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Net Worth Accumulation by Different Quintiles of Older Adults Approaching Retirement Age and 10 Years Later

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The shift in responsibility for income security from the government to individuals makes the accumulation of net worth a vital issue. We investigated the rate of net worth accumulation for people aged 51 to 61 in 1991 (N=7,544) and 61 to 71 in 2001 (N=5,711) using the RAND Health and Retirement Study. We found that the rate of net worth accumulation by the fifth (top) quintile was extremely high in 1991, and the distribution of net worth became more skewed in favor of the wealthy in 2001. Older adults in the first and second quintiles are unable to face the challenge of the shift in responsibility for income security from the government to individuals.

Key words: *Net worth, approaching retirement, income security, rate of accumulation, inequality*

The social policy that is addressed to older adults has changed drastically in recent decades. Succinctly, the message is this: "Income security in old age is largely your responsibility." Such a message is reflected in the 1983 amendments to the Social Security Act that signified the federal government's first explicit policy to promote work among older adults. The amendments increased the normal retirement age from 65 to

67; the age will reach 69 by 2027. The Senior Citizens' Freedom to Work Act of 2000 (P.L. 106-182) eliminated the earnings test for those who retire between ages 65 to 69. Furthermore, the delayed retirement credit has been liberalized over the years. It was 3% per year for those attaining age 65 between 1982-1989 and will reach 8% for those attaining the normal retirement age in 2009.

The other side of this message is this: "Save and invest and accumulate net worth." This message is reflected in employer-supported pension plans: Individual Retirement Accounts (IRAs); Roth IRAs; and, most recently, Health Savings Accounts, all of which are directly or indirectly supported by the federal government. Indeed, accumulating net worth (or wealth) is an important key to enhancing income security because the greater the net worth one has, the greater the income one can draw from assets. In 2004, income from assets constituted 12.6% of the total financial income of people aged 65 and older; for the top quintile, income from assets constituted 17.8% of the total financial income, and for the bottom quintile, 2.3%. These proportions were not trivial; they accounted for about half the proportion of earnings (Social Security Administration, 2004, Tables 7.2 & 7.5).

The importance of accumulating net worth has been accentuated further as the public has come to recognize the increasing financial problem that the federal government is facing in funding social security and Medicare programs. In 2010, it is expected that these programs, taken together, will constitute 5.90% of the U.S. gross domestic project, which is expected to surge to 10.20% in 2050 and 11.22% in 2080 (Board of Trustees, OASDI, 2006a, Table IV.F4, p. 171). As the responsibility for establishing income security shifts from the government to individuals, the challenge and struggles that rich and poor people face will be vastly different. It is anticipated that rich people will face them with relative ease, but poor people will not.

In this study, we focused on the accumulation of net worth among older adults who were approaching retirement age. We estimated the rate of net worth accumulation among these older adults at that time and again 10 years later. Moreover, we investigated the accumulation of net worth among different income classes—the first, second, third, fourth, and fifth (or

top) quintiles. The research questions were as follows:

1. How much assets did those approaching retirement have (in our sample)? How much debt did they have? How much net worth did they have? How did these numbers differ among those who were approaching retirement?
2. Did net worth decline or increase 10 years later?
3. Controlling for other variables, what was the rate of accumulation of net worth among those who were approaching retirement? What were the differential rates of accumulation of net worth in the sample in the different quintiles?
4. Did differential rates of net worth accumulation increase or decrease 10 years later, controlling for other variables?

Investigating the net worth of one cohort of older adults at two points in time enabled us to understand whether the level of net worth could be sustained or even increase as these older adults transitioned from nonretirement ages to retirement ages. Moreover, separate analyses for higher and lower quintiles enabled us to investigate the differences in the rates of accumulation of net worth among higher and lower quintiles of the sample.

Review of the Literature and Conceptual Framework

There is no general theory that guides empirical studies on the accumulation of net worth. Economists follow three concepts in investigating the accumulation of net worth: the life-cycle hypothesis, structural variables, and variables for psychological disposition regarding saving and investing.

The life-cycle hypothesis states that rational individuals accumulate net worth so that when they become older adults, they can ensure a continuous flow of income by spending what they accumulated while they were younger adults (Land & Russell, 1996). In particular, it states that after a worker enters the labor force, his or her earnings and net worth rise and reach a maximum at a certain point and decline thereafter, at which time the accumulated net worth begins to be decreased

by spending or withdrawing savings. This hypothesis implies that the size of net worth depends on which point in the life cycle a person is in (Tin, 1998).

