# Factors Influencing the Consumption Expenditures of Retired Elderly Households: Focused on the Factor of Wealth Components

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**Abstract :** The purpose of this study is to take a new look at factors affecting the spending of retired elderly households by identifying the effects of different types of wealth components, along with socio-demographic factors, on current consumption. A tobit linear regression model was utilized to estimate parameters in the consumption functions. Data was drawn from the 1990 Consumer Expenditure Survey, Interview Survey in the United States.Total consumption and various consumption categories were the most responsive to changes in annual income flow and the least responsive to changes in property assets. The four wealth components differed in their influence on consumption categories among retired elderly households. In addition, age, residential area, household type, and education were found to be significant factors affecting total consumption and consumption categories of the retired elderly.

Key Words : retired elderly, factors, consumption expenditures, wealth

## I. INTRODUCTION

Wealth is a crucial factor for explaining or understanding the consumption level and the well-being of retired elderly households, because wealth is assumed to be the major source of funds to finance consumption in retirement. Therefore, it is useful to investigate the relationships between the various wealth components held by retired elderly households and their consumption expenditures as a way comprehending and predicting well-being among retired elderly households.

The economic well-being of the elderly is usually believed to be associated with levels of

consumption to a certain extent. This belief is limiting because the well-being of the retired elderly is considered only in terms of their total wealth or wealth levels. Viewing economic well-being this way does not take into consideration whether or not the elderly will use various wealth components to pay for consumption. For example, if home equity or real estate holdings do not influence consumption expenditures, then consideration should be given as to how or if home equity and real estate wealth components should be included in predicting or understanding economic measures of well-being. The absence of such an influence may imply that retired homeowners want to keep their houses even when faced with financial strains rather than using them to finance consumption. To use another example, if liquid assets have a positive effect on consumption expenditures, then public policy makers may be interested in how the increasing number of the retired elderly could affect capital markets by their treatment of liquid wealth relative to consumption. Further, if annuity wealth components such as Social Security and pension payments are likely to have a strong positive effect on consumption expenditures, then public policy makers may be better able to predict changes in consumption behavior in accord with changes in Social Security and similar benefits.

The purpose of this study is to take a new look at factors affecting the spending of retired elderly households by identifying the effects of different wealth components—both on total consumption and on the patterns of goods and services purchased by the retired elderly.

# II. THEORETICAL BACKGROUND

## 1. Behavioral Life Cycle Hypothesis and Mental Accounts

Aware of the limitations of the traditional life cycle hypothesis (LCH), especially relative to the treatment of wealth components by the elderly, Shefrin and Thaler (1988) proposed a behavioral life cycle hypothesis (BLCH). Their major modification of the LCH was to relax one crucial assumption, the fungibility of wealth. "Fungibility" is the notion that wealth has no labels; therefore, the marginal propensities to consume (MPC)1 from different wealth

components are supposedly equal, assuming no transaction costs. On the other hand, nonfungibility is the notion that each wealth component has a different MPC, so individual consumption expenditures do not depend on total wealth. Instead, they depend on the manner in which total wealth is allocated among different components. The idea is that—either consciously or because of the nature of a particular acquired asset—individuals view each of their asset types in a different way when it comes to current consumption. They keep separate accounts in their heads—called "mental accounts"—for the different asset types, and they assign different labels based on their general willingness to spend—or their willingness to spend for specific items—from that account. If nonfungibility is, indeed, the case, then expenditures in total or expenditure for specific categories would depend not on total wealth but on the manner in which wealth is allocated among different wealth components.

Shefrin and Thaler (1988) suggest that different wealth components can be grouped into at least three mental accounts: current income, current assets, and future income. These three mental accounts are distinguishable by the degree to which it is psychologically permissible to use the accounts to finance current consumption, as well as by transaction costs and transaction time. Examples of these three accounts might be cash, a discretionary savings account, and a future income investment account, respectively (Cordes, 1990). For these three accounts, MPC would generally be expected to be highest out of current income accounts, lowest out of future income accounts, and somewhere in between for discretionary savings accounts (Shefrin & Thaler, 1988, p. 618).

The BLCH also implies that individuals may create separate mental accounts for obtaining different goods. In this case, individuals may be more willing to spend from a particular asset or particular mental account on one good than on another. For example, individuals might not use their stock portfolio for grocery shopping or their illiquid portfolio for buying clothing and other consumables. They may, however, use stock portfolio funds for purchasing durable goods such as furniture or a car. The implication is that a certain wealth component may have a special relationship with a particular consumption category.

