2005) show that food intake does not change after retirement, but food expenses decline and time spent on home production increases. Persons around retirement age spend longer periods shopping, shop more frequently, and use discounts more often (Aguiar & Hurst, 2007).

The rate of growth of consumption for individuals who reenter the labor market (G_{01}) is higher than that of individuals who continue to work (G_{11}) and significantly so for food at home. Finally, the coefficients have a positive sign, as expected, and the increase in expenditure is higher in food than in nonfood nondurables. Table 1 in the Web appendix presents the complete results of the specification in table 1. We observe an increase in consumption for an additional household member, a higher expenditure for couples households than for singles, and a decline in nondurable household expenditure for those with children under 18 years old.[6]

[6]Table 1 in the Web appendix also shows a lower level of nondurable consumption for the groups G_{00}, G_{01}, and G_{10} with respect to G_{11}. This may be explained by early retirement or lower labor attachment that causes lower lifetime income. The level of nondurable consumption is lower for G_{00} and G_{01} than for G_{10} because only a portion of those who transition to retirement do so involuntarily or earlier than expected.

Nondurable expenditure for the group of households whose head was not working at either the first or the last interview (G_{00}) increases by 3% more than for group G_{11}. They also show an increase in food by 3.7% and in nonfood nondurables by 2.7%. All these increases are statistically significant.

An interesting question in relation to the relative changes in consumption, concerns the rate of growth of income for the same groups we have considered. For group G_{11} we find an average change in income by 3.15%, while for G_{10} it is −18.2%, and for G_{01}, it is 18.7%. These patterns are consistent with the changes in labor status experienced by the heads of these households and indicate a substantial amount of consumption smoothing, as they are not reflected in changes in consumption, with the possible exception of the group that reenters the labor market.

An interesting case is that of group G_{00}, which experiences a significant growth in consumption. For this group, we find that in the last period of observation, some households start receiving Social Security benefits, supplemental security income (SSI), unemployment or other worker's compensation, private pensions, food stamps, or other welfare benefits: 51.9% of G_{00}, mainly between ages 62 and 68, had started receiving Social Security benefits or other compensations at the time of the last interview. The average increase in income between the first and last interview for group G_{00} is 4.8%, and for individuals in group G_{00} who started obtaining benefits in the last interview, it is 43.8%. Some of these individuals might have retired early as a result of employer-provided pension incentives and subsequently started claiming Social Security benefits or other welfare compensation.

In order to explore the results in table 1 in more detail, we estimated that specification, excluding from group G_{00} individuals who started receiving a Social Security benefit or other welfare compensation in the last period. As expected, there were no changes in nondurable expenditure or its components around retirement for group G_{00}.[7]

Table 2 is equivalent to table 1, except that we use only couples and take into account the spouse's hours of leisure. The findings in table 2 are, by and large, consistent with those in table 1. For households whose head transitions from employment to retirement, there is no effect on nondurables and nonfood nondurables. Food drops by 5.4% and food at home by 5.0%. With an increase in the wife's hours of leisure come decreased expenditure on nondurables, nonfood nondurables, and total food, but there is no effect on food at home. The estimates have the expected sign as more leisure on the part of the wife may substitute for food out of home and other expenses.

Our sample covers a fairly long period, spanning the 1980s and the 1990s. Earlier studies, and in particular those that identified the retirement consumption puzzle covered mainly the 1980s, such as Banks et al. (1998) and Bernheim et al. (2001). Given the length of our panel, we can check whether the absence of a drop in consumption at retirement depends on the period of observation. Therefore we reestimate the regressions whose results we reported in tables 1 and 2 separately for the 1980s and the 1990s. The main findings, which we report as

[7]Results can be provided by the authors on request.

table 3 in the Web appendix, are invariant to the estimation period being the 1980s and 1990s. There is no statistically significant change in nondurable consumption for households with a retiring head. Once again we observe a drop for total food and food at home, of roughly similar magnitudes. Some of these estimates are not statistically significant but show a decline with similar magnitudes to our estimates in tables 1 and 2.

Until now, we have looked at averages. That the distribution of consumption changes in the various groups we have been considering is also interesting. We therefore computed the distribution of the change in the logarithm of nondurable consumption for individuals who transition from working to retirement shown in table 3. We find that at the 25th percentile, consumption drops by 35.9%. Hence, the CEX indicates that 25% of the people lower their consumption by more than 35% when the head retires. Our finding is similar to that of Hurst (2004), where 20% of the people do not plan adequately for retirement—around 20% are "grasshoppers," and 80% are "ants." Bernheim et al. (2001) found a significant drop in consumption at retirement, reaching as much as the 50th percentile. In our context, the median change in consumption is close to zero.

