Negative Net Worth and the Life Cycle Hypothesis

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Life cycle theory is applied to determine which households are more likely to have negative net worth. Negative net worth household characteristics are examined using data from the 1992, 1995, 1998, 2001, 2004, and 2007 Survey of Consumer Finances. Logit analysis shows households in survey years 1995 and 2001 are less likely to have negative worth compared to the most recent 2007 survey while young, educated households are also more likely to have negative net worth.
Key Words: *Life cycle hypothesis, net worth, Survey of Consumer Finances.*

1. INTRODUCTION

Is having negative net worth the result of poor financial planning? Often times this is the stigma associated with negative net worth households but little has been done to examine these particular households. Chen and Finke (1996) closely examined the characteristics of negative net worth households to determine if some households are strategically going into negative net worth in accordance with the life cycle hypothesis. Taking students loans to further one's education with the hope that said education will result in greater earned income in the future and thus allow greater asset accumulation over one's lifespan is but one example that may lead to a household having negative worth in the short-term.

The purpose of this paper is to study if household behavior, with regards to negative net worth, behave in a way that is expected based on the life cycle hypothesis. This paper builds off the Chen and Finke (1996) paper by using more recent data and by using a larger combined sample of the Survey of Consumer Finances (SCF) 1992 through 2007 survey years instead of just the 1992 survey year. This research should help financial planners and educators realize that there may be differences between those that choose to have a temporary negative net worth and those who are forced into negative net worth due to lack of finances or poor financial planning.

2. LITERATURE REVIEW
2.1 LIFE CYCLE THEORY

The life cycle model of consumption theory first presented by Modigliani & Brumberg (1954) provides the basic economic framework in which to examine financial management that is designed to promote consumption smoothing. The life cycle hypothesis proposes that households maximize their utility by smoothing the marginal utility gained from consumption over a lifetime. The allocation of resources over time to minimize disruptions to a lifestyle standard is the primary issue. Money put into investments/savings can help smooth marginal utility by deferring financial resources to some period in the future where consumption levels

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would have been hindered without this savings. Thus in periods of lower resources, a household may use debt or savings to maintain a level of living standard to smooth the marginal utility of consumption. The tradeoff is that they forego future consumption by consuming more in the present.

Most households go through a similar pattern that is captured in the life cycle hypothesis. As households age, income usually increases, with the surplus income contributing to net worth that often peaks at the point just prior to retirement. Younger households often will have negative net worth that may extend into middle adulthood. Expenses involved in education, starting and raising a family, and home ownership are financial burdens that many young households face at a point in the earning cycle that is suboptimal which may lead to negative net worth. Hanna, Fan, and Chang (1995) found that if a household's real income is expected to increase over time, rational households might spend more than they earn. Young, educated, households most likely fit into this category. If a household meets these criteria near the beginning of the life cycle, it seems logical to think these households may then go into negative net worth.

Yuh and Hanna (2010) reported a test of life cycle hypotheses related to saving, and found that more educated households were more likely to save than less educated households at the same level of income and net worth. While many of their results were consistent with hypotheses based on a life cycle model, some of their findings were not, most notably the future income expectations, as those who expected decreases in real income were less likely to report spending less than income than those who expected increases. They also found that the likelihood of saving increased with net worth.

2.2 EMPIRICAL RESEARCH ON NET WORTH AND THE LIFE CYCLE HYPOTHESIS

Chen and Finke (1996), using the 1992 SCF, found 220 households out of the 3906 household sample had a negative net worth. They organized their variables into four categories: Socio-demographic, household financial status, expectations and risk tolerance, and wealth transfers. Multivariate logistic regression was used in their study by running three different logits.   The first logit was conducted with only age and age squared. This was done because the life cycle hypothesis tells us that age will dominate the likelihood of having a negative net worth. The second logit added two educational attainment variables and the two age and education interaction variables. The third logit was conducted on the full model. They found both age and age squared were significant in model 1. In model 2 age, high school, and the interaction variable age*college was significant. In the full model, high school, age*college, the race/ethnicity variable "others," income, full-time job status, homeownership, and both inheritance and expected inheritance to be significant.