## 2. Literature Review of Factors Influencing Consumption Expenditures of Elderly Households

Based on prior research, a number of characteristics of the elderly may be expected to affect consumption expenditures. Five of these are socio-demographic characteristics: householder age, race, area of residence, household type, and householder education. These factors should be considered along with selected wealth components when analyzing the consumption expenditures of elderly households.

1) Householder age. Differences in tastes and preferences may be attributed to age or cohort differences. Different birth (cohort) groups experience different social, economic, political, and technological environments. Further, needs in elderly households are likely to change as aging progresses due to changing or declining physical functions. Previous research suggests that age has a negative effect on all consumption categories except food at home and health care. Food at home and health care have been found to have a positive relationship with age in elderly households (Dardis, et al., 1981; Harrison, 1986; Neal, Schwenk, & Courtless, 1990; Norum, 1987; Schwenk, 1993; Talbot, 1990; Volker & Winter, 1989; Walker & Schwenk, 1991).

2) Householder race. The unique cultural and economic milieu experienced by different racial groups may influence their tastes and preferences and, therefore, their consumption behaviors. For example, African Americans have generally been found to have a lower consumption level than whites for all consumption expenditure categories (Neal et al., 1990; Reinecke, 1976; Schwenk, 1993; Talbot, 1990; Walker & Schwenk, 1991; Wolfe & Abdel-Ghany, 1981).

3) Area of Residence. Region and rural-urban settings can be expected to relate to life style. For example, an urban life style may differ from the rural with regard to social, economic, and environmental factors. Rural households were less likely to allocate their budgets to food away from home, housing, apparel and services, and health care than were urban households according to earlier studies (Reinecke, 1976; Schwenk, 1993; Volker & Winter, 1989).

4) Household type. Among the elderly, the representative types of households are single

and couple. Life styles may differ according to household type; therefore, household type may affect consumption expenditures. Single households, for instance, have been seen to allocate less money to food at home and more money to housing than other households (Axelson & Penfield, 1983; Morgan, 1988; Schwenk, 1993; Walker & Schwenk, 1991).

5) Householder education. Education influences life style in social, occupational, and environmental settings. Previous research, for example, proposes that education positively influences consumption for food away from home, apparel and services, transportation, and entertainment; and that it negatively influences food at home and utilities (Dardis, Derrick, & Lehfeld, 1981; Davis, Soberon-Ferrer, & Patro, 1993; Neal et al., 1990; Norum, 1987; Schwenk, 1993).

Selected wealth components have also been studied to determine whether or not they influence elderly household consumption. One of the most common wealth components is home equity. Venti and Wise (1990) have reported, "The typical elderly family has no desire to reduce housing equity, and this is true even among families with low total wealth, for whom housing equity is a large fraction of total wealth" (p. 26). Similarly, in a survey of interest related to reverse mortgages2, it was established that 85 percent of elderly homeowners were not interested in a reverse mortgage. Researchers concluded that most of America's elderly want to keep their homes as a hedge against future economic emergencies, either for themselves or for their spouses (Taylor, Kagay, & Leichenkok, 1987). These results imply that individuals buy houses for the psychological satisfaction of owning a home, for a sense of economic security, and for building an estate to pass on to children; but they do not buy them to finance consumption in their later years.

# III. METHODOLOGY

## 1. Source of Data

Data was drawn from the 1990 Consumer Expenditure Survey (CEX), Interview Survey in USA. Sample households were identified as retired households if the reference person3 was

age 62 or older; if neither the reference person nor his/her spouse was employed; and if the reference person and his spouse were living in the United States. The study excluded those living in institutions. It was reasoned that age 62 is a suitable age boundary for distinguishing the retired elderly; because, if qualified by the program, persons aged 62 are eligible to begin receiving Social Security benefits. Finally, only those sample households which had been interviewed for one full year were selected because the data needed to reflect expected seasonal variations in expenditures over a one-year period. Three hundred and fourteen households meeting the above conditions were selected as the sample for this study.

## 2. Defining Mental Accounts for the Retired Elderly

In retired elderly households, mental accounts are somewhat different from other types of households. Since no earned income is expected, current income, instead, means income flow from investments made during working years. Thus, the label of income flow makes more sense than a current income label for retired elderly households. The mental account, "income flow" for this study, includes income from Social Security; annuities; railroad or military pensions; other pension benefits; rents, interest, and dividends paid out from other investments; and transfer payments from public programs such as Supplemental Security Income and Food Stamp values for one year.