III. Discussion and Conclusions

Since the early contributions of Banks et al. (1998) and Bernheim et al. (2001), a small literature has grown to study the retirement consumption puzzle. Some papers (Miniaci, Monfardini, & Weber, 2003; Slesnick & Ulker, 2005; Ameriks, Caplin, & Leahy, 2007; Battistin, Brugiavini, Rettore, & Weber, 2009; Fisher et al., 2008; Hurd & Rohwedder, 2008) have studied this phenomenon for a variety of countries, while others (Angeletos et al., 2001; Hurd & Rohwedder, 2005; Aguiar & Hurst, 2005, 2007; Smith, 2006; Haider & Stephens, 2007; Blau, 2008) have offered a variety of explanations.

More recently, a number of papers, mainly looking at U.S. data, have reexamined the evidence and concluded that there may not be a retirement consumption puzzle. Studies in this area include Aguiar and Hurst (2005, 2007) and Hurd and Rohwedder (2005). These papers consider a variety of data sources and stress the importance of household production that may lead to declines in some measures of consumption that have figured prominently in the literature on the retirement consumption puzzle. Recently Hurst (2008) convincingly summarized the available evidence and pronounced the "retirement of the consumption puzzle."

Our study is novel, relative to the existing literature, in two important dimensions. First, it looks at changes in consumption at retirement using longitudinal data that include a comprehensive measure of consumption. Given the conceptual problems with focusing on food consumption, which is what researchers using other longitudinal data have done because of the limitations of those data, this is an important and novel contribution. Having a comprehensive and detailed measure of expenditures, we can look at different definitions of consumption and check whether we can reproduce the results that other researchers obtain with restrictive definitions. Second, because our data span a long time period, we can test for the presence of the puzzle during different time periods. As with other studies that use

longitudinal data, in addition to means, we can also look at the distribution of consumption changes.

Our results, which are remarkably robust to the way we define the estimation sample, indicate no significant decline at retirement for total nondurable consumption. At the same time, we do observe a decline in food consumption, which represents around 32% of total nondurable consumption. Our results are consistent with those presented by Bernheim et al. (2001) and by Aguiar and Hurst (2005, 2007) and Hurd and Rohwedder (2005). Our conclusions therefore seem to agree with those drawn by Hurst (2008) in his review article. Some studies have explained the decline of food at retirement with a home production model, where retirement triggers a shift in the time available for home production that can displace the expenses of some market items.

Our results do not explain the evidence in Banks et al.'s (1998) original article. Of course, those results were obtained on U.K. rather than U.S. data, and they deserve further investigation. It would be interesting to establish whether there are differences in the patterns of food and nonfood items and whether changes in home production can explain the part of the consumption drop that, according to Banks et al. (1998), cannot be explained by labor supply changes.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

We thank James Banks, Richard Blundell, Erik Hurst, and Jonathan Skinner for their valuable comments. We specially thank Erich Battistin for his help using the data sets.

References

Aguiar, Mark, Hurst, Erik. Consumption versus Expenditure. Journal of Political Economy. 2005; 113(5):919–948.

Aguiar, Mark, Hurst, Erik. Lifecycle Prices and Production. American Economic Review. 2007; 97(5): 1533–1559.

Ameriks, John, Caplin, Andrew, Leahy, John. Retirement Consumption: Insights from a Survey. this review. 2007; 89(2):265–274.

Angeletos, George-Marios, Laibson, David, Repetto, Andrea, Tobacman, Jeremy, Weinberg, Stephen. The Hyperbolic Consumption Model: Calibration, Simulation, and Empirical Evaluation. Journal of Economic Perspectives. 2001; 15(3):47–68.

Banks, James, Blundell, Richard, Tanner, Sarah. Is There a Retirement-Savings Puzzle? American Economic Review. 1998; 88(4):769–788.

Battistin, Erich, Brugiavini, Agar, Rettore, Enrico, Weber, Guglielmo. The Retirement Consumption Puzzle: Evidence from a Regression Discontinuity Approach. American Economic Review. 2009; 99(5):2209–2226.

Bernheim, Douglas, Skinner, Jonathan, Weinberg, Steven. What Accounts for the Variation in Retirement Wealth among U.S. Households? American Economic Review. 2001; 91(4):832–857.

Blau, David. Retirement and Consumption in a Life Cycle Model. Journal of Labor Economics. 2008; 26:35–71.