2.3 HYPOTHESES

1.   Young, educated households are more likely to have negative net worth compared to older and younger less educated households. This is expected as younger, educated households are more likely to have student loan debt and because they were in college they delayed their entrance into the labor market further exacerbating their net worth situation.

2.	Households that expect real income growth are more likely to have negative net worth. These households may well choose to go into debt knowing that in the future they will have the income to better pay down their debt.

3.	Households that expect to receive an inheritance or a substantial asset transfer in the future are more likely to have a negative net worth. The justification for this hypothesis is the same as for those who expect higher real incomes in the future. Past and current consumption that led to debt can be offset by the future inheritance or significant asset transfer.

3. DATA AND METHODOLOGY
3.1 DATA SET

The sample used in this study is the combined SCF sample data from 1992, 1995, 1998, 2001, 2004, and 2007. The total sample contains 25,889 households, 1508 of which have a negative net worth.   The SCF has detailed financial information of households ranging from liquid assets, retirement account balances, and liabilities. The SCF oversamples wealthier households so weight variables were used to better represent the average U.S. household. The weighted sample of U.S. households with a negative net worth is 7.32%, very similar to Chen and Finke's (1996) report of 7.5%.

3.2 MEASUREMENT OF VARIABLES
3.2.1 DEPENDENT VARIABLE

The dependent variable in this study is households with negative net worth. Households with net worth less than zero were coded one and households with net worth greater than or equal to zero were coded zero. Net worth was calculated by subtracting the total of all household liabilities from household financial and nonfinancial assets.

3.2.2 INDEPENDENT VARIABLES

This study follows the same variable categorization Chen and Finke (1996) used (socio-demographic, household financial status, expectations and risk tolerance, and wealth transfers) but made some changes in the variables.

Socio-Demographic

These variables consist of age, education, race/ethnicity, marital status, and household size. Age and age squared are continuous variables in the multivariate regression while age is presented as categorical dummy variables in the descriptive analyses. Education is measured by the highest attained education level of the household for a married or coupled household. For single households, it is simply the education attainment of the householder. Chen and Finke (1996) divided education into three categorizations-less than high school, high school degree, and college degree. There is a significant portion of the American population that starts college but does not graduate. The USA Today in 2009 published an article stating that only 53% of college students graduate in six years. The majority of students who do not graduate in six years fail to graduate. This may be a significant enough population size to warrant its own category. Therefore education will be divided into four dummy variables-less than high school, high school, some college, and college.   Race/ethnicity is coded into four dummy variables based upon the respondent: White, Black, Hispanic, and Asian/Other.   Marital status in the Chen and Finke (1996) study only looked at married and non-married households. This study examines

married households, partnered households that represent those living together in a committed relationship yet unmarried, and single female and single male households further divided by divorced, never married, and widow/widower. The sex variable of male and female was eliminated because it is hard to decipher who is making the financial decisions that may lead a household into negative net worth in a coupled household.

Four age and educational attainment interaction variables were created to examine the joint effect of age and education on negative net worth. Two of these interaction variables are the same used in the Chen and Finke (1996) study and measure the interactions between age and college (age*college) and age and high school (age*high school). Age and some college (age*some college) and age and then less than a high school degree (age* less than high school) are also examined.

Household Financial Status variables

These variables consist of similar variables used in Chen and Finke (1996) except the full-time job status measurement is not available for public use in the recent SCF so that variable will be excluded. Variables include income, self-employed, and homeownership.

Income is the value of total household income prior to taxes and other deductions. For the multivariate logit regressions, income is transformed into the natural log of household income. Self-employed is measured as a dummy variable and coded one if self-employed, zero otherwise. A dummy variable is created for homeownership based upon how they answer the question if they own any part of their housing unit.

Expectation and Risk Tolerance

The Expectation variable is based on the respondent's answers on the expectation of future income. Future income is coded 1 if the household expects their income to increase greater than prices over the next year and zero otherwise. Risk tolerance is divided into four dummy variables-substantial risk, above average risk, average risk, and no risk. Substantial risk means the respondent is willing to take substantial financial risks in order to earn substantial returns while no risk would indicate a household that is unwilling to take any financial risk. Above average and average risk follow the same risk/return pattern as the substantial risk category.

