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Health Shocks, Insurance Status and Net Worth: Intra- and Inter-Generational Effects

Dalton Conley*

NYU & NBER

Jason Thompson

NYU

*Correspondence should be directed to Dalton Conley: 6 Washington Square North, Room 20;

New York, NY 10003. conley@nyu.edu

Abstract

An extensive literature has documented a robust correlation between socioeconomic status—measured in a variety of way—and health outcomes; however, much uncertainty remains regarding what causal processes underlie this association. The present paper builds on a growing literature that seeks to better document how and why wealth and SES are related. Specifically, we ask the extent to which health shocks affect net worth—a less-studied dimension of socioeconomic status. Given a lack of instruments that meet the exclusion restriction, we use data from the Panel Study of Income Dynamics to pursue a first-differences identification strategy. We estimate a parameter for acute illnesses (which should have a causal effect on wave-to-wave wealth changes) and compare this coefficient to a counterfactual parameter for the presence of chronic illnesses (which we argue should be less causally related to wealth differences year-to-year). Additionally, we interact these health indicators with insurance status as a further test that the health-wealth relationship is likely causal net of covariates. Results show that a loss of health insurance has a negative effect on family wealth levels and that this is exacerbated when it occurs simultaneously with an acute illness. And experiencing a loss of health insurance at the same time as an acute illness increases the likelihood of white families falling into the “red” (negative net worth) by 10 percent, though analysis of bankruptcy declaration shows no significant effects. In intergenerational models, parental health insurance status also seems to matter. However, results are confusing: When parents have no health insurance and suffer from acute illness, the net worth of their offspring actually increases. But when they suffer from chronic illness and have no health insurance, adult children’s net worth declines. These may be statistical artifacts of the first-difference approach or they may reflect a “relief” of financial burden when acute illness strikes aging parents and leads to death.

Introduction

While health-SES gradients have been established across time and place, a robust debate continues as to the causal directionality (and mechanisms) that generate the observed association. Many researchers have shown independent effects of socioeconomic variables on health status—measured in a variety of ways. For example, Strully (2008) shows that “exogenous” (i.e. no-fault) job loss increases likelihood of acute illness (while not affecting incidence of chronic conditions). Lleras-Muney (2005), meanwhile, deployed changes in state compulsory schooling laws during the early 20th Century to estimate the impact of additional (high school) years of schooling on mortality. She finds that each additional year of formal education extends life expectancy by 10 percent (a figure that is actually higher than most OLS estimates, a fact attributed to the fact that she was estimating a LATE for secondary schooling, where effects may be strongest). However, other researchers have found evidence for a more complicated relationship between SES and health. For example, Ruhm et al. (2005) found that for males ages 18 to 35, mortality was countercyclical; likewise, Evans and Snyder (2006) used the discontinuity of the social security “notch” to show that additional income *reduced* the life expectancy of those aged 65 and above. The mechanism appears to be that higher pension income leads to greater withdrawal from the labor market—which itself is detrimental to health and longevity.

Meanwhile, some researchers have established that health status can affect SES. For example, Conley and Bennett (2000; also see Conley, Strully and Bennett 2003) show that while maternal income does not significantly impact a child’s birth weight, the birth weight of the child does indeed predict test scores and educational attainment. Further analyses posit connections between general childhood health and childhood obesity with diminished educational attainment

(Rappaport and Robbins 2005; Jackson 2009). Additionally, Averett and Korenman (1996) and Conley and Glauber (2006) argue that—for white women, at least—overweight or obese status depresses income (largely through its effects in the marriage market).

The above mentioned examples deal with education, employment and income. However, net worth has also been shown to be an important component of socioeconomic status—particularly with respect to race differences (Oliver and Shapiro 1995; Conley 1999) and in regards to the transmission of educational advantage to offspring (Conley 2004). Yet, net worth has been understudied in the health-SES literature. Meer, Miller and Rosen (2003) instruments wealth using inheritance (under the assumption that its timing is fairly random and therefore families do not smooth consumption in anticipation of receiving it) and finds no relationship between wealth and subjective health. Yeung and Conley (2008) show an association between family wealth and children’s math test scores net of a host of covariates, but this, too, fails to survive instrumentation using the same inheritance strategy. However, to the extent that receiving inheritance implies the recent death of a beloved kin or friend, it is a less than ideal instrument. Namely, bereavement has been shown to be just the kind of stress that negatively affects health. That is, by depressing health status directly, death-associated inheritance violates the exclusion restriction and leads to attenuation bias. So it is not surprising that Miller and Yeung and Conley, respectively, cannot find significant effects using such a strategy.

Given the lack of wealth instruments that do not violate the exclusion restriction (and conversely, the lack of health instruments that do not have direct effects on wealth accumulation), in the present paper we pursue a different strategy to try to estimate the relationship between health and wealth. Namely, we look at year-to-year wealth changes using a first-difference approach. In this framework we particularly focus on the estimated coefficients

for “acute” and “chronic” illness. Since we use a first-difference model, these parameters are identified by years in which there was a change in health status from the previous wave. In other words, when an acute illness strikes, we expect that to negatively influence net-worth during that same period (conditional on insurance status); and conversely, when an acute condition ameliorates, we expect an increase in net worth for that given period. The persistence of (or coincidental sequential arrival of) an acute condition across two or more waves would only contribute to the estimated parameter for the waves in which it first appears and the wave in which it relents. Of course, we will be controlling for the presence or absence (i.e. the change from the previous wave) in chronic conditions as well. We expect that chronic conditions—even in a first difference model—are more likely to be endogenously associated with net worth given that such conditions tend to develop and present over a long period of time and thus provide a counterfactual. Likewise, for those with health insurance, we do not expect that the shock of acute illness should result in a substantial non-spurious effect on net-worth (though, of course, a serious illness or injury may require payments over and above insurance coverage depending on the quality of the policy and the nature of the health shock) and/or require families to draw down savings in the case of extended labor market absence.

Data and Methods

The Panel Study of Income Dynamics (PSID) originated in 1968 with a nationally representative sample of 5,000 American families. The survey follows each family every year to track economic (and health) data. As individuals move out of a family unit to start their own families, the PSID adds the newly-formed unit to the sample. The latest release of data collected in 2007 provides information on over 8,000 families in the United States. As the longest-running

longitudinal study on family and individual dynamics, the study design is much too complex to detail in full in what little space we have. (Please see Hill (1992) or Duncan and Hill (1989) for fuller descriptions.) Regardless, the study complexity provides us with the ability to follow the family economic and health histories of children born into sample families and the families formed as those children reach an age to form their own family units.