Our study included structural variables in modeling our regressions, in addition to age. These variables enabled us to net out the relationship between income class and net worth accumulation, controlling for other variables. Structural factors included employment status, education, marital status, race, and gender.

Employment provides an opportunity to accumulate net worth through employer-provided pension plans and, therefore, a better chance of generating savings out of ongoing income. Governmental data have shown that the ratio of the net worth of working versus nonworking people is about 3:1 (U.S. Census Bureau, 2001).

Marital status is a strong factor. Even if total net worth is adjusted for family size, married couples accumulate more net worth than do unmarried people, according to Diaz-Gimenez, Quadrini, and Rios-Rull (1997); Ozawa and Lum, (2001); and Ozawa, Lum, and Tseng (1999). Married couples enjoy an economy of scale in daily living expenses, such as housing and child care costs.

Education has proved to be a strong, positive factor that leads to the greater accumulation of net worth. For example, Diaz-Gimenez et al. (1997) indicated that education has a positive impact on "economic performance" in terms of efficient consumption, saving, and investment. Other studies have supported the impact of education on the accumulation of net worth (Bernheim, 1996; Ozawa & Lum, 2001; Ozawa et al., 1999; Sunden & Surette, 1998; Zhong, 1994).

The literature also discusses individual psychological orientations toward saving and investing. Our study did not explicitly deal with this phenomenon, but it is related implicitly to our study because we included some relevant demographic variables. In this sphere, the main concepts that researchers have been concerned with are: (1) precautionary motives in saving,; (2) time preference; and (3) risk aversion (Cagetti, 2003). People with high degrees of precautionary motives save more to protect themselves from unexpected economic shocks—or "rainy days." People who have a high degree of

time preference want to spend money now, rather than later, decreasing the amount of savings they could otherwise have. Finally, some people tend to be more risk averse than others with regard to investment; they tend to invest in safe instruments, such as certificates of deposit or government bonds, instead of stocks and corporate bonds. It is generally known that bonds are safer to invest in than stocks but may bring about less financial awards.

In Gittleman and Wolff's (2004) study on the differences between blacks' and whites' accumulation of net worth, the concepts of risk aversion and time preference were underlying concepts. Gittleman and Wolff related the type of savings portfolio to the concept of risk aversion and the rate of saving to the concept of time preference. Finding that black households had portfolios that were composed of less-risky investments and that their rate of saving was lower than their white counterparts, they reasoned that black households were more risk averse and had a higher time preference. In addition, on the basis of differential savings plans, Kennickell and Shack-Marquez (1992) and Kennickell, Starr-McCluer, and Sunden (1997) indicated that minorities, households headed by women, and more financially underprivileged households are more risk averse than are their counterparts.

In addition, the concept of necessary consumption has been incorporated into studies on the accumulation of net worth (Keister & Moller, 2000). For example, female heads of households with dependents typically do not have any option but to spend money just to meet their current needs, whether or not they have a psychological orientation to save for rainy days (precautionary saving) or want to delay current consumption for future consumption (time preference) or take risks in investing (risk aversion). In reality, all these ideas may be wishful thinking for female heads of households with dependents, because these women have to spend money for their daily survival. The disadvantage of such female-headed households is reflected in Diaz-Gimenez et al.'s (1997) study, which reported that the average net worth of female-headed households with dependents is only 24% of the average net worth of all households. As a result, many of them are located in a lower quintile of older adults.

Furthermore, health status has been recognized as a strong factor that determines the rate of net worth accumulation. Smith and Kington (1997) found that older adults with excellent health had a net worth that was five times as large as that of older adults with poor health. They argued that those with ill health incurred additional expenditures for medical services and could work only limited hours per week, all resulting in a lower rate of net worth accumulation (Lillard & Weiss, 1997; Smith, 1998).

Methodology

Source of Data

We used data from Waves 1 and 5 of the RAND Health and Retirement Study. Data for Wave 1 were collected in 1991, and data for Wave 5 were collected in 2001. To deal with the price change between 1991 and 2001, we multiplied the 1991 figures for income and net worth by 1.30027 (U.S. Census Bureau, 2006, Table 706, p. 482). To adjust income and net worth for household size, we divided income and net worth by the square root of N, that is, we divided these variables by $\sqrt{2}$, which was 1.414, if the person was married. The size of N for our study was 7,544 for Wave 1 and 5,771 for Wave 5. The unit of analysis was individuals.