Current assets can be divided into two categories in retired elderly households. The first category is defined as the total amount accrued in checking and savings at one point in time, labeled here as "checking and savings." Although the source of these funds may be from income flow as defined for the annual income flow account, this account may be thought of as a certain balance required to maintain a feeling of security or well-being.

The second category includes balances in stocks and bonds, mutual funds, and other securities, and is labeled here as "stocks and bonds." Since a fair amount of effort is required to turn these assets into cash for several reasons (transaction costs, selling point for obtaining the greatest value etc.), the securities in this category have been identified as a separate mental account from checking and savings. In other words, current assets mental accounts are divided into two categories because "checking and savings" are relatively easier to use

as cash than "stocks and bonds."

Future income consists of property such as home equity, real estate, and private business asset, and is labeled here as "property assets". Property assets may be most readily thought of as income for future needs and wants. These illiquid wealth components usually require time to amass, and they involve significant transaction costs for financing current consumption. The costs incurred are often both financial and psychological and include complex decision processes that may affect living arrangements or relatives.

### 3. Definitions of Dependent and Independent Variables

Total spending and spending in each of the 17 consumption categories measured in dollars were used as dependent variables. The definitions of consumption categories were taken from the U.S. Bureau of Labor Statistics (U. S. Department of Labor, 1992).

Four different wealth components were used as independent variables: 1) annual income flow, 2) checking and savings, 3) stocks and bonds, and 4) property assets. These were constructed from all wealth components measured in dollars in the 1990 CEX data set, and they were defined in an earlier section of this article. Five socio-demographic characteristics-specifically age, race, education of reference person, area of residence, and household type-were also used as independent variables.

A potential multicollinearity problem was checked among the independent variables by using tolerence value (see SAS Institute Inc., 1988, p. 186 for more details). Multicollinearity was not found to be a problem among the independent variables.

### 4. Analytical Method

For this study, a tobit regression model was used instead of traditional multiple regression procedures due to the nature of the censored sample, specifically that some household units report zero spending in a particular consumption category. The number of 0 consumption households is shown in Table 3 with results. The LIMDEP computer program Version 6.0 was used for this study.

# IV. RESULTS AND DISCUSSION

## 1. Descriptive Statistics

Descriptive statistics for socio-demographic variables are presented in Table 1. The retired elderly households in this sample were more likely to be young-old (aged 62-74) and white than they were to be old-old (over aged 85) and black. They were also more likely to live in urban areas (78%). Single households comprised nearly 60% of the households.

Summary information on the four wealth components and the expenditure variables is

Table 1. Descriptive Statistics of Socio-Demographic Variables of Retired Elderly Households N = 314

| Variable Frequency Percentage | | |
|---|---|---|
| Age of householder | | |
| 62-74 | 167 | 53.2 |
| 75-84 | 117 | 37.2 |
| 85 or older | 30 | 9.6 |
| Race of householder | | |
| White (0) | 287 | 91.4 |
| Black (1) | 27 | 8.6 |
| Residential area | | |
| Urban (0) | 245 | 78.0 |
| Rural (1) | 69 | 22.0 |
| Household type | | |
| Couple (0) | 127 | 40.4 |
| Single (1) | 187 | 59.6 |
| Education of householder | 90 | 28.7 |
| Low education level (0) | | |
| Never attended school and elementary (1-8 years) | | |
| Medium education level (1) | 139 | 44.3 |
| Some high school and high school graduate | | |
| High education level (1) | 85 | 27.0 |
| Some college (1-4 years) and more than 4 years of college | | |

Note. White, urban, couple, and low education level groups werecoded as a reference group (0) for each variable.

presented in Table 2. Total wealth from all four types of wealth components averaged $102,122 with the highest amount in property assets (66%) and the lowest amount in stocks and bonds (7%).

Within the expenditure categories, the highest expenditures were for shelter (19%), transportation (16%), food at home (14%), health care (13%), and utilities (10%). Each of the other categories comprised less than 4% of total expenditures.