To examine the role of health in intra- and intergenerational wealth volatility we form two separate samples from the data provided in the PSID. First, due to the collection years for the data on family wealth, we truncate both of our samples to include all of the waves in the study which note wealth levels. This limits our analysis to the eight waves of data in which family wealth variables exist – 1984, 1989, 1994, 1999, 2001, 2003, 2005 and 2007. For the intra-generational mobility analysis, we select adult respondents ages 25 to 45 in 1984 who were head or wife of their household in any (or all) years between 1984 and 2007. We select one random adult person per household (either husband or wife) and follow them to 2007 when they are between the ages of 48 and 69.

For the intergenerational mobility analysis, we select PSID individuals who were co-resident sons or daughters of the head or wife¹ in the 1984 sample who were between the ages of 3 and 21 in that survey year. We follow these offspring over the next 23 years of the survey until the family members reach between the ages of 25 and 46. To study the impact of health on wealth volatility across generations, the intergenerational sample includes only individuals who moved out of their original family unit to start their own family. Therefore, the co-resident sons

¹ The PSID codes wives and cohabitating partners (“wives”) separately. For our analysis we included both wives and cohabitating partners.

and daughters in 1984 must have spent at least one wave of the 1999 – 2007 survey years² in their own established family unit to be included in our intergenerational sample. This was to ensure that the children of sample families had completed formal education and have the opportunity to begin accruing their own assets.

The measures that we used to capture intra- and inter-generational mobility and volatility in wealth are described below.

Household Wealth: This variable is taken from the 1984, 1999, 2001, 2003, 2005 and 2007 waves of the PSID. The PSID codes family wealth with and without the value of home equity. Wealth is calculated by adding the values of family business or farm, checking and savings, real estate other than main home, stocks and mutual funds, vehicles, bonds and life insurance policies, Individual Retirement Accounts and annuities, minus any debts. The PSID calculates wealth with home equity in nearly the same manner, merely adding the value of the main home—minus any outstanding mortgages associated with the property.

Our main outcome variables include wealth and wealth with home equity in 2008 dollars. We present estimates of the natural logarithm of these measures of wealth—with individuals who had zero or negative values set to zero. Additionally, we present estimates of the likelihood of an individual being “in the red” with an outcome variable for wealth and wealth with home equity coded “1” if the net worth dips below zero. An individual has to have valid data for each of the waves in which wealth was recorded to be included in the analysis. Finally, we ran analysis of the likelihood of declaring bankruptcy, a variable that that indicated bankruptcy filing between 1984 and 1996. Results were not significant and thus these results are not shown, though we address the possible reasons why in our discussion section.

² Following the 1997 survey year, the PSID continued with data collection every other year. Therefore, the 1999-2007 survey years include five waves (1999, 2001, 2003, 2005, and 2007).

If we were concerned with aggregate wealth levels, then the selection of certain years would be critical to our estimations given their potential association with different points in the business cycle. However, since we are not interested in comparing overall levels, but in comparing mobility patterns within persons and families across two time periods, we think these cyclical concerns are less troubling. Additionally, we include survey year indicator variables to account for the potential presence of any specific idiosyncrasies in each wave.

Table 1 below outlines the descriptive statistics of the intra-generational and intergenerational samples by race. The key right hand side variables for our regressions include age, family marital status, family income, amount inherited, unemployment status, health insurance coverage, incidence of acute health shock, incidence of chronic health concern. Additionally, in the intergenerational sample we include parents' family measures for the variables listed above, plus parental wealth. We outline these variables below.

Family Income: The PSID codes income at the family level. In order to account for any potential idiosyncratic fluctuations in family income, we smooth the income variable to represent a five-year average leading up to each wave of the data in this analysis³. We include a first-difference of family income in the regression equations to examine the relationship between change in income and change in wealth. We present income 2008 dollars.

³ The PSID does not include family income data for the waves in 1994, 1995, 1996 and 2001. To calculate the family income for our third wave in this analysis, 1994, we average the family income from 1990 to 1993. For our fourth wave in the analysis, the year 1999, we must rely on the data from 1997 and 1999 to average income. With the lack of data on family income in 2001, this wave also relies on the average family income from 1997 and 1999. Likewise, our 2003 wave relies on average income from 1999 and 2003, while our 2005 data uses family income averaged from 2003 and 2005.

Inheritance: The PSID also presents data on monetary gifts or inheritances for each survey year. We include all of the amounts inherited across each of the waves and include the amount in 2008 dollars in each first-difference regression equation.

Unemployment: We recoded the variables for head and wife employment status to create first-difference unemployment variables. These variables are coded “1” if the head or wife has a spell of unemployment within the five- or two-year periods which mark the collection of wealth data.

Health Insurance Coverage: The PSID codes health insurance for the years of 1999, 2001, 2003, 2005 and 2007 in two manners. For the family data, surveyors asked if anyone in the unit was currently covered by health insurance. In the individual data, health insurance is coded for each family member, providing a better opportunity to examine the differential effects of healthcare coverage. To make certain we correctly identified who within the family has health insurance, we use the individual-level data—coded as an indicator variable as to whether each individual member of the household is covered. This variable permits us to examine the effect of health insurance coverage as well as the impact of an interaction between health shocks and insurance status on wealth. While health status has been under-examined with respect to family wealth levels, there is a robust economic literature that views health insurance as a method of precautionary savings (Starr-McCluer 1996; Gruber and Yelowitz 1999) or as a way to access higher quality medical care that would otherwise be unavailable or steeply priced (Nyman 1999).

Acute Health Shock and Chronic Health Condition⁴: In the last five published years of data the PSID codes for the incidence of thirteen health conditions for the head and wife.

Included in these data is a variable which states the age at which the condition first occurred.

⁴ We also coded self-reported health and hospitalization in a variable to note poor health of head and wife. However, we chose to use the incidence of acute illness and the onset of chronic disease as these variables provide a tiered effect to the study of health and wealth and also largely subsume the self-reports of health.