With regard to our samples in 1991 (Wave 1) and in 2001 (Wave 5), a cautionary note is in order. All those who were interviewed in 2001 were interviewed in 1991, but not all who were interviewed in 1991 were interviewed 2001. The difference in the size of N between these years mostly represented the respondents who died between these years. But, some others lost contact because of changes in addresses. The reason we did not exclude such deceased persons from the data analysis for 1991 was that such a decision would result in the loss of vital information on a considerable number of people. Thus, our study did not treat the data strictly as a panel data. Rather, it simply investigated net worth among a cohort of the sample who were interviewed in Wave 1 and the surviving sample who were interviewed in Wave 5 as well.

Conceptualization and Research Model

On the basis of the foregoing review of the literature, our study included income, marital status, education, work, health status, number of children, age, race, and gender, so that we could estimate the relationship between income and net worth, controlling for other variables. These various constructs guided us to choose these variables as controls. We believe that these variables apply to the older adults in our study. To estimate the degree of elasticity of net worth to income, we logged both net worth and income. The elasticity of net worth represents the ratio of the percent change in net worth to the percent change in income. The degree of elasticity tells us how much net worth changes when income changes. The elasticity of net worth to income enabled us to estimate the relationship between income and net worth, in relative terms, thus making it possible to compare the rate of accumulation of net worth among different quintiles, as well as over time. Elasticity is greater and significant when income is related strongly and significantly to net worth.

Definition of Terms and Variables

Dependent variable: Net worth. Net worth was defined as total assets (both financial and non-financial) minus debts. Financial assets included such items as checking accounts, savings accounts, mutual funds, stocks, bonds, and retirement accounts. Non-financial assets included such items as homes, vehicles, other residential or nonresidential real estate, and business interests. Debts included housing debts, credit card debts, installment loans, and other miscellaneous debts.

Independent variable: Income. Income was defined as before-tax annual income during the year before the year of the survey—1991 and 2001. Logged income was included as the independent variable in the model involving the entire sample and the five other models involving persons in the five quintiles.

Control variables. Age was a continuous variable. Race/ethnicity was dummy coded, with whites assigned to the reference group. Gender was dummy coded, with women assigned to the reference group. Marital status was dummy coded, with

married persons assigned to the reference group. The number of living children was a continuous variable. Education was dummy coded, with high school graduates assigned to the reference group. Current work status was dummy coded, with not working assigned to the reference group. Health status was dummy coded, with very good or excellent health assigned to the reference group

Findings

Characteristics of the Sample

Table 1 indicates that between 1991 and 2001, the composition of the sample changed in three ways. The proportion of college graduates increased from 19.32% to 20.80%, the proportion of those who were widowed increased from 7.60% to 13.73%, and the proportion of those who did not work increased from 33.19% to 63.26%.

The level of income declined from 1991 to 2001 by various degrees, except for the top quintile, whose median income virtually stayed the same between 1991 and 2001, with a 1% decline between these years. With regard to median income, the third quintile suffered the most, with a 20.17% decline in their median income, and the bottom quintile suffered a 10% decline in their median income.

The decline in income was due, in part, to the fact that many persons in the study retired between 1991 and 2001, and a large percentage retired before they reached age 65. Governmental data indicate that the proportion of those who retired before 65 increased from 58% in 1980 to 75% in 2004 for men and 70% in 1980 to 78% in 2004 for women (Social Security Administration, 1981, 2005).

In 1991, the mean income ranged from $8,243 for the first quintile to $110,429 for the fifth quintile. The ratio of the highest to the lowest was 13.4:1. The median income ranged from $8,643 for the first quintile to $86,887 for the fifth quintile. The ratio of the highest to the lowest was 10.05:1.

In 2001, the mean income ranged from $7,374 for the first quintile to $117,669 for the fifth quintile. The ratio of the highest to the lowest was 16.0:1. In that year, the median income ranged from $7,778 for the first quintile to $85,999 for the fifth

Table 1. Characteristics of the Respondents

	Wave 1 (1991) (N = 7,544)	Wave 5 (2001) (N = 5,711)
	Percentage	*Percentage*
Race		
White	79.60	78.89
Black	11.23	10.79
Hispanic	6.81	7.15
Other	2.37	2.17
Gender		
Male	51.03	49.38
Female	48.97	50.62
Marital Status		
Married	69.91	64.83
Separated or divorced	17.80	16.61
Widowed	7.60	13.73
Never married	4.70	4.83
Education		
Less than high school	23.12	21.85
High school grad.	37.24	36.62
Some college	20.32	20.73
College or more	19.32	20.80
Current work status		
Not working	33.19	63.26
Part-time work	9.09	5.97
Full-time work	57.71	30.78
Health Status		
Very good or Excellent	51.94	45.13
Good	26.76	30.39
Poor or Fair	21.30	24.49
	Mean	*Mean*
Age	55.63	65.57
Number of living children	3.12	3.16
Income, by quintile ($)	*Mean*	*Mean*
First	8,243	7,374
Second	22,024	17,958
Third	35,752	29,020
Fourth	52,299	45,463
Fifth	110,429	117,669
	Median	*Median*
First	8,643	7,778
Second	22,105	17,939
Third	35,497	28,336
Fourth	51,489	44,308
Fifth	86,887	85,999