Table 2. Descriptive Statistics of Wealth Components and Consumption Expenditure Variables of Retired Elderly Households

N = 314

| Variable (unit = $) | Mean | Percentage | Std. Dev. |
|---|---|---|---|
| Total wealth components | 102,122.49 | 100.0 | |
| Annual income flow | 14,483.60 | 14.2 | 13,010.64 |
| Checking and savings | 12,955.03 | 12.7 | 26,945.45 |
| Stocks and bonds | 6,782.34 | 6.6 | 21,216.90 |
| Property assets | 67,901.52 | 66.5 | 77,698.53 |
| Total consumption | 15,472.97 | 100.0 | 11,003.48 |
| Food at home | 2,213.46 | 14.3 | 1,181.28 |
| Food away from home | 673.41 | 4.3 | 979.85 |
| Shelter | 2,933.35 | 19.0 | 3,166.13 |
| Utilities | 1,552.18 | 10.0 | 839.73 |
| Household operation | 431.28 | 2.8 | 1,782.38 |
| House furnishings and equipment | 459.69 | 3.0 | 831.22 |
| Clothing | 566.78 | 3.7 | 690.42 |
| Transportation | 2,531.54 | 16.4 | 4,151.56 |
| Health care | 2,104.73 | 13.6 | 3,066.38 |
| Entertainment | 637.76 | 4.1 | 1,417.77 |
| Personal care | 208.97 | 1.3 | 232.99 |
| Reading and education | 184.17 | 1.2 | 781.55 |
| Cash contributions | 107.69 | 0.7 | 257.93 |
| Personal insurance | 214.53 | 1.4 | 528.03 |
| Tobacco | 217.08 | 1.4 | 475.43 |
| Alcoholic beverages | 112.53 | 0.7 | 277.98 |
| Miscellaneous items | 323.81 | 2.1 | 1,119.88 |

## 2. Wealth Components

The four wealth components in each consumption function (along with socio-demographic factors) were examined to determine influence, if any, on total or consumption category expenditures using a significance level of 0.05. The results are presented in Table 3.

It was found that the wealth component, "annual income flow" may be the most important financial fund influencing the level of consumption expenditures in retired elderly households. Annual income flow positively influenced total consumption and eight of seventeen consumption categories: 1) food at home, 2) food away from home, 3) utilities, 4) household operation, 5) clothing, 6) transportation, 7) personal care, and 8) cash contributions. These categories tend to represent daily, weekly, or monthly demands. Therefore, this finding may mean that annual income flow is characteristically the easiest of the four different wealth components from which to make regular or routine expenditures. Notably, food away from home and cash contributions were affected only by annual income flow. For food away from home, the retired elderly may have increasing opportunities and incentives to spend as this group has been targeted by the restaurant industry. Marketing appeals may include discount coupons, special days or times for discount meals, or even special meals (relatively smaller amounts, and less expensive). Because of these incentives, food away from home may have taken on characteristics related more to daily needs and fixed routines rather than what once may have been characterized as a special occasion.

For cash contributions, it may be that gifts of cash are also becoming fairly regular, and that one-time and larger charitable gifts (such as contribution to church, educational institutions, and other organizations) which may come from other accounts are not picked up in this one-year record.

Balances in checking and savings were found to positively influence the level of consumption expenditures for total consumption and the following three of seventeen consumption categories: 1) health care, 2) reading and education, and 3) alcoholic beverages. These same balances negatively influence the level of consumption expenditures for food at

home. Among the retired elderly, the balance in checking and savings was the only fund to influence health care and reading and education expenditures. Considering that checking and savings accounts are relatively easier to use as cash than stocks and bonds or property assets, the retired elderly may postpone dental or medical care procedures until amounts in these accounts become adequate (exceed some psychic minimum), or they may plan ahead to accumulate funds sufficient for these purposes.

The balance in stocks and bonds did not influence total consumption, but it did influence positively the following three consumption categories: 1) clothing, 2) transportation, and 3) alcoholic beverages. The characteristics of these consumption categories may be related to life styles that demand higher levels of social activity, so, the retired elderly who hold more stocks and bonds may also be more active socially. Their active life style would result in higher demands for clothing, more travel or more expensive modes of transportation, and higher expenditures on alcoholic beverages.

Property assets were found not to influence the level of total consumption expenditures, but they did influence positively the following four consumption categories: 1) food at home, 2) utilities, 3) household operation, and 4) personal care. Based on the behavioral life-cycle hypothesis, property assets were not expected to have any influential effects on the level of consumption expenditures either for total or for consumption categories. One interpretation of this unexpected influence may be that when a home is of higher value it requires higher expenditures in terms of household operations and maintenance. Additively, these may be greater incentives to maintain already high property values.

### 3. Socio-Demographic Factors

Socio-demographic variables were examined for each consumption function, (along with wealth component factors) to determine the influence, if any, on the total or consumption categories, using a significance level of 0.05. The results are presented in Table 3.