We match the age of the head over the course of each of our waves to the age at which each health condition first became noted by the respondent. To differentiate between severe and acute shocks to health and the onset of chronic health conditions we create two variables. The indicator variable for an acute health shock includes the occurrence of a stroke, heart attack or cancer. We include asthma, arthritis, diabetes, heart disease, high blood pressure, learning disabilities, lung disease, memory loss, psychiatric disorders and other chronic illnesses in the indicator for chronic health conditions. Each of these indicator variables are coded “1” if the head or wife suffered from an occurrence of an acute or chronic illness over the course of each wave.

Given our first-differences methodology (outlined below), indicators for gender and race are de-facto factored out. Noticeably absent from our list of input variables, however, are measures of education. We chose to omit these variables from the first-differences equations due to issues regarding what a change in level of education might mean in the short-term period of two to five years (the length of time between each wave). First, if education remains constant over each wave (i.e. the respondent has completed his or her formal education) then the measure for years of schooling will drop out of the first-differences equation. However, if the respondent continues his or her education in adulthood (through graduate studies or returning to school after a period in the labor force), issues arise as to what the change in years of education means regarding levels of wealth. Researchers commonly view education as an investment which holds returns at some point in the future. However, it is unclear with our data at what point those returns will appear. A four-year absence from the labor market in order to increase one’s education may coincide with dropping significantly into debt to pay for tuition. As a result, this would show that an increase in education corresponds to a decrease in wealth over the course of

one wave if the individual were not able to immediately upon graduation reap the benefits from increasing his or her stock in the labor market and regain the lost wealth from tuition.

Undoubtedly education correlates with wealth, but given that educational outcomes are not the sole purpose of our analyses, we omit them from our first-differences equations.

For the intra-generational mobility analysis, we follow one randomly selected individual who was either the head or wife of the family unit in 1984. Given that our key variables are measured at the family level, we may randomly follow the head or wife without changing the measures of the input or output variables. We implement first-differences OLS regression to examine wealth mobility and volatility within a generation. We regress the change in logged wealth across one wave of data on the changes in marital status, logged family income, logged inheritance, unemployment, health insurance coverage and health status across the same wave.

The intergenerational analysis implements first-differences OLS regressions to analyze the association between parents' levels of wealth, unemployment and health with adult children's levels of family wealth. All members of this sample created their own family by splitting off of the parental household sometime prior to the 2007 wave of data. We regress the change in logged wealth across one wave of data on the changes in age, marital status, logged family income, logged inheritance, unemployment, and health status across the same wave.

Additionally, we include input variables to mark changes in the respondents' parents' marital status, wealth, family income, inheritance, unemployment, and health status to determine the impact that life changes for parents hold on the wealth volatility of adult children.

Results

Table 2 presents the results for the first-differences OLS regression of change in logged non-home equity wealth in 2008 dollars on key input variables in the intra-generational sample. Common throughout the models are the effects of marriage and unemployment. While marriage increases logged wealth minus home equity, spells of unemployment for a head or wife decrease logged wealth. Although age, logged income and logged inheritance hold significant impacts in the first two models, this diminishes once the variables for insurance status and its interactions with health shocks are entered into the equations. None of the interaction variables for illness and lack of health insurance, nor the main effects for illness, prove significant. However, at the 0.10 level, a loss of health insurance over a wave is associated with a loss of logged wealth minus home equity.

To further break down these findings by race we present the findings in Table 3. In these models the findings for marriage and unemployment remain largely consistent. However, unemployment disproportionately impacts the non-home equity wealth of black families, while hitting white families harder for wealth including home equity. Additionally, the logged income holds a significantly positive effect on wealth including home equity for white families. A loss of health insurance proves significant at the 0.10 level for the full sample regressed on wealth without home equity. Losing health insurance also significantly decreases wealth including home equity for the full sample and white families in particular. Finally, although the interaction terms between insurance status and health shocks don't impact wealth without home equity, the experience of an acute health shock without insurance significantly decreases logged wealth including home equity. In the full sample, for blacks and for whites (although only at the 0.10 level) the onset of an acute illness without health insurance causes families to dip into wealth including home equity.

In Table 5 we break down the probability of falling into the red by race and form of wealth. For families headed by a black individual, marriage decreases the chances of dropping into debt, excluding home equity. In contrast, for black families, unemployment significantly increases the likelihood of falling into the red, minus home equity. While only significant at the 0.10 level, spells of unemployment for heads or wives increases the chances of the family dropping into debt when including the value of their primary residence. Finally, in Models 3 and 6 we see the impact of the onset of an acute illness for individuals without health insurance. For families headed by white individuals, the occurrence of an acute illness for an uninsured head or wife significantly increases the likelihood of fallings into debt, with and without home equity.

Tables 6, 7 and 8 outline the inconclusive findings for our intergenerational sample. The trends for marriage, logged income and inheritance, and unemployment hold across all of the models in Table 5. Few of the parental variables hold significance on logged wealth minus home equity, save a parent getting married, which holds a negative impact on wealth, and the interactions between illness and insurance status in Model 5. Given that the interaction between lack of health insurance and acute illness proves significant in the opposite direction one might assume and that the chronic illness and lack of insurance interaction proves significant in the direction which is expected, these findings seem inconclusive.

The differential impacts, by racial category, of input variables on wealth with and without home equity are shown in Table 6. Outcomes for adult sons and daughters largely mirror those in Table 5. However, logged income disproportionately aids white families in increasing wealth minus home equity, while logged inheritance helps black families more than whites. Also, black families take a harder hit on wealth minus home equity when experiencing unemployment. In Model 6 we see that a loss of health insurance disproportionately impacts the wealth including

home equity for white families in comparison to black families. The key parental health variables show inconclusive results. A parent with a chronic illness appears to increase the non-home equity wealth of white families and the acute illness and lack of insurance interaction seems to do the same for both home and non-home equity for black families. On the other hand, lack of health insurance and the onset of a chronic illness disproportionately detract from white families' home and non-home equity wealth.

Finally, Table 7 highlights the probability of black and white families falling into the red including and excluding home equity wealth. For adult children, the main effect for chronic illness disproportionately increases the likelihood of white families dipping into debt minus home equity. This finding is also true for the impact of losing health insurance for white families on probability of debt including home equity. On the other hand, Models 4 and 6 show that black families are hit harder by the interaction of lack of health insurance and the onset of a chronic illness.