Diamond, Peter, Gruber, Jonathan. Social Security and Retirement in the United States. In: Grober, Jonathan, Wise, David A., editors. Social Security and Retirement around the World. Chicago: University of Chicago Press; 1999. p. 437-473.

Fisher, Jonathan, Johnson, David, Marchand, Joseph, Smeeding, Timothy, Torrey, Barbara. The Retirement Consumption Conundrum: Evidence from a Consumption Survey. Economics Letters. 2008; 99(3):482–485.

French, Eric. The Effect of Health, Wealth and Wages on Labor Supply and Retirement Behavior. Review of Economic Studies. 2005; 72(2):395–427.

Haider, Steven J., Stephens, Melvin. Is There a Retirement-Consumption Puzzle? Evidence Using Subjective Retirement Expectations. this review. 2007; 89(2):247–264.

Hurd, Michael D., Rohwedder, Susann. The Retirement-Consumption Puzzle: Anticipated and Actual Declines in Spending at Retirement. RAND working paper no 242. 2005

Hurd, Michael D., Rohwedder, Susann. Some Answers to the Retirement-Consumption Puzzle. NBER working paper no 12057. 2006

Hurd, Michael D., Rohwedder, Susann. The Retirement Consumption Puzzle: Actual Spending Change in Panel Data. RAND working paper no WR-563. 2008

Hurst, Erik. Grasshoppers, Ants and Pre-Retirement Wealth: A Test of Permanent Income Consumers. MRRC working paper no 2004-088. 2004

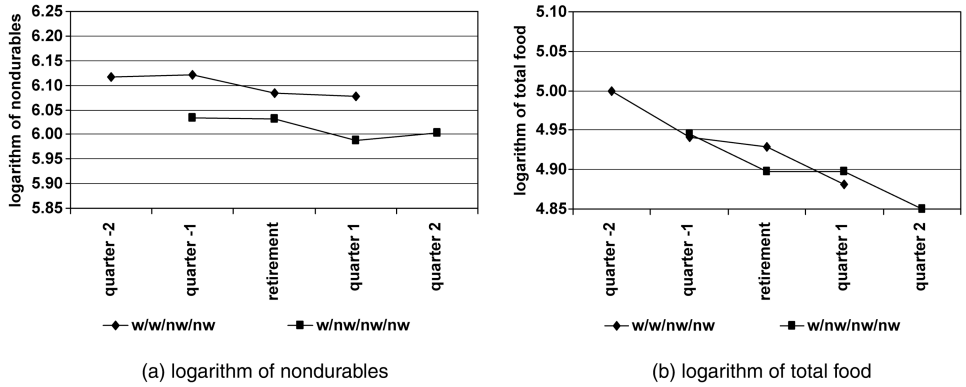
Hurst, Erik. The Retirement of a Consumption Puzzle. NBER working paper no 13789. 2008

Miniaci, Raffaele, Monfardini, Chiara, Weber, Guglielmo. Is There a Retirement Consumption Puzzle in Italy? Institute for Fiscal Studies working paper no W03/14. 2003

Rust, John, Phelan, Christopher. How Social Security and Medicare Affect Retirement Behavior in a World of Incomplete Markets. Econometrica. 1997; 65(4):781–831.

Slesnick, Daniel, Ulker, Aydogan. The Consumption of the Elderly: Evidence from the Consumer Expenditure Survey. University of Texas at Austin working paper. 2005

Smith, Sarah. The Retirement-Consumption Puzzle and Involuntary Early Retirement: Evidence from British Household Panel Survey. Economic Journal. 2006; 116(510):C130–C148.



(a) logarithm of nondurables (b) logarithm of total food

Figure 1. Expenditure Categories Adjusted with Equivalence Scales around Retirement Using the Panel Structure of the CEX

The *p*-value for the test of equality of nondurable expenditure for working (w)/w/not working (nw)/nw between quarters −2 and 1 is 0.5262, and quarters −1 and 1 is 0.4824. For the test along w/nw/nw/nw for nondurables between quarters −1 and 2 is 0.4185, and quarters −1 and 1 is 0.2216. Similarly, the tests for food expenditure have *p*-values 0.0457, 0.0482, 0.0112, and 0.0203, respectively.