#### 1) Age

The age of the reference person positively influenced the level of consumption

expenditures for household operation. It also negatively influenced the levels of consumption expenditures for total consumption expenditures and nine of seventeen consumption categories: 1) food at home, 2) food away from home, 3) utilities, 4) house furnishings and equipment, 5) clothing, 6) transportation, 7) entertainment, 8) personal insurance, and 9) miscellaneous items.

Age may be one of the most significant factors among elderly households for differentiating consumption expenditure levels, the differences result from reduced or different needs and are related to disposable economic resources. The negative relationship between age and food away from home, clothing, transportation, and entertainment may be associated with declining social activities or with increasing physical limitations. These results support the previous research of Morgan (1988), Axelson and Penfield (1983), Harrison (1986), and Talbot (1990). Further, the negative relationship between age and clothing expenditures suggests that as the retired elderly age they become less concerned with new fashion, have more accumulated clothing, or experience less social activity which requires new clothing. Also, the negative relationship between age and house furnishings and equipment suggests that as the retired elderly age they may be more likely to have accumulated household furniture and appliances and less need for new. These findings support the previous research of Wolfe and Abdel-Ghany (1981). The positive relationship between age and household operation may be related to an increase in the need for household services as age increases. For example, the retired elderly who are relatively older may need to spend more money on home services for gardening and lawn care, housekeeping, or other miscellaneous home services than those who are relatively younger. The negative relationship between food at home and the age of the reference person does not support previous research by Volker and Winter (1989). An explanation for this inconsistency may be that difficulties related to shopping and cooking may arise with the declining physical functioning of advancing years. The negative relationship also reflect increased food or meal services provided by family, friends, or neighborhood services. It may also reflect the fact that less food or less expensive food is consumed by the advanced elderly. The negative relationships between age of reference person and utilities, personal insurance, and miscellaneous expenditures could not be compared to previous research

because of the unavailability of similar studies. The result in this study regarding the negative relationship between utilities and age is contrary to what might be expected in terms of heating and cooling needs for our most elderly. However, the negative relationship could, in part, be an outcome related to reduced cooking by those who are older (Schwenk, 1988a). An additional question relates to the lack of a relationship between age and spending on health care. This is counter to prior findings (Schwenk, 1988b) and one that underscores the need for further study.

### 2) Residential area

Residential area was found not to be an influence on the level of total consumption. However, rural retired elderly households were likely to have lower levels of expenditures for shelter and higher levels for utilities and house furnishings and equipment than their urban counterparts. Such findings may be related to variations in living conditions or price levels.

### 3) Household type

Household type was found to be a factor influencing the level of consumption expenditures. Compared to couple households, single retired elderly households were likely to have lower levels of expenditures for total consumption and the following four of seventeen consumption categories: 1) food at home, 2) utilities, 3) transportation, and 4) health care. These results primarily reflects differences in household size. On the other hand, the single retired elderly were likely to spend more than couple households on 1) shelter, 2) household operation, and 3) reading and education.

The difference in shelter expenditures may reflect housing decisions made earlier in life, but more study is required to explain what factors may be influencing this result. For household operation, it is suggested that the elderly who live alone may have more difficulties taking care of lawns or repairing household appliances than those who live with someone else. Thus, single households may experience an increased need to buy household services when compared to couple households. For reading and education, it is suggested the retired elderly who live by themselves may substitute reading for time spent talking or

interacting with a spouse or partner.

#### 4) Education

Education level was found to be an important factor differentiating the level of consumption expenditures for total consumption and for several consumption categories. Compared to those who never attended school or who graduated from elementary, the retired elderly who have at least a college level education were likely to spend more on total consumption and the following five of seventeen consumption categories: 1) food away from home, 2) shelter, 3) health care, 4) personal care, and 5) reading and education.

It is suggested that these findings reflect the difference in life styles between highly educated and less educated persons. For example, retired elderly who are highly educated may have more opportunities to become involved with social activities or they may volunteer more than those who are less educated. They may also have formed more outgoing, active life style during their working years that follow them into their retirement. Thus, it is likely that the retired elderly who have high levels of education are more likely to be involved in activities that lead to increased consumption.

The retired elderly with high levels of education were also found to have higher levels of consumption on shelter than those who were less educated. It can be suggested that more highly educated persons may place a higher value on their home environment and, as a matter of course, be more likely to use their homes as a center for social activity than less educated persons.