While these findings for adult children prove significant, the results for the effects of parental health on adult children wealth once again lack clarity in these models. Results showing significance in the opposite direction we would expect include the main effects for acute illness for blacks and the interaction with lack of health insurance in both the home and non-home wealth regressions. Although the main effect for chronic illness seems to show in the wrong direction in the non-home wealth models, the interaction of chronic illness and lack of insurance shows a significant impact on home and non-home equity in the expected direction for white families.

Discussion

An extensive literature has documented a robust correlation between socioeconomic status—measured in a variety of way—and health outcomes; however, much uncertainty remains regarding what causal processes underlie this association. The present paper builds on a growing literature that seeks to better document how and why wealth and SES are related. Specifically, we ask the extent to which health shocks affect net worth—a less-studied dimension of socioeconomic status. Given a lack of instruments that meet the exclusion restriction, we used data from the Panel Study of Income Dynamics to pursue a first-differences identification strategy. We estimated a parameter for acute illnesses (which should have a causal effect on wave-to-wave wealth changes) and compared this coefficient to a counterfactual parameter for the presence of chronic illnesses (which we argue should be less causally related to wealth differences year-to-year). Additionally, we interacted these health indicators with insurance status as a further test that the health-wealth relationship is likely causal net of covariates. Additionally, we tested a model that predicted bankruptcy declaration and found no significant results, which may be an artifact of the time span—our time series that included this variable ends long before the credit crisis was beginning (the last year bankruptcy was recorded was 1996). That is, the foreclosure and bankruptcy waves had not crested yet and folks were often still able to draw out equity from their homes through loans over our period of study.

Finally, we also made a contribution by estimating intergenerational models where the health, wealth and insurance status of respondents' parents can affect offspring net worth. Results showed that a loss of health insurance has a negative effect on family wealth levels and that this is exacerbated when it occurs simultaneously with an acute illness. And experiencing a loss of health insurance at the same time as an acute illness increases the likelihood of white families falling into the “red” (negative net worth) by 10 percent, though analysis of bankruptcy

declaration shows no significant effects. Parental health insurance status also seemed to matter. However, results are confusing: When parents have no health insurance and suffer from acute illness, the net worth of their offspring actually increases. But when they suffer from chronic illness and have no health insurance, adult children's net worth declines. These may be statistical artifacts of the first-difference approach or they may reflect a "relief" of financial burden when acute illness strikes aging parents and leads to death.

Though our data cover a unique period of rising housing prices, they may have implications going forward into the era of health insurance system reform. In fact, health care costs have only risen and credit has only tightened since 2007. Rising health care costs probably mean that the parameter estimates of the effect of health shocks on net worth shown here are too conservative. However, during the time since our data series ended credit has tightened (and aggregate net worth has fallen dramatically). The implications of these changes are less clear. Tighter credit and non-health related drops in asset values may suggest that the wealth elasticity of acute illness has attenuated. However, the effects for bankruptcy or dropping into negative net worth may have increased.

Lastly, though we estimate the interaction of health insurance status and illness in a partial equilibrium framework, if these estimates are extrapolated to the general equilibrium condition (a big "if"), we may expect that quasi-universal health care coverage may lead to more stable family nest eggs. Of course, those families who are now forced to buy health insurance may save less as a result, so further analysis is warranted with more recent data (and realtime data as the law's provisions unfold over the next few years).

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Table 1: Sample Statistics by Race

	Intra-Generational Sample			Intergenerational Sample		
	Total	Black	White	Total	Black	White
1984 Variables						
Age	32.95 (0.13)	31.59 (0.24)	33.46 (0.16)	10.85 (0.12)	11.13 (0.22)	10.70 (0.15)
Married	0.72 (0.01)	0.55 (0.02)	0.78 (0.01)	0.76 (0.01)	0.51 (0.02)	0.88 (0.01)
Wealth	94,112 (13,244)	16,022 (1,711)	125,638 (18,876)	123,266 (15,349)	18,902 (1,989)	174,802 (22,977)
Median Wealth	15,528	3,106	24,172	15,321	2,226	28,571
Wealth Home	137,872 (13,730)	28,422 (2,481)	180,506 (19,481)	182,720 (15,857)	36,397 (2,769)	254,138 (23,600)
Median Wealth Home	45,135	5,901	69,358	61,843	7,246	101,698
Family Income	61,159 (958)	38,794 (1,106)	69,848 (1,204)	63,576 (1,070)	38,535 (1,055)	75,678 (1,409)
Education of Head	13.04 (0.05)	12.03 (0.09)	13.46 (0.06)	12.80 (0.06)	11.44 (0.09)	13.47 (0.06)
1999 - 2007 Variables						
Age	56.01 (0.13)	54.64 (0.24)	56.53 (0.16)	33.94 (0.12)	34.23 (0.22)	33.79 (0.15)
Married	0.67 (0.01)	0.46 (0.02)	0.75 (0.01)	0.62 (0.01)	0.40 (0.02)	0.72 (0.01)
% Inherited 1984 - 2007	0.42 (0.01)	0.21 (0.02)	0.50 (0.01)	0.36 (0.01)	0.21 (0.02)	0.44 (0.01)
Amount Inherited	4,200 (426)	566 (101)	5,660 (601)	723 (112)	674 (149)	989 (154)
Median Inheritance	2,288	543	2,745	1,624	431	1,809
Wealth	347,597 (34,261)	67,183 (7,622)	452,423 (47,942)	68,909 (5,952)	197 (137)	85,611 (7,777)
Median Wealth	61,786	7,269	122,378	10,384	3,115	17,861
Wealth Home	476,221 (36,963)	112,634 (9,097)	614,411 (51,619)	110,782 (7,092)	30,114 (8,218)	139,116 (9,302)
Median Wealth Home	180,685	42,939	296,150	31,153	7,269	51,921
Family Income	95,214 (2,959)	54,061 (1,733)	110,818 (4,016)	67,028 (1,311)	43,063 (1,123)	77,637 (1,701)

Education of Head	13.40 (0.06)	12.49 (0.11)	13.79 (0.06)	13.47 (0.06)	12.76 (0.10)	13.82 (0.07)
Number of Cases	1,865	516	1,302	2,024	644	1,343

Note: Standard errors in parenthesis. All monetary values reported in 2008 values. Intra-generational sample restricted to ages 25-45 in 1984 and 47-69 in 2007. Intergenerational sample restricted to ages 3-21 in 1984 and 25-46 in 2007. Parental marital status, wealth, income and education are represented in the 1984 intergenerational sample statistics.