quintile. The ratio of the highest to the lowest was 11.06:1. The increase in the ratio from 1991 to 2001 meant that the shape of income distribution became more unequal during that period.

Descriptive Statistics on Assets, Debt, and Net Worth

Table 2 shows the values of assets, debt, and net worth for the entire sample and for those in the five quintiles. Both in 1991 and 2001, the value of the primary residence dominated. For the entire sample, the primary residence constituted 37.5% in 1991 and 32.78% in 2001, respectively, of the total assets. In either year, for the very rich (the fifth quintile), the primary residence constituted a smaller proportion—30.83% in 1991 and 25.37% in 2001. What distinguished the very rich was that they had a relatively larger proportion of their assets in bonds and bond funds and in business interests. Lower quintiles of the sample had little or no holdings in these areas.

By calculating the changes (positive or negative) in assets, total debt, and net worth from 1991 to 2001, we found that the rate of increase in net worth was consistently high for the higher quintiles (the third, fourth, and fifth). In contrast, the rate of increase in net worth was extremely low for the bottom quintile, which had only a 1.61% increase in their mean net worth and a 17.50% increase in their median net worth. The second quintile had a 40.81% increase in their mean net worth and a 66.91% increase in their median net worth. With regard to the entire sample, their mean net worth increased by 60.26%, and their median net worth increased by 57.55% from 1991 to 2001.

It is noteworthy that the bottom quintile faced declines in many types of holdings, indicated by the minus signs. For example, holdings in stock and mutual funds expanded greatly among all quintiles except for the bottom quintile, which decreased by 46.31% from 1991 to 2001. However, we also found that some types of assets increased across all quintiles. For example, holdings in IRA and Keogh accounts increased tremendously, from 204.68% for the fifth quintile to 308.47% for the third quintile.

The changes in total debt indicated that the very rich had a relatively small rate of increase in total debt—6.34%. In contrast, the bottom quintile had a 20.53% increase in total debt.

Table 3 shows the degree of inequality in net worth among the five quintiles of the sample in 1991 and 2001.

Table 2. Assets, Debt, and Net Worth, in Dollars, by Quintile: 1991 & 2001

1991	All	First	Second	Third	Fourth	Fifth
Financial Assets						
Stock, mutual funds	20,598	7,799	15,644	11,430	17,466	50,494
Checking, saving acct.	13,897	5,932	9,136	11,688	15,561	27,078
CD, gov. saving bonds	7,192	2,323	4,887	6,402	7,833	14,427
Bonds, bond funds	2,872	800	560	1,294	1,548	10,153
All other savings	8,899	2,781	3,735	6,536	8,780	22,613
IRA, Keogh accounts	18,704	4,627	9,223	13,839	20,462	45,217
Non-financial Assets						
Primary residence	89,055	40,773	65,198	77,811	96,378	164,571
Other real estate	32,861	8,937	14,353	21,063	30,528	89,211
Vehicles	13,451	6,381	9,686	12,125	15,960	23,014
Business	29,964	14,082	13,874	13,952	20,852	86,954
Total asset	237,494	94,474	146,297	176,138	235,369	533,732
Debts						
All mortgages	20,814	6,552	11,335	17,163	20,743	48,154
Other home loans	2,604	553	1,027	1,777	3,084	6,555
Other debts	2,489	1,622	2,232	2,255	2,631	3,692
Total debt	25,907	8,727	14,595	21,196	26,458	58,401
Net worth						
Mean	211,587	85,747	131,702	154,943	208,911	475,331
Median	97,460	15,493	62,522	91,944	129,641	255,512
2001	All	First	Second	Third	Fourth	Fifth
Financial Assets						
Stock, mutual funds	55,926	4,187	21,089	42,705	56,143	155,688
Checking, saving acct.	20,781	5,866	13,510	16,337	23,991	44,236
CD, gov. saving bonds	10,892	2,571	7,182	10,683	14,302	19,731
Bonds, bond funds	6,194	148	1,117	3,176	8,808	17,737
All other savings	9,329	1,801	3,382	5,633	12,275	23,575
IRA, Keogh accounts	64,477	18,321	36,125	56,528	73,758	137,766
Non-financial Assets						
Primary residence	120,608	48,973	87,768	114,009	137,489	214,931
Other real estate	38,104	6,362	10,862	16,717	31,450	125,310
Vehicles	14,689	5,162	10,349	15,382	18,012	24,551
Business	26,951	4,722	8,331	16,332	21,775	83,714
Total asset	367,952	98,112	199,714	297,501	398,002	847,240
Debts						
All mortgages	23,514	8,297	10,536	19,233	27,183	52,364
Other home loans	2,117	930	1,730	1,434	2,566	3,924
Other debts	3,243	1,755	1,999	2,629	3,736	6,068
Total debt	28,873	10,982	14,265	23,326	33,484	62,357
Net worth						
Mean	339,079	87,130	185,449	274,175	364,517	784,882
Median	153,546	18,204	104,356	148,231	229,860	450,525