Wealth Transfer

This category is measured by two dummy variables to measure wealth that has already been transferred or is planned to be transferred. Inheritance is coded one if the household has received substantial assets or an inheritance, coded zero otherwise. Expected inheritance is coded one if the household expects to receive a substantial inheritance or transfer of assets in the future, coded zero otherwise.

3.3 ANALYSIS

Means and frequencies are presented to show demographic characteristics of the two sub-samples separated by negative net worth and non-negative net worth. A household balance sheet was created to examine the composition of assets and liabilities between those households with negative and non-negative net worth. The values in the balance sheet represent the weighted average of the households in each category.

Multivariate logistic regression was used to examine the negative net worth determinants. Results for the estimated probability of having negative net worth generated from the whole

sample. The first logistic regression was conducted with only two variables, age and age squared. Age is expected to be a dominant factor when predicting net worth with regards to the life cycle hypothesis. Therefore, this first regression is done to see what explanation age in fact does have. The second logit adds the age and education interaction variables as well as the education variables. Educational attainment is closely associated with future income patterns, so these were included to examine how future income streams may impact having a negative net worth. The third and final logit was performed on the full model and included all variables mentioned in 3.2.2. The analyses were averaged all five implicates in the SCF data for each survey. For more information in the implicate structure, see Montalto and Sung (1996). Because the RII procedure was not used, the significance levels in the logistic regressions might be slightly higher than the levels that would be obtained with RII (Lindamood, Hanna, and Bi, 2007), but the most of the primary effects of interest were all highly significant, so our interpretation would not change with RII.

4. RESULTS
4.1 DESCRIPTIVE ANALYSES

Table 1 presents the demographic and sample characteristics of households separated by negative and non-negative net worth. There were 25,889 households in the sample, 1508 of which had negative net worth and 24381 with non-negative net worth. Not indicated in the table but out of the non-negative households, 2.44% had zero net worth. The percent of households with negative net worth is pretty stable across the survey years, reaching a peak of 7.78% in the most recent 2007 survey year and a low of 6.84% in the 2001 survey year. Combining all survey years, 7.32% of households had a negative net worth.

(Insert Table 1 about here)

The mean and median income for negative net worth households was $31,629 and $26,454 respectively while it was $74,960 and $48,455 for households with non-negative net worth. Median net worth for negative and non-negative households was -$6,283 and $109,948 respectively.

A sizeable percent, 21.33, of households age 20-29 have negative net worth while older households, those over the age of 69, are less likely to have negative net worth (1.67%). There is little variation across education.

There appears to be a difference between the percent of married households relative to those that are partnered or single. Only 4.22% of married households have negative net worth while 12.50% of partnered and 10.75% of single females and 9.56% of single males have negative net worth. Fewer percent of white households (6.08) have negative net worth compared to Black (12.67), Hispanic (10.46) and Asian/other (7.52).

There is seemingly no difference between household size for those that have negative net worth (2.31) and non-negative net worth (2.41). Meanwhile, only 1.63% of homeowners have negative net worth while 18.76% of those who do not own a home have negative net worth.

Table 2 shows the average household balance sheet separated into negative and non-negative net worth households in both dollar amounts and percentages. Households with non-negative net worth have assets nearly 20 times greater than households with negative net worth -- $512,210 versus $26,170. Negative net worth households have very little in terms of financial assets ($3,576), most of their assets consist the non-financial assets ($22,594) consisting of their house ($14,329) and vehicles ($7,101). While non-negative households too have more of their

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assets in non-financial assets ($322,815) they are more balanced with $189,395 in financial assets.

(Insert Table 2 about here)

While the average negative net worth household had considerably fewer assets than households with non-negative net worth, they held 59% as much debt --$40,876 versus $69,791. Compared to households with non-negative net worth, negative net worth households have higher balances in education loans ($10,957 versus $1,290), other installment loans ($9,028 versus $5,526), and credit card debts ($4,267 versus $2,168) in both nominal figures as well as percentage of total liabilities.