Table 2: Intra-Generational First Difference Logged Wealth Regressions

	Logged Wealth					
	Model 1	Model 2	Model 3	Model 4	Model 5	
Age	-0.205 ** (0.088)	-0.204 ** (0.088)	-0.080 (0.132)	-0.080 (0.132)	-0.081 (0.132)	
Married	0.788 *** (0.122)	0.790 *** (0.122)	0.973 *** (0.172)	0.971 *** (0.172)	0.969 *** (0.172)	***
Logged Income	0.580 *** (0.080)	0.579 *** (0.080)	0.084 (0.125)	0.084 (0.125)	0.083 (0.125)	
Logged Inheritance	0.136 *** (0.046)	0.136 *** (0.046)	0.086 (0.098)	0.086 (0.098)	0.085 (0.098)	
Unemployed	-0.182 ** (0.082)	-0.182 ** (0.082)	-0.336 ** (0.136)	-0.337 ** (0.136)	-0.339 ** (0.136)	**
Acute Illness	-0.058 (0.099)	-0.106 (0.115)	0.083 (0.157)	0.084 (0.157)	0.094 (0.157)	
Chronic Illness		0.072 (0.089)	0.094 (0.114)	0.094 (0.114)	0.083 (0.115)	
No Health Insurance			-0.278 † (0.162)	-0.268 (0.166)	-0.320 † (0.174)	†
No Health Insurance* Acute Illness				-0.086 (0.326)	-0.296 (0.389)	
No Health Insurance* Chronic Illness					0.280 (0.281)	
Constant	1.357 *** (0.449)	1.345 *** (0.450)	0.317 (0.289)	0.316 (0.289)	0.319 (0.289)	
Observations	12747	12747	7270	7270	7270	
R-squared	0.013	0.013	0.007	0.007	0.007	

Standard errors in parentheses

*** p<0.01, ** p<0.05, † p<0.1

Table 3: Intra-Generational First Difference Logged Regressions by Race

	Logged Wealth			Logged Wealth with Home Equity		
	Model 1 Full	Model 2 Black	Model 3 White	Model 4 Full	Model 5 Black	Model 6 White
Age	-0.081 (0.132)	-0.202 (0.289)	-0.005 (0.144)	-0.078 (0.103)	-0.332 (0.247)	0.042 (0.104)
Married	0.969 *** (0.172)	1.787 *** (0.346)	0.441 ** (0.200)	0.874 *** (0.135)	1.410 *** (0.296)	0.546 *** (0.144)
Logged Income	0.083 (0.125)	-0.026 (0.225)	0.155 (0.155)	0.204 ** (0.098)	0.148 (0.192)	0.244 ** (0.112)
Logged Inheritance	0.085 (0.098)	0.328 (0.397)	0.046 (0.092)	0.063 (0.077)	0.142 (0.339)	0.030 (0.067)
Unemployed	-0.339 ** (0.136)	-0.709 *** (0.269)	0.009 (0.159)	-0.252 ** (0.107)	-0.112 (0.229)	-0.292 ** (0.115)
Acute Illness	0.094 (0.157)	0.155 (0.429)	0.076 (0.157)	0.034 (0.123)	-0.050 (0.367)	0.076 (0.113)
Chronic Illness	0.083 (0.115)	-0.243 (0.334)	0.170 (0.113)	0.042 (0.090)	-0.129 (0.285)	0.083 (0.082)
No Health Insurance	-0.320 † (0.174)	-0.435 (0.308)	-0.087 (0.224)	-0.392 *** (0.136)	-0.340 (0.263)	-0.323 ** (0.162)
No Health Insurance* Acute Illness	-0.296 (0.389)	-0.248 (0.709)	-0.609 (0.496)	-0.850 *** (0.305)	-1.281 ** (0.605)	-0.621 † (0.358)
No Health Insurance* Chronic Illness	0.280 (0.281)	0.199 (0.517)	0.149 (0.348)	0.244 (0.220)	0.230 (0.442)	0.243 (0.251)
Constant	0.319 (0.289)	0.898 (0.644)	0.035 (0.313)	0.455 ** (0.226)	1.220 ** (0.550)	0.123 (0.226)
Observations	7270	2020	5069	7270	2020	5069
R-squared	0.007	0.024	0.004	0.013	0.022	0.012

Standard errors in parentheses

*** p<0.01, ** p<0.05, † p<0.1

Table 4: Intra-Generational Probability of Falling into the Red by Race

	Probability of Falling Into the Red			Probability of Falling into the Red Including Home Equity		
	Model 1 Full	Model 2 Black	Model 3 White	Model 4 Full	Model 5 Black	Model 6 White
Age	-0.001 (0.012)	0.003 (0.028)	-0.004 (0.013)	-0.005 (0.009)	0.002 (0.022)	-0.008 (0.009)
Married	-0.030 [†] (0.016)	-0.083 ^{**} (0.033)	0.000 (0.019)	-0.011 (0.012)	-0.034 (0.026)	0.002 (0.013)
Logged Income	0.007 (0.012)	-0.005 (0.022)	0.021 (0.014)	0.000 (0.009)	-0.015 (0.017)	0.014 (0.010)
Logged Inheritance	-0.006 (0.009)	-0.027 (0.038)	-0.004 (0.009)	-0.003 (0.007)	-0.005 (0.030)	-0.002 (0.006)
Unemployed	0.016 (0.013)	0.052 ^{**} (0.026)	-0.018 (0.015)	0.016 [†] (0.009)	0.007 (0.020)	0.018 [†] (0.010)
Acute Illness	-0.008 (0.015)	-0.018 (0.041)	-0.008 (0.015)	0.005 (0.011)	0.033 (0.033)	-0.006 (0.010)
Chronic Illness	0.001 (0.011)	0.031 (0.032)	-0.005 (0.010)	0.000 (0.008)	0.003 (0.025)	-0.002 (0.007)
No Health Insurance	-0.008 (0.016)	-0.030 (0.029)	0.004 (0.021)	-0.008 (0.012)	-0.033 (0.023)	0.016 (0.015)
No Health Insurance* Acute Illness	0.044 (0.036)	0.021 (0.068)	0.097 ^{**} (0.046)	0.054 ^{**} (0.027)	0.040 (0.054)	0.106 ^{***} (0.032)
No Health Insurance* Chronic Illness	-0.002 (0.026)	0.001 (0.049)	0.003 (0.032)	0.000 (0.020)	-0.005 (0.039)	0.009 (0.022)
Constant	-0.004 (0.027)	-0.022 (0.062)	0.005 (0.029)	-0.003 (0.020)	-0.022 (0.049)	0.003 (0.020)
Observations	7270	2020	5069	7270	2020	5069
R-squared	0.002	0.009	0.003	0.003	0.005	0.010