In 1991, the ratio of the median net worth of the fifth quintile of the sample to that of the first quintile was 16.49:1. In that year, the ratio of the median net worth of the entire sample

to that of the first quintile was 6.29:1. In 2001, the ratio of the median net worth of the fifth quintile to that of the first quintile increased to 24.75:1. In that year, the ratio of the median net worth of the entire sample to that of the first quintile was 8.43:1. These numbers indicate that the degree of inequality in net worth holdings increased from 1991 to 2001. The bottom quintile became poorer both in relation to the nation's median and to the top quintile.

Table 3. OLS Regression Analysis of Net Worth (log), 1991 and 2001

	1991			*2001*		
	Coefficient	*t*	R.E. (%)	Coefficient	*t*	R.E. (%)
Intercept	9.518***	57.42		10.469***	48.48	
Age	0.033***	12.41		0.009*	2.38	
Race/ethnicity						
Black	-0.385***	-16.44	-31.95	-0.484***	-16.15	-38.37
Hispanic	-0.268***	-8.70	-23.51	-0.358***	-.904	-30.09
Other	-0.188**	-3.19	-17.14	-0.240**	-3.14	-21.34
(White)						
Male	-0.011	-0.59	-1.09	0.038	1.65	3.87
Marital status						
Separated/divorced	-0.326***	-13.86	-27.82	-0.309***	-9.96	-26.58
Widowed	-0.153***	-4.63	-14.19	-0.171***	-5.06	-15.72
Never married	-0.347***	-8.17	-29.32	-0.372***	-6.85	-31.06
(Married)						
Education						
< high school grad.	-0.201***	-8.72	-18.21	-0.252***	-8.52	-22.28
(High school grad.)						
Some college	0.174***	7.29	19.01	0.177***	5.93	19.36
College or more	0.443***	17.36	55.74	0.488***	15.47	62.91
Current work status						
(Not working)						
Part-time work	-0.022	-0.68	-2.18	-0.098*	-2.10	-9.34
Full-time work	-0.079***	-3.82	-7.60	-0.186***	-7.01	-16.97
Health Status						
(Very good/excellent)						
Good	-0.160***	-7.73	-14.79	-0.230***	-8.98	-20.55
Fair or poor	-0.322***	-13.35	-27.53	-0.446***	-15.48	-35.98
# of living children	-0.030***	-7.30		-0.031***	-5.96	
Income (log)	0.091***	15.57		0.172***	19.59	
N		7,544			5,711	
R^2		0.318			0.398	
F		206.13***			221.12***	

Note: R.E. = relative effect; *<.05; **<.01; ***<.001.

Multivariate Analysis

Ordinary Least Squires (OLS) Regression Analysis of Net Worth, 1991

When the independent variables take the form of dummy variables and the dependent variable is logged, the coefficient needs to be transformed (see Halvorsen & Palmquiest, 1980). Thus, we transformed the coefficient by obtaining an exponent of the coefficient, deducting the value of 1 from the exponent, and multiplying the result by 100. This statistical procedure enabled us to express the coefficient by showing a percentage difference—that is, the "relative effect in percentage." The relative effect was shown after the coefficient in the regression model.