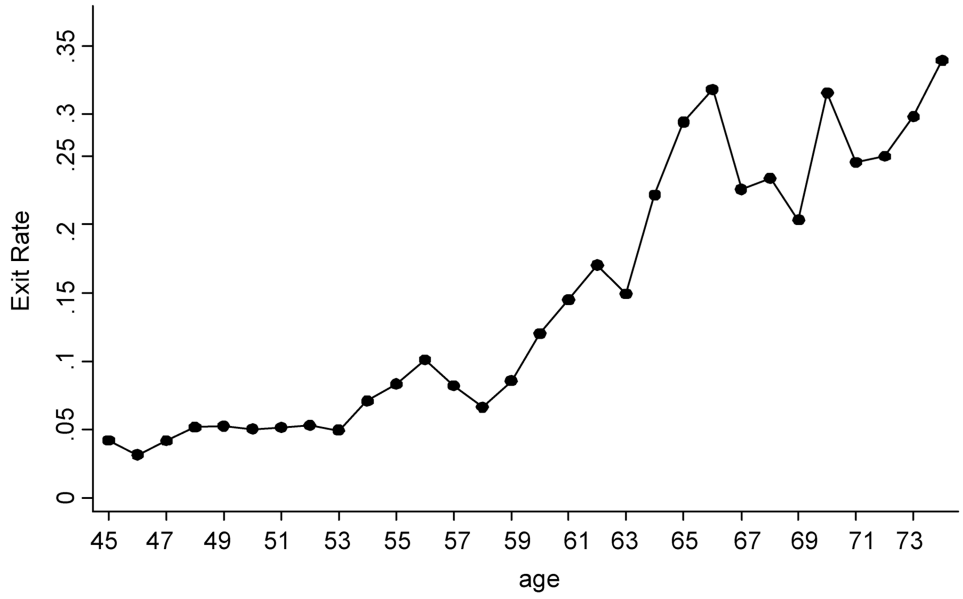


Figure 2. Exit Rate for Heads of Households

Table 1
Impact on Consumption around Retirement, including Single and Couple Households

Variable	Nondurables	Total Food	Food at Home	Nonfood Nondurables
$I \times G_{00}$	0.0303 [0.0100**]	0.0372 [0.0106**]	0.0284 [0.0103**]	0.0279 [0.0129**]
$I \times G_{01}$	0.0141 [0.0373]	0.0458 [0.0374]	0.0625 [0.0365*]	0.0033 [0.0497]
$I \times G_{10}$	−0.0070 [0.0216]	−0.0608 [0.0229**]	−0.0452 [0.0246*]	0.0112 [0.0279]
Number of observations	25,960	25,960	25,960	25,960

** Significant at 5%,

* significant at 10%, I is a dummy that indicates the last interview period. G_j are labor status classifications in the first and last interviews. Reference group 11 are those working, which is the benchmark, group 00 for those retired, group 01 for those who reenter the labor market, and group 10 for households that transition from working to retirement. Regressions also include dummy variables for year, month and their interactions, age, age squared, family size, an indicator for children under 18 years old, an indicator for couples, a dummy for last interview, and the group dummies for the head of household labor status. The standard errors are robust to heteroskedasticity corrected with the Huber-White method and serial correlation within households.

Table 2
Impact on Consumption around Retirement, Including Couple Households

Variable	Nondurables	Total Food	Food at Home	Nonfood Nondurables
$I \times G_{00}$	0.0261 [0.0108**]	0.0317 [0.0111**]	0.0250 [0.0109**]	0.0232 [0.0139*]
$I \times G_{01}$	−0.0085 [0.0391]	0.0370 [0.0400]	0.0555 [0.0388]	−0.0276 [0.0520]
$I \times G_{10}$	−0.0056 [0.0226]	−0.0543 [0.0244**]	−0.0505 [0.0246**]	0.0131 [0.0293]
Number of observations	21,682	21,682	21,682	21,682

** Significant at 5%,

* significant at 10% level of confidence. I is a dummy that indicates the last interview period. G_j are labor status classifications in the first and last interviews. In group 11 are those working (the benchmark), 00 for those retired, 01 for those who reenter the labor market, and 10 for households that transition from working to retirement. Regressions also include dummy variables for year, month and their interactions, age, age squared, family size, an indicator for children under 18 years old, wife hours of leisure, the difference between the age of the head and the age of the wife, a dummy for the last interview, and the group dummies for the head-of-household labor status. The standard errors are robust to heteroskedasticity corrected with the Huber-White method and serial correlation within households.

Table 3

Change in Nondurable Consumption

Percentile	Change in Consumption for G_{10}	Percentile	Change in Consumption for G_{10}
10	−0.7125 [0.0303**]	75	0.2791 [0.0250**]
25	−0.3598 [0.0262**]	90	0.6157 [0.0405**]
50	−0.0351 [0.0187**]		

Significant at **5% level of confidence, *10% level of confidence. G_{10} are households that transition from working to retirement. Standard errors are obtained with the bootstrap method.