4.2 MULTIVARIATE ANALYSES

Results of the three logistic analyses on the determinants of negative net worth are presented in Tables 3, 4, and 5.

Table 3 shows Model 1, which included only age and age squared.   The purpose of this model was to show the impact age alone has on predicting negative net worth. In this model, both variables are significant. This indicates that younger households are more likely to have a negative net worth and that this likelihood is downward sloping until the likelihood flattens out at age 84.

(Insert Table 3 about here)

Table 4 shows the results of Model 2 which included Model 1 in addition to education and the age and education interaction variables.   The education variables some college and college are statistically significant in this model. Interestingly, households with more education are more likely to have negative net worth relative to a household without a high school degree. Households with a high school degree were not significantly different than households without a high school degree. While Chen and Finke (1996) did not examine households with some college, they too found that households with a head with a college degree were more likely to have negative net worth relative to households with less education.

Age, again, is significant and negative indicating the likelihood of having negative net worth decreases with age. This is complicated with the interaction effects. The interaction effect between age and education is stronger for those households that are higher educated and weaker for those that are less educated.   Similar to Chen and Finke's (1996) study, the interaction variable that includes age by college degree is significant although all the interaction variables are significant in our Model 3. Thus, while college educated households are more likely to have negative net worth, this trend reverses when examining older households. Older households with college degrees, some college but no degree, and high school degrees are less likely to have negative net worth compared to similar households with no high school degree.

(Insert Table 4 about here)

Table 5 shows the results of Model 3, the full model for this study. Possibly the most interesting result is that there is a significant timespan difference across the survey years that cover nearly two decades of data. Relative to the 2007 survey year, households in every survey year were less likely to have negative net worth; however only the 1995 and 2001 survey years were statistically significantly different.   Higher income households are also less likely to have negative net worth.

At the mean values of other variables, under age 35, those with less than high school are the least likely to have negative net worth, and from age 35 to 44, those with a high school degree are the least likely to have negative net worth. From age 45 on, those with a bachelor's

degree or more are the least likely to have negative net worth. Therefore, the general pattern reported by Chen and Finke (1996) is confirmed for our combined sample.

Unlike in Chen and Finke's (1996) study, this study finds self-employment to be statistically significant. Specifically, households that are self-employed are less likely to have negative net worth.   Both households that have received and expect to receive an inheritance are less likely to have negative net worth relative to households that have not or do not expect to receive an inheritance.   Households that expect a decrease in real purchasing power over the next year are more likely to have negative net worth. Similar to Chen and Finke's (1996) findings, differences in risk tolerance, relative to those with average risk tolerance, are not statistically more or less likely to have negative net worth.

(Insert Table 5 about here)

Out of the eight marital categories created, only divorced females and never married females had any statistically significant difference. Both of these households are more likely to have negative net worth compared to married households.

Chen and Finke (1996) found differences among race/ethnicity groups, and we found that Black households are more likely to have negative net worth compared to Hispanic households while there are no significant differences for white and Asian/other households. Similar to the descriptive analysis, renters are much more likely to have negative net worth than home owners while household size does not appear to predict the likelihood of a household having negative net worth.

5. CONCLUSIONS AND IMPLICATIONS

Many of these findings are consistent with the life cycle hypothesis as well and can be logically explained. The most logical explanation for why college educated households are more likely to have negative net worth may be because these households stay in school longer, delaying their entry into the labor market while simultaneously acquire student debt with the expectation of higher earnings in the future. The combination of these two factors likely contributes to college educated households being more likely to have negative net worth. It is important to note that concluding that college educated households are more likely to have negative net worth is not the same as stating that college educated households have a lower net worth than those with less education. The interaction effects of age and education are also consistent with the life cycle hypothesis as older, highly educated households are less likely to have negative net worth compared to younger, less educated households. As indicated in Table 2, negative net worth households have a much higher percent of their assets tied up in necessities such as housing and transportation compared to non-negative net worth households, 81.9% vs. 33.6%. While on the liability side, education and installment debt represents 48.9% of total debts for negative net worth households while it represents only 9.7% for non-negative net worth households.   Consistent with the life cycle hypotheses for younger households, these numbers indicate households with negative net worth are using debt to finance living necessities and education.