Standard errors in parentheses

*** p<0.01, ** p<0.05, † p<0.1

Table 5: Intergenerational First Difference Logged Wealth Regressions

	Logged Wealth									
	Model 1		Model 2		Model 3		Model 4		Model 5	
Age	-0.021		-0.015		-0.122		-0.122		-0.120	
	(0.144)		(0.144)		(0.161)		(0.161)		(0.161)	
Married	0.683	***	0.681	***	0.802	***	0.790	***	0.794	***
	(0.140)		(0.140)		(0.155)		(0.155)		(0.155)	
Logged Income	0.651	***	0.652	***	0.513	***	0.507	***	0.512	***
	(0.139)		(0.139)		(0.182)		(0.182)		(0.182)	
Logged Inheritance	0.282	†	0.283	†	0.415	**	0.410	**	0.400	**
	(0.149)		(0.149)		(0.197)		(0.197)		(0.197)	
Unemployed	-0.384	***	-0.384	***	-0.391	***	-0.394	***	-0.393	***
	(0.129)		(0.129)		(0.148)		(0.148)		(0.148)	
Acute Illness	-0.268		-0.306		-0.066		-0.054		-0.021	
	(0.308)		(0.355)		(0.504)		(0.504)		(0.504)	
Chronic Illness			0.072		-0.266		-0.266		-0.306	
			(0.293)		(0.383)		(0.383)		(0.383)	
No Health Insurance					-0.219		-0.172		-0.156	
					(0.164)		(0.167)		(0.171)	
No Health Insurance* Acute Illness							-0.558		-0.299	
							(0.391)		(0.551)	
No Health Insurance* Chronic Illness									-0.292	
									(0.436)	
Parent Variables										
Married	-0.629	***	-0.624	***	-0.505	**	-0.487	**	-0.485	**
	(0.201)		(0.201)		(0.222)		(0.223)		(0.222)	
Logged Wealth	0.049		0.049		0.058		0.061		0.059	
	(0.037)		(0.037)		(0.040)		(0.040)		(0.040)	
Logged Income	-0.035		-0.039		0.045		0.041		0.046	
	(0.174)		(0.174)		(0.211)		(0.211)		(0.211)	
Logged Inheritance	-0.135		-0.135		-0.113		-0.113		-0.098	
	(0.115)		(0.115)		(0.143)		(0.143)		(0.143)	
Unemployed	-0.160		-0.164		-0.251		-0.251		-0.248	
	(0.169)		(0.169)		(0.200)		(0.200)		(0.200)	
Acute Illness	-0.016		-0.090		0.095		0.059		0.009	
	(0.137)		(0.151)		(0.160)		(0.165)		(0.166)	
Chronic Illness			0.132		0.095		0.091		0.185	
			(0.107)		(0.112)		(0.112)		(0.116)	
No Health Insurance					-0.257		-0.326		-0.125	
					(0.213)		(0.224)		(0.234)	
No Health Insurance* Acute Illness							0.418		1.202	**
							(0.388)		(0.473)	
No Health Insurance* Chronic Illness									-1.107	***
									(0.380)	
Constant	0.161		0.130		0.248		0.244		0.258	
	(0.776)		(0.776)		(0.359)		(0.359)		(0.358)	
Observations	7534		7534		6360		6360		6360	
R-squared	0.013		0.013		0.012		0.012		0.014	