Moreover, the retired elderly who have high levels of education were found to have higher levels of consumption expenditures for health care and reading and education than those less educated. A possible explanation is that highly educated persons may be more aware of the need for health care than less educated persons, and more accustomed to obtaining it. This result is consistent with previous research of Schwenk (1988b). Further, highly educated persons may have greater interest in new knowledge or news than the less educated, and a greater propensity to get their information from printed matter.

Table 3. The Estimated Results of Tobit Analysis for Retired Elderly Household Expenditures

N = 314

| Variables | Total | Food at home | Food away from home | Shelter | Utilities | Household operation |
|---|---|---|---|---|---|---|
| Annual income flow | 0.283*** | 0.113* | 0.015* | 0.009 | 0.012* | 0.038* |
| | (0.065) | (0.006) | (0.008) | (0.012) | (0.005) | (0.019) |
| Checking & savings | 0.033* | -0.005* | 0.003 | 0.008 | -0.003 | 0.001 |
| | (0.016) | (0.002) | (0.003) | (0.006) | (0.002) | (0.006) |
| Stocks & bonds | 0.035 | -0.003 | 0.003 | 0.001 | -0.003 | 0.009 |
| | (0.053) | (0.002) | (0.004) | (0.006) | (0.003) | (0.013) |
| Property assets | 0.009 | 0.003** | 0.000 | -0.001 | 0.005*** | 0.008*** |
| | (0.011) | (0.001) | (0.001) | (0.003) | (0.001) | (0.001) |
| Age | -224.460* | -36.610*** | -17.696* | -1.346 | -14.733* | 39.750* |
| | (96.770) | (7.915) | (7.765) | (18.890) | (6.469) | (18.420) |
| Race(white) | -2293.100 | -20.039 | -264.000 | -993.210 | 93.635 | 13.809 |
| Non-white | (3133.000) | (225.000) | (231.200) | (756.000) | (114.500) | (382.200) |
| Residential area(urban) | -812.870 | -220.730 | -215.230 | -835.590* | 281.040** | 121.220 |
| Rural | (1549.000) | (146.600) | (134.900) | (439.200) | (99.650) | (320.400) |
| Household type(couple) | -3327.400* | -932.630*** | -224.470 | -851.880** | -337.170*** | 840.720** |
| Single | (1328.000) | (120.900) | (121.900) | (297.000) | (96.000) | (285.600) |
| Education(<=elementary) | 1403.900 | -49.148 | 153.800 | 404.040 | -7.160 | 177.680 |
| High school | (1769.000) | (146.300) | (153.900) | (433.200) | (112.300) | (304.300) |
| Education(<=elementary) | 5101.900** | -18.543 | 427.640** | 1504.900* | 66.758 | 102.650 |
| >=College | (1815.000) | (160.200) | (158.100) | (453.000) | (119.700) | (324.600) |
| Intercept | 27461.000 | 5258.700 | 1640.900 | 1937.500 | 2340.000 | 4618.800 |
| | (7683.000) | (647.800) | (626.700) | (1525.000) | (539.000) | (1461.000) |
| Log likelihood for normal | -3264.684 | -2595.720 | -2256.608 | -2909.650 | -2487.693 | -2035.691 |
| Noncensored values | 314 | 314 | 270 | 311 | 311 | 222 |
| Left censored values | 0 | 0 | 44 | 3 | 3 | 92 |

Note. Standard errors and omitted reference groups in parenthesis; ***p<.001 **p<.01 *p<.05

Table 3. (continued)