Self-employed households may be less likely to have negative net worth due to the fact that most self-employed individuals must have a reasonable balance statement in order to get small business loans from a lender, especially in the current financial environment.

Homeowners being less likely to have negative net worth compared to renters is consistent with literature stating that households that own homes have higher net worth and may

indicate financial security. It will be interesting to see if this changes when the 2010 and 2013 survey years are added.

Perhaps the reason divorced females and are more likely to have negative net worth relative to married households while other marital categories are not significantly different may be because this particular group is correlated with household size as most divorced females have the responsibility of raising the children, if present, which can put a significant strain on finances.

Other findings are not as easily explained. It seems logical according to the life cycle hypothesis that households who have received a significant inheritance would have non-negative net worth. However, one might expect a household who expects a substantial inheritance in the future to have a negative net worth and live beyond one's current means knowing a financial windfall awaits them. Unfortunately, we are unaware when a household expects to receive this inheritance.   A household expecting an inheritance in the near future may act much differently than a household who expects to receive these inheritance decades from now. Also, a household may be uncertain about the exact amount they may receive in the inheritance, thus not allowing them to plan accordingly.

One of the hypotheses for this paper is that young households who expect a real income growth in the future are more likely to have negative net worth. One limitation to the variable "expect real income growth" is that it is only asking a household to make this determination over the next year. One year is not a significant time horizon to prove or disprove this hypothesis. Second, an interaction term involving age which would help prove or disprove this hypothesis was not examined. Instead, the age by education may act as a proxy for this if households with college degrees expect real income growth over their career.

Results indicate that risk tolerance did not impact the probability of having negative net worth. This is not the intuitive result one would expect. We would expect that a more risk averse household would be more likely to go into debt, as a difficult financial situation could result if cash flow were to be interrupted or change for the worse. The risk tolerance question may be a poor proxy for a households actual risk tolerance levels.

It is not entirely clear why Black households differ from Hispanic households when it comes to negative net worth, but not white and Asian/other households. The result provides some additional evidence to the conclusion of Lee and Hanna (2012) that Black and Hispanic households should not be assumed to be similar because of similar socioeconomic characteristics. The way financial assets are taken into account in the SCF and the traditional measurement for net worth, which would not include things such as friends and family helping out in time of need, is often characterized as an asset for Hispanic households. However, to make that hypothesis, we would have expected to see meaningful differences from the regression results for all race/ethnicity categories.

Households were less likely to have negative net worth in 2001 and 1995 relative to 2007. Stock market fluctuations may represent some of this cause, although as indicated in Table 2, the average household with negative net worth has very little in investment assets. Further, there was nothing out of the ordinary in market returns between the 2004 and 2007 survey year to validate this as a reason. National household savings rates were lower in 2007 than the other surveys but that doesn't explain why only 2 survey years are significantly different. Housing equity in the U.S. began decreasing between the 2004 and 2007 survey year which could explain why more households had negative net worth in the 2007 survey year than the other years.

These results indicate that the life cycle model does a reasonable job of explaining household debt behavior and the results in this study are fairly consistent with Chen and Finke (1996). As Yuh and Hanna (2010) found, there are a few exceptions in terms of empirical support for the life cycle model. More detailed information on expected future income, risk tolerance, and current and future consumption would help explain some of the gaps in the current study in regards to the life cycle hypothesis.

Financial counselors, planners, and educators should be aware that young, highly educated households may rationally choose to go into negative net worth. Many of these households have gone into debt to finance their education in order to increase their future income.   Typically, going into negative net worth is seen as poor financial planning and not part of a logical strategy. This assumption may be incorrect when financing higher education. There is a difference between households who strategically choose to go into negative net worth and households who are forced to go into negative net worth.   This stated, households need to take into consideration the different interest rates, terms and payback period on student loans as well as expected future income. Not all degrees equate into the same income, but may require the same loan.

Future research will include the 2010 SCF data which will be interesting as many households will have experienced dramatic changes in their net worth due to the recent down turn in the financial markets and employment rates.