Standard errors in parentheses

*** p<0.01, ** p<0.05, † p<0.1

Table 6: Intergenerational First Difference Logged Wealth Regressions by Race

	Logged Wealth						Logged Wealth with Home Equity					
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Full		Black		White		Full		Black		White	
Age	-0.120		-0.213		-0.121		-0.013		-0.053		-0.051	
	(0.161)		(0.299)		(0.195)		(0.150)		(0.289)		(0.177)	
Married	0.794	***	1.276	***	0.635	***	1.074	***	1.387	***	0.975	***
	(0.155)		(0.281)		(0.189)		(0.144)		(0.272)		(0.171)	
Logged Income	0.512	***	0.432		0.579	**	0.622	***	0.617	**	0.635	***
	(0.182)		(0.308)		(0.231)		(0.169)		(0.298)		(0.210)	
Logged Inheritance	0.400	**	1.350	**	0.305		0.188		1.470	**	0.054	
	(0.197)		(0.637)		(0.206)		(0.183)		(0.617)		(0.187)	
Unemployed	-0.393	***	-0.646	***	-0.114		-0.391	***	-0.599	***	-0.191	
	(0.148)		(0.234)		(0.200)		(0.138)		(0.226)		(0.181)	
Acute Illness	-0.021		-1.688		0.323		-0.063		-1.085		0.157	
	(0.504)		(1.400)		(0.543)		(0.468)		(1.357)		(0.492)	
Chronic Illness	-0.306		0.998		-0.453		-0.066		0.604		-0.104	
	(0.383)		(1.153)		(0.405)		(0.355)		(1.117)		(0.368)	
No Health Insurance	-0.156		0.000		-0.292		-0.365	**	-0.126		-0.569	***
	(0.171)		(0.268)		(0.230)		(0.159)		(0.260)		(0.209)	
No Health Insurance* Acute Illness	-0.299		0.056		-0.256		-0.355		-0.160		-0.402	
	(0.551)		(0.925)		(0.717)		(0.512)		(0.895)		(0.650)	
No Health Insurance* Chronic Illness	-0.292		-0.991		0.323		-0.164		-0.740		0.340	
	(0.436)		(0.756)		(0.556)		(0.405)		(0.731)		(0.504)	
Parent Variables												
Married	-0.485	**	-0.339		-0.578	**	-0.390	†	-0.348		-0.404	
	(0.222)		(0.400)		(0.280)		(0.207)		(0.387)		(0.255)	
Logged Wealth	0.059		0.124	†	0.003							
	(0.040)		(0.067)		(0.053)							
Logged Wealth with Home Equity							0.128	***	0.205	***	0.062	
							(0.047)		(0.078)		(0.062)	
Logged Income	0.046		0.162		-0.015		-0.087		0.116		-0.205	
	(0.211)		(0.377)		(0.260)		(0.196)		(0.364)		(0.236)	
Logged Inheritance	-0.098		-1.652	***	0.037		-0.027		-1.682	***	0.140	
	(0.143)		(0.633)		(0.148)		(0.133)		(0.613)		(0.134)	
Unemployed	-0.248		-0.590	†	0.049		-0.238		-0.660	†	0.075	
	(0.200)		(0.351)		(0.250)		(0.185)		(0.339)		(0.227)	
Acute Illness	0.009		0.428		-0.090		0.104		0.385		0.054	
	(0.166)		(0.357)		(0.190)		(0.154)		(0.346)		(0.172)	
Chronic Illness	0.185		-0.229		0.318	**	0.036		-0.208		0.103	
	(0.116)		(0.263)		(0.132)		(0.108)		(0.254)		(0.120)	
No Health Insurance	-0.125		-0.519		0.237		-0.179		-0.331		-0.058	
	(0.234)		(0.359)		(0.326)		(0.217)		(0.348)		(0.296)	
No Health Insurance* Acute Illness	1.202	**	2.356	***	-0.025		0.907	**	1.595	**	0.197	
	(0.473)		(0.816)		(0.618)		(0.440)		(0.796)		(0.561)	
No Health Insurance* Chronic Illness	-1.107	***	-0.924		-1.417	***	-0.969	***	-0.670		-1.425	***
	(0.380)		(0.682)		(0.479)		(0.353)		(0.663)		(0.435)	
Constant	0.258		0.388		0.352		0.157		0.112		0.352	
	(0.358)		(0.681)		(0.429)		(0.333)		(0.660)		(0.389)	
Observations	6360		1970		4273		6360		1970		4273	
R-squared	0.014		0.039		0.012		0.021		0.043		0.019	

Standard errors in parentheses

*** p<0.01, ** p<0.05, † p<0.1

Table 7: Intergenerational Probability of Falling into the Red by Race

	Probability of Falling Into the Red			Probability of Falling into the Red Including Home Equity		
	Model 1 Full	Model 2 Black	Model 3 White	Model 4 Full	Model 5 Black	Model 6 White
Age	0.013 (0.016)	0.039 (0.029)	0.005 (0.020)	-0.012 (0.015)	0.002 (0.028)	-0.013 (0.018)
Married	-0.034** (0.016)	-0.043 (0.027)	-0.032 (0.019)	-0.052*** (0.014)	-0.043† (0.026)	-0.059*** (0.017)
Logged Income	-0.012 (0.018)	0.038 (0.030)	-0.043 (0.024)	-0.014 (0.017)	0.029 (0.028)	-0.039† (0.021)
Logged Inheritance	-0.027 (0.020)	-0.075 (0.062)	-0.021 (0.021)	-0.007 (0.018)	-0.076 (0.059)	0.003 (0.019)
Unemployed	0.028† (0.015)	0.048** (0.023)	0.010 (0.020)	0.032** (0.014)	0.049** (0.022)	0.019 (0.018)
Acute Illness	0.004 (0.051)	0.152 (0.136)	-0.020 (0.055)	0.021 (0.046)	0.154 (0.130)	-0.002 (0.049)
Chronic Illness	0.076** (0.038)	-0.055 (0.112)	0.084** (0.041)	0.030 (0.035)	-0.046 (0.107)	0.030 (0.037)
No Health Insurance	0.018 (0.017)	0.001 (0.026)	0.030 (0.023)	0.033** (0.016)	-0.001 (0.025)	0.058*** (0.021)
No Health Insurance* Acute Illness	-0.084 (0.055)	-0.130 (0.090)	-0.071 (0.073)	-0.066 (0.050)	-0.079 (0.085)	-0.055 (0.065)
No Health Insurance* Chronic Illness	0.075† (0.044)	0.171** (0.073)	0.004 (0.057)	0.061 (0.040)	0.150** (0.070)	-0.006 (0.050)
Parent Variables						
Married	0.022 (0.022)	-0.015 (0.039)	0.042 (0.029)	0.022 (0.020)	-0.017 (0.037)	0.039 (0.025)
Logged Wealth	0.001 (0.004)	-0.003 (0.006)	0.004 (0.005)			
Logged Wealth with Home Equity				-0.005 (0.005)	-0.010 (0.007)	-0.001 (0.006)
Logged Income	-0.014 (0.021)	-0.050 (0.037)	0.007 (0.026)	-0.008 (0.019)	-0.050 (0.035)	0.015 (0.024)
Logged Inheritance	0.011 (0.014)	0.151** (0.061)	0.002 (0.015)	0.002 (0.013)	0.128** (0.059)	-0.012 (0.013)
Unemployed	0.012 (0.020)	0.014 (0.034)	0.005 (0.026)	-0.002 (0.018)	-0.014 (0.032)	-0.002 (0.023)
Acute Illness	0.005 (0.017)	-0.077** (0.035)	0.029 (0.019)	-0.008 (0.015)	-0.066** (0.033)	0.008 (0.017)
Chronic Illness	-0.020† (0.012)	0.027 (0.026)	-0.029** (0.013)	0.000 (0.011)	0.025 (0.024)	-0.004 (0.012)
No Health Insurance	0.012 (0.024)	0.020 (0.035)	-0.008 (0.033)	0.010 (0.021)	0.001 (0.033)	0.003 (0.029)
No Health Insurance* Acute Illness	-0.106** (0.048)	-0.195** (0.079)	0.005 (0.063)	-0.092** (0.043)	-0.157** (0.076)	-0.013 (0.056)
No Health Insurance* Chronic Illness	0.093** (0.038)	0.100 (0.066)	0.105** (0.049)	0.085** (0.035)	0.071 (0.063)	0.127*** (0.043)
Constant	-0.022 (0.036)	-0.073 (0.066)	-0.014 (0.044)	0.021 (0.033)	-0.018 (0.063)	0.019 (0.039)
Observations	6360	1970	4273	6360	1970	4273
R-squared	0.006	0.025	0.007	0.007	0.022	0.011