In 1991, the degree of elasticity of net worth to income was 0.091 and was significant ($p < .001$), indicating that when income increased by 10%, net worth increased by 0.91%. The regression results of the other variables were as expected, with the exception of work status. Education was a powerful factor. Those with a college education or higher had a net worth that was 55.74% greater than the net worth of those with a high school education ($p < .001$). The net worth of those with less than a high school education was 18.21% smaller than the net worth of those with a high school education ($p < .001$). Marital status made a significant difference in net worth. Compared with the net worth of married people, the amounts of net worth of those who were separated/divorced, widows/widowers, or never married were all significantly smaller. In particular, those in the never-married sample were the most deprived; their net worth was 29.32% smaller ($p < .001$). Health status mattered as well. Compared with the net worth of persons whose health was either very good or excellent, the net worth of those with fair or poor health was 27.53% smaller ($p < .001$).

The regression results regarding demographic variables were all as expected. Having one more child decreased the net worth by 3% ($p < .001$). An increase in age by one year meant an increase in net worth of 3.3% ($p < .001$). Compared with the net worth of white people, the amounts of net worth of black people, Hispanic people, and others were 31.95%, 23.51%, and 17.14% smaller ($p < .001$, $p < .001$, and $p < .01$, respectively). There were no gender differences in net worth.

The net worth of those who worked full time was significantly smaller than that of those who did not work—not a surprising finding, since older adults with sufficient net worth do not *need* to work. Previous studies reported that wealth was negatively related to employment among older adults (Brown, Coile, & Weisbenner, 2006; Coronado & Perozek, 2003; Farnham & Sevak, 2006; Gustman & Steinmeier, 2002; Imbens, Rubin, & Sacerdote, 2001). For example, Imbens and colleagues (2001) reported that an increase in wealth by $20,000 reduced the probability of labor force participation by about 1.5 percentage points among older men. By examining retirement trends over the period from 1992 to 2002, Farnham and Sevak found that an increase of housing wealth was related to an increase in annual transitions into retirement. A study on the net worth of the non-aged population also reported a similar phenomenon of less net worth among full time workers (Ozawa, Kim, & Joo, 2006).

OLS Regression Analysis of Net Worth, 2001

The degree of elasticity increased from 0.091 in 1991 to 0.172 in 2001. That is, in 2001, an increase in income of 10% meant a 1.72% increase in net worth. All other variables were related to the dependent variables in a similar way as they were in 1991. However, the strength of these variables as predictor variables increased. For example, in 2001, the net worth of those who had fair or poor health was 35.98% smaller than that of those who had very good or excellent health, but in 1991, the difference was only 27.53% smaller. In addition, the net worth of those with a college education or higher was 62.91% larger, but in 1991, the difference was only 55.74%. The racial/ethnic disparity in net worth was larger in 2001 than in 1991.

OLS Regression Analysis of Net Worth, 1991: Five Quintiles

We conducted separate analyses for each quintile. In 1991, the degree of elasticity of net worth to income increased as the quintile progressed, starting with -0.018 ($p < .01$), 0.302 ($p < .01$), 0.486 ($p < .01$), 0.569 ($p < .001$), and 0.870 ($p < .001$), for the first, second, third, fourth, and fifth quintiles, respectively. The negative elasticity for the lowest quintile meant that as income increased, net worth declined. This anomaly reflects the fact

that among the bottom quintile, the sample tended to engage in credit buying as their income increased (Aizcorbe, Kennickell, & Moore, 2003). The most underprivileged among the first quintile could not engage in credit buying because they were ineligible to obtain credit cards. For those in the top quintile, as their income increased by 10%, their net worth increased by 8.70%, indicating a very high rate of net worth accumulation.

Most other variables that were found significant in the regression model for the entire sample were also significant for each quintile of the sample, but there were some differences. Among the lowest quintile, the men had a significantly smaller net worth ($p < .05$) than did the women. Among the second, third, and fifth quintiles, it was not never-married people, but separated or divorced people, who had the smallest net worth. Only among the bottom quintile did never married people have the smallest net worth.

The most important finding from the five separate OLS regression analyses was that as the quintile progressed upward, the strength of other independent variables, such as education and marital status, weakened. Thus, for the higher quintiles of the sample, it was income that largely determined the rate of accumulation of net worth. In contrast, for the bottom quintile of the sample, the accumulation of net worth was related to many variables in addition to income. For example, education and marital status were significant correlates for the bottom quintile, but were relatively weak predictors for the higher quintiles (third, fourth, and fifth quintiles).