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Table 1: Characteristics of Households with and without Negative Net Worth		
Variable	HH with NW <0	HH with NW >=0
Survey Year		
1992 (%)	7.13	92.87
1995 (%)	7.06	92.94
1998 (%)	7.97	92.03
2001 (%)	6.84	93.16
2004 (%)	7.14	92.86
2007 (%)	7.78	92.22
Total (%)	7.32	92.68
Age		
Age<30 (%)	21.33	78.63
Age 30-39 (%)	10.65	89.35
Age 40-49 (%)	5.04	94.96
Age 50-59 (%)	3.62	96.38
Age 60-69 (%)	2.39	97.61
Age 70 & Over (%)	1.67	98.33
Education		
Ed. <H.S. (%)	7.60	92.40
H.S. Degree (%)	6.39	93.6
Some College (%)	9.94	90.06
College (%)	6.62	93.38
Marital Status		
Married (%)	4.22	95.78
Partner (%)	12.50	87.50
Single (%)	10.34	89.66
Female	10.75	89.25
Male	9.56	90.44
Divorced		
Female	11.03	88.97
Male	7.59	92.41
Widowed		
Female	2.96	97.04
Male	1.81	98.19
Never Married		
Female	18.48	81.57
Male	13.64	86.36
Race/Ethnicity		
White (%)	6.08	93.92
Black (%)	12.67	87.33
Hispanic (%)	10.46	89.54
Other (%)	7.52	92.48
Mean Household Size	2.31	2.41

Table 1: Characteristics of Households with and without Negative Net Worth		
Variable	HH with NW <0	HH with NW >=0
Own Home (%)	1.63	98.37
Not Homeowners (%)	18.76	81.24
Income and NW		
Mean Income (1000 $)	31.63	74.96
Median Income (1000 $)	26.45	46.25
Mean NW (1000 $)	-14.71	442.42
Median NW (1000 $)	-6.24	109.95
Sample Size	1508	24381
*All results, except sample size, are weighted to represent the population of U.S. households.		

Table 2: Household Balance Sheet of Households With a Negative Net Worth and Households with a Non- Negative Net Worth

	Households With Negative Net Worth		Households With Non-Negative Net Worth	
	Amount ($)	%	Amount ($)	%
Assets				
Financial Assets	*3,576*	*13.7*	*189,395*	*37.0*
Liquid Assets	1,323	5.1	23,746	4.6
Certificates of Deposit	90	0.3	8,228	1.6
Retirement Funds	1,171	4.5	57,269	11.2
Stocks	171	0.7	36,084	7.0
Mutual Funds	128	0.5	25,048	4.9
Bonds	10	0.0	9,717	1.9
Savings Bonds	65	0.2	1,351	0.3
Cash Value of Life Insurance	347	1.3	9,156	1.8
Other financial Assets	271	1.0	18,796	3.7
Non-Financial Assets	*22,594*	*86.3*	*322,815*	*63.0*
Vehicle	7,101	27.1	17,523	3.4
Houses	14,329	54.8	154,490	30.2
Real Estate	763	2.9	30,550	6.0
Non Residential Real Estate	0	0.0	23,986	4.7
Business Assets	313	1.2	90,277	17.6
Other Nonfinancial Assets	88	0.3	5,989	1.2
Total Assets	*26,170*	*100.0*	*512,210*	*100.0*

Table 2: Household Balance Sheet of Households With a Negative Net Worth and Households with a Non- Negative Net Worth

	Households With Negative Net Worth		Households With Non-Negative Net Worth	
Liabilities				
Housing Debt	13,116	32.1%	52,885	75.8%
Real estate Debt	985	2.4%	6,154	8.8%
Credit card Debt	4,267	10.4%	2,168	3.1%
Education Loans	10,957	26.8%	1,290	1.8%
Other Installment Loans	9,028	22.1%	5,526	7.9%
Other Debts	2,275	5.6%	1,386	2.0%
Other Lines of Credit	248	0.6%	382	0.5%
Total Liabilities	*40,876*	*100.0%*	*69,791*	*100.0%*
Net Worth	-14,706*		442,419*	

*Net Worth totals are slightly different than in Table 1 due to rounding errors. ** Results represent the average balances, weighted to represent the population of U.S. households.