Standard errors in parentheses

*** p<0.01, ** p<0.05, † p<0.1

Figure 1: Intra-Generational Effect of Acute Illness and Health Insurance Status on Change in Logged Wealth with Home Equity by Race

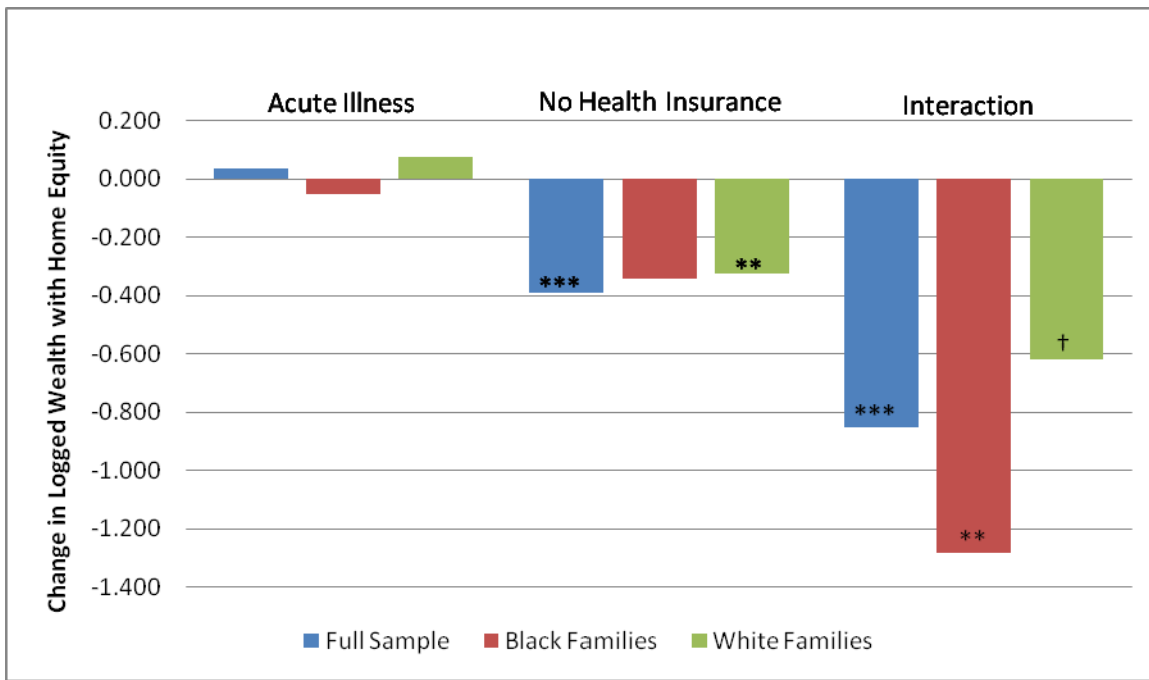


Figure 2: Intra-Generational Probability of Falling into Debt Minus Home Equity by Race

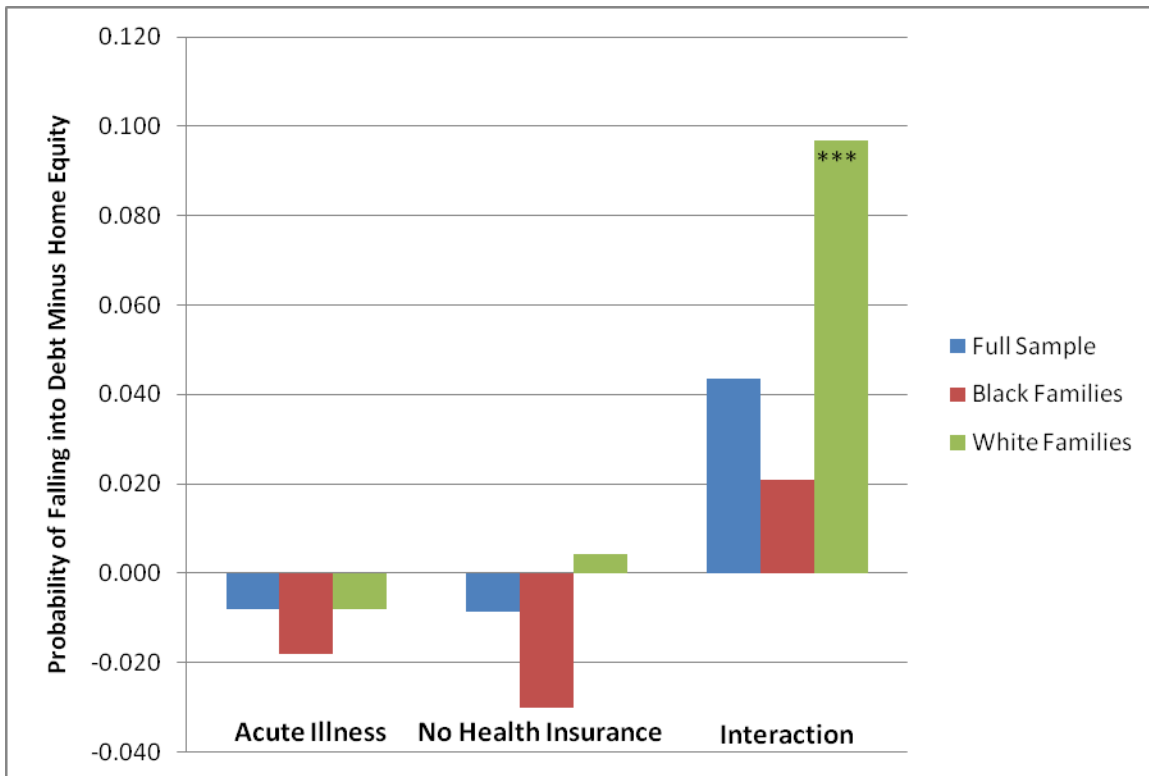


Figure 3: Intra-Generational Probability of Falling into Debt Including Home Equity by Race