OLS Regression Analysis of Net Worth, 2001: Five Quintiles

The regression results of five separate analyses for the 2001 sample indicate that the elasticity of net worth to income greatly increased for the second, third, and fourth quintiles, but declined for the top quintile. For the bottom quintile, it also increased to the extent that the coefficient became positive, albeit not significant. What all this meant is that the rate of accumulation of net worth of the fourth quintile was higher than for the fifth quintile. For the fourth quintile, as income increased by 10%, net worth increased by 8.61%, but for the fifth quintile, as income increased by 10%, net worth increased by 7.09%. In other words, as net worth increased, income did not

increase as fast as net worth.

The strength of all the other predictor variables except age increased in 2001. That is, a good education meant a greater net worth in a more accentuated way; differences in net worth between blacks and Hispanics, on the one hand, and whites, on the other hand, generally became more pronounced from 1991 to 2001. In the meantime, the difference in net worth between whites and blacks and Hispanics disappeared for all the quintiles. That the variable *age* was not significant in the regression analyses in 2001 partly supports the life-cycle hypothesis.

Elasticity of Net Worth to Income at a Glance

Figure 1 depicts the elasticity of net worth to income for each quintile and the entire sample in 1991 and 2001, controlling for other variables. These figures depict, at a glance, differential rates of accumulation of net worth among the five quintiles and the entire sample in 1991 and 2001. The rate of accumulation of net worth among the entire sample, who were all younger than the retirement age (aged 51 to 61), was low. For each 10% increase in income, net worth increased by only 0.91%. In 2001, the rate of accumulation of net worth among the entire sample increased to 1.72%.

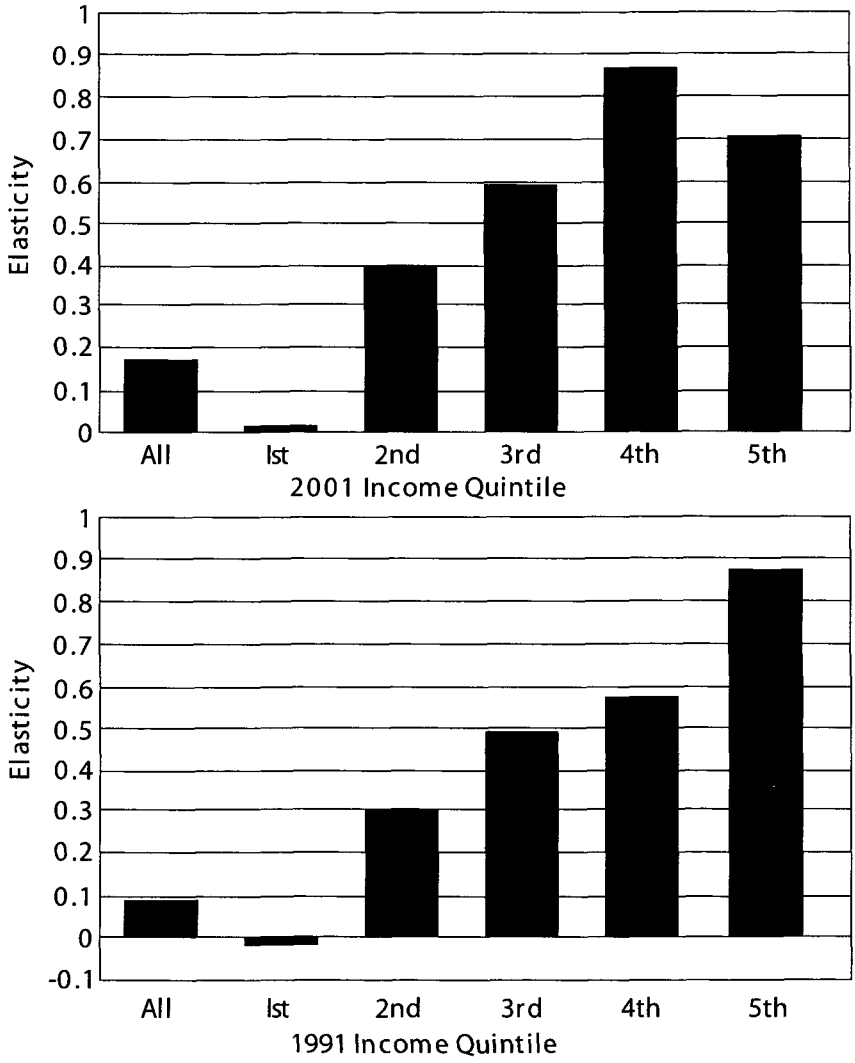
In 1991, the rate of accumulation of net worth among the top quintile dominated that of all the other quintiles by a large margin. In that year, the rate of accumulation surged from 0.569 to 0.870 from the fourth to the fifth quintile. In short, the richer the persons, the greater the rate of accumulation of net worth.