Table 3: Model 1 Logit				
Variable	Coefficient	Standard Error	Sig.	Odds Ratio
Intercept	1.9764	0.2496	<.0001	
Age	-.1546	0.0122	<.0001	.857
Age^2	.000917	0.000136	<.0001	1.001
Percent Concordant 69.1				

Table 4: Model 2 Logit				
Parameter	Coefficient	Standard Error	Sig.	Odds Ratio
Intercept	-.1655	.3646	.6499	
Age	-.0620	.0152	<.0001	.940
Age^2	.000278	.000151	.0646	1.00
Education (Reference Category=No High School Degree)				
High School	.4084	.2509	.1035	1.504
Some College	1.4254	.2727	<.0001	4.160
College	2.4980	.2807	<.0001	12.159
Age and Education Interaction Variable (Reference Category=Age*No High School)				
Age* High School	-.0208	.00579	<.0003	.979
Age*Some College	-.0393	.00664	<.0001	.961
Age*College	-.0844	.00710	<.0001	.919
Percent Concordant 77.4				

Table 5: Model 3- Full Model Logit				
Parameter	Coefficient	Standard Error	Sig	Odds Ratio
Intercept	-2.8372	0.4426	<.0001	
Year of Survey (Reference Category=2007)				
Year 1992	-0.2054	0.1123	0.0672	0.814
Year 1995	-0.2747	0.1021	0.0071	0.760
Year 1998	-0.1329	0.0986	0.1778	0.876
Year 2001	-0.2482	0.1003	0.0134	0.780
Year 2004	-0.0945	0.0985	0.3374	0.910
Age and Education Interaction Variable (Reference Category=Age*No High School)				
Age*High School	-0.0150	0.00607	0.0133	0.985
Age*Some college	-0.0282	0.00690	<.0001	0.942
Age*College	-0.0600	0.00725	<.0001	0.972
Self Employed	-0.7381	0.2296	0.0013	0.478
Received Inheritance	-0.5939	0.1094	<.0001	0.552
Inheritance Expected	-0.3454	0.0907	0.0001	0.708
Real Income Expectation (Reference Category=No Change)				
Increase	0.0450	0.0771	0.5598	1.046
Decrease	0.3351	0.0766	<.0001	1.398
Risk Tolerance (Reference Category=Average Risk)				
No Risk	0.1213	0.0706	0.0858	1.129
Above Average Risk	-0.1238	0.0931	0.1835	0.884
Substantial Risk	-0.0509	0.1406	0.7174	0.950
Log of Income	-0.0691	0.0145	<.0001	0.933
Age	-0.00785	0.0162	0.6288	0.992
Age^2	-0.00014	0.000165	0.4082	1.000

Table 5: Model 3- Full Model Logit				
Parameter	Coefficient	Standard Error	Sig	Odds Ratio
Education (Reference Category=No High School)				
High School	0.5134	0.2659	0.0536	1.671
Some College	1.4489	0.2897	<.0001	4.258
College	2.5538	0.2975	<.0001	12.856
Marital Status (Reference Category=Married)				
Partnered Household	0.1905	0.1068	0.0744	1.210
Divorced Male	0.0641	0.1474	0.6638	1.066
Divorced Female	0.4590	0.1013	<.0001	1.583
Widow Male	-0.2091	0.4107	0.6106	0.811
Widow Female	0.0969	0.2016	0.6308	1.102
Never Married Male	-0.1040	0.1319	0.4302	0.901
Never Married Female	0.2136	0.1071	0.0462	1.238
Race/Ethnicity (Reference Category=Hispanic)				
White	0.1613	0.1025	0.1157	1.175
Black	0.2560	0.1133	0.0238	1.292
Asian and Other	-0.1522	0.1768	0.3890	0.859
Household Size (Reference Category=HH size of 2)				
Household Size of 1	0.0286	0.0960	0.7658	1.029
Household Size of >2	-.00215	.0768	.9776	0.998
Renter	2.2112	.0884	<.0001	9.127
Percent Concordant 88.0				