N = 314

| Variables | House furniture & equipment | Clothing | Transportation | Health care | Entertainment | Personal care |
|---|---|---|---|---|---|---|
| Annual income flow | 0.012 | 0.018*** | 0.101** | -0.016 | 0.014 | 0.003* |
| | (0.008) | (0.005) | (0.038) | (0.017) | (0.010) | (0.002) |
| Checking & savings | 0.001 | -0.000 | -0.014 | 0.020* | 0.008 | -0.000 |
| | (0.002) | (0.002) | (0.014) | (0.014) | (0.005) | (0.000) |
| Stocks & bonds | -0.001 | 0.007** | 0.096*** | 0.004 | -0.001 | -0.001 |
| | (0.003) | (0.003) | (0.021) | (0.007) | (0.003) | (0.001) |
| Property assets | -0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001** |
| | (0.011) | (0.001) | (0.004) | (0.001) | (0.001) | (0.000) |
| Age | -17.251* | -21.974*** | -105.120** | -4.188 | -33.604* | -1.235 |
| | (7.363) | (5.040) | (36.390) | (20.470) | (13.190) | (1.904) |
| Race(white) | -46.915 | -140.590 | -575.700 | -499.600 | -39.351 | -4.812 |
| Non-white | (160.000) | (148.000) | (944.100) | (875.700) | (502.800) | (37.820) |
| Residential area(urban) | 299.450** | -75.677 | 1.227 | -335.030 | -234.280 | -26.515 |
| Rural | (94.810) | (91.020) | (530.100) | (319.800) | (338.200) | (35.680) |
| Household type(couple) | -85.696 | 42.322 | -1581.800** | -643.800*** | -334.360 | -52.087 |
| Single | (126.900) | (92.900) | (527.600) | (308.400) | (194.800) | (31.480) |
| Education(<=elementary) | 11.819 | -41.676 | 782.970 | -79.901 | 130.010 | 31.398 |
| High school | (118.800) | (96.420) | (732.700) | (347.200) | (318.600) | (33.860) |
| Education(<=elementary) | 140.900 | 176.750 | 1409.400 | 745.830** | 460.390 | 134.180*** |
| >=College | (162.900) | (107.300) | (767.700) | (271.300) | (281.700) | (35.500) |
| Intercept | 1393.900 | 1850.600 | 9477.800 | 3022.800 | 2543.000 | 184.510 |
| | (602.800) | (407.900) | (2901.000) | (1635.000) | (1133.000) | (156.700) |
| Log likelihood for normal | -2117.312 | -2364.872 | -2812.393 | -2932.352 | -2330.620 | -1888.785 |
| Noncensored values | 253 | 303 | 289 | 313 | 266 | 270 |
| Left censored values | 61 | 11 | 25 | 1 | 48 | 44 |

Note. Standard errors and omitted reference groups in parenthesis; ***p<.001 **p<.01 *p<.05

Table 3. (continued)

N = 314

| Variables | Reading & education | Cash contribution | Personal insurance | Tobacco | Alcoholic beverages | Miscella-neous itemsa |
|---|---|---|---|---|---|---|
| Annual income flow | 0.000 | 0.011* | 0.005 | 0.001 | 0.002 | -0.001 |
| | (0.001) | (0.005) | (0.007) | (0.009) | (0.003) | (0.004) |
| Checking & savings | 0.007*** | 0.001 | -0.000 | 0.000 | 0.003*** | -0.001 |
| | (0.001) | (0.001) | (0.003) | (0.003) | (0.001) | (0.002) |
| Stocks & bonds | 0.001 | 0.007 | -0.003 | -0.006 | 0.004** | 0.000 |
| | (0.000) | (0.005) | (0.004) | (0.011) | (0.001) | (0.005) |
| Property assets | -0.001 | 0.000 | -0.000 | -0.002 | 0.000 | 0.001 |
| | (0.000) | (0.001) | (0.001) | (0.001) | (0.000) | (0.001) |
| Age | 2.995 | 3.582 | -19.630* | -10.274 | -5.848 | -13.435* |
| | (3.882) | (3.802) | (9.183) | (7.507) | (6.469) | (5.960) |
| Race(white) | -64.810 | -77.820 | -141.330 | 26.476 | -11.086 | -33.480 |
| Non-white | (185.800) | (122.000) | (163.500) | (142.100) | (70.670) | (253.000) |
| Residential area(urban) | 37.283 | 33.830 | -25.269 | 52.578 | -39.622 | -125.500 |
| Rural | (69.460) | (65.950) | (128.100) | (94.070) | (48.380) | (149.700) |
| Household type(couple) | 110.970* | 42.316 | -148.040 | -95.449 | -45.949 | 32.687 |
| Single | (45.250) | (71.960) | (136.300) | (107.200) | (51.949) | (105.500) |
| Education(<=elementary) | 102.370 | -48.744 | 5.708 | -10.537 | 19.933 | 32.049 |
| High school | (114.400) | (69.250) | (141.000) | (105.900) | (55.700) | (155.900) |
| Education(<=elementary) | 231.140* | 72.418 | 84.673 | -58.617 | 113.670 | 110.520 |
| >=College | (105.000) | (82.660) | (172.400) | (145.200) | (60.270) | (160.700) |
| Intercept | -322.170 | -393.680 | 1367.200 | 542.410 | 289.490 | 1007.300 |
| | (308.100) | (314.300) | (700.300) | (606.700) | (251.200) | (500.200) |
| Log likelihood for normal | -2179.739 | -1767.719 | -1324.585 | -715.301 | -1153.614 | -1934.344 |
| Noncensored values | 266 | 218 | 154 | 78 | 147 | 217 |
| Left censored values | 48 | 96 | 160 | 236 | 167 | 97 |

Note. Standard errors and omitted reference groups in parenthesis; ***p<.001 **p<.01 *p<.05

# V. CONCLUSIONS AND IMPLICATIONS

The overall level and the types of expenditures by the retired elderly responded primarily to changes in annual income flow. This implied that retired elderly households view annual income flow quite differently from any of the other wealth components. They were much more willing to spend out of annual income flow than they were out of checking and savings, stocks and bonds, or other property assets.