In 2001, the situation changed. In that year, the fourth quintile had the highest rate of net worth accumulation, scoring 0.861. The top quintile had only the second highest rate of accumulation of net worth—0.709.

This change indicates that the relationship between income and net worth became stronger. These figures indicate that the rate of accumulation of net worth increased from 1991 and 2001 for all the quintiles, except the top quintile. Thus, the remaining question is why the rate of net worth accumulation was lower in 2001 than 1991 for the top quintile. This decrease means that the relationship between income and net worth (that is, elasticity) became weaker for the fifth quintile, but stronger for all the

other quintiles. These changes took place in the context of declining incomes for these quintiles and a stable income for the fifth quintile. In other words, for the top quintile, the degree of sensitivity (elasticity) of net worth to income became weaker.

Figure 1. Elasticity between Income and Net Worth, by Quintile of Households, 1991 and 2001



On the basis of these facts, we conclude that the top quintile experienced a healthy increase in net worth in absolute terms during the 10 year period studied. However, the rate of accumulation in net worth in 2001 was lower than in 1991. These findings imply that at a certain point in the life cycle, the rate of net worth accumulation among the top quintile seems to decelerate—indicated by the declining degree of elasticity that was found in this study. It is safe to state that the net worth of the top quintile of older adults keeps increasing in absolute terms, but not as fast as in the other quintiles, as they advance in age.

Discussion and Implications for Social Workers

To recapitulate, this study showed that while the income level of most quintiles declined from 1991 to 2001, the median net worth increased considerably for all the quintiles. For the first quintile, the increase in net worth was small—17.50%. Furthermore, the distribution of net worth among the five quintiles became more unequal. The median net worth of the bottom quintile was 6.1% of the net worth of the top quintile in 1991, but 4.0% in 2001. In real terms, the median net worth of the bottom quintile was only $18,204 in 2001.

Further, this study confirmed the degree of elasticity of net worth to income increased as the quintile progressed, indicating that the richer the person, the greater the rate of accumulation of net worth. The weakest relationship between income and net worth among the bottom quintile suggests that the poorest older adults did not have enough income to accumulate wealth by saving or investing. They also did not have any meaningful returns (i.e., income from financial assets) from their wealth. However, for the upper income quintiles larger amounts of income could be saved or invested, which resulted in better returns on their investments.

These findings signal that this society is becoming increasingly unequal for older adults. Probably, the older adults in the middle and higher quintiles (the third to the fifth quintiles) may be able to face the impact of policy changes with regard to social security, especially if and when the federal government adopts partial privatization of social security. As was argued

elsewhere (Ozawa, 2009), if the carve-out approach was taken in implementing partial privatization of social security, the scope of the intra-cohort redistribution of financial resources would become smaller. That is, under the current system, a sizable amount of social security benefits are internally redistributed to certain groups who are considered financially needy, such as low-wage beneficiaries. Under a shrunken traditional social security system, the degree of internal redistribution will be lower. Thus, low-wage earners will suffer as a result.

The findings of our study may give policy makers second thoughts about following up on the political slogan: "Save and invest and accumulate net worth." Such a slogan may apply to the middle and upper quintiles of people who are approaching retirement age and those who have already retired. However, it seems almost impossible for the bottom quintile of older adults to live up to such a slogan. Further, the lower quintiles would be hit harder than the upper quintiles in the recent economic crisis. Although the upper quintiles had heavy losses in their assets, they most likely survived the economic crisis. However, those in the lowest quintiles were more affected by job loss or reduced hours of work. Thus the bottom quintile encounters more difficulties in net worth accumulation in the recent economic crisis than the upper quintile. Therefore, using more recent data covering the recent economic crisis period would not change the result of this study; the richer the older persons are, the greater the rate of accumulation of net worth.

What can or should policy makers do, given the reality that a large number of older adults have little or no net worth? It seems imperative for the federal government to create a more effective program that is targeted to the lower quintiles of older adults. An important measure that is related to the current study is to reserve the vital role that the social security system is playing for the lowest quintile of older adults—not more privatization.

It is well recognized that social workers are vital witnesses to and protectors of the society. It is essential that they realize that the distribution in net worth is becoming more unequal as older adults advance in age. As a result, income from assets will also become more unequal. Knowing the realities, testifying before Congressional committees should be a part of

their lives. For example, they can testify that the social security system can face the demographic imbalance by extending the payroll tax base to no limit, as Congress did for Medicare Part A. For another example, they can testify that 30% of the cost of financing social security can come from general revenue, as Japan has done.

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