It did not seem surprising that the retired elderly consider annual income flow as the main source for financing current consumption, especially considering the difficulties of liquifying other wealth components. One might also infer that the psychological barriers of dissaving from checking and savings, stocks and bonds, and property assets are relatively higher than from annual income flow.

These conclusions may be used as basic knowledge for public policy makers. When the economic well-being of retired elderly households is discussed, policy makers should consider consumption behaviors associated with different wealth components when making plans regarding the elderly.

Further, it is also important to note that the four wealth components influenced the levels of consumption expenditures for the different consumption categories in unique ways. The first wealth component, annual income flow, affected the greatest number of consumption subcategories (9 out of 17) compared to the other wealth components. Annual income flow was the only fund that influenced expenditures on food away from home and cash contributions. The second account checking and savings, was the only fund that influenced health care, and reading and education. The third and fourth accounts, stocks and bonds and property assets, had no exclusive influence, but they did seem to be related to spending in special ways. Stocks and bonds, affected clothing, transportation, and alcoholic beverages, while property assets affected food at home, utilities, household operation, clothing and personal care. These results imply that the amount spent on particular goods and services depends not only on the households' total resources, but also on how those resources are divided among different wealth components. This knowledge can be used by public policy makers and marketers to understand or to predict changes in various levels

and types of consumption with change of different wealth components portfolio of retired elderly households. In addition, a major use of these results may be for professional who deal directly with the retired elderly, specifically those who work with elderly clients in the areas of asset accumulation and estate planning. Specific strategies for convincing the elderly to shift funds from one type of account to another may need to be developed and explored.

The levels of consumption expenditures for some categories seemed to be consistent with different life style expectations for retired elderly households. Age was the main factor negatively influencing the levels of consumption for total consumption and the consumption categories. Education level was the main factor positively related to the level of consumption for the total and consumption categories. Further, household type was also an important factor differentiating the level of several consumption expenditure categories due primarily, perhaps, to differences in household size.

Again, these conclusions may be used as basic knowledge for public policy makers or marketers to understand or to predict changes in various levels of consumption. For example, 1) public policy makers or marketers may understand or predict that the level of consumption expenditures may increase for the total and for specified consumption categories such as food away from home, shelter, health care, reading and education, and alcoholic beverages with general increases in the levels of education of retired elderly households; 2) public policy makers or marketers may also predict or understand negative changes in the levels of consumption for total or for some specific consumption categories with an increase in average age of retired elderly households; 3) further, public policy makers or marketers may understand or predict that the levels of consumption for total or some specific consumption categories may change as single elderly households increase their share of total retired elderly households. This type of information is also important when assessing the impact of demographic trends. According to the statistics of the U. S. Bureau of the Census (1993), as life expectancy of the elderly has increase, the elderly population for the age 85 or older group has dramatically increased. Education levels of the elderly have also increased over time. Further, the number of elderly living alone is on the rise. The cumulative effects of these trends may be of interest to many who wish to look at

their potential demographic and societal impact.

It is recommended for further research that the types of wealth components be divided into four categories as was done in this study. In fact, wealth could be divided into more than four categories based on the different characteristics of wealth components. An important limitation of this study is the cross-sectional nature of the data. The results of this study only provide a picture at one point in time. Thus, the results from this study may differ from year to year, or perhaps decade to decade with changes in demographics, economics, society, and/or politics. A further limitation of this study is that the data is rather old.

## NOTES

1. The fraction of each additional (marginal) dollar in one's wealth components or spent on consumption.
2. Reverse mortgage can be understood to function similar to a credit card. Home owners are allowed to receive money from a bank based on some percentage of the market value of the house and do not need to pay these monies, plus interest, back until they sell their houses or die.
3. A reference person is defined as the first member mentioned by the respondent when asked to "start with the name of the person or one of the persons who owns or rents the home"(US Department of Labor, Bureau of Labor Statistics, 1992, p. 182